PROGRAMME ON

SUBSTANCE ABUSE

Project on identification and management of alcohol-related problems.

Report on Phase II: A randomized clinical trial of brief interventions in primary health care

Edited by Thomas F. Babor and Marcus Grant
ABSTRACT

This report describes the rationale, methodology and findings of a cross-national multicentre clinical trial of brief intervention procedures designed to reduce the health risks associated with hazardous alcohol use. The study was coordinated by the World Health Organization at collaborating centres in ten countries: Costa Rica, Australia, the United Kingdom, Norway, Mexico, Kenya, Bulgaria, the former Soviet Union, Zimbabwe, and the United States of America. A total of 1,655 nonalcoholic heavy drinkers (1,356 males, 299 females) were recruited from hospital settings, primary health care clinics, work sites and educational institutions. Of these, 73% were evaluated a minimum of six months following random assignment to either a control group, a simple advice group, or a group receiving brief counselling. The results showed a significant effect of the interventions on both average alcohol consumption and intensity of drinking in the male samples, even after controlling for demographic factors and sociocultural influences. For females significant reductions were observed in both the control and the intervention groups. The type of intervention was not related to the amount of change in drinking behaviour, with five minutes of simple advice as effective as 20 minutes of brief counselling. It is concluded that brief intervention techniques could make a significant contribution to early intervention and secondary prevention if they were widely used in primary care settings.
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WORLD HEALTH ORGANIZATION
Project on Identification and Management
of Alcohol-related Problems

Report on Phase II:
A Randomized Clinical Trial of Brief Interventions
in Primary Health Care

Chapter 1

SUMMARY AND CONCLUSIONS

This report describes the rationale, methodology and findings of a cross-national multicentre clinical trial of brief intervention procedures designed to reduce the health risks associated with hazardous alcohol use. The aims of the project were: 1) to study the influence of simple advice and brief counselling on the frequency and quantity of drinking; 2) to investigate the moderating role of reduced consumption on the prevention of alcohol-related problems, and 3) to evaluate the cross-national generalizability of brief intervention techniques.

The study was coordinated by the World Health Organization, Division of Mental Health, at collaborating centres located in ten countries: Costa Rica, Australia, the United Kingdom, Norway, Mexico, Kenya, Bulgaria, the Soviet Union, Zimbabwe, and the United States of America. The study tested the hypothesis that the amount of change in alcohol consumption over a six month period is proportional to the intensity of the intervention provided by a trained primary care health professional, with increasing benefit resulting from simple advice, brief counselling, and extended counselling, respectively. In addition, the study evaluated whether patients who reduced their drinking would also experience fewer alcohol-related problems.

After presenting the rationale for conducting the project (Chapter 2), the research procedures employed by the collaborating centres are described (Chapter 3). A total of 1,655 nonalcoholic heavy drinkers (1,356 males, 299 females) were recruited from a combination of hospital settings, primary care clinics, work sites and educational institutions. Of these, 73% were evaluated a minimum of six months following random assignment to either control or intervention conditions. Eight centres followed a "core" research design that consisted of randomly assigning heavy drinkers to either a control group, a simple advice group, or a group receiving brief counselling. (One centre was unable to randomize patients to an untreated control group, using standard outpatient treatment as a comparison condition instead. Another centre did not randomize patients but did compare matched groups.) In the core design, the control group received only a 20-minute health interview. These individuals were then contacted six months later for a follow-up evaluation. The Simple Advice group was exposed to the same general health interview plus five minutes of advice about the importance of sensible drinking or abstinence. The Brief Counselling group received the same five minutes of advice as well as an additional 15-minutes of counselling. The Brief Counselling group also received a self-help manual that they were encouraged to use in the development of a "habit-breaking plan".

Collaborating investigators could also add optional conditions to the core research design in order to explore additional research questions that were considered too expensive or time consuming for all
centres to pursue. Six centres added an "extended counselling" condition that consisted of the initial brief counselling sessions followed by three more meetings with the health worker to monitor progress during the next six months. Two centres studied the effects of nonspecific health counselling on drinking by adding conditions that controlled for the time and attention given to the patient.

Chapter 4 compares descriptive information from the ten centres. These data show that the samples differed significantly in terms of demographic characteristics, drinking patterns, average daily alcohol consumption and alcohol-related problems. In general, patients recruited from Bergen, Moscow, San José, and Mexico City tended to be admitted to the study on the basis of their frequency of intoxication, while those recruited from the other centres were considered appropriate because of the high average levels of daily consumption. Either pattern of consumption, occurring in the absence of serious dependence symptoms, qualified the patient for inclusion in the study, based on the assumption that both frequent intoxication and high daily alcohol intake are risk factors that warrant intervention at the primary care level. While the samples recruited into this study cannot be assumed to be representative of the broader cultures they belong to, the findings are consistent with the different patterns of drinking known to exist in these countries.

In addition to the comparison of demographic data and various drinking measures, multiple classification analysis was conducted to evaluate a major premise of the investigation. This premise is that the average level of alcohol consumption and the intensity of drinking should place heavy drinkers at risk of various alcohol-related problems, regardless of cultural setting. To examine this assumption, two indices of alcohol consumption (total amount of alcohol typically consumed per month and intensity of drinking on a typical drinking day) were examined in relation to various indicators of alcohol-related consequences, including physical complaints, hypertension, traumatic injury, affective disregulation, concern expressed by others and psychosocial problems. The results showed that for both men and women, alcohol-related consequences in practically every category varied directly with the average amount of daily consumption and the intensity of drinking per occasion. These findings were obtained even after controlling for the effects of sociodemographic variables (age and education) and sociocultural differences among the centres. The findings indicate that the pattern and amount of alcohol consumption are important mediators of adverse consequences, and suggest that interventions designed to reduce the quantity and frequency of drinking should reduce the risk of alcohol-related problems.

The outcome results of the ten parallel studies are presented in Chapters 5 through 14. These centre reports also describe the typical drinking patterns of each country, the problems associated with alcohol misuse, and the management of alcohol-related problems within that nation's health system. The results of the individual centre studies showed that significant reductions could be attributed directly to the interventions in at least one of the primary dependent measures (average daily alcohol consumption and intensity of drinking) at five sites (Australia, UK, USSR, USA and Zimbabwe) for male heavy drinkers. Two centres (Mexico and Kenya) showed comparable reductions in both the control and intervention groups, and two centres (Norway and Bulgaria) showed no changes. One centre (Costa Rica) that assigned patients to standard treatment instead of an untreated control group found that simple advice and brief counselling were as effective as more intensive standard treatment in reducing the intensity of drinking in study patients. Female heavy drinkers studied at two sites (Australia and USA) reduced their drinking at follow-up regardless of whether they were assigned to the intervention conditions or the control group.

To provide a clinical perspective to the findings, Chapter 15 presents representative case reports written by the health advisers at each collaborating centre. This chapter also explores the process of change that may be involved in a successful response to brief intervention.
Following the clinical perspectives of the health advisers, Chapter 16 describes a series of combined analyses based on pooled data from the eight centres that implemented the core study design. These analyses not only summarize the cross-national findings, they also explore various moderator variables that help to explain the results. The combined analyses show a significant effect of the interventions on both average alcohol consumption and intensity of drinking in the male samples, even after controlling for demographic factors and sociocultural influences. For females significant reductions were observed in both the control and the intervention groups. The results also showed that the intensity of the intervention was not related to the amount of change in drinking behaviour, with five minutes of simple advice as effective as 20 minutes of brief counselling.

Male patients exposed to the interventions reported approximately 25% less daily alcohol consumption than those in the control group. Relative reductions in the intensity of drinking were approximately 16%. The results indicate that without brief interventions, 42% reduce their drinking by one standard drink (1.5 cl) or more, 25% increase their drinking, and 33% do not change. With intervention, 63% reduce their drinking, 14% drink more intensely, and 23% remain at the same level. Assuming that the consequences of acute intoxication are the main health risks for patients in these samples, and taking into account the improvement that can be expected spontaneously in 40% of the patients, the results suggest that approximately one in five (20%) of the patients exposed to a brief intervention will respond favourably. The results of both the mean comparisons and percentage changes indicate that there was a significant reduction in dependence symptoms, and a trend (p < .05) towards reductions in concern expressed by others and alcohol-related problems. While the numbers affected are small, they do suggest that the social, occupational and health consequences of heavy drinking and intoxication could be reduced if brief interventions were employed routinely.

For females significant reductions were observed in both the control and the intervention groups, although there is some indication in the comparisons of percentage changes that the Brief Counselling group improved more. A conservative interpretation of the results is that brief interventions per se do not contribute as much to the reduction of heavy drinking in females as they do in males.

A number of personal and social characteristics were evaluated as possible moderators of the patient's response to the interventions. Only one variable showed a clear relation to the type of intervention: simple advice worked best for male patients who had experienced a recent alcohol-related problem, while brief counselling worked better for those who did not have a recent problem. These results suggest that the effect of minimal intervention is enhanced when the risks of hazardous drinking are consistent with the patient's personal experience.

Chapter 17 concludes the report with a general discussion of the findings and their implications for a public health approach to the early identification and secondary prevention of alcohol-related problems. Given the very promising results of the present project, it is recommended that brief intervention techniques receive widespread dissemination for use with heavy drinkers in primary care settings. Before this can be accomplished, however, additional research and planning are required to overcome barriers in the areas of early identification, training of primary care workers, and administrative support for secondary prevention.
Chapter 2

BACKGROUND TO THE STUDY

T.F. Babor

INTRODUCTION

Alcohol-related disabilities have become a major source of concern in primary health care in both developed and developing countries (1). In spite of the social, medical and economic costs of alcohol-related problems, traditional approaches to the management of "alcoholism" have favored labour intensive medical and social rehabilitation over early identification and secondary prevention. In 1980 a WHO Expert Committee (1) stressed the need for efficient methods to detect persons with harmful alcohol consumption before health and social consequences become pronounced, and called for the development of strategies that could be applied in primary health care settings with a minimum of time and resources.

These recommendations came at a time when efforts to implement a public health approach to alcohol-related problems had been initiated in several countries with promising results. These efforts were designed to link a new generation of screening technologies to low-cost early intervention strategies (2). The impetus for these programmes came in part from broader public health concern with the relationship between lifestyle-related behavioural risk factors and disease prevalence (3). Because lifestyle risk factors such as cigarette smoking, lack of exercise and excessive alcohol consumption are often amenable to brief interventions, increasing attention has been devoted to the development of behaviour change programmes that could be implemented in primary care.

Other reasons for the growing interest in alcohol screening and brief intervention are the apparent effectiveness of various behaviour change techniques; the need to conserve health care resources, especially in developing countries; the intuitive appeal of early intervention as a means of preventing the development of alcohol dependence; changes in the conceptualization of alcohol-related disabilities (2,4,5); and evidence suggesting that the burden of illness imposed on society by heavy drinkers is comparable to that imposed by alcoholics (6).

Within this context, the WHO Collaborative Project on Identification and Management of Alcohol-Related Problems (7) was initiated in 1982 to build on earlier efforts in Sweden (8), France (9,10), the United Kingdom (11) and the United States of America (12). The purpose of this project was twofold. In the first phase, six collaborating centres representing a broad variety of cultural groups and health care systems contributed to the development of a simple screening instrument for persons at high risk of alcohol problems (7,13). Phase II of this project, which is the subject of the present report, was initiated in 1985 as a test of the potential usefulness of screening when it is linked to methods of brief intervention for persons so identified.

Phase II was conducted in the form of a cross-national multicentre randomized clinical trial. The project’s primary goal was to evaluate low-cost intervention strategies suitable for use with heavy drinkers in primary health care settings. The specific aims of the project were: 1) to study the relative effects of simple advice and brief counselling on short-term changes in drinking behaviour; 2) to investigate the mediating role of reduced alcohol consumption on the incidence of alcohol-related problems; and 3) to evaluate the robustness and cross-national generalizability of brief intervention strategies.
The study was coordinated by the World Health Organization Division of Mental Health at collaborating centres located in ten countries: Australia, Bulgaria, Costa Rica, Kenya, Mexico, Norway, the United Kingdom, the Soviet Union, the United States of America and Zimbabwe. The major hypothesis tested by this study is that simple advice and brief counselling would produce a significant reduction in drinking behaviour over a six month period, with patients who receive counselling expected to change more (in comparison with controls) than those exposed only to simple advice provided by a health worker. A related hypothesis is that patients who reduce their drinking would also experience fewer alcohol-related problems.

As discussed in Chapter 4 of this report, an underlying assumption of the brief intervention procedures tested in this study is that chronic drinking and frequent alcohol intoxication increase substantially the risk of social, medical and psychological problems (14,15,16). After describing the basic ingredients of a public health approach to the secondary prevention of alcohol problems, research dealing with the effectiveness of brief intervention is reviewed in the remainder of this chapter in order to establish a scientific basis for the initiation of the present study.

SCREENING FOR ALCOHOL PROBLEMS AND THE DEVELOPMENT OF AUDIT

Recent concern over the adverse consequences of alcohol consumption has focused attention on the level at which those who drink are at risk of alcohol-related disabilities. A World Health Organization (WHO) memorandum (17) recommends the term hazardous drinking to refer to that level of alcohol consumption or pattern of drinking that, should it persist, is likely to result in harm to the drinker. In contrast, harmful drinking is defined as alcohol use that has already resulted in adverse mental or physical effects. The aim of this terminology is to provide clinicians and researchers with guidelines for the identification of individuals at risk who may not meet the criteria for alcohol dependence. This effort reflects a growing awareness of the potential for adverse consequences associated with what has often been referred to as social or moderate drinking (14).

Screening is typically used to differentiate among apparently well people, separating those who may have (or may be at risk of having) a medical condition from those who do not. Implicit in the concept of screening is the assumption that there will be significant benefit to the health and well being of the individual by virtue of having the condition detected at an early stage.

A variety of screening procedures have been developed to facilitate the early identification of persons with harmful or potentially harmful alcohol consumption (18). Although most procedures have been developed to identify active cases of alcohol dependence or "alcoholism", many are useful for early identification. These procedures include self-report instruments, objective tests of body fluids, and clinical examinations.

These elements are all combined in AUDIT, the Alcohol Use Disorders Identification Test. In 1982 the World Health Organization asked an international group of investigators to develop a simple screening instrument for use in primary care settings. Its purpose was to identify persons at risk for alcohol problems, using procedures that were suitable for use by health workers in both developing and developed countries. The investigators reviewed a variety of behavioural, laboratory and clinical procedures that had been used for this purpose in different countries. They initiated a cross-national study to select the best features of these various national approaches to screening (7,13).

Conducted simultaneously in Mexico, Australia, Bulgaria, Kenya, Norway, and USA, this research led to the development of a simple culture-free screening instrument capable of identifying persons with
early alcohol problems and hazardous levels of alcohol consumption. The instrument was developed on the basis of an extensive validation study that evaluated 1905 patients recruited from various health facilities in the six collaborating centres. The study demonstrated that a common screening instrument could be employed in both developing and developed countries, and that the absolute level of alcohol consumption that presents a significant elevation in the relative risk of alcohol problems (30 grams) is similar regardless of cultural setting.

Unlike previous screening tests, the new instrument was aimed at the identification of hazardous and harmful drinkers, rather than alcoholics. Special emphasis was given to measures that discriminate between social drinkers and nonalcoholic excessive drinkers whose use of alcohol results in harm and who are at high risk for future alcohol dependence. Two procedures were developed that can be used individually or in combination. The first is a ten-item "core" self-report screening instrument. Only questions that refer specifically to alcohol are asked. The core procedure contains three questions on the amount and frequency of drinking, three questions about alcohol dependence symptoms, and four items dealing with personal and social problems associated with alcohol misuse. The questions themselves were selected on the basis of their representativeness, correlation with alcohol consumption, high face validity, and ability to distinguish light drinkers from those with harmful drinking.

Realizing that in some patients the AUDIT questions may not be answered accurately, a second "Clinical Screening Procedure" was developed. This consists of two questions about traumatic injury, five items on clinical examination, and a blood test, the serum GGT. The clinical screening procedure does not refer directly to problems with alcohol. It is considered particularly relevant for those situations where alcohol-specific questions cannot be asked with confidence.

Following the development of AUDIT, the second stage of the WHO project consisted of evaluating the extent to which screening for harmful and hazardous drinking in primary care settings can improve the health of patients at risk of alcohol-related problems. The rationale for Phase II emerged from a growing international literature dealing with what has been variously described as early intervention and secondary prevention programmes.

**EARLY INTERVENTION AND SECONDARY PREVENTION**

Programmes designed to identify and manage problem drinkers or those at risk of developing alcohol-related problems have been considerably less ambitious than those dealing with the treatment of alcohol dependence and chronic alcoholism. Nevertheless, a number of innovative clinical trials, demonstration projects and treatment programmes have been initiated in a variety of countries during the past 20 years.

These programmes can be characterized in terms of three important dimensions that have direct relevance to the present study: 1) the timing of the intervention in the patient’s drinking career (early vs late); 2) the intensity of the intervention (brief vs full); and 3) the goal of the intervention (total abstinence vs moderate drinking; alcohol consumption vs broader changes in lifestyle or mental health).

Timing refers to the point at which the intervention takes place during the course of a person’s drinking career. Early intervention is conducted before the onset of severe alcohol dependence or serious alcohol-related problems, with the purpose of preventing alcohol-related disabilities in persons at risk. It combines early detection and clinical management for persons with hazardous drinking. Management is provided before patients would present on their own volition and in many cases before they are aware that their drinking might cause problems. It is directed particularly at individuals who
have not developed physical dependence or major medical or psychosocial complications. Secondary prevention is the provision of therapeutic or remedial interventions to persons who have already manifested alcohol-related problems, but who have not developed severe alcohol dependence. In contrast to early intervention, secondary prevention is directed at persons after the onset of alcohol-related problems.

The intensity of an intervention refers to the investment of patient time and professional resources. Brief intervention is any therapeutic or preventive activity undertaken by a health worker within a short period of time. Although the duration or frequency of the brief intervention can vary, it generally ranges from one to five sessions, which last no longer than one hour in length. Minimal intervention refers to the shortest or least intensive activity that has a therapeutic or preventive effect. For example, five minutes of health advice or the provision of a self-help manual might be considered minimal interventions. In contrast to brief and minimal interventions, outpatient treatment and residential rehabilitation programmes represent a much higher investment of patient time and professional resources.

A third dimension to consider in the design of intervention programmes is the goal of the intervention. The goal of the intervention refers to the main purpose or objective the programme is designed to accomplish. The traditional goal of alcoholism treatment is lifetime abstinence. The relevance of this goal has been considered unnecessary and even inappropriate for drinkers who are not severely dependent on alcohol (19). An alternative to abstinence that has been investigated as a goal and as an outcome of treatment is moderate drinking. Several researchers have attempted to define moderation in terms of the quantity and frequency of drinking (14,20), suggesting that hazardous and harmful drinking can be distinguished in terms of the amount consumed and the consequences of drinking. In addition to the proximal goal of changing drinking behaviour, many programmes have a more distal goal of improving health or social adjustment. The Swedish intervention programmes (21,22), for example, were designed to prevent medical and employment problems associated with harmful drinking and to reduce the demand for health services.

RESEARCH ON BRIEF INTERVENTIONS

At the time the present study was initiated in 1985, only a small number of controlled studies had been conducted to evaluate the effectiveness of early intervention and secondary prevention programmes. These studies employed two types of research design. The first is called the pretest-posttest control group design, in which a treatment group receiving an intervention is compared with a control group that receives no intervention. The second design is called a comparative outcome study. In this design, two or more techniques are evaluated to find the most effective intervention for a given drinking problem or patient population. Control group designs address the question: Does an intervention have a clinically meaningful and statistically significant effect, over and above the change that might be expected to occur for a variety of other reasons? For example, a diagnostic interview that draws attention to alcohol-related problems may lead some patients to modify their drinking. Another cause of change is statistical regression. This results when persons who report heavy drinking at one time return to a more typical level of moderate drinking at a later time. Because brief intervention studies typically select patients at a time when they are drinking heavily, it is likely that many will regress to the mean even without the intervention. By means of an untreated control group, researchers can estimate the relative contributions of the intervention and statistical regression.

The second kind of research design employed in brief intervention research is the comparative outcome study. These studies address the question: What works best for whom? Once there is good
evidence that an intervention is effective, these studies compare different modalities, techniques and populations to evaluate the ingredients and limits of effectiveness.

**Control group studies.** In one of the first pretest posttest control group studies, Kristenson and colleagues in Malmö, Sweden, recruited middle-aged men who had been identified as "heavy drinkers" as part of a general health screening project (8,22). Those identified as having elevated levels of gamma-glutamyl transpeptidase (GGT) were randomly assigned to either a counselling group or a control group. Although the GGT values of both groups decreased significantly, over a six-year period the intervention group showed greater improvement in terms of absenteeism, sick days and days hospitalized. The study showed that a simple intervention based on regular feedback about a biochemical marker had a beneficial effect on the drinking habits and physical health of a population considered at risk.

A related study was conducted in Scotland at the Edinburgh Royal Infirmary to assess the effectiveness of one session of brief counselling and a self-help manual with nonalcoholic, socially stable problem drinkers identified in a general hospital (23). Screening was conducted by a nurse who administered a 10-minute interview covering drinking habits, medical history, and social background. The findings showed that while both the counselling and control groups reported significantly less alcohol consumption at the one-year follow-up evaluation, the counselling group indicated fewer alcohol-related problems, greater reduction in GGT values, and better performance on a global outcome measure.

Another study, also conducted in Scotland, evaluated a demonstration programme designed to involve primary care physicians in the identification and management of problem drinkers (24). Known as the DRAMS Project (Drinking Responsibly and Moderately with Self-Control), the programme aimed at reducing the patient’s alcohol intake by means of patient-education materials. The DRAMS programme was subjected to a controlled trial using 16 GPs who screened patients using a short health questionnaire. Males drinking above 20 standard drinks per week and females drinking more than 11 drinks per week were randomly assigned to three groups: one receiving the DRAMS materials, a second receiving only advice to limit their drinking, and a control group that was asked to return in several months for a follow-up blood test. At the six-month follow-up evaluation there was a significant reduction in the previous month’s alcohol consumption for the combined sample, but there were no differences between groups. In their interpretation of these results, the authors note that some of the GPs did not implement the study protocol properly. Many of the patients in the DRAMS condition did not comply with the doctor’s recommendations, and the control group received some discussion of their drinking. This, combined with the small sample size, may have accounted for the lack of significant differences among groups.

**Comparative outcome studies.** In contrast to control group studies, recruitment in comparative outcome studies is generally through voluntary self-referrals, instead of routine screening initiated by the health worker. Other differences are the sample sizes (which tend to be smaller), the number of conditions (which tend to be greater), and the intensity of the interventions (which tend to have more sessions).

One of the most influential studies of this kind is the Maudsley treatment vs advice trial (25). This study was designed as a comparative outcome investigation contrasting standard marital couples/therapy with one session of "brief counselling or advice". The couples therapy group (N = 50) received both marital and general counselling. The treatment was designed to be maximally intensive during the first three months, with less frequent contact during the subsequent nine months. Patients received an average of ten outpatient sessions and three weeks of inpatient treatment. The advice condition (N = 50), delivered by a psychiatrist, was carefully structured, had a number of specific types of advice, and
included individual feedback about the three hour assessment process. In addition, the spouse of the client received monthly telephone calls to monitor progress. With a one-year follow-up rate of 94%, the results indicated that both groups had improved equally, with the reasonably intensive conventional treatment conferring no additional benefit over simple advice. Better outcomes were reported by patients with high job status and higher marital cohesion. Further analysis of the data at the two year follow-up evaluation (26) compared "controlled drinkers" (up to 7 drinks a day) with successful abstainers. The former were found to be less dependent at the initial evaluation, and were more likely to have received simple advice. The abstainers were more likely to have been physically dependent at intake, and to have received the more intensive treatment. The results suggested that dependence severity, type of treatment and the goal of treatment interact with one another. This study stimulated interest in brief interventions, particularly among less dependent drinkers.

A related line of research has been conducted by William R. Miller and colleagues. These studies evaluated methods to teach moderate drinking to "problem drinkers". The primary focus was on behavioural self-control training (BSCT) and "motivational interviewing". The elements of BSCT include goal setting, self-monitoring of drinking behaviour, training in rate control, functional analysis of drinking behaviour, and developing alternatives to drinking (27). Motivational interviewing involves listening to the patient empathically and providing objective feedback (28).

One study (29) was designed to evaluate the relative effectiveness of three "controlled drinking" therapies given to self-referred and court referred "problem drinkers". Forty-six clients were randomly assigned to either aversive counterconditioning, behavioural self-control training or rate control/BAC discrimination training. At the end of the 10 weekly sessions of treatment, one half of each group received a self-help manual designed to teach "control over drinking". This manual was given to all remaining clients contacted at the three month follow-up evaluation. The results indicated that all three groups reduced their drinking significantly at the three month follow-up evaluation. The reductions were maintained at the one year follow-up. The three groups did not differ from one another at any of the follow-up evaluations, suggesting that more extensive therapeutic programmes (e.g. aversive counterconditioning) are not necessarily more effective than less costly treatments.

A second study (12) compared the effectiveness of four alternative forms of behavioural self-control training. Forty-eight problem drinkers, recruited through advertising, were randomly assigned to three conditions: 1) bibliotherapy (one session with a therapist followed by a self-help manual, monitoring cards and telephone contacts); 2) ten sessions of BSCT plus the self-help manual; and 3) ten sessions of BSCT, relaxation training, and the self-help manual. Significant reductions in drinking were observed across all groups at the three month and 12-month follow-up evaluations. No differences were found between groups.

In a related study, Miller, Taylor and West (30) studied the relative effectiveness of focused and broad-spectrum behavioural self-control training approaches in teaching moderation to problem drinkers. Forty-five problem drinkers were randomly assigned to four conditions: 1) bibliotherapy, which consisted of a detailed self-help manual; 2) BSCT, consisting of six weekly sessions; 3) BSCT, plus 12 sessions of relaxation, communication and assertion training; and 4) BSCT plus 12 weeks of individually tailored broad-spectrum therapy in which clients could choose among ten treatment techniques (e.g. covert sensitization, mood-management training), including the three given to clients in condition 3. All groups reported significant reductions in drinking, a finding confirmed by collateral informants. Bibliotherapy clients reported more drinking at legal intoxication levels during the treatment period, but these clients were also more extreme at baseline. No other significant differences were observed among groups.
In another study of BSCT, Miller, Gribskov and Mortell (31) randomly assigned 31 "problem" drinkers, self-referred in response to an advertisement, to one of two BSCT modalities: 1) minimal therapist contact consisting of one interview, use of a self-help manual, and three brief telephone calls to encourage the use of monitoring cards; and 2) therapist directed training, in which clients received the same self-help materials plus 10 individual treatment sessions. As with the previous studies, no differences were observed between groups, but significant improvements were noted in both groups following the initiation of treatment. Reductions in drinking were particularly apparent during the first week of participation, suggesting that the contents of the treatment and the manual may not have been responsible for improvement.

A related study (32), conducted at the University of Dundee, evaluated the effectiveness of a self-help manual in reducing alcohol consumption in samples of self-defined problem drinkers recruited by means of newspaper advertisements. Respondents were randomly assigned to one of two conditions. One group was mailed a self-help manual, which contained information about the consequences of heavy drinking, and recommended ways to achieve moderate drinking goals. Persons assigned to the comparison condition received a booklet containing general advice and information about drinking, but no specific instructions or procedures to control drinking. Comparison of the individuals assigned to the two conditions indicated that while both groups reported less drinking six months later, the manual group reduced its drinking more than the comparison group. In addition, the manual group reported significantly more improvement in physical health and well-being.

SUMMARY AND CONCLUSIONS

The control group trials and comparative outcome studies available at the initiation of the WHO study indicated that while the concept of secondary prevention was attracting widespread interest, in practice the development of effective, inexpensive, brief interventions was still in its early stages. Although control group studies had shown some advantage for brief intervention, comparative outcome studies had not found differences in the outcomes produced by alternative treatments. Before these findings could be applied to the design of large-scale, secondary prevention programmes on an international level, further research was needed to evaluate the cross-national generalizability of the findings, giving particular emphasis to the behavioural processes that underlie the effectiveness of these programmes, as well as the practical barriers that may limit the widespread initiation of early intervention.

Taking as its point of departure the knowledge base available to the World Health Organization in 1984, the research pursued within the context of Phase II of the WHO Collaborative Project was designed to test the cross-national generalizability of brief intervention strategies appropriate for early identification and secondary prevention programmes. A related goal was to develop methods and materials that can be used economically with patients encountered in primary care settings, and to suggest ways to implement brief intervention programmes should these strategies prove effective. Because brief intervention trials have been limited to individual culture and conducted on small samples of patients, it was considered imperative to conduct a large-scale trial before these practices could be recommended by WHO or adopted with confidence by programme planners. Multicentre clinical trials of new or promising treatments have demonstrated their usefulness in medicine and public health. They provide a unique opportunity to generate large amounts of data from diverse settings using an identical, scientifically valid methodology. The following chapters describe how the WHO project applied a clinical trials methodology to the study of brief interventions in primary care.
REFERENCES


Chapter 3

EXPERIMENTAL DESIGN AND PROJECT ADMINISTRATION

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This chapter describes the experimental design and methodological details of the project, including screening and recruitment procedures, inclusion and exclusion criteria, design options, randomization, assessments, intervention procedures, patient education materials, translation and cultural adaptation of study materials, selection and training of health advisers, and overall project coordination.

SELECTION OF COLLABORATING CENTRES AND STUDY SITES

Following initial consultations with Phase I investigators and other advisers convened to plan the research protocol for Phase II, the formal process of identifying collaborating centres was begun. The selection process was guided by scientific, cultural, linguistic and financial considerations. Some investigators were invited to join the project on the basis of their participation in Phase I or because of prior experience with alcohol research. It was also important that investigators be affiliated with agencies or institutions that could provide access to the study sample and the resources necessary to conduct the study, such as research personnel (e.g. interviewers, research assistants) and computer facilities. Of paramount concern was the investigator’s access to financial support for research staff, laboratory tests, foreign travel and numerous other expenses associated with the project. Other considerations that guided the selection of collaborating centres were geographic distribution, organization of the country’s health care system and cultural diversity.

Table 3.1 identifies the ten collaborating centres that agreed to participate in the study as well as the recruitment settings, profession of health advisers, and languages spoken in areas where the study was conducted. Investigators from five of the centres (Sydney, Pleven, Nairobi, Mexico City, Farmington) had participated in Phase I of the project. Their experience with the development and validation of the screening instrument was considered valuable for the planning and implementation of Phase II. Other centres were invited to participate because of their previous experience in brief intervention research (Bergen, Cardiff) or because they were specialized research institutes with relevant resources and expertise (Moscow, San José). In addition to the experienced personnel and research capabilities these centres contributed to the project, they also provided a wide range of cultural, linguistic and geographical diversity.

The ten centres represent seven linguistic groups (Swahili, Spanish, English, Bulgarian, Russian, Shona, and Norwegian), a variety of economic systems (socialist, capitalist, mixed) and many different cultures. As might be expected, the drinking patterns and drinking problems associated with hazardous alcohol consumption in the countries where the collaborating centres were located also varied greatly. Some countries were noted for weekend intoxication using distilled spirits (e.g. Norway, USSR) or beer (e.g. Mexico, Costa Rica). Other countries (e.g. Bulgaria, the United Kingdom) were expected to demonstrate a pattern of more regular consumption of low alcohol content beverages like wine and beer. Still others (e.g. Zimbabwe, Kenya) were known to have a pattern of heavy beer and spirits consumption observed in the expanding urban areas of developing countries (1,2).

The collaborating centres were also chosen because of their access to settings and facilities needed to recruit study subjects. These settings included general hospital wards, emergency departments,
primary care clinics, educational institutions, health screening agencies, and work sites. Although the diversity in drinking patterns and recruitment settings was to present some inconvenience in terms of standardizing the intervention procedures, this was not necessarily a disadvantage. On the contrary, because a major purpose of the project was to test the robustness and generalizability of brief interventions, it was considered advantageous to have such heterogeneity in the facilities offered by the collaborating centres.

Two additional considerations in the selection of collaborating centres are related to WHO's public health mission. Clinical research is a major instrument for the development of prevention and treatment programmes. It was therefore considered important to establish an infrastructure of investigators, facilities and research centres that could collaborate in future projects dealing with common alcohol-related issues. Because alcohol research has not been given priority in most countries, this was thought to be a pressing need that could be met by the present project. A related issue is the extent to which clinical trials, once reported in the scientific literature, ever result in substantive changes in the provision of health services. In the planning of the present project, it was thought that the best way to facilitate knowledge transfer would be to involve collaborating centres from a wide variety of geographic areas and linguistic groups. This would assure that the findings would be reported in local and regional publications, that intervention materials would be developed in local languages, and that training resources would be available in many parts of the world. As illustrated on the world map shown in Figure 3.1, the selection of collaborating centres was reasonably successful in this respect. Some areas are unfortunately not represented (Eastern Mediterranean, South Asia, Asia-Pacific). This is in part because of limits on the size of the project, and in part because these regions have not traditionally reported major public health problems with alcoholic beverages.

PLANNING AND MANAGEMENT OF PROJECT

Initially, Phase I meetings held in Oslo, Norway, in 1982, and in Washington, D.C., in 1983 were used to plan the outlines of the Phase II project. In addition, WHO organized two informal consultations in Geneva (July 1983) and Edinburgh, Scotland (January 1984), to prepare a literature review (3), plan a prototype of the self-help manual, develop other patient education materials, recommend procedures for different types of brief intervention, and propose a research design to test the interventions.

The study plans developed in Edinburgh were reviewed and finalized at the third meeting of investigators held in Geneva in June of 1984. This meeting was attended by collaborating investigators from all centres. It was devoted to a systematic discussion of methodological details, including screening, recruitment, inclusion/exclusion criteria, design options, randomization, assessments, intervention procedures, patient education materials, translation and cultural adaptation of study materials, selection and training of health advisers, and overall coordination of the project.

The final planning of the investigation was assisted significantly by the results of a pilot study conducted at four of the centres (Mexico City, Moscow, Cardiff and Farmington). The pilot study involved translating the study materials (interviews, questionnaires, training manuals, and patient education brochures), training one health adviser, recruiting 20 patients for a screening interview, conducting a brief intervention, and re-interviewing the patients several weeks later to learn about their impressions of the intervention. This information was used to make modifications in the research protocol before the trial began.
At the June 1984 meeting of investigators the University of Connecticut centre at Farmington (USA) was asked to serve as "technical focal point" for the project. This task entailed the preparation of detailed study protocols for investigators and interviewers, the development of a training manual for health advisers, the construction of interviews and questionnaires, the completion of site visits to all centres, supervising the translation and adaptation of study materials to specific languages and cultures, developing quality assurance procedures, facilitating the orderly transfer of data to Farmington, establishing comparable data files and programme files for the 10 data sets, constructing a universal codebook for the combined data sets, and conducting preparatory data analyses for the purpose of scale construction, data reduction and error checking. It also involved taking responsibility for the statistical management of all data collected by the collaborating centres, and making periodic reports to WHO.

As part of Farmington's role as technical focal point, WHO requested Drs T.F. Babor and H. Kranzler to make site visits to all collaborating centres. The site visits, completed in 1986, revealed that all collaborating centres had experienced moderate delays in initiating the project. These delays were caused primarily by the exigencies of securing administrative approvals, financial support, and staffing arrangements.

In addition to delays, several centres experienced major problems with the research design (San José) and recruitment (Cardiff, Bergen, San José). Nevertheless, all centres had begun formal recruitment of subjects into the study by 1986.

In December 1986, the fourth meeting of investigators was organized in Sydney, Australia. The meeting was preceded by an international symposium on early intervention (4). Following the two-day symposium, the ten collaborating investigators met to review progress and to plan the follow-up procedures.

In May 1988, WHO organized a final meeting in Odessa, USSR. Hosted by the All-Union Research Institute for the Medico-Biological Study of Narcology, this meeting was devoted to a general review of progress, presentation of preliminary findings, plans for completion of the project, and discussion of procedures to disseminate the results.

Subsequent to this meeting, additional consultations were held in Farmington, USA, Geneva, Switzerland and Sydney, Australia, to provide an opportunity for selected investigators and consultants to work with the technical focal point on the statistical analyses and interpretation of findings.

**FUNDING AND ADMINISTRATIVE SUPPORT**

Initial funding for the support of planning meetings was provided by WHO Headquarters. Once the research protocol had been prepared and the collaborating centres had been selected, it was necessary for each investigator to obtain the necessary local funding for personnel and other expenses. As summarized in the detailed acknowledgements that appear at the end of each of the centre reports (Chapters 5 through 14), a wide variety of institutional and extramural support was assembled to conduct this project at the collaborating centres. In many cases the investigators had to submit detailed grant applications to national or regional funding agencies. In several instances the research protocol was subjected to rigorous peer review. Some centres were able to support the research from resources available within their own agency or institution. In those cases where local or national support was inadequate or unavailable, WHO Headquarters provided small amounts of funding to guarantee the continued participation of a wide variety of centres.
EXPERIMENTAL DESIGN, METHODS AND PROCEDURES

Following the initial planning meetings, each Principal Investigator was provided with a detailed research protocol designed for the following purposes:

1) To familiarize investigators with the study design and goals of the project;

2) To describe the study materials, recruitment procedures and intervention strategies;

3) To provide guidelines for training and supervision of health advisers;

4) To standardize procedures across centres;

5) To control the quality of the data.

The specific tasks required of each collaborating centre were to: 1) train two or more health advisers by means of audio tapes prepared by the Cardiff centre and a training manual entitled: "Guidelines for the Primary Health Care Worker;" 2) recruit the recommended quota of patients who met the inclusion/exclusion criteria for participation in the study; 3) interview all patients with the WHO Composite Interview Schedule; 4) assign equal numbers of patients to the control condition (Group I), the Simple Advice condition (Group II) and to the Brief Counselling condition (Group III); and 5) contact patients after six months for a follow-up interview concerning their impressions of the intervention and the effect, if any, it had on their drinking behaviour. These procedures are discussed in more detail below.

CORE STUDY DESIGN

The core research design and sequence of study procedures are illustrated in Figure 3.2. The core design consisted of a control group, a simple advice group, and a group receiving brief counselling. The control group received only a 20-minute health interview. These individuals were then contacted six months later for a follow-up evaluation. The Simple Advice group was exposed to the same general health interview plus five minutes of advice about the importance of sensible drinking or abstinence. The Brief Counselling group received the same five minutes of advice as well as an additional 15-minutes of counselling. The Brief Counselling group also received a problem-solving manual that they were encouraged to use in the development of a "habit-breaking plan".

RATIONALE FOR INTERVENTION STRATEGIES

The two core intervention strategies (simple advice and brief counselling) were selected because they represent the minimum and the maximum amount of effort primary care workers could be expected to devote to persons with potentially harmful drinking behaviour in a single session. The importance of designing an intervention capable of implementation during a single session was indicated by our literature review (3) and was reiterated by the WHO Secretariat. A more intensive, multi-session intervention may be desirable. However, this would add significantly to the cost, and specialized training would be needed to deliver the intervention. Given the constraints of a single session, simple advice was chosen as the minimal intervention because of evidence (3) suggesting that the health adviser's social influence, as communicated through firm advice to modify unhealthy behaviours such as cigarette smoking or drinking, may be sufficient to motivate a large number of individuals,
particularly those who are less severely dependent. Similarly, the brief counselling strategy described below was chosen because research suggests that unhealthy behaviours may be even more amenable to change when behavioural techniques are added to social influence (See Chapter 2).

The strategies are derived from the behavioural change model outlined in Babor, Ritson and Hodgson (3), and are consistent with the principles of social learning theory and motivational psychology (5-7). This particular intervention model was also chosen because it seemed to have great potential for being standardized across different health care settings as well as adapted to the drinking patterns of different cultural groups. All procedures were standardized across centres by use of the WHO Composite Diagnostic Instrument, the Sensible Drinking Leaflet, and, in the case of brief counselling, by means of the self-help manual. The procedures were standardized further by the careful selection and training of the health advisers.

OPTIONAL CONDITIONS

Collaborating investigators could add optional conditions to the core research design in order to explore additional research questions that were considered too expensive or time consuming for all centres to pursue. The most important optional addition to the study design was the "Extended Counselling" condition. This consisted of the addition of three follow-up sessions to the Brief Counselling condition in order to provide the patient with periodic support and encouragement.

The Extended Counselling condition was included in the optional design because periodic follow-up, information feedback and social reinforcement often have been integral components of successful interventions in secondary prevention research (8). If the two core interventions are not sufficiently strong to change ingrained drinking habits, monitoring the patient through periodic appointments may have a better chance of effecting changes in drinking behaviour. Five countries added an extended counselling group to the core design (Australia, Norway, Mexico, the USA and the USSR). Patients were asked to return one month, three months and six months after the initial intervention. In the extended counselling session health advisers encouraged the patient and quickly reviewed the main points in the manual. This supportive approach was used regardless of the improvement demonstrated by the patient.

Other variations, which were added by some centres to the core design, include: (1) Simple Advice groups receiving three additional sessions to evaluate whether follow-up sessions account for more change in drinking behaviour than advice alone (USA and Mexico); (2) groups receiving general health counselling to control for the additional time spent with patients in the Brief Counselling condition (USA and Mexico); (3) a group receiving standard outpatient treatment (Costa Rica); and (4) a group receiving general health counselling in addition to alcohol-specific brief counselling (Zimbabwe). The details of these optional additions to the core research design are described in the reports of the individual centres in Chapters 5 through 14.

It should be noted that one centre, San José, Costa Rica, was not able to use the core research design because patients were initially recruited from an outpatient clinic for problem drinkers. Because it was considered unethical to withhold treatment from problem drinkers who were seeking help, San José did not use a Control group. At this centre, a standard four-session outpatient program served as a comparison condition for brief counselling and extended counselling.
DESCRIPTION OF CORE CONDITIONS

After screening and recruitment, all three groups were assessed using the WHO Composite Interview Schedule (see Figure 3.2). Group 2 was given five minutes of advice and Group 3 was given 20 minutes of brief counselling. All patients were then asked to fill out the Health and Daily Living (HDL) form (9), a self-report questionnaire designed to measure psychological, medical, and environmental variables that may explain why some persons are capable of changing their drinking while others are not. All patients were asked to participate in a follow-up evaluation six months after the initial intervention. Some centres also conducted additional follow-up evaluations.

These conditions are described below in more detail.

**Group I: Control condition.** Group I, a control group, was treated exactly the same as the experimental groups (Groups II and III) except that they received no advice or counselling about their drinking. Health advisers were strongly encouraged to show the same level of concern for patients in all groups. Group I members were told that they were taking part in a World Health Organization study of general health practices. Since the initial interview included questions about alcohol use, people in this group at times asked for advice about their drinking. If this occurred the health adviser was instructed to provide the patient with a list of local health and social service agencies (if they existed) dealing with the management of alcohol problems. Patients were then asked to fill out the Health and Daily Living form. Before leaving, patients in this group were thanked and reminded that: (a) the information they provided would improve knowledge about health behaviour in different countries; (b) they would be seen by somebody else in six months’ time to collect further information.

**Group II: Simple advice.** After the 20-minute WHO Composite Interview, the second group was given five minutes of advice about drinking. They were told that they seemed to be drinking too much. Mention was also made of any problems they had described in the interview that could be related to their drinking. These problems were deliberately noted by the health adviser during the assessment interview. An illustrated pamphlet referred to as the Sensible Drinking leaflet was then used to structure the advice-giving procedure. The information provided in the USA version of the leaflet is shown in Figures 3.3 and 3.4. To demonstrate that the person’s drinking fell into the heavy drinking category, one illustration presented in the leaflet (see Figure 3.3) shows a pie chart divided into “alcoholics”, “heavy drinkers”, and “sensible drinkers”. The health adviser was instructed to say: “Most people fall into this sensible drinking group but your drinking puts you into the heavier drinking category”.

The idea of a standard drink was also introduced. All of the alcoholic beverages shown in the leaflet contained one standard drink. Information about the alcohol content of local drinks was designed to help the drinker to set sensible drinking limits. Guidelines were given in the leaflet about whether to choose total abstinence or a sensible drinking goal. This decision was usually left to the patient.

The most important part of the Simple Advice procedure was the “sensible drinking limits” that were suggested if the patient chose a nonabstinent drinking goal. These limits were no more than three or four drinks per occasion for men, and no more than two or three drinks per occasion for women. Both men and women were advised to drink no more than 4 or 5 days per week and less often if they thought it prudent.

The aim of the simple advice was to gently persuade the drinker to study the leaflet, consider whether a change in drinking habits was needed, and to set sensible drinking limits. In cases where the
drinker asked for advice about how to stop drinking or how to change other health habits the health adviser was instructed to say: "Sometimes it is best to try to cope with this type of problem yourself. If you are really worried, why don’t you contact one of the local agencies that specialize in treating alcohol problems?"

When the leaflet had been reviewed, patients were asked to complete the Health and Daily Living form and told that they would be seen again, but by someone else, in six months.

In summary, the goals for the Simple Advice condition were to: 1) identify any alcohol-related problems that were mentioned during the assessment interview, emphasizing the possible relationship between these problems and drinking; 2) introduce the Sensible Drinking leaflet and make sure that patients realized that they were in the heavy drinking category; and 3) emphasize the idea of sensible limits, including the advisability of at least two or three days of abstinence each week. Before leaving, patients in this group were thanked and reminded that: (a) this was a World Health Organization study and the information they provided would improve knowledge about health behaviour in different countries; and (b) they would be seen by somebody else in six months' time to collect further information.

**Group III: Brief Counselling Condition.** After the interview, the Brief Counselling group was given the same information as the Simple Advice Group, but this was followed by 15 minutes of counselling about drinking. The brief counselling was conducted by referring to a 30-page illustrated Problem-Solving Manual that emphasized personal problem-solving rather than just warning about the dangers of alcohol.

The health worker introducing the Problem-Solving Manual attempted to achieve three main goals within 15 minutes: 1) to develop a therapeutic relationship with the patient and cope with any resistance; 2) to work quickly through the manual; 3) to identify a friend or relative who could help the drinker to make use of the manual. The overall aim of the session was to communicate the idea that habits can be changed. The health adviser explained that drinking habits could be changed by using a systematic problem-solving approach. The main elements in effective problem-solving were described as: 1) clearly defining the problem; 2) thinking of a large number of possible solutions; 3) choosing one of the alternatives; and 4) trying it out. Going through the manual with a patient was only seen as a quick introduction. It was considered impossible to go through the manual in depth in just 15 minutes.

Having obtained some degree of cooperation, the patient was told that the manual is concerned with three main areas: 1) good reasons for drinking sensibly instead of heavily; 2) ways of coping with high risk drinking situations; and 3) identifying alternatives to drinking. The first five minutes of the session were identical to the simple advice given to Group II. The rest of the session was designed to suit the particular patient. It began with an attempt to identify good reasons for drinking less (e.g. money, health, friendships). A list of benefits described in the manual was noted at this stage. The next section of the manual described situations in which people tend to drink heavily. The health adviser mentioned various high risk situations, such as parties, particular people, and feelings of anxiety, and asked which ones sometimes increased the patient's desire to drink heavily. For example, social pressure to drink is a common high-risk situation, as are unpleasant mood states and situations involving conflict with other people. The health adviser’s task was to identify just one important situation (for example: "When I’ve had an argument with my wife"). This was recorded on the Composite Interview form and in the patient's manual. The health adviser then said: "Now our next task is to think of ways of coping with
this situation without drinking. We will do this by thinking of as many different ways as we can and then choosing two of them*.

An example of this process was given in the Problem-Solving Manual. When trying to produce a list of ideas no attempt was made to judge whether they were good or bad. Next, the health adviser very briefly described the drinking diary cards, which required a daily inventory of all drinks consumed and the situations where drinking occurred. It was pointed out that a careful drinking record would help to keep drinking under control. The health adviser also tried to identify a helper who would be willing to assist the drinker to use the manual. Patients were then asked to complete the 15-minute Health and Daily Living questionnaire. Before leaving, patients in this group were reminded that they would be seen by someone else in six months’ time to collect further information.

In summary, the goals for the Brief Counselling Group were to: 1) identify any alcohol-related problems mentioned in the interview; 2) introduce the Sensible Drinking Leaflet, emphasize the idea of sensible limits, and make sure that patients realized that they were in the heavy drinking category; 3) work through the first three sections of the Problem-Solving Manual, while mentioning the value of reviewing the other sections; 4) describe drinking diary cards; 5) identify a helper; and 6) mention the six-month follow-up.

SUBJECT NUMBERS AND RECRUITMENT QUOTAS

The numbers required in each condition depended on anticipated drop-out rates and the amount of change expected in patients. Sixty or more in each cell was considered necessary for sufficient statistical power to allow recognition of differences at the level of individual centres. An effort was made to recruit enough women to detect differences between men and women within groups. Agreement was reached at the 1984 Geneva meeting that centres should aim for each cell to contain 20 women and 40 men.

In addition to gender, the samples were stratified according to age. The different patterns of drinking and associated problems with respect to "younger" and "older" people persuaded the investigators that the sample should be stratified according to three age groups: age 17-30, 31-40, and 41 and over. If it was not possible to meet these quotas, each investigator was nevertheless encouraged to recruit the recommended number of 60 for each condition in whatever proportions of males and females, younger and older, that were attainable.

ASSESSMENT INSTRUMENTS USED IN THE STUDY: INITIAL ENCOUNTER

Table 3.2 describes the materials used to screen patients, conduct an initial baseline assessment and perform the intervention at the time the patient was recruited into the study. In selecting the assessment procedures, special consideration was given to methods that have proven useful in previous research with problem drinkers and which have, in some cases, cross-national applicability. This was done to maximize generalizability of findings and to take advantage of instruments having demonstrable reliability and validity. It was also considered important to select standardized instruments that could be repeated in follow-up assessments. The following paragraphs summarize the nature and purpose of each instrument used in the study.

1) Health and Lifestyle (Screening) Questionnaire. This instrument was designed to select patients for the study. It was used both as an interview and a self-report questionnaire,
depending on the circumstances. Its purpose was threefold: 1) to provide prospective subjects with a brief explanation of the study; 2) to identify persons who may be using alcohol in a hazardous way; 3) to eliminate persons who were inappropriate for the study before proceeding with the WHO Composite Interview and intervention. As explained below under exclusion criteria, patients who were alcohol dependent, too ill, too transient in their living arrangements, too old, or who were unwilling to volunteer were considered inappropriate for the study.

The 21 items in this questionnaire asked not only about drinking, but also about overeating, undereating, smoking, drug abuse, and emotional problems. One reason for asking these questions was to hide the specific intent of the study, which was to identify heavy drinkers. Another reason was to eliminate persons who had serious alcohol problems (e.g. multiple treatments for alcoholism), liver damage, serious emotional problems or other serious health problems. A manual for using the Health and Lifestyle Questionnaire was written to provide research personnel with guidelines about how the information could be used to determine the suitability of potential patients for the study. The explanatory instructions on the cover page of the "Health and Lifestyle Questionnaire" were designed to communicate the general purpose of the study to the patient while carefully avoiding the specific purpose of the screening.

It should be noted that the Health and Lifestyle Questionnaire used for screening in this study was not the AUDIT instrument developed during the first phase of this project (10,11). There are several reasons for this. The main reason was that data analysis from the first phase, which resulted in selection of the AUDIT items, was completed several months after Phase II of the project had commenced. In addition, there was a need to embed a minimal number of alcohol-specific questions into a broader health and lifestyle questionnaire. The purpose of this was to disguise the primary intent of the research from the control group, and thus assure that the experimental design was unaffected.

2) WHO Composite Interview Schedule. This was a revised version of the interview used in Phase I of the WHO Project that was tested in six countries (10-12). The items were selected to provide important baseline information needed to evaluate the effect of the intervention. The interview began with the following explanation:

“This health survey is being conducted by the World Health Organization in ten different countries. We would like to ask you some questions about how you have been feeling during the past six months, as well as about your eating, drinking, smoking, exercise and sleep habits. Please try to answer the questions as accurately as you can. The information you give may be useful in helping to plan better health care services in different countries. All information will be kept confidential and will be used only for research purposes.”

The initial part of the interview asked about general health, nutrition, smoking, stress and sleep. The purpose of these items was: 1) to disguise the specific purpose of the study so that the control group did not become aware of the fact that we were studying their drinking behaviour, and thus attempt to change their drinking to please the health adviser; 2) to present the drinking questions in the context of a general health survey where presumably they would be less threatening; 3) to provide baseline information about the general health habits of the
patients, in order to evaluate whether these improve with reduced drinking. For example, persons who change their drinking habits may also report better nutrition and less stress.

The first section of the instrument collected information about age, sex, marital status, living situation, occupation and socioeconomic status. Occupation was coded according to a standardized, international occupational prestige scale, developed and validated by Treiman (13). This scale provides prestige ratings of over 100 occupations and has cross-national comparability in industrialized countries and the developing world. The type of health care facility the patient was attending was recorded together with the primary admission diagnosis, which was coded according to the International Classification of Diseases, 9th Revision.

Questions about a number of medical symptoms associated with excessive alcohol consumption were asked, using items developed in Phase I of this project (10). A cluster of possible withdrawal symptoms (nausea, sleep disturbance, tremor, etc.) were incorporated together with questions on affective symptoms that may be associated with drinking (anxiety, depression, irritability). These items were recorded on a frequency scale (never, less than monthly, monthly, weekly, daily or almost daily) with reference to the previous six months. Another area of interest was the history of trauma. Previous studies have shown high correlations between trauma-like head injuries, broken bones, and the level of alcohol consumption (14). The occurrence of three different traumas since the 18th birthday was ascertained, namely head injury, road accidents and broken bones.

The section on drinking habits asked about drinking behaviour, drinking problems, and dependence symptoms. In this section, the "Tri-level" method of measuring alcohol consumption developed and validated for cross-national research in the first phase of this project (10), was employed. Subjects were asked to define what for them was "low-level", "medium level" and "high level" drinking, according to the amount of alcohol consumed and the type of drinks taken. Then the frequency of drinking at each of these levels during the last month was noted. If the last month was not "typical" the corresponding frequencies for a typical month were also recorded. The alcohol content of different beverages was recorded by percentage, making it possible to estimate the approximate amount of alcohol (in centilitres) that was consumed during the last month and during a typical month.

Six items were selected from the Phase I instrument that were considered to be good "early" indicators of alcohol dependence. In contrast to the procedure adopted for most questionnaires of this kind, items were scored on a frequency scale: never (during last six months); less than monthly; monthly; weekly; and daily or almost daily. All items pertained to the last six months only. This made it possible to establish how often heavy drinkers experience symptoms that are regular experiences for alcohol dependent persons.

In the next section patients were asked about social consequences of drinking. Among the social complications enquired of were injuries to self or others, legal problems and unemployment. Three questions referred to concern expressed or advice received about drinking from family, friends, persons at work, doctors and other health workers. Patients were first asked about their lifetime experience of such complications, then specifically about the previous six months. Subsidiary questions were asked to define the type of complication that had occurred.
Following the comprehensive assessment of social consequences, patients were asked about their use of cigarettes. Nine questions were adopted from Fagerstrom's (15) inventory to measure severity of nicotine dependence.

Another aspect of the revised WHO Composite Interview was a section labeled "Health Adviser's Evaluation". This was designed to provide information about the patient's attitude and behaviour during the interview and the intervention. This information was intended to determine which kind of patient responds best to the intervention. In this section the health adviser was also asked to rate the patient in terms of honesty, accuracy and potential response to the intervention.

3) Health and Daily Living (HDL) Questionnaire. This self-report questionnaire was completed by the patient after the end of the Composite Interview (Condition 1), Simple Advice (Condition 2) or Brief Counselling (Conditions 3 and 4). The questions were designed to investigate patient characteristics that predict favourable or unfavourable response to the interventions. The variables measured were self-confidence, global depression, and coping styles (e.g. active coping, avoidance coping, information seeking, help seeking). The items were selected from an inventory of the same name developed by Moos et al (9). A reference period of six months prior to the interview was used. The indices derived from this instrument have been shown to be reliable and valid with people who drink excessively (16).

The HDL was also used to measure physical symptoms, medical conditions, depression, involvement in social activity, network contacts, number of close relationships, and the quality of significant relationships.

In addition to items measuring these variables, the HDL form contained a few questions about the health adviser. These were designed to find out how patients perceived the health adviser (e.g. warm, caring, etc.) and how confident they felt about their ability to follow the advice received in the intervention. It was considered important to know, for example, whether health advisers who are perceived as "warm" and "caring" do better or worse than those perceived as "strong" and "competent", and whether different health advisers do better in different countries. Because the ratings and other answers provided in the HDL were of a personal and confidential nature, the health adviser provided the patient with an envelope or folder labeled "Confidential—For Research Purposes Only". This allowed the patient to return the questionnaire without feeling that the health adviser was going to read it.

PATIENT EDUCATION MATERIALS

A considerable amount of thought was given to the preparation of the materials that were given directly to the patient as part of the intervention (the Problem-Solving Manual and the Sensible Drinking Leaflet). Simple graphics were devised for the Problem-Solving Manual to illustrate the different sections. In preparing these materials investigators were encouraged to keep in mind that the manuals and leaflet should be visually appealing and easy to carry. Small, pocket sized, professionally printed manuals and leaflets were developed. It was felt that patients would be more likely to read visually appealing materials, and less likely to discard them. It was anticipated that if the manuals and leaflet were small, patients who felt guilty about their drinking or embarrassed about the need to cut down would find pocket-sized materials easier to conceal from their family or friends.
Sensible Drinking Leaflet. This leaflet (see Figures 3.3 and 3.4) contained information about alcohol and the consequences of its misuse, as well as a statement of what levels of drinking should be considered hazardous. It was given to patients in both the Simple Advice and Brief Counselling conditions.

Problem-Solving Manual. This manual was given to the patient by the health adviser who reviewed the general principles contained in it. The manual discusses good reasons for drinking less, choosing an abstinence or sensible drinking goal, dangerous situations, how to cope with them, alternatives to drinking, and how to stick to a habit-breaking plan.

Drinking Diary Cards. These cards were distributed with the Problem-Solving Manual with instructions to use them for at least four weeks. The patient was instructed to record the number of drinks consumed each day and to indicate whether the day had been "good" or "bad" in terms of conforming to the sensible drinking goals.

Self-Health Manual (Optional Condition). This manual was given to patients assigned to the optional simple advice condition tested in Farmington (USA) and Mexico. It differed from the Problem-Solving Manual in that it provided advice about four health areas other than drinking. The areas were nutrition, smoking, exercise and stress management. The purpose of this manual was to provide general health counselling. As such it could be combined with five minutes of simple advice about drinking, for a total of 20 minutes exposure to counselling. It was hypothesized that patients might find this indirect approach less threatening than the more direct alcohol-related advice they received in the Brief Counselling condition.

TRANSLATION OF QUESTIONNAIRES AND INTERVIEWS

In those centres where the native language was not English, it was necessary to translate all questionnaires, interviews and manuals. Although this was a laborious and time-consuming task, it was considered extremely important to have high quality translations. Especially with respect to the information about drinking, even slight variations in the meaning of certain words could alter the response rate significantly. Guidelines for achieving a good translation of the study materials were sent from Geneva. The procedures used depended on time and resources as well as the investigator's own judgment. It was recommended that several bilingual persons familiar with the purpose of the study participate in the process of translation, back translation, and discussion of discrepancies.

SELECTION AND TRAINING OF HEALTH ADVISERS

The occupational role and personal characteristics of the health adviser were discussed extensively in the planning of this project. On the one hand, the high status of a medical doctor in most countries speaks to using this influence itself as a catalyst for change. On the other hand, qualities such as warmth and empathy may be just as important in effecting behavioural changes as the status of the medical doctor. Ideally, one would be able to test for these factors by using several health advisers with different status levels and a variety of qualities such as ability to empathize. However, a prohibitively large sample would be required for such research. The Edinburgh Royal Infirmary Project’s investigators (17) describe their health adviser as a “charismatic” nurse, the prototype of whom was readily recognized by all investigators. This seemed to be the most appropriate type of health adviser for the project, although collaborating investigators were given some latitude in choosing health advisers according to cultural considerations and existing resources.
In recruiting and training health advisers, it was considered important to select persons who would adhere strictly to the research protocol in all respects. Health advisers who fail to ask questions, forget to deliver certain aspects of the interventions, or who deviate in other ways from the standard protocol could adversely affect the quality of the data. Even when health advisers are careful and conscientious, it is possible that subtle expectations or biases may affect the way in which they interact with clients. These "experimenter expectations" or "interviewer biases" could produce differences between groups which, in fact, are not related to the major variable with which the study is concerned: namely, the different kinds of intervention. Principal Investigators were therefore asked to emphasize the following points in the selection and training of health advisers:

1) **Objectivity.** From a scientific point of view, it was considered just as important to show no differences between control and experimental groups as it was to show significant differences. If preconceived biases affected the way clients in the Brief Counselling condition answered the questions at intake or at follow-up (e.g. patients say they improve because they want to please the researchers), then this would not serve the cause either of science or of public health, since the interventions would be recommended when, in fact, they are ineffective.

2) **Consistency.** The consistency of health advisers in their ability to adhere to established protocol, as described in the health adviser's manual, were checked periodically. Procedures were developed so that health advisers could be compared within centres as well as across centres in terms of the way they were perceived by their patients. Health advisers were selected on their ability to act consistently regardless of the condition the patient had been assigned to.

3) **Empathy.** Health advisers were instructed to demonstrate warmth and concern in order to establish a therapeutic relationship with the patient.

In summary, the success of the project was thought to depend not on the ability of the health advisers to produce a significant statistical effect, but rather on their ability to carry out the research protocol in the prescribed way so that valid data could be collected and the interventions could be delivered correctly. This was communicated clearly to health advisers by the Principal Investigator and by the written guidelines provided to them during their training.

The training of the health advisers was designed to take between 10 and 20 hours. Written guidelines were devised to ensure that training was standardized across centres and that the study could be replicated by other investigators. Initially, all health advisers participating in the study were trained at the same time by the Principal Investigators. They were encouraged to practice with each other and to observe each other in actual or simulated interviews so that they all performed similarly.

The health adviser first became familiar with the protocol for the project. This included the need for randomization, standardization, and replication across centres. The background to the study and the research design were described in an audiotape prepared by the Cardiff centre. After this material had been understood, the health adviser listened to audiotapes on which were recorded the WHO Composite Interview Schedule and details of the different interventions. The health adviser was then instructed to read "Guidelines for the Primary Care Worker" and to pay special attention to ways of responding to different types of situations likely to be encountered (e.g. how to respond to questions about drinking by control group subjects). The health adviser then thoroughly rehearsed the WHO Composite Interview schedule.
The next stage involved mastering the delivery of the interventions. The health adviser listened to audiotapes which gave examples of the simple advice and brief counselling sessions. The health adviser then made two tapes covering the WHO Composite Interview and the simple advice and brief counselling conditions. These were discussed with the project team at the collaborating centre.

After the initial training was completed and two tapes for each health adviser reviewed, further practice was undertaken. When the health advisers and the Principal Investigator agreed that the training was complete, each health adviser was encouraged to make two tapes with an example of the simple advice and brief counselling which could be circulated to other centres. Based on practical considerations such as language commonalities and geographical proximity, selected centres exchanged tapes of sessions when the health advisers had been satisfactorily trained. Mexico and Costa Rica formed one such group; Zimbabwe and Kenya another; the USA, the UK and Australia another; and finally the USSR and Bulgaria yet another. Two centres (Australia, Zimbabwe) made videotapes of the intervention procedure and these were shared with some of the other centres. In addition, the site visits included a procedure for reviewing the training of health advisers in the different centres.

**RECRUITMENT PROCEDURES**

The Health and Lifestyle (Screening) Questionnaire was employed to: 1) provide a brief explanation to prospective subjects; 2) identify subjects who met minimal eligibility criteria; and 3) screen out subjects who were ineligible, either because they drank too much or too little. In instances where persons were identified as drinking at or above the level of risk, but who also appeared to be too seriously dependent to qualify for the study, each investigator was encouraged to develop an ethical procedure for referring them to appropriate care or treatment.

Once the health adviser or other screening person identified a suitable volunteer, a standard explanation was employed to inform the patient that the health adviser wished to: 1) conduct a 20-minute interview using a general health survey developed by researchers at the World Health Organization; 2) possibly give them some health information and brief advice based on the interview results, 3) have them fill out a brief self-report questionnaire; 4) have them return for a follow-up health survey in about six months. It was explained that we needed the assistance of people like them to determine what health information is useful before distributing health materials on a large scale.

**INCLUSION CRITERIA**

The inclusion criteria are summarized in Table 3.3 both in terms of the approximate number of standard drinks and the equivalent number of grams of absolute alcohol. Adjustments were made in those countries where the alcohol content of the standard drink was known to be less than or greater than 12 grams. Two sets of inclusion criteria were used: 1) one for persons who may not desire to reduce their drinking or who do not perceive they have a problem (regular inclusion criteria); 2) those for persons who do have such a desire or perception (reduced inclusion criteria).

In both sets of criteria, the limits were different for men and women, owing to differences between the sexes in both body weight and the percentage of body mass which is attributable to water. Furthermore, there were standards for usual quantity per week as well as frequency of heavy drinking (intoxication) episodes. These criteria were developed to identify two types of drinkers: 1) those who are at risk of chronic health problems because they drink in the range of 50 grams per day (males) or 32 grams per day (females); 2) those who drink heavily to probable intoxication frequently enough to
be at risk of accidents, arrests, poor job performance or other social problems. Standards were reduced somewhat in cases where a person wanted to cut down or perceived he/she had a problem. The reason for this was to initially include borderline cases who may well have reported low consumption because of the crudeness of the two quantity frequency questions used in the screening interview. It was decided to admit these patients pending a more systematic exploration of their drinking behaviour in the WHO Composite Interview. Final determination of eligibility for inclusion in the statistical analyses was done when the data were transferred to the Farmington Centre for data analysis.

Calculations for a standard drink required taking into account differences in the percentage of alcohol in local beverages and in the measures commonly used. In the United States, for example, approximate values were based on reports by Polich and Orvis (18) and Leake and Silverman (19). Twelve ounces of beer (on average 4.5% ethanol) contains 13 grams of ethanol. Four ounces of wine (on average 12% ethanol) contains 11.5 grams of ethanol. One shot or 1.2 ounces of distilled spirits (on average 40% ethanol) contains 11.5 grams of ethanol. A standard drink then, using the mean content of these three beverages, is equivalent to approximately 12 grams of absolute ethanol. The inclusion criterion for US men was therefore 29 standard drinks per week. For females, this translates into 19 standard drinks per week.

It was considered likely that many patients would minimize their alcohol consumption, particularly during the screening interview. If interviewers believed that a patient, who in all other respects was a good candidate for the intervention, was denying a problem or underestimating consumption, they could use the lower inclusion criterion and make a special effort to probe during the "Drinking Habits" section of the WHO Composite Interview. At the end of that interview there were several questions designed to record the interviewer/health adviser's impressions about the extent of denial and underestimation. This information was used to evaluate the validity of the patient's data.

RATIONALE FOR INCLUSION CRITERIA

Level of alcohol consumption and frequency of intoxication were selected as inclusion criteria in part because of the nature of the intervention and in part because of the requirements of the research. Since the intervention was designed to reduce hazardous consumption, it was considered important to test its effectiveness on persons at the high end of the statistical range. Not only is this group "at risk" of developing both acute and chronic alcohol-related problems, but it is in this group that change is most likely to occur in the statistical sense. Although there is no consensus about the point at which hazardous alcohol consumption begins, the approximate levels chosen for this study are consistent with the results of several literature reviews (20-23). These studies provide only probability levels for hazardous consumption, and it is likely that these will vary according to the drinker's age, sex, weight and physical condition. Nevertheless, clinical and epidemiological research suggests that the risk of harmful medical effects increases for males when consumption exceeds the range of 40-60 gms of ethanol a day (approximately four drinks), and somewhat less for women. Although there is some evidence that a comparable level of consumption may protect against ischemic heart disease, Skinner et al. (24) point out that this does not preclude the risk of liver damage and other medical problems.

The inclusion criterion based on weekly consumption was therefore derived using a lower limit of 50 grams of absolute ethanol per day for men. This represents the midpoint of the hazardous range of 40-60 grams per day. On a weekly basis this is the equivalent of 350 grams of absolute ethanol. For women, however, two factors necessitate an adjustment in this criterion: namely, lower average body
weight and a lower proportion of body weight which is attributable to water. Both are relevant insofar as ethanol is highly hydrophilic and is distributed almost entirely in body water.

Data from the life insurance statistics (25) indicate a mean weight for men of 153 lbs (approximately 70 kg) and for females 120 lbs (approximately 55 kg). This provides a ratio for body weight of females to males of 0.8. A ratio for body water for females to males was also found to be 0.8, using data obtained at the University of Connecticut. Over the age range 17-59, males had a percentage of body weight attributable to water of approximately 58%, while females had a body water percentage of approximately 48%. Using the cutoff of 350 grams for males and then adjusting for lower weight and body water percentage in females gives a value of about 225 grams of ethanol per week for women (i.e. 350 gms x (0.8) x (0.8)).

The second major inclusion criterion, consumption of alcohol that would result in frequently elevated blood alcohol concentrations (BACs), was selected to define a population of drinkers at risk of alcohol-related problems associated with acute intoxication. For a 160-lb man this would be approximately six drinks in a single session, as estimated from standard BAC guides distributed in various drinking driver education campaigns throughout the world.

In addition to either the quantity criterion or the frequency criterion, the study also accepted patients who experienced the following kinds of problems during the previous year: concern or worry about drinking by self or family; accidents in which alcohol intake was involved; tardiness or absence from work because of drinking; frequent use of alcohol to relieve stress, anxiety or depression; desire to cut down drinking. These criteria have been proposed as early psychosocial indicators of alcohol abuse (24,26). They were only invoked if the patient was considered just below the formal inclusion criteria. If it was determined after more extensive interviewing with the composite interview that they were clearly ineligible, then they were subsequently eliminated from consideration in the statistical analyses.

EXCLUSION CRITERIA

The exclusion criteria were designed to exclude drinkers who were inappropriate for the intervention, e.g. those with a prior history of serious mental illness, liver damage or alcohol dependence, as suggested by prior treatment for these conditions. Because of the uncertainty regarding safe drinking limits for pregnant women, we chose to exclude them as well.

In instances where persons were identified as drinking at or above the level of risk but who also appeared to be too impaired to qualify for the study, each investigator developed an ethical procedure for referring them to appropriate care or treatment. The following is a list of the exclusion criteria:

1) Prior or current treatment for alcoholism, drug abuse, liver disease or mental disorder. Having been treated in a clinic or outpatient setting did not require exclusion unless total abstinence from alcohol was recommended. If patients were treated in a clinic or outpatient setting for mild depression or other less serious emotional problems, they were considered eligible if medications were not prescribed.

2) Warned by a doctor or other professional to refrain completely from drinking alcohol. If the patient received medical or other professional advice to stop drinking, he/she was not admitted to the study.
3) Past or recent history of morning drinking on a relatively frequent basis. This was considered presumptive evidence for alcohol dependence unless local customs provided a rational explanation for this behaviour.

4) Recent alcohol consumption. If the individual drank less than the levels recommended in the inclusion criteria, or extremely high amounts per day (e.g. 150 grams or more), then he/she was not included.

5) Pregnancy. Women who had reason to believe they were pregnant were not included in the study.

6) Social/residential stability. Since it was imperative that all patients be contacted approximately six months after the interview, individuals who did not have stable life circumstances and a relatively permanent residence or employment were excluded. The precise way this was determined differed from one centre to another.

7) Age. Patients who were less than 18 or older than 70 were excluded, although some exceptions were made for slightly older patients.

RANDOM ASSIGNMENT PROCEDURE

Once patients agreed to participate they were randomly assigned to one of the study conditions according to a procedure determined in advance by the Principal Investigator. Patients were randomly assigned to health advisers as well as to study conditions. To accomplish the stratified (age/sex) random assignment objective, the following procedure was employed:

1) An envelope or folder was prepared for each patient in advance. The envelopes contained all necessary materials for patients assigned to the different study conditions.

2) The envelopes were sorted into boxes labeled according to the stratified groups: For example, the box labeled "MALES, Ages 17-30" contained 13 Control patient envelopes, 13 Simple Advice patient envelopes, and 13 Brief Counselling patient envelopes.

3) The envelopes were thoroughly mixed in each box, making sure that there was no visible indication of the condition contained in the envelope. This assured that the envelopes would be picked randomly.

4) When a patient agreed to participate in the study, the health adviser consulted the Health and Lifestyle (Screening) Interview to find out the patient's age and sex (for example, a 50-year-old male). Then one of the envelopes containing study materials was chosen from the appropriate box (i.e. MALES, Ages 41-60). The health adviser then opened the envelope and conducted the intervention indicated by the materials contained in the envelope. This procedure, while modified to suit local conditions at some sites, was designed to produce random assignment of patients to conditions as well as to health advisers.
TESTING THE INTERVENTIONS

Once the patient agreed to participate in the study and a packet of materials had been chosen (i.e. random assignment made), the interventions were conducted according to the "Guidelines for Primary Care Workers".

After the session health advisers completed the section of the WHO Composite Interview Schedule devoted to the health adviser's evaluation. At that time the health adviser recorded his or her impressions of the interview and the counselling session on the back of the interview schedule. In order to assure the confidentiality of the patient's information (especially their ratings of the health adviser), patients were provided with an envelope that was used to enclose the completed Health and Daily Living Questionnaire. The answers provided by individual patients were not shared with the health advisers. At the end of the session a follow-up interview was scheduled with each patient. If the patient was assigned to the optional Extended Counselling Group, he or she was asked to return for a review of progress in four weeks.

DATA PREPARATION, STORAGE AND MANAGEMENT

Interview schedules and questionnaires were sent to Geneva. Investigators retained a copy of the data for their records before sending originals. After a preliminary review of the data, all forms were sent to the technical focal point in Farmington, USA.

FOLLOW-UP ASSESSMENTS

The entire follow-up assessment battery required between 60 and 90 minutes of the patient's time. Each centre could decide how many of the supplementary assessments could be completed by the patients in the study. The final choice depended upon the degree of cooperation that could be expected of patients and the resources of the Investigator. Table 3.4 summarizes information about the follow-up materials. The Composite Interview was considered crucial, the HDL and Community Response Questionnaires very important, and the other questionnaires optional. All assessments (except the Composite Interview) could be administered either as interviews or self-report questionnaires.

The following materials were developed to conduct the follow-up:

1) WHO Composite Interview (follow-up version). This is a revised version of the WHO Composite Interview used at the time of intake to the study. Some parts were eliminated (e.g. demographic questions) because they were not needed. Other parts were repeated to provide a measure of change. For example, the sections on drinking habits and medical symptoms were administered again to patients at the six-month follow-up evaluation to determine whether the Problem-Solving Manual or the Simple Advice actually resulted in a reduction in alcohol consumption, drinking problems, and dependence symptoms.

In addition to questions selected from the intake composite interview, the revised Follow-up interview also contained a number of new items:

a) Four items used in the Health and Lifestyle (Screening) Interview were repeated at the beginning of the drinking habits section. These items were designed to provide an alternative measure of changes in drinking behaviour.
b) A set of questions was added to assess family history of alcohol abuse and psychiatric problems. These items were used to estimate differences in liability or vulnerability. Given the fact that drinkers having a family history of alcoholism are at greater risk of alcohol problems, these items were included to predict which patients respond best to brief interventions, and which ones could benefit from more intensive treatment.

c) The Follow-up Composite Interview contained several procedural innovations designed to increase the validity of verbal report information. One is the "Research Agreement". This is modeled after a procedure used by survey researchers to motivate respondents to provide accurate information. It consisted of a statement signed by both the patient and the interviewer. In it, the patient agreed to provide accurate information for research purposes and the interviewer agreed to keep the information confidential.

d) The section containing questions about drinking habits began with an explanation of the dipstick method. As described below, the purpose of this test was explained in a non-threatening way before the questions about drinking in order to motivate the patient to respond accurately, and to suggest that the researchers were using alternative methods of verifying their answers. All patients were given the right to refuse the dipstick assessment. If the patient refused, the follow-up interviewer continued with the interview.

e) One of the most important parts of the Follow-up Interview was the patient’s "Evaluation of Programme". These questions were designed to determine whether patients changed their drinking behaviour in response to the various interventions. Interviewers showed patients copies of the Simple Advice leaflet and Problem-Solving Manual. Questions were asked to determine whether patients read the materials and remembered their contents.

2) **Health and Daily Living Questionnaire (HDL) (follow-up version).** This ten-minute questionnaire was completed by the patient after the end of the Composite Interview. The questions were designed to measure patient characteristics that correlate with favourable or unfavourable response to the interventions. The variables measured were global depression and sociopathic personality characteristics. Depression was measured using the Moos et al (9) depression items. Sociopathy was measured using the Socialization scale from the California Psychological Inventory (27), which has been found to have cross-national applicability (28).

3) **Community Response Questions.** These questions were selected from a larger set of interview items developed for use in the WHO Study on Community Responses to Alcohol-Related Problems (29). These items deal with attitudes about alcohol and drunkenness, acceptable norms for heavy drinking and intoxication, and reasons for drinking and/or not drinking. These measures were included to understand cross-national differences in patients’ responses to the interventions.

4) **Inventory of Drinking Situations (IDS) (optional).** The IDS measures two major classes of high-risk drinking situations: 1) intrapersonal determinants of drinking, such as psychological and physical cues; and 2) interpersonal determinants, such as the influence of other individuals. Details concerning subscale reliabilities, normative data and the derivation of a 42-item short form are given in Annis et al. (30). It was expected that the analysis of risk situations provided by the IDS would be useful in distinguishing between patients who benefit from the interventions and those who do not.
5) Situational Confidence Questionnaire (SCQ) (optional). The SCQ is designed to measure the client’s relative confidence (or self-efficacy) with respect to coping with the different types of drinking situations measured in the IDS (31).

FOLLOW-UP PROCEDURES

The six-month follow-up interview and related assessments were considered crucial to the successful evaluation of the interventions. Without a high rate of follow-up evaluations, the data collected at intake would have limited usefulness. It was therefore recommended that investigators devote maximum effort to the achievement of an 80% or higher follow-up rate.

All patients were advised of the follow-up evaluation at the time they were recruited into the study. The follow-up evaluation began at most centres approximately six months from the date of the first interview. If a patient delayed making an appointment or was only located after several months of searching, it was still considered useful to have the evaluation performed up to 12 months after the intervention. In some centres (e.g. Moscow) the follow-up evaluation was begun later because of a delay in the receipt of the follow-up protocol or for other administrative reasons.

Patients could be contacted by telephone, by mail or when they returned for health visits. If a patient repeatedly missed a follow-up appointment, an attempt was made to arrange a home interview, or to conduct the interview by telephone. If patients were interviewed by telephone, they were asked to complete the self-report assessments by mail.

Patients participating in the optional Extended Counselling condition that was tested in some centres were asked to return for the third monitoring session six months after intake. This session was conducted by the health adviser for approximately 10 minutes. After the session, the health adviser introduced the follow-up interviewer who then conducted the follow-up evaluation.

If resources were available, transportation expenses could be paid or some other token of appreciation could be provided to increase the chances of patients returning for the follow-up interview.

All centres were encouraged to obtain a blood sample from patients at follow-up, but only if it did not discourage patients from participating. Only one centre (Sydney) collected sufficient numbers of blood samples to permit analysis of the relationship between alcohol consumption and biological indicators of heavy drinking.

SELECTION AND TRAINING OF FOLLOW-UP INTERVIEWERS

In recruiting and training follow-up interviewers, the Principal Investigator took into account the need to adhere strictly to the research protocol in all respects. Principal Investigators were instructed that the follow-up interviewer should not be the person who conducted the intake interview. This was to prevent patients in the Simple Advice and Brief Counselling conditions from biasing their answers to please the health adviser. PIs were encouraged to use an independent follow-up interviewer who was not a health adviser. As a more workable alternative, health advisers could be employed at follow-up if there were two health advisers at a centre. Patients interviewed by one health adviser at intake could be interviewed by the second at follow-up.
Follow-up interviewers were trained in the same way as the health advisers. They practiced the Composite Follow-up Interview, made tape recordings, and had them reviewed by the Principal Investigator and health advisers. Investigators were encouraged to compare the techniques used by different interviewers to obtain the information about different levels of drinking. If one interviewer tended to be more persistent or aggressive than another, this could have affected the amount of drinking reported by the patients. Training therefore focused on teaching interviewers to be as similar as possible.

The follow-up instructions provided to the patient were designed to communicate that the present situation was different from the situation at the initial interview. At that time, most patients were being treated as "patients" by a "health worker". At follow-up, it was emphasized that the interviewer was a "research scientist" and the patient was a "research subject". The aim at follow-up was to obtain accurate information to evaluate the programme.

ALCOHOL DIPSTICK

The alcohol dipstick is a rapid method for analysis of ethanol in body fluids. It was developed by Drs Kapur and Israel (32) at the Addiction Research Foundation in Toronto, Canada, to provide a visual, semi-quantitative determination of the amount of ethanol in saliva, urine or blood. This procedure was used in the follow-up evaluation to obtain an objective measure of recent alcohol consumption (up to approximately six hours of drinking) and to demonstrate to patients that we were very interested in obtaining scientifically accurate information about their drinking. The instructions were therefore ambiguous with respect to the time period the dipstick is known to be accurate. When explaining the procedure, the interviewer was instructed to tell the patient that it provided an estimate of "recent alcohol consumption". The dipsticks were sent from WHO Headquarters packaged in bottles. At the time of the follow-up interview the interviewer removed one dipstick from the bottle and asked the patient to place the end with two small pads under his tongue. The moistened dipstick was then placed on a piece of paper with the pads facing up. The interviewer continued asking the drinking questions until it was possible to match the color of the dipstick's end pad against the color chart on the bottle. The scores ranged from 0 (no change in color) to 5 (maximum change). If the patient asked about the results, the interviewer was instructed to answer: "The results are similar to what you just told me about your recent drinking". If the patient reported no drinking in the past several hours but the dipstick was positive, an attempt was made to clarify the discrepancy. Perhaps the respondent "forgot" about a drink taken in the past few hours, or used mouthwash or some other alcohol product. If the patient insisted that no alcohol was consumed, the interviewer was instructed to simply accept his account and continue with the interview without being judgmental. If the patient reported drinking in the last 24 hours but the dipstick yielded negative results, then no mention was made of the discrepancy.

VALIDITY CHECK

Most centres were able to conduct a brief telephone interview with an informant named by the patient who could answer questions about the patient's health habits and drinking behaviour during the follow-up period. These interviews were conducted with "helpers", family members who accompanied the patient, or with friends. Because it was too time-consuming to obtain validation interviews for all patients, a sample of 15-20 was considered sufficient to check the general accuracy of patients' self-report information.
ETHICAL ISSUES

Follow-up interviewers were instructed to look for signs and symptoms of alcohol dependence or severe alcohol intoxication. If the patient appeared to be in need of medical or psychiatric attention, then the interviewer was encouraged to make an appropriate referral.

DATA ANALYSIS PLAN

Initially, a considerable amount of time was devoted to error checking, coding interview responses, and entering data received from the different collaborating centres. Additional analyses assessing the reliability and validity of the data were conducted using lab data, dipstick results, and informant reports. Other analyses focused on scale construction and cross-validation, because we could not assume that interview and questionnaire items, no matter how well standardized and translated, were interpreted to mean the same thing in different cultures.

The most important analysis for the purpose of this report pertains to the follow-up data. The analysis chosen was a comparison of intake with follow-up measures of typical daily amount of alcohol consumed (in CL absolute ethanol) and intensity of drinking on typical drinking days. When significant effects of the interventions could be demonstrated on measures of drinking behaviour, additional analyses were performed on measures of alcohol-related problems. The measure of average daily consumption averages the total amount consumed in the previous six months over the entire number of days (regardless of whether the patient drank on a given day), while the intensity measure estimates how much was consumed only on drinking days. Because most patients were not daily drinkers, it was expected that the average consumption measure would be less sensitive to the interventions (which recommended no more than four standard drinks five times a week for men, and no more than three standard drinks four times a week for women) than the intensity measure. Males and females were analysed separately because of the different target levels and different inclusion criteria for these groups. In interpreting the data to follow, it may be useful to note that one ounce equals approximately three centilitres of alcohol.

As presented in each of the centre reports that follow (Chapters 5-14), one-way ANOVAs were computed for each available sample using intake and follow-up estimates of drinking as repeated measures. One set of analyses tested for differences across the four WHO conditions. Another collapsed across experimental conditions to compare intervention with control patients.

The cross-national generalizability of the intervention strategies was examined by means of a two-way analysis of variance using research centres and intervention strategies as independent variables (Chapter 16).

RELIABILITY AND VALIDITY OF VERBAL REPORT DATA

A critical determinant of the quality of the research data obtained from collaborating centres is the extent to which patients were motivated to provide accurate information to screening persons, health advisers and research assistants. A major concern expressed by the Principal Investigators and WHO consultants was that patients would minimize their alcohol consumption, particularly those patients who received alcohol-specific brief counselling. These patients, it was suspected, would bias their answers in order to please the health advisers and researchers who were obviously interested in detecting reduced alcohol consumption. As already described in this chapter, a variety of procedures were employed to minimize response bias and, in some instances, to estimate whether denial, distortion, or other response
effects were influencing the results. These procedures included the use of redundant measures of drinking to check reliability, using biological tests to detect recent or heavy alcohol consumption, implying that the alcohol dipstick method employed at follow-up could check the veracity of their interview responses, asking interviewers to rate patients in terms of perceived veracity, having the follow-up interviews conducted by a person other than the health adviser, asking the patients to sign a simple "accuracy" contract, and conducting interviews with "significant other" informants. While not all of these procedures were carried out at every centre, they provided a way to prevent response bias before it occurred, and to check for its presence if it occurred.

A related methodological issue is the reliability of the drinking measures. Reliability refers to the consistency of response associated with specific questions. If the drinking questions are difficult to answer or are asked in different ways across centres, then they will not generate accurate estimates of individual alcohol consumption before and after the intervention. This "error" variance could obscure what would otherwise be a true relationship between the interventions and drinking behaviour. Because the WHO Project employed a rather complicated procedure for estimating alcohol consumption (called the Tri-level Consumption measure), we also included a more standardized and simple set of questions in the interview to judge the consistency of the Tri-level measure across the 10 centres. The standard measure consisted of two questions about the typical quantity and typical frequency of drinking during the six months prior to the interview, and two questions about the frequency of heavy drinking days and the quantity consumed on those days. The answers to these questions, coded by the interviewer into fixed response categories, provided a way to estimate alcohol consumption using the same structured questions in every centre with every interviewer. To the extent there are discrepancies between the estimates provided by the standard procedure and those provided by the Tri-level measure, these can be attributable to random error or to different types of response bias. Table 3.5 presents the results of an analysis comparing the two different alcohol estimation procedures within each of the collaborating centres and across the combined samples. The left side of the table shows the numbers of male and female patients at each site who received the follow-up interview containing both the Tri-level estimation procedure and a more standard quantity-frequency (QF) procedure. Data are lacking from Cardiff because the QF questions were not asked at this site. The next column gives the Pearson correlation between the Tri-level measure and the quantity-frequency measure, which is calculated by multiplying the typical quantity consumed by the typical frequency of drinking. Both methods provide estimates of daily alcohol consumption (in centilitres of pure alcohol). The correlations range from .26 in Mexico to .84 in Kenya. The correlation for the combined samples is .66. All coefficients are significant beyond the .01 level.

These results indicate consistently high reliability across most of the centres, with the binge drinking countries (e.g., Mexico, Costa Rica, and Zimbabwe) generally showing lower reliabilities than countries with a steady drinking pattern. The table also shows means for the two estimation procedures, which are compared by means of t-statistics. The QF procedure, based on a combination of structured interview questions and fixed response categories, can be used to estimate the bias that may exist because of variations in the Tri-level interviewing procedure employed in the different centres, or because of difficulties at some centres in quantifying the alcohol content of different beverages. For example, the Tri-level procedure may have been difficult to use with those drinkers in Zimbabwe who consume chibuku, a low alcohol beer that is typically served in communal pails. In addition, some interviewers may have been more persistent than others in their questioning with the Tri-level method, which was expected to produce higher consumption estimates because of its ability to quantify high amounts of drinking. Contrary to expectations, the results show that the Tri-level measure produced significantly lower consumption estimates than the QF measure in five of the nine comparisons, and did not differ
significantly in the remaining four. This is not consistent with the known tendency of averaging procedures to underestimate alcohol consumption, thought to occur because respondents provide more information when they are asked more detailed questions. The centre with the largest discrepancy is Sydney, which actually modified the QF procedure to permit a higher level of reporting on high level occasions. Another reason for the differences between estimation procedures is the use of a standard drink conversion formula for the QF estimates that assumes that each "drink" contains 1.5 cl of ethanol. The Tri-level measure uses actual alcohol content based on local beverages. In general, this analysis indicates that while there may be systematic bias in the estimation of alcohol consumption at some sites, the reliability of the Tri-level measure is acceptable at all sites except Mexico. Although one should be cautious about making direct comparisons of daily alcohol consumption across sites, the patients in these samples, with the possible exception of Mexico City, appear to be reporting their relative alcohol consumption reliably. As long as relative differences in alcohol consumption can be measured reliably, the present study should be able to detect changes in consumption over time if they occur, and make accurate comparisons between patients randomly assigned to different study conditions.

Regarding the validity of the alcohol consumption estimates, several centres collected data from collateral informants at the time of the follow-up evaluation. At the Farmington centre, data are available from 35 informants interviewed by telephone. Although the number is small because of the failure of many patients to name informants, and the lack of cooperation on the part of some informants named, there is no reason to believe that this subsample is not typical of the larger sample. The results of an analysis correlating patients' with informants' reports indicate moderate to high (r = .40 - .70) correspondence on reports of quantity and frequency of drinking during the previous six months, with equal degrees of correspondence between drinking measures and non-drinking measures (e.g. smoking). For example, informants' estimate of the frequency of patients' drinking correlated .67 with the number of drinking days reported by the patient. Similarly, the patients' report of changes in drinking during the follow-up period correlated .54. The correspondence on estimates of smoking was .56. While all of these correlation coefficients are statistically significant, it is not clear whether the lack of perfect correlation is due to unreliability on the part of the informant or the patient.

At the Moscow centre, 95 family members (63%) were interviewed by telephone using the same collateral interview. As reported in Chapter 11, the accuracy of the information was confirmed in 96% of these cases. In addition, the collaterals' data indicated significant differences between the control and intervention groups at follow-up, which is consistent with the differences obtained by analysis of the patients' self-report information.

Another check on the validity of self-reports was made by comparing patients' reports of time since last drink with the results of the alcohol dipstick. For example, only 4% of the dipsticks given at the time of the follow-up interview at the Farmington centre were positive, and 9 of the 10 individuals reported having a drink within the last 15 hours. Interestingly, eight individuals with negative dipstick results reported drinking within at least four hours of the interview, suggesting that the dipstick may have contributed to some over-reporting of consumption at follow-up, a bias that would result in a more conservative estimate of change.

Although the use of laboratory tests was recommended in the study protocol, all centres except Sydney found it difficult or too expensive to draw blood samples. Patients recruited at the Sydney centre were asked to give a blood sample for biochemical and haematological analyses. The biochemical tests were serum gamma glutamyltransferase (serum GGT), serum aspartate aminotransferase activity (ASAT), serum alanine aminotransferase activity (ALAT), serum HDL-cholesterol concentration and a blood
alcohol concentration. A blood count was performed specifically to determine the erythrocyte mean cell volume (MCV). The laboratory data were used to evaluate changes in liver function measures (i.e. GGT) between baseline and follow-up. The results indicate that both the intervention groups and the control group reduced their GGT levels significantly at follow-up. These findings are consistent with the findings presented in Chapter 5 and give additional credence to results based on the self report drinking measures employed in this study.

In summary, verbal report methods have become the dominant research procedure to collect information about drinking behaviour and treatment outcome. Although the verbal report procedures can be unreliable and invalid under certain circumstances, there is no evidence that either random or systematic response bias affected the quality of the data collected in the present study.

IMPLEMENTATION OF STUDY DESIGN

All centres submitted the research protocol for institutional review in conformance with WHO's Human Subjects policy guidelines. In addition, several centres obtained written informed consent from all participants in the research. Patient records were kept in confidential files by the Principal Investigators at each centre. When duplicate records were transferred to Geneva and Farmington, the patient’s name and other identifying information were not included.

As indicated in Table 3.1, all centres (except Costa Rica) assigned patients to the three core WHO conditions (Control, Simple Advice, Brief Counselling). Six centres tested the Extended Counselling condition that added three follow-up visits to the Brief Counselling. The centre at Harare added an optional Simple Advice condition (Simple Advice plus general health counselling) to its three WHO core conditions. The centre at San José, Costa Rica, decided to modify the design based on ethical and logistical considerations. Because their only source of recruitment initially was an outpatient clinic affiliated with the National Institute on Alcoholism, it was considered unethical to assign treatment-seeking patients to a minimal intervention condition (i.e. Simple Advice) or to a waiting list control group. A more feasible alternative was to compare a group receiving standard outpatient treatment with groups receiving the WHO interventions (Brief Counselling and Extended Counselling).

As indicated in the table, the centres vary widely in the settings chosen for the intervention. The settings most often used for screening were primary care facilities and outpatient clinics of general hospitals. Recruitment was mostly conducted by means of waiting room surveys and routine screenings in health settings. One centre (Cardiff) sent out mail surveys to registered patients in family practice clinics. Another (Pleven) conducted screening by means of a household survey in a metropolitan community.

Table 3.6 summarizes information about the gender and professional training of health advisers who conducted the Composite Interviews and the interventions. Female health advisers delivered the study procedures to 76.1% of the patients. Male health advisers predominated at the Pleven (68.3% of patients interviewed) and Cardiff (65.7%) centres, while female health advisers interviewed the majority of patients at the remaining centres. The profession of the health adviser was most often a nurse (46.3% of patients), while relatively equal proportions of patients were interviewed by doctors (17.7%), psychologists (17.3%) and other professions (18.7%).

Table 3.7 summarizes the implementation of the project at each of the collaborating centres. Most centres achieved their recruitment objectives, and all initiated six-month follow-up evaluations. More
than 32,000 persons were screened and 1,655 eligible persons were assigned to the three "core" WHO conditions and to a variety of other optional conditions.

Several conclusions can be drawn from the information presented in these summary tables. First, all centres were successful in securing administrative approvals, hiring staff, finding facilities, and adapting study materials to local conditions. These preparations indicate a high degree of investment in the project. What is equally notable is the uniformly high degree of professional expertise assembled at each of the study sites, and the institutional support associated with them. In addition to the principal investigators, almost every centre attracted highly qualified scientific collaborators, as well as competent health advisers and support staff. The impressive infrastructure supporting each of these centres made it possible to implement the study protocol with a high degree of scientific rigour and administrative competence.

A number of inevitable technical problems developed in the course of putting this complex research protocol into practice. A problem experienced by almost all centres was the difficulty in recruiting subjects, particularly women, into the study. Only two centres (Farmington and Sydney) recruited sufficient numbers of women to permit independent statistical analysis.

Many centres experienced difficulty with the communication links with Geneva and Farmington. Almost all communications were conducted by mail, with annual meetings being the only opportunity to engage in face-to-face planning and discussion.

Each centre found it necessary to make local adjustments in such areas as the translation of study materials, the content of the data-gathering procedures, and methods of recruitment. Nevertheless, these modifications were not extensive and indicate as much about the adaptability of the study protocol as they do about intrinsic flaws in the study design. Despite the diversity in cultural settings and institutional contexts, much of the original protocol survived intact.

All centres conducted follow-up evaluations, and five centres completed sufficient numbers of their six month follow-up evaluations to exceed the target of an 80% follow-up rate. Although five centres fell short of this goal, the follow-up samples available from these sites are not necessarily unrepresentative. As the individual centre reports will indicate, the difficulties in tracking patients at these sites were caused more by logistical and administrative problems than by the uncooperativeness of the patients. Under these circumstances, there is little evidence that systematic bias has resulted from the failure of some sites to achieve respectable follow-up rates. The data from these sites has therefore been analysed, but with appropriate caution.

Finally, there was a significant number of cases that could not be used in the primary analyses designed to test the study hypotheses. The discrepancy between numbers recruited and numbers reported in the analyses described in the subsequent chapters of this report is attributable to several factors. First, patients for whom relatively complete follow-up data were not available were not included in the outcome analyses. Second, some centres recruited small numbers of female patients who were subsequently culled from the centre analyses because they could not be analysed separately and it was not considered appropriate to combine them with males. The female samples are, however, combined across centres and analysed separately in Chapters 4 and 16.

Third, some cases that were recruited and followed up were subsequently eliminated because they did not conform to the inclusion or exclusion criteria. This occurred most often when a patient revealed
more in the Composite Interview than in the brief screening questionnaire. Because scoring of the interview responses did not occur until the data were transferred to Farmington, the final determination of a patient's appropriateness was not made until later. In some cases patients were excluded because of incomplete data or because they were considered outliers and their responses were suspect. In other cases, patients were excluded because they failed to report sufficient drinking to meet the minimal inclusion criteria. In all instances clearly defined criteria were used to remove cases, and the patient's study condition or follow-up status was never taken into account in making decisions. Because of these procedures, the investigators do not feel that systematic bias has compromised the randomized design or affected our ability to make valid comparisons among patients assigned to different conditions. Generalizations beyond the individual samples at some sites may be inappropriate. Nevertheless, a major purpose of the study has been to test the robustness of these intervention procedures in a variety of samples recruited from different cultures and different health settings. For this purpose the study samples appear to be more than adequate.
REFERENCES


<table>
<thead>
<tr>
<th>Centre</th>
<th>Recruitment Setting(s)</th>
<th>Study Conditions</th>
<th>Profession of Health Advisers</th>
<th>Language</th>
</tr>
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<td>Nurse</td>
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<tr>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Extended counselling</td>
<td></td>
<td></td>
</tr>
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<td>Medical doctor</td>
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<td></td>
</tr>
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<td></td>
<td>Brief counselling</td>
<td>Nurse</td>
<td></td>
</tr>
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<td>Work settings</td>
<td>Brief counselling</td>
<td>Psychiatrist</td>
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</tr>
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<td></td>
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<td>Control</td>
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<td>Swahili</td>
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<td>Simple advice</td>
<td>Psychologist</td>
<td></td>
</tr>
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<td></td>
<td></td>
<td>Brief counselling</td>
<td>Psychiatrist</td>
<td></td>
</tr>
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<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
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<td></td>
<td></td>
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<td>Medical doctor</td>
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<td>Psychologist</td>
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<td>English</td>
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<td>Hospital</td>
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<td></td>
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<td>Nurse</td>
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<td>Simple advice</td>
<td>Psychologist</td>
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### Table 3.2 Description of Study Materials

<table>
<thead>
<tr>
<th>Item</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>Health and Lifestyle (Screening) Questionnaire</td>
<td>Screening of study participants according to inclusion and exclusion criteria</td>
</tr>
<tr>
<td>WHO Composite Interview Schedule</td>
<td>Intake evaluation and source of information for personal feedback</td>
</tr>
<tr>
<td>Health and Daily Living Questionnaire</td>
<td>Intake evaluation</td>
</tr>
<tr>
<td>Sensible Drinking Leaflet</td>
<td>Illustrate simple advice</td>
</tr>
<tr>
<td>Problem-Solving Manual</td>
<td>Develop habit-breaking plan suggested during brief counselling</td>
</tr>
<tr>
<td>Drinking Diary Card</td>
<td>Self-monitoring procedure</td>
</tr>
<tr>
<td>Self-Health Manual (optional condition)</td>
<td>Develop plan to change health behaviours other than drinking</td>
</tr>
<tr>
<td></td>
<td>Males</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Regular</strong></td>
<td></td>
</tr>
<tr>
<td>A. Average</td>
<td>350 gms per week</td>
</tr>
<tr>
<td>quantity per</td>
<td>(29 standard drinks)**</td>
</tr>
<tr>
<td>week</td>
<td></td>
</tr>
<tr>
<td>B. Frequency</td>
<td>100 gms on one occasion</td>
</tr>
<tr>
<td>of intoxication</td>
<td>two times per month or more</td>
</tr>
<tr>
<td></td>
<td>often (8 US standard drinks)</td>
</tr>
<tr>
<td><strong>Reduced</strong></td>
<td></td>
</tr>
<tr>
<td>C. Average</td>
<td>300 gms per week</td>
</tr>
<tr>
<td>quantity per</td>
<td>(25 US standard drinks)</td>
</tr>
<tr>
<td>week if</td>
<td></td>
</tr>
<tr>
<td>perceives</td>
<td></td>
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<tr>
<td>problem or</td>
<td></td>
</tr>
<tr>
<td>desires to cut</td>
<td></td>
</tr>
<tr>
<td>down</td>
<td></td>
</tr>
<tr>
<td>D. Frequency of</td>
<td>100 gms on one occasion</td>
</tr>
<tr>
<td>intoxication if</td>
<td>once per month</td>
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<td>perceives</td>
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<td>problem or</td>
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<tr>
<td>desires to cut</td>
<td></td>
</tr>
<tr>
<td>down</td>
<td></td>
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</tbody>
</table>

* Either A or B qualified patient for inclusion.

** US standard drink is estimated to contain 12 gms of absolute alcohol. This may have differed in other countries (see individual centre reports, Chapters 5-14).

*** If patient perceived a problem or had tried to cut down in past three years, the inclusion criteria were somewhat lower.
<table>
<thead>
<tr>
<th>Item</th>
<th>Purpose</th>
</tr>
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<tbody>
<tr>
<td>WHO Composite Interview, Follow-up version</td>
<td>Evaluate changes in drinking and related problems</td>
</tr>
<tr>
<td>Health and Daily Living Form, Follow-up version</td>
<td>Evaluate depression and sociopathy</td>
</tr>
<tr>
<td>WHO Community Response Questions</td>
<td>Measure cross-national differences in attitudes, norms and reasons for drinking</td>
</tr>
<tr>
<td>Inventory of Drinking Situations</td>
<td>Measure effect of intervention on drinking in different high-risk situations</td>
</tr>
<tr>
<td>Situational Confidence Questionnaire</td>
<td>Measure effect of intervention on self-efficacy in different high-risk situations</td>
</tr>
<tr>
<td>Informant’s Questionnaire</td>
<td>Check validity of patient’s answers</td>
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### Table 3.5
Comparison of Quantity-frequency (QF) and Tri-level Consumption Measures in Samples of Heavy Drinkers

<table>
<thead>
<tr>
<th>Location</th>
<th>N</th>
<th>Correlation*</th>
<th>Tri-Level</th>
<th>QF</th>
<th>t Value</th>
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<tbody>
<tr>
<td>Sydney, Australia</td>
<td>300</td>
<td>.83</td>
<td>5.30</td>
<td>10.12</td>
<td>18.40***</td>
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<td>Pleven, Bulgaria</td>
<td>31</td>
<td>.63</td>
<td>7.07</td>
<td>5.76</td>
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<td>San José, Costa Rica</td>
<td>32</td>
<td>.62</td>
<td>2.38</td>
<td>3.97</td>
<td>1.66</td>
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<td>Nairobi, Kenya</td>
<td>60</td>
<td>.84</td>
<td>4.55</td>
<td>5.83</td>
<td>3.12**</td>
</tr>
<tr>
<td>Mexico City, Mexico</td>
<td>138</td>
<td>.26</td>
<td>3.22</td>
<td>2.94</td>
<td>.70</td>
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<tr>
<td>Bergen, Norway</td>
<td>42</td>
<td>.63</td>
<td>2.56</td>
<td>4.00</td>
<td>3.25**</td>
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<tr>
<td>Moscow, USSR</td>
<td>107</td>
<td>.68</td>
<td>1.78</td>
<td>2.89</td>
<td>14.20***</td>
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<td>Farmington, USA</td>
<td>217</td>
<td>.78</td>
<td>4.08</td>
<td>5.28</td>
<td>5.53***</td>
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<td>Harare, Zimbabwe</td>
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<td>.61</td>
<td>7.42</td>
<td>6.64</td>
<td>1.70</td>
</tr>
<tr>
<td>ALL CENTRES</td>
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<td>.66</td>
<td>4.44</td>
<td>6.22</td>
<td>12.66***</td>
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</table>

* All correlation coefficients are statistically significant beyond the .01 level.

*** p < .001
**  p < .01
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<th>Profession of Health Adviser</th>
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<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Sydney, Australia</td>
<td>398</td>
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</tr>
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<td>61</td>
<td>68.3%</td>
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</tr>
<tr>
<td>San José, Costa Rica</td>
<td>36</td>
<td>44.4%</td>
<td>55.6%</td>
</tr>
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<td>Nairobi, Kenya</td>
<td>200</td>
<td>8.0%</td>
<td>92.0%</td>
</tr>
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<td>29.2%</td>
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<td>166</td>
<td>65.7%</td>
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<td>Moscow, USSR</td>
<td>156</td>
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<td>54.5%</td>
</tr>
<tr>
<td>Farmington, USA</td>
<td>265</td>
<td>8.0%</td>
<td>92.0%</td>
</tr>
<tr>
<td>Harare, Zimbabwe</td>
<td>131</td>
<td>9.9%</td>
<td>90.1%</td>
</tr>
<tr>
<td>All Centres</td>
<td>1661</td>
<td>23.8%</td>
<td>76.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Doctor</th>
<th>Nurse</th>
<th>Psychologist</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney, Australia</td>
<td>0.0%</td>
<td>74.9%</td>
<td>5.0%</td>
<td>20.1%</td>
</tr>
<tr>
<td>Pleven, Bulgaria</td>
<td>26.2%</td>
<td>31.1%</td>
<td>0.0%</td>
<td>42.6%</td>
</tr>
<tr>
<td>San José, Costa Rica</td>
<td>41.7%</td>
<td>0.0%</td>
<td>36.1%</td>
<td>22.2%</td>
</tr>
<tr>
<td>Nairobi, Kenya</td>
<td>0.0%</td>
<td>0.0%</td>
<td>16.5%</td>
<td>83.5%</td>
</tr>
<tr>
<td>Mexico City, Mexico</td>
<td>56.6%</td>
<td>0.0%</td>
<td>34.7%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Bergen, Norway</td>
<td>50.0%</td>
<td>36.5%</td>
<td>13.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Cardiff, UK</td>
<td>0.0%</td>
<td>36.4%</td>
<td>63.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Moscow, USSR</td>
<td>80.8%</td>
<td>1.9%</td>
<td>17.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Farmington, USA</td>
<td>0.0%</td>
<td>90.2%</td>
<td>5.7%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Harare, Zimbabwe</td>
<td>0.0%</td>
<td>100.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>All Centres</td>
<td>17.7%</td>
<td>46.3%</td>
<td>17.3%</td>
<td>18.7%</td>
</tr>
</tbody>
</table>
Table 3.7  Information Summarizing Implementation of Study at 10 Centres

<table>
<thead>
<tr>
<th>Centre</th>
<th>Number Screened</th>
<th>Positive Cases</th>
<th>Number Eligible</th>
<th>Follow-up Rate</th>
<th>Months to Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Royal Prince Alfred Hospital, Sydney, Australia</td>
<td>11,548</td>
<td>442</td>
<td>397</td>
<td>75%</td>
<td>8.0</td>
</tr>
<tr>
<td>Department of Alcoholism Pleven, Bulgaria</td>
<td>1,200</td>
<td>74</td>
<td>61</td>
<td>100%</td>
<td>8.7</td>
</tr>
<tr>
<td>National Institute of Alcoholism</td>
<td>230</td>
<td>51</td>
<td>35</td>
<td>100%</td>
<td>7.2</td>
</tr>
<tr>
<td>San José, Costa Rica</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kenyatta National Hospital, Nairobi, Kenya</td>
<td>803</td>
<td>208</td>
<td>200</td>
<td>32%</td>
<td>6.1</td>
</tr>
<tr>
<td>Mexican Institute of Psychiatry, Mexico</td>
<td>2,319</td>
<td>244</td>
<td>196</td>
<td>74%</td>
<td>7.4</td>
</tr>
<tr>
<td>Mexico City, Mexico</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Bergen, Bergen, Norway</td>
<td>1,903</td>
<td>66</td>
<td>52</td>
<td>83%</td>
<td>6.0</td>
</tr>
<tr>
<td>Whitchurch Hospital, Cardiff, Wales</td>
<td>4,428</td>
<td>175</td>
<td>164</td>
<td>67%</td>
<td>8.2</td>
</tr>
<tr>
<td>All-Union Institute, Moscow, USSR</td>
<td>3,257</td>
<td>175</td>
<td>156</td>
<td>73%</td>
<td>18.9</td>
</tr>
<tr>
<td>University of Connecticut, Farmington, US</td>
<td>2,811</td>
<td>293</td>
<td>265</td>
<td>84%</td>
<td>7.6</td>
</tr>
<tr>
<td>Ministry of Health, Harare, Zimbabwe</td>
<td>735</td>
<td>161</td>
<td>129</td>
<td>92%</td>
<td>10.4</td>
</tr>
<tr>
<td>ALL CENTRES</td>
<td>32,236</td>
<td>1,884</td>
<td>1,655</td>
<td>73%</td>
<td>9.3</td>
</tr>
</tbody>
</table>
Figure 3.2  Core Research Design and Sequence of Study Procedure

Sequence of Study and Procedures Associated with Each Condition

1. Screening
2. Recruitment
3. WHO Composit Interview Schedule
4. Stratified Random Assignment

GROUP I
Control group

GROUP II
Simple Advice
Review interview results
Explain Sensible Drinking Leaflet (5 min)

GROUP III
Brief Counselling
Review interview results
Explain Sensible Drinking Leaflet (5 min)
Introduce Problem-Solving Manual (15 min)
Mention Diary Cards and identify a helper

Mention six-month follow-up interview
Ask patient to fill out Health and Daily Living Questionnaire

Six-month follow-up
Figure 3.3  Inside Panels of Sensible Drinking Leaflet

THREE TYPES OF DRINKERS

Sensible Drinkers
Most people drink sensibly.

Alcoholics
These are people whose heavy drinking has led to dependence and other problems.

Heavy Drinkers
These people are drinking more than is good for them. They should change to sensible drinking.

WHAT'S A STANDARD DRINK?

1 STANDARD DRINK = 1 CAN OF ORDINARY BEER OR ALE

A SINGLE SHOT OF SPIRITS (whiskey, gin, vodka, etc.) = A GLASS OF WINE

A SMALL GLASS OF SHERRY = A SMALL GLASS OF LIQUEUR OR APERITIF

HOW MUCH IS TOO MUCH?
It's how much pure alcohol there is in a drink that's the most important thing. You need to know how different drinks compare. These drinks, in normal measures, each contain roughly the same amount of pure alcohol. You can think of each one as a 'standard drink'.

WHAT'S A SENSIBLE LIMIT?

If you want to keep well within the safe limits, these are sensible limits to keep to.

<table>
<thead>
<tr>
<th>FOR MEN</th>
<th>FOR WOMEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>No more than four standard drinks, 5</td>
<td>No more than three standard drinks</td>
</tr>
<tr>
<td>times a week</td>
<td>four times a week</td>
</tr>
</tbody>
</table>

But remember. There are times when even one or two drinks can be too much—for example, if you drink before driving or operating machinery.
Figure 3.4  Back Panels of Sensible Drinking Leaflet

SHOULD I STOP DRINKING, OR JUST CUT DOWN?

You should stop drinking totally if:

1. You are almost certain that you could never drink sensibly.

or 2. You suffer from bad early morning shakes during a heavy drinking period.

or 3. You consider yourself to be an alcoholic.

or 4. You have to stop drinking because of a bad health problem (e.g., liver disease)

You should try to drink sensibly if:

1. During the last year you have sometimes been drinking sensibly.

and 2. You do not suffer from early morning shakes.

and 3. You would like to be a sensible drinker.

Note that you should choose sensible drinking only if all three apply to you.

WHERE ALCOHOL MISUSE TAKES ITS TOLL

Continued alcohol misuse may lead to social, legal, medical, domestic, job and financial problems. It may also cut your lifespan and lead to accidents and death from drunken driving.

UCONN/HARTFORD HOSPITAL
AMETHYST PROJECT
L4093
UCONN HEALTH CENTER
FARMINGTON, CT 06032
Chapter 4

BASELINE COMPARISONS: DEMOGRAPHIC CHARACTERISTICS, ALCOHOL CONSUMPTION PATTERNS AND ALCOHOL-RELATED PROBLEMS

T.F. Babor, F.K. Del Boca, & R. Laueran

INTRODUCTION

This chapter describes the study samples in terms of demographic characteristics, drinking patterns and alcohol-related problems. It also examines a major premise of the study, which proposes that the level of alcohol consumption and frequency of intoxication are major determinants of alcohol-related problems, and, therefore, should be the proper targets of early intervention and secondary prevention programmes.

To introduce the major research issues considered in this chapter, it is important to review briefly epidemiological evidence concerning the risks associated with different patterns of drinking. A related issue is whether there are clinically meaningful cultural differences in alcohol consumption patterns. To the extent that cultural differences in drinking patterns are associated with different types of problems, intervention programmes must be tailored to the specific needs of each country.

Implicit in the notion of hazardous drinking is the concept of risk, which refers to the probability of experiencing harm as a consequence of alcohol consumption. The probability of harmful consequences increases with both acute and chronic exposure to alcohol. With acute exposure at an intoxicating dosage, alcohol increases the risk of adverse physical, psychological and social consequences. A recent epidemiological follow-up study of USA adults (1), for example, found that persons who consumed five or more drinks per occasion were nearly twice as likely to die from injuries than persons who drank fewer than five drinks per occasion. Similarly, aggression, criminal behaviour and sexual disinhibition are often observed in connection with drinking, as are injuries resulting from violence, interpersonal problems and suicide (2). Although acute doses of alcohol exert a variety of effects on psychomotor performance, mental functioning and social behaviour, these consequences are not always a direct function of the drinker’s blood alcohol concentration (BAC). There is evidence that the mere expectation that alcohol has been consumed can exert a powerful effect on human behaviour independent of alcohol’s pharmacological effects (3). Nevertheless, impairments induced by low to moderate doses of alcohol (i.e. doses adequate to produce a BAC of 40 to 80 mg/dl) greatly increase the risk of psychosocial problems.

Based on retrospective reports of 70 early-stage problem drinkers, Sanchez-Craig and Israel (4) found that consumption of 4 standard drinks (54 g of ethanol) on an average of three days/week was associated with the onset of alcohol-related social problems. At six-month follow-up, patients who were drinking at or above this level were significantly more likely to have problems associated with their drinking than those who were consuming less alcohol (5).

Leonard and colleagues (6) studied male heavy drinkers who on average consumed approximately 3 drinks per day. They found that alcohol-related problems were related to both average daily consumption and frequency of intoxication.

In addition to the problems associated with acute intoxication, recurrent or chronic exposure can also increase the risk of adverse effects. For example, the risk for a variety of medical disorders is
WHO/PSA/91.5
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elevated in those who regularly consume in excess of as little as 40 g of ethanol, on average, per day (3). While cardiovascular risk may be lower among persons consuming this amount daily, the risk of cirrhosis, stroke and cancer may be elevated.

The effects of chronic alcohol consumption may be more harmful for females, especially in the range of hazardous consumption (25-65 g/day). In a recent study, female hazardous drinkers were at increased risk of liver abnormalities, dependence symptoms, subjective complaints, and psychosocial problems (7). Sex differences in the relationship between level of consumption and consequences were also found in a sample of young white-collar workers studied by Jenkins (8). She found that average weekly alcohol consumption was related to increased levels of psychological symptoms, medical consultations, and absence from work. Lower levels of alcohol consumption were more likely to be associated with these alcohol-related consequences in females than males.

These studies suggest that the adverse effects of alcohol may be best characterized in terms of two aspects of the individual’s drinking pattern: 1) average daily quantity of drinking, and 2) frequency of drinking that results in acute intoxication. An important question for the planning of international health programmes is the extent to which drinking patterns differ across cultures, and whether cultural differences in alcohol use are associated with different kinds of drinking problems.

The present investigation provided a unique opportunity to study drinkers at high risk of alcohol-related problems who were sampled from a wide variety of drinking cultures. Although there is little comparative research available to accurately characterize the predominant drinking patterns in different societies, epidemiological data and observational reports (9, 10) concur in the characterization of at least three contrasting national drinking patterns. The first, typical of Nordic countries, Poland and the Soviet Union, consists of periodic consumption of high amounts of distilled spirits. The second, more typical of the wine and beer producing nations of central and southern Europe, consists of regular consumption of low alcohol content beverages. A third pattern, observed in the developing countries of Africa and Latin America, is characterized by heavy beer drinking on weekends and holidays (11, 12).

To the extent that the problems associated with these different drinking patterns can be explained in terms of the hazards of acute intoxication and chronic ethanol ingestion, public health planners can begin to develop generic interventions that focus on the primary constituents of a country’s hazardous drinking pattern (i.e. average amount consumed on a regular basis or the frequency of heavy drinking to intoxication). The prospect for such an approach is examined in the present chapter.

METHODS

Description of Study Samples

This section describes the study samples in terms of social and demographic characteristics. A more complete description of the selection criteria and procedures used to recruit these patients is given in Chapter 3. To provide an overview of the male and female study samples, descriptive statistics were computed on 1,655 patient records that comprise the total number of eligible patients recruited from the 10 centres. Table 4.1 shows the means for age, years education, and occupational prestige for the male samples. The average age of the combined sample is 36.7 years. Consistent with the age structure of developing countries, the average age of patients recruited from Harare (29.3), San José (29.9), Nairobi (31.3), and Mexico (32.8) is considerably lower than that of the more industrialized countries, with the exception of Bergen (33.4). The oldest samples were recruited from Cardiff (44.2) and Sydney (42.4).
Education and occupational prestige are important determinants of socioeconomic status. Table 4.1 shows that the samples differed significantly on these variables, with the patients recruited from developing countries indicating lower educational achievement and occupational status than those recruited from countries like Australia, the United States, and Norway. To measure occupational status across samples, the standard international occupational prestige scale developed and validated by Treiman (13) was employed. This scale provides prestige ratings for over 100 occupations found to have cross-national comparability in western industrialized countries, socialist bloc countries, and the developing countries. Although the socioeconomic status of the samples generally conforms to the level of development in the respective countries, it should be noted that patients recruited from Pleven, Bulgaria, and San José, Costa Rica, reported relatively high education and occupational categories. This is undoubtedly a function of the way in which these samples were recruited (see Chapters 6 and 7 for details).

Table 4.1 also shows percentage distributions of the male samples according to marital status. Bergen (50.0%), Harare (49.6%) and Farmington (49.3%) had the highest proportions of single patients; Moscow (79.5%) and Pleven (78.0%) had the greatest proportions of married patients; and three centres (Farmington, 17.1%; Sydney, 16.9%; and Cardiff, 14.5%) had relatively high percentages of divorced or separated patients.

Table 4.2 presents demographic data for the female samples. Only two centres (Sydney and Farmington) recruited sufficient numbers of females to warrant separate summary statistics. To provide additional background information for subsequent analyses, the small numbers of females recruited from Bergen (N = 15), Harare (N = 10), Pleven (N = 11), and Nairobi (N = 26) have been combined into a separate category (Other centres).

RESULTS

Comparison of Samples on Measures of Drinking Patterns and Problems

Tables 4.3 and 4.4 present information about alcohol consumption patterns and alcohol-related problems for the male and female patients, respectively. The six measures summarized in the tables are defined as follows:

1) **Average daily alcohol consumption.** This measure estimates the average amount of alcohol consumed per day (in centilitres of absolute alcohol) during the past six months. It is computed by dividing the total amount of alcohol reported during a typical month (in the six month reference period) by 30. When interpreting the results it may be useful to recall that one standard drink contains approximately 1.5 cl of absolute alcohol.

2) **Typical intensity of alcohol consumption.** This measure estimates the amount of alcohol typically consumed on those days when the respondent actually drank. The total amount of alcohol reported during a typical month (in the six month reference period) is divided by the actual number of drinking days.

3) **Days Drinking.** This measure is the patient’s estimate of the number of days that alcoholic beverages were consumed during a typical month in the six month reference period.

4) **Dependence score.** Six questions were included in the Composite Interview to estimate the frequency of dependence symptoms. These questions were developed for the Phase I
assessment procedure (14) to measure various elements of the alcohol dependence syndrome. The items asked about skipping meals while drinking, being unable to stop once drinking began, gulping drinks, staying drunk for several days at a time, attempts to reduce drinking, and experiencing morning shakes. Each item was rated on a five-point scale in terms of its frequency of occurrence (0 = Never; 4 = Daily) during the previous six months. The patient’s total score could range between 0 and 24.

5) Problem score. This measure estimates the number of alcohol-related social, legal, medical and employment problems experienced by the patient during the previous six month period. It is computed by adding positive responses to questions about family concern, strained interpersonal relationships, anger expressed by others, job difficulties, problems with legal authorities, and concern expressed by a health worker. The range of possible scores varies between 0 and 7.

6) Concern score. This is an estimate of the frequency with which persons in the patient’s family and immediate social network expressed concern about the patient’s drinking during the past six months. Six categories of social relationships (spouse, parents, children, living companion, other family member, friend) were rated on a five point scale (0 = Never; 4 = Daily) in terms of the frequency they expressed their concern to the patient.

Despite each centre’s careful adherence to the inclusion and exclusion criteria, there were pronounced differences among the male samples in alcohol consumption and alcohol-related problem indicators, as shown in Table 4.3. This too was anticipated because of the different patterns of drinking known to exist in these countries. Indeed, we specifically designed the inclusion criteria to accommodate these differences in national drinking patterns, expecting that in some countries (e.g. USSR, Norway) binge drinking would be most problematic among primary care patients, while in other countries (e.g. Bulgaria, USA, UK) drinking problems would be associated more with a regular pattern of use. A review of the two drinking pattern variables (intensity of drinking and number of drinking days per month) shown in Table 4.3 indicates that the four samples with 20 or more drinking days per month (Sydney, Pleven, Cardiff and Farmington) tended to report below average or average intensities of drinking. These centres are also among the highest in terms of average daily consumption, which reflects the average amount consumed per day over a typical 30 day period. Three other samples (Mexico, Bergen, Nairobi and Harare) conform to a binge pattern characterized by a relatively lower frequency of drinking and very high amounts per drinking occasion. But it should be noted that while Mexico epitomizes the binge pattern, Nairobi and Harare give evidence of both binge and frequent drinking, which places them among the regular drinking samples in terms of typical daily amounts consumed. Finally, patients recruited from San José and Moscow ranked relatively low in terms of both intensity and frequency of drinking.

Regarding the indicators of alcohol-related consequences (dependence, concern, problems), Nairobi, Mexico and Harare score highest on the dependence measure, and tend to report relatively higher levels of both concern and problems than the other samples.

Descriptive information for female patients is presented in Table 4.4, which lists only those samples for which sufficient numbers of women were available (Sydney and Farmington) as well as a combined group of women recruited from four other centres. Although the women in these samples report lower alcohol consumption than their male counterparts, they drink almost as frequently.
Problems Associated with Patterns of Drinking

The demographic data and the various drinking measures indicate that there is wide variability among the heavy drinkers recruited from the different sites. A major question examined in the next series of analyses is whether there are universal relationships between drinking and damage that exist despite variations in sociodemographic characteristics, gender and culture. It was hypothesized that the average level of alcohol consumption and intensity of drinking place subjects in these samples at risk of various alcohol-related problems, regardless of cultural setting. To examine this assumption, two indices of alcohol consumption (average amount of alcohol typically consumed per day during the past six months and average intensity of drinking on a typical drinking day) were examined in relation to various indicators of alcohol-related problems.

Although cross-cultural research on alcohol has frequently focused on differences between cultural groups, there is some evidence to suggest that there are cross-cultural, psychobiological "universals" in human drinking behaviour that merit equal attention (10). In the present study it is not possible to infer cultural differences in drinking behaviour from comparisons between samples, primarily because the samples have not been selected randomly from their respective countries. It is possible, however, to evaluate the consistency of relationships and effects when individuals are exposed to similar levels of alcohol consumption. For example, is the frequency of intoxication associated with concern expressed by others, regardless of sociocultural factors? The analyses described next attempt to answer these questions, giving special attention to the need to control within samples for potential confounding variables. To accomplish this, the analyses correct statistically for artificial relationships resulting from such influences as age and socioeconomic status, and control for possible sociocultural differences by including each centre as an independent factor. Standard methods of ANCOVA and blocking were employed using a procedure called multiple classification analysis (MCA) to evaluate the direct effects of the independent variables. MCA assesses how several predictive factors simultaneously determine a dependent variable.

In order to assess the relationship between patterns of alcohol consumption and adverse effects, we compared the heavy drinkers recruited from the 10 collaborating centres across three levels of average daily alcohol consumption (low, medium and high) and three different frequencies of heavy drinking (low, medium and high). It was hypothesized that the risk function for different consequences would be associated with different levels and patterns of alcohol consumption. Furthermore, because there is evidence for greater susceptibility of females than males to adverse alcohol-related effects at comparable levels of consumption, it was anticipated that the risk function would differ by gender. The ultimate aim of this analysis was to determine the extent to which the amount and pattern of alcohol consumption are associated in a predictable way with the harmful consequences of drinking. We were particularly interested in whether the relationship between alcohol consumption and consequences would be observed consistently across different heavy drinking subcultures, such as those characterized by a binge pattern of consumption and those with more "moderate" intensities of drinking that are distributed over a longer period of time. To examine this in the male samples, centre was entered as an independent (predictor) variable along with the drinking pattern predictor. Because MCA adjusts the means of each independent variable for the effects of the other independent variables and covariates, it becomes possible to evaluate the direct contributions of drinking pattern independent of sociodemographic (age, education) and sociocultural (centre) effects.

In Tables 4.5 and 4.6, patients are classified into three groups according to their reported average daily consumption: Low level = 0-4 cl per day, medium level = 4-8 cl per day, high level = 8 or more cl per day. Frequency of heavy drinking is based on the number of heavy drinking days: low = 0
days in past month; medium = 1 or 2 days; high = 3 or more days. As indicated in the description of the Tri-level Consumption procedure in Chapter 3, the amount consumed on a heavy drinking day was defined by the respondent.

Each of 10 "problem" measures was included as a dependent variable in a separate MCA analysis. Recent problems, recent concern and alcohol dependence have already been described earlier in this chapter. The results show that the higher the average daily consumption, the more problems reported, the greater the concern expressed, and the more frequent the alcohol dependence symptoms. Similar linear relationships are evident with increasing frequency of heavy drinking days. Physical complaints and subjective complaints are summary measures derived from ratings of typical alcohol withdrawal symptoms. Physical complaints (e.g. hand tremor, nausea) increase with average alcohol consumption in both males and females. Subjective complaints (e.g. anxiety, depression) are associated with both average daily consumption and frequency of heavy drinking in males, but not in females. Alcohol-related traumatic injury is associated with average daily consumption in both male and female samples, but not with frequency of heavy drinking. Elevated systolic blood pressure is associated with both variables in males, but not in females. Finally, neither drinking variable is associated with the patient's global health status (1=poor, 4=excellent) rating or reported days of medical or psychiatric treatment during the previous six months. Although the drinking pattern measures are not significantly related to all of the problem indicators, there is a general tendency for problems to increase with greater alcohol consumption and more frequent heavy drinking.

DISCUSSION

As expected, there was considerable variability between centres in average age, socioeconomic indicators, and marital status. In some cases this reflects sociocultural differences among the countries involved in the study. In other cases this may merely reflect sampling bias. In general, the samples seem to be fairly representative of the countries from which they were recruited, and provide a wide range of variability for testing the robustness of brief interventions across sociodemographic and cultural groups.

While the samples recruited into this study cannot be assumed to be representative of the drinking cultures they belong to, the data suggest that socially learned and culturally mediated drinking practices account for some of the differences. Patients recruited from Bergen, Moscow, San José, and Mexico City tended to be admitted to the study on the basis of their frequency of intoxication, while those recruited from the other centres were considered appropriate because of the high average levels of daily consumption (see description of inclusion and exclusion criteria). What is most striking about the summary statistics describing drinking behaviour (Tables 4.3 and 4.4) is the extent to which drinking patterns and related problems are colored by cultural differences and national beverage preferences. For example, the samples recruited from Mexico City, Bergen, Nairobi, and Harare drink in a binge pattern considered typical of the Nordic countries and the developing nations of Africa and Latin America. Samples drawn from the relatively affluent nations (e.g. the United States of America, Australia and the United Kingdom) drink in a regular pattern that resembles the Southern European countries, typified by the Pleven, Bulgaria, sample. In general, the drinking patterns exhibited by these samples seem to be determined as much by socioeconomic circumstances as by cultural and historical factors.

Comparison of the ten male samples and three female groups across different levels of average alcohol consumption and frequency of heavy drinking (Tables 4.5 and 4.6) showed that alcohol-related problems were significantly more prevalent at higher levels of alcohol consumption. For males, recent alcohol problems, recent concern expressed by others, physical complaints, subjective complaints,
alcohol-related traumatic injury, systolic blood pressure, and alcohol dependence increased progressively with higher levels of consumption. For example, the risk of alcohol-related problems and concern expressed by others was approximately three times greater at high levels of daily alcohol consumption (eight or more cl per day) than at low levels. The results were similar for females in the areas of recent problems, concern expressed by others, alcohol dependence, physical complaints, and alcohol-related trauma.

Tables 4.5 and 4.6 indicate a similar pattern of results for frequency of heavy drinking (three or more times in the past month). An unexpected finding is that alcohol-related trauma is not significantly different across the three groups. This may be because alcohol-related trauma is a relatively rare event and is more likely to occur in persons who drink regularly. This may explain why this variable was associated with average alcohol consumption but not frequency of heavy drinking in these samples.

The finding of consistent relationships between alcohol consumption and alcohol-related consequences is especially noteworthy in the light of the fact that the present analyses controlled for socioeconomic variables and age. This means that the relationships generalize across diverse drinking cultures and are similar for males and females.

Previous research (1, 2, 7, 8, 15, 16) has indicated that the risk of alcohol-related problems increases with chronic heavy drinking and frequent intoxication. The present findings confirm this association in diverse samples of nonalcoholic drinkers and provide evidence for its cross-national generalizability.

One important aim of alcohol research is to formulate and test theories that explain the nature and consequences of drinking. Investigations based on single samples, especially national or subcultural samples whose representativeness is unknown, are a poor basis for scientific inference. Replication using multiple samples recruited from different cultural settings increases the credibility of generalizations to the extent that hypothesized relationships can be demonstrated consistently. In the past, cross-cultural research using clinical as well as general population samples has been lacking in theory-based hypotheses, conceptual sophistication, and suitable research instruments (10, 17). In the last decade there have been significant advances in all of these areas, thereby permitting better research using cross-national data sets. In particular, the development of structured interviews and standardized questionnaires provides a means of measuring common concepts of psychopathology and drinking across cultural and national boundaries.

Traditionally, social researchers have pursued this goal by using the comparative method to identify differences in drinking behaviour and symptom patterns that can be attributed to cultural factors, as well as common features of alcohol use that transcend cultural boundaries and thereby imply universal aspects of man's relation to alcohol (10). While there is considerable complexity in the relationship between drinking and adverse consequences, the data presented here demonstrate the significant contribution provided by patterns of regular consumption and frequency of intoxication, regardless of cultural variations.

Because the risk of alcohol-related problems varies both with level of regular consumption and with frequency of intoxication, these variables require independent consideration. This has important implications for early intervention and secondary prevention, since these behavioural risk factors lend themselves to interventions aimed at altering alcohol consumption and thereby reducing the risk of harmful consequences.
A focus on average daily consumption and frequency of intoxication should encourage health workers to inquire about drinking habits, since such questions are generally less threatening than questions that reflect severity of alcohol dependence and alcohol-related problems. By focusing on patterns of consumption, the level of comfort in discussing drinking habits is likely to be greater for both parties involved. The clear relationship between such patterns and alcohol-related consequences provides a compelling reason for health workers to make such inquiries. A more specific question is whether emphasis on average consumption and frequency of intoxication will enhance the effect of early interventions. The remaining chapters in this report provide some answers to this question.
REFERENCES


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<th>Country</th>
<th>N</th>
<th>Mean Age</th>
<th>Mean Years Education</th>
<th>Mean Occupational Prestige</th>
<th>Single (%)</th>
<th>Married (%)</th>
<th>Separated/Divorced (%)</th>
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</thead>
<tbody>
<tr>
<td>Sydney, Australia</td>
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<td>44.62</td>
<td>28.6</td>
<td>54.5</td>
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</tr>
<tr>
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<td>44.67</td>
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<td>78.0</td>
<td>4.0</td>
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<td>41.08</td>
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<td>63.9</td>
<td>2.8</td>
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<tr>
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<td>Mean Years Education</td>
<td>Mean Occupational Prestige</td>
<td>Marital Status</td>
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<td></td>
</tr>
<tr>
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<tr>
<td></td>
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<td></td>
<td></td>
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<td>Single (%)</td>
<td>Married (%)</td>
<td>Separated/ Divorced (%)</td>
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<td>55.8</td>
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<tr>
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<td>47.0</td>
<td>30.6</td>
<td>58.1</td>
<td>11.3</td>
</tr>
<tr>
<td>ALL CENTRES</td>
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<td>12.6</td>
<td>47.6</td>
<td>42.4</td>
<td>34.8</td>
<td>22.8</td>
</tr>
</tbody>
</table>

* Women recruited from Bergen, Norway (N=15), Harare, Zimbabwe (N=10), Pleven, Bulgaria (N=11), and Nairobi, Kenya (N=26)
<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Average Daily Consumption*</th>
<th>Intensity of Drinking*</th>
<th>Days Drinking</th>
<th>Dependence Score</th>
<th>Concern Score</th>
<th>Problem Score</th>
</tr>
</thead>
<tbody>
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<td>2.14</td>
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</tr>
<tr>
<td>San Jose, Costa Rica</td>
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<td>9.95</td>
<td>10.17</td>
<td>2.25</td>
<td>2.86</td>
<td>0.53</td>
</tr>
<tr>
<td>Nairobi, Kenya</td>
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<td>15.51</td>
<td>18.32</td>
<td>5.25</td>
<td>1.96</td>
<td>0.53</td>
</tr>
<tr>
<td>Mexico City, Mexico</td>
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<td>4.90</td>
<td>14.53</td>
<td>10.78</td>
<td>5.06</td>
<td>5.52</td>
<td>1.51</td>
</tr>
<tr>
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<td>1.07</td>
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<td>1.97</td>
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<td>1.11</td>
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<td>Harare, Zimbabwe</td>
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<td>16.94</td>
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<td>0.59</td>
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</table>

* In centilitres of absolute alcohol
Table 4.4 Comparison of Samples of Female Heavy Drinkers on Measures of Alcohol Consumption and Alcohol-Related Problems

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Typical Daily Consumption*</th>
<th>Intensity of Drinking*</th>
<th>Days Drinking</th>
<th>Dependence Score</th>
<th>Concern Score</th>
<th>Problem Score</th>
</tr>
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<td>.39</td>
<td>.23</td>
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<td>4.52</td>
<td>8.10</td>
<td>17.32</td>
<td>2.83</td>
<td>.71</td>
<td>.40</td>
</tr>
<tr>
<td>Other Centres*</td>
<td>62</td>
<td>6.81</td>
<td>10.73</td>
<td>18.73</td>
<td>3.08</td>
<td>1.37</td>
<td>.26</td>
</tr>
<tr>
<td>ALL CENTRES</td>
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<td>5.02</td>
<td>8.24</td>
<td>19.13</td>
<td>2.66</td>
<td>.71</td>
<td>.30</td>
</tr>
</tbody>
</table>

* Women recruited from Bergen, Norway (N=15), Harare, Zimbabwe (N=10), Pleven, Bulgaria (N=11), and Nairobi, Kenya (N=26)

* In centilitres of absolute alcohol
Table 4.5 Relationship of Alcohol-related Problem Indicators to Average Daily Alcohol Consumption and Frequency of Heavy Drinking: Male Drinkers

<table>
<thead>
<tr>
<th>Problem</th>
<th>Average Consumption*</th>
<th>F</th>
<th>Frequency of Heavy Drinkingb</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Low</td>
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<tr>
<td>N</td>
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<td>(481)</td>
<td>(456)</td>
<td>(282)</td>
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<td>Recent problems</td>
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<td>.86</td>
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<tr>
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<td>2.28</td>
<td>3.05</td>
<td>24.78***</td>
</tr>
<tr>
<td>Alcohol dependence</td>
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<td>3.19</td>
<td>4.78</td>
<td>51.29***</td>
</tr>
<tr>
<td>Physical complaints</td>
<td>2.89</td>
<td>3.27</td>
<td>3.64</td>
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<tr>
<td>Subjective complaints</td>
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<td>5.18</td>
<td>5.36</td>
<td>3.46*</td>
</tr>
<tr>
<td>Alcohol trauma</td>
<td>.10</td>
<td>.18</td>
<td>.28</td>
<td>9.35***</td>
</tr>
<tr>
<td>Diastolic blood pressure</td>
<td>79.14</td>
<td>78.96</td>
<td>80.18</td>
<td>.37</td>
</tr>
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<td>Systolic blood pressure</td>
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<td>.97</td>
</tr>
<tr>
<td>Days in treatment</td>
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<td>4.50</td>
<td>3.69</td>
<td>1.64</td>
</tr>
</tbody>
</table>

* Low level = 0-4 cl per day; Medium level = 4-8 cl per day; High level = 8 or more cl per day.

** p < .001

*** p < .01

* p < .05

b Frequency of heavy drinking is based on the number of heavy drinking days:

Low = 0 days in past month;
Medium = 1 or 2 days;
High = 3 or more days.
Table 4.6 Relationship of Alcohol-related Problem Indicators to Average Daily Alcohol Consumption and Frequency of Heavy Drinking: Female Drinkers

<table>
<thead>
<tr>
<th>Problem</th>
<th>Average Consumption*</th>
<th>F</th>
<th>Frequency of Heavy Drinkingb</th>
<th>F</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Low</td>
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<tr>
<td>N =</td>
<td>(129)</td>
<td>(114)</td>
<td>(39)</td>
<td>(64)</td>
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<tr>
<td>Recent problems</td>
<td>.19</td>
<td>.30</td>
<td>.67</td>
<td>.68**</td>
</tr>
<tr>
<td>Recent concern</td>
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<td>.76</td>
<td>1.97</td>
<td>11.76***</td>
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<tr>
<td>Alcohol dependence</td>
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</tr>
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<td>5.77</td>
<td>3.92*</td>
</tr>
<tr>
<td>Subjective complaints</td>
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<td>7.66</td>
<td>8.41</td>
<td>1.07</td>
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<tr>
<td>Alcohol trauma</td>
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<td>.29</td>
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<tr>
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<td>.99</td>
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<td>Days in treatment</td>
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<td>.07</td>
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</table>

* Low level = 0-4 cl per day; Medium level = 4-8 cl per day; High level = 8 or more cl per day

** p < .01
*** p < .001

b Frequency of heavy drinking is based on the number of heavy drinking days:
Low = 0 days in past month;
Medium = 1 or 2 days;
High = 3 or more days.
Chapter 5

SYDNEY, AUSTRALIA

J.B. Saunders, R.B. Reznik, S.J. Hanratty, A. Douglas, & F.H. Burns

INTRODUCTION

Australia is the sixth largest nation on earth in terms of land area, occupying a single continent in the southern hemisphere between the Indian Ocean and the Pacific. Its sparse population of nearly 17 million is clustered mainly in large concentrations on the eastern seaboard. Australia is predominantly populated by English-speaking descendants of successive waves of European settlers, supplemented in the last two decades by immigrants from Southeast Asia. The indigenous aboriginal peoples form approximately 2% of the population. The site of the present study was Sydney, Australia’s largest city with a population of approximately 3.5 million.

Drinking Patterns

Alcohol was introduced into Australia at the time of the first European settlement in 1778. The first settlers, most of whom had been transported from Britain for petty crimes, brought with them copious quantities of spirits (especially rum) and supplemented this by locally-brewed beer. The early colonists were characterised by frequent heavy drinking and a generally permissive attitude to alcohol. The drinking habits of the settlers soon spread to Aboriginal people.

Heavy alcohol consumption has remained a feature of Australian life ever since. During the 20th century there was a decline in consumption in the inter-war years from 1915 to 1945. However, the period from 1952 to the late 1970’s witnessed a near doubling in per capita consumption, to approximately 13.0 litres of absolute alcohol per adult per year. Australia can claim the dubious distinction of having the highest level of per capita consumption of all English-speaking countries and the twelfth highest in the world.

In recent years there has been a growing realization of the toll that this level of alcohol consumption is exacting. In 1977 the Senate Standing Committee on Social Welfare described alcohol problems as having reached “epidemic proportions”; the term “the intoxicated society” was coined (1). Three years later, the National Health and Medical Research Council concluded that alcohol-related problems represented the fourth most serious public health problem in Australia. There is recent evidence that the peak in alcohol consumption may have passed; between 1978 and 1985 there was a 10% decline in per capita alcohol intake, and it has stabilized since then (2).

Alcoholic beverages are universally available, apart from a few isolated Aboriginal communities which have forbidden the use of alcohol. Throughout most of the country sales are restricted to defined licensing hours (typically from 10 a.m. to 10 or 11 p.m.) but in some areas deregulation has resulted in alcohol being available 24 hours per day. In all states the legal age for purchasing alcohol is 18 years. This is generally poorly policed and most teenagers are drinking on at least a weekly basis by the age of 16.

There have been substantial changes in drinking practices and preferred beverages over recent years. Until the early 1960s Australia was predominantly a beer-drinking country. Most drinking took place in hotels and clubs and it was almost exclusively a male activity. The traditional purchasing
pattern involves a group of men buying each other drinks in turn (known as a "shout" or in British parlance; "standing a round"). Beer still remains the most favoured drink but its market share has decreased to approximately 60% of all alcohol sold. Public concern about drinking and driving together with firm legislative action has lead to a switch to canned and bottled beer, and a gradual move towards drinking at home rather than in a public bar. The most dramatic change in drinking practices has been the increase in wine consumption, which rose from 0.9 litres (whole wine) per capita in 1952 to 18.7 litres in 1986. More alcohol (principally as wine) is consumed with meals. Approximately 15% of alcohol is in the form of spirits and this has shown a slight increase over the past decade (2).

Information on alcohol consumption patterns at a national level is inadequate. Although some national surveys have incorporated questions on alcohol, they do not compare with those undertaken in the USA and the UK. The best data come from two surveys of persons aged 25 - 64 years living in the capital cities of each state. These surveys were conducted by the National Heart Foundation. In the first survey, in 1980, 13.6% of men and 6.4% of women were drinking amounts that were regarded as "intermediate" or "high" risk, defined as an average daily intake of at least four drinks for women and five drinks for men, or intoxicating amounts three times per week or more. The per capita daily consumption of men was estimated as 21 grams and that of women as 5 grams. In a 1980 survey conducted among adolescents in NSW, 50% of 16 year olds were regular drinkers (regular being defined as weekly or more), and 45% had drunk sufficient amounts to cause intoxication on at least one occasion in the previous fortnight. Taking all the survey data into consideration, it is estimated that 15- 20% of men and 5-8% of women have a hazardous level of consumption or are experiencing alcohol-related problems. It is estimated that 5% of men and 1% of women are dependent on alcohol to the extent that they suffer physical withdrawal symptoms when they reduce or stop drinking.

Alcohol-related Problems

Australia experiences the whole gamut of alcohol-related disorders including trauma and other acute sequelae, chronic physical and neuropsychiatric complications, dependence and withdrawal, and psychosocial problems, including industrial losses.

These disorders are a significant cause of hospitalization. For the state of NSW, hospital admissions for alcohol-dependence and withdrawal have, over the past decade, ranged from 150-200 per 100,000 population per year. "Alcoholic psychosis" and chronic liver disease average 20 and 35 per 100,000 population per year, respectively.

Survey data are also available from specific hospitals. In a study at Royal Prince Alfred Hospital in 1978 (3), 15% of in-patients had an illness attributed to harmful alcohol consumption. A further 18% were considered to have a drinking problem, though this was not necessarily related to the reason for their admission. Alcohol-related problems are the cause of 20% of admissions to psychiatric hospitals.

Approximately 6,500 deaths each year are attributed to alcohol. This represents 5% of all deaths in Australia. The two most common causes of alcohol-related death are trauma from road traffic accidents and alcoholic liver disease. In half of all fatal accidents where alcohol was involved, the driver was under 25 years.

An economic analysis of the costs of alcohol-related problems (4), published in 1990, concluded they exceeded $6 billion per annum. This is nearly three times the previous estimate which did not take into account losses due to industrial inefficiency.
Management of Drinking Problems

There is a wide variety of treatment available for persons with alcohol-related problems. Access to treatment has improved with the development of services in the suburbs and smaller centres of population, though this is still a problem in rural areas. There has been a move away from relying on the informal support of family members, friends and religious and community leaders to obtaining help from health professionals. There is a significant contribution from self-help groups, of which the best established is Alcoholics Anonymous.

The pattern of treatment services varies considerably from state to state. Until a decade ago most services were situated in psychiatric hospitals or specialist alcoholism treatment units, which were often remote from large centres of population. These catered the physically dependent alcoholic. Alcohol and drug treatment services have been established in general hospitals, particularly in the city centres, but also in the suburbs and provincial towns. In some states, alcohol services are mainly located in community health clinics and community hospitals. Sometimes a designated drug and alcohol worker, usually a psychologist or social worker, is responsible. Sometimes general counselling staff may provide the service. Nongovernment agencies are widespread and Alcoholics Anonymous groups are found in most towns with populations of over 5,000.

Hospital in-patient treatment is provided for persons with physical and neuropsychiatric sequelae. Common reasons for admission include trauma (mainly from motor vehicle accidents), cirrhosis of the liver, pancreatitis, acute psychosis and Wernicke-Korsakoff syndrome. Many patients are still admitted for recovery from intoxication or for the management of uncomplicated alcohol withdrawal, though with the advent of purpose-built detoxification units, this is somewhat less common nowadays.

Detoxification facilities vary in their criteria for admission and mode of operation. Many offer non-medicated detoxification, i.e. they do not employ sedative drugs in the management of withdrawal. Instead, withdrawal is managed through supportive counselling techniques in a non-stimulating environment. Medication is reserved for more severe withdrawal states, including delirium tremens. Some detoxification units offer an introductory rehabilitation program. A few impose strict criteria for admission and do not accept patients who are judged not to be "motivated".

Community health clinics tend to cater to problem drinkers with psychosocial problems. They offer various modes of counselling. Some provide facilities for self-help groups.

Self-help groups are well established. Alcoholics Anonymous was introduced into Australia in 1955 and has been followed by its derivatives such as Alanon, Alateen and Adult Children of Alcoholics. In many rural areas, AA would be the only form of formal help available. Some self-help groups offer residential rehabilitation programmes, on the lines of the therapeutic community model.

Private medical practitioners and psychiatrists undertake the management of some patients with drinking problems, though to a lesser extent than in many other countries. Internal medicine physicians have greater involvement than in other countries. Psychologists in private practice are less frequently involved in alcohol-problems treatment compared with the UK, USA, and Scandinavia. In-patient treatment programs, at least those lasting a month or more, have fallen into disfavour in the public sector. However, private hospitals are increasingly offering in-patient rehabilitation programs, which are typically highly structured and closely allied to AA.
There is considerable interest in early intervention, as exemplified by the current WHO Collaborative Study. Early intervention is still mainly research-oriented, but there are now a few service units offering brief treatment for harmful and hazardous drinkers.

Treatment for drinking problems is rarely enforced compulsorily. Indeed, with changes in the Mental Health Acts in various states, it is much more difficult to detain a problem drinker for treatment than hitherto. This applies even if a person is in incipient delirium or has alcohol-related brain damage. This situation is regarded as quite unsatisfactory by many health professionals and there are moves to make the mental health provisions for compulsory treatment applicable to alcohol and drug-induced psychotic states and chronic neuropsychiatric sequelae.

Services for special groups have been developed in recent years. There are now in-patient units for women which can accommodate their dependent children. Services for adolescents tend to be based on the "street work" model with provision of "drop in" centres. There are also special facilities for Aboriginal people, migrant groups and the homosexual community.

Rationale for Study

Given the growing concern in Australia about the public health consequences of hazardous alcohol consumption, and the need for more effective secondary prevention measures in primary health care, the present project was initiated in order to evaluate brief intervention procedures directed at heavy drinkers who are not seriously dependent on alcohol. A major purpose of the study was to determine whether simple advice and brief counselling, delivered in the context of a single consultation in several different health settings, would result in a significant reduction in the patient's drinking over a six month period. To the extent that the quantity and frequency of drinking can be reduced in hazardous drinkers, it was expected that this would also have an effect on the likelihood of alcohol-related problems occurring during this time.

METHODS AND PROCEDURES

This section describes the experimental procedures employed by the Sydney collaborating centre. Additional information about the experimental design, assessment procedures, eligibility criteria, intervention procedures and training of the health advisers is provided in greater detail in Chapter 3 of this report. Information pertaining to the definition of the primary and secondary outcome measures can be found in Chapter 4.

Catchment Area Population

Royal Prince Alfred Hospital, where the team of investigators was based, serves a local population in the City of Sydney and the inner west of metropolitan Sydney as well as being a atery referral hospital for New South Wales. The local population served is approximately 335,000. The area is varied in character. The eastern sector adjoining the City of Sydney is an area of low-price rental accommodation and is typical of "inner city" areas, which people with drug and alcohol problems have traditionally gravitated towards. There are several light industrial estates. The western sector is a mixed residential and industrial area with manufacturing and service industries. Overall the population is relatively deprived in socioeconomic terms. It has the highest proportion of overseas born (32%) of any area of comparable size in Australia, and the highest proportion of persons with a non-English speaking background. It also includes an Aboriginal population estimated at 2,400 in 1986.
Study Sites and Screening Procedures

The study was conducted in four settings: 1) within the Royal Prince Alfred Hospital (RPAH), a 1000 bed teaching hospital of the University of Sydney, 2) in Medicheck, a private, multiphasic screening service located in the City of Sydney, 3) in twelve general practices in the inner west of Sydney, and 4) in wards of Royal Darwin Hospital, Northern Territory. Only the data from the first two sites are included in the WHO Collaborative Study. These sites were the first to join the Sydney project, and were considered adequate to meet the Sydney Centre's recruitment quota for men and women. More importantly, it was considered inadvisable to have one site contribute disproportionately to the combined sample.

At each site every patient seeking treatment who was literate in English, within the 17 to 70 year age range, and without apparent physical disability or distress, was asked to fill in the screening form by either nursing or administrative staff.

At the Royal Prince Alfred Hospital screening was conducted at the Emergency Department, the General Outpatients Department, and the Rehabilitation Section. The Emergency Department is a 24-hour, 7 days per week accident and emergency service which has a through-put at commencement of the study approximately 44,000 per annum. During the recruitment phase 211 patients were screened. Only ambulatory patients were screened; those requiring immediate hospitalization were not approached (these included road accident patients).

The Outpatients Department sees in excess of 50,000 patients per annum. In this department 6,149 patients attending 31 clinics were screened during the study proper. The screening questionnaires were distributed by the nursing staff in each clinic. If a preliminary review of the screening questionnaire indicated a potential recruit for the project, the health adviser was contacted (if not already present) to recruit the subject if suitable for inclusion.

The Rehabilitation Section services approximately 6000 new patient visits per annum. Completed screening questionnaires were obtained from 1294 patients in the study proper. These questionnaires were given to patients by the clerical staff or by the health adviser (during busy periods).

Medicheck is a private, multiphasic health screening service located in the City of Sydney. Patients are referred to Medicheck by their general practitioner or company. The service provides a comprehensive assessment of health status with computer assisted data collection, clinical examination, a battery of medical tests, and blood samples for biochemical and haematological analyses. A total of 4105 patients completed the screening questionnaire in the study proper. The questionnaires were distributed by the reception staff who also performed a preliminary assessment of the responses before contacting the health adviser (a nursing sister employed by Medicheck) for a final decision on eligibility for recruitment.

Method of Recruitment

The general process of recruitment as described in Chapter 3 was followed. It consisted of screening, obtaining informed consent from the subject for participation, composite interview, random allocation to treatment condition, intervention (if any), collection of blood sample, and completion of self-administered Health and Daily Living Questionnaire (HDL) by patient.
The health adviser at each site reviewed the screening questionnaires and decided on eligibility using the following inclusion criteria: 1) average weekly consumption of alcohol greater than or equal to 30 Australian standard drinks per week (300 g alcohol) or ten or more standard drinks (100 g + alcohol) on the one occasion at least twice per month (males); 2) average weekly consumption greater than or equal to 18 standard drinks per week (180 g alcohol) or six or more drinks on the one occasion at least twice per month (females).

Patients were excluded from the study if they met any one of the following conditions: (1) responding "Yes, often" to the question "How often do you drink alcohol within the first two hours of waking?"; (2) prior hospitalization for alcohol related diseases, e.g. pancreatitis, cirrhosis, cardiomyopathy; (3) prior treatment for an alcohol problem; (4) major psychiatric disorder (such as schizophrenia); and (5) (for females) actual or suspected pregnancy.

The inclusion and exclusion criteria listed above were modified from the original criteria as detailed in the WHO Study Protocol. The "WHO Criteria" were used for the early part of the recruitment (July and August 1986) but it was found that the recruitment rate was too low with these criteria in operation. Thus, after August, 1986, the relaxed inclusion and exclusion criteria as listed above were put into effect.

Experimental Design

At the time they were recruited into the study, patients were told that they were participating in a general health survey being conducted by the World Health Organization. It was explained that the information would be used to plan better health services in different countries and that all information would be kept strictly confidential. Patients were then interviewed for 20 minutes using the WHO Composite Interview Schedule, which asked about various health risk factors (including nutritional habits, smoking, exercise, sleep, and drinking behaviour). Following the interview patients were randomly assigned to one of four conditions: 1) a Control group that received no therapeutic intervention; 2) a group that received five minutes of advice about hazardous drinking (Simple Advice condition); 3) a group receiving five minutes of advice as well as 15 additional minutes of counselling about their drinking (Brief Counselling condition); 4) a group that received two follow-up sessions in addition to simple advice and brief counselling (Extended Counselling condition).

At the completion of the Composite Interview, patients assigned to the Control group were thanked for their participation in the study and were asked to return for a follow-up interview in approximately six months. No information was provided about the specific purpose of the of the study, nor were they given any feedback about the potential hazards associated with their drinking.

Patients assigned to the Simple Advice condition were told at the end of the interview that, on the basis of the information provided, their drinking might place them at risk for a variety of alcohol-related problems. They were then given an illustrated brochure ("Alcohol: A Guide to Sensible Drinking") that pointed out the health risks associated with heavy drinking, showed the proportions of alcoholics and heavy drinkers in the general population, illustrated the amounts of alcohol contained in standard drinks of beer, wine and liquor; suggested what a sensible drinking limit was for men and women (no more than four standard drinks, five times per week for men; no more than three standard drinks four times a week for women); and under certain circumstances encouraged the patient to consider abstaining completely from alcohol.
Patients assigned to the Brief Counselling condition were first given the same five minute intervention as the Simple Advice group together with the illustrated brochure. They were then given a 26-page problem solving manual ("The Self-Help Plan") that described a self-management procedure to reduce alcohol-consumption and avoid alcohol-related problems. The health adviser explained that the manual could be used to develop a "habit breaking plan" that would assist the patient to achieve the sensible drinking goals described in the brochure. The health adviser introduced the manual by reviewing sections that required the patient to choose a drinking goal (i.e. stop drinking or drink sensibly), identify reasons for cutting down, describe high risk drinking situations, develop procedures for coping with these situations, and identify other activities that could substitute for drinking. At the end of the counselling session the patient was encouraged to record the habit breaking plan in the back of the manual, complete diary cards to record drinking occasions, and also to identify a helper, such as a spouse or friend, who could assist the patient to adhere to the plan.

Patients assigned to the Extended Counselling condition received the same initial intervention as Brief Counselling patients, but were asked to return for two additional visits in the next six months at which new progress would be monitored.

Patients assigned to each of the four conditions concluded the session by completing a brief self-report inventory (the Health and Daily Living Questionnaire) that was designed to measure self-confidence, global depression, typical coping responses to problems, and the patient’s perception of the health adviser.

At the end of the session all patients were asked to return in six months for a follow-up interview. At that time a revised version of the WHO Composite Interview was administered in addition to several self-report questionnaires. During the interview the alcohol dipstick was employed to test for recent alcohol consumption and to emphasize to the patient the importance of providing accurate information about their drinking behaviour.

Health Advisers

A training video was developed to standardize the training of the four health advisers at the two sites. The health advisers at the hospital site were two female nurses and one male psychologist. The health adviser at Medicheck was a nurse.

Problems in Implementation

Any study which involves screening in regular health care practice depends on the co-operation and good will of the nursing and medical staff present, and on the perceived relevance of the study to the normal work of that department. Despite the efforts of the project staff and the support of several members of the Emergency Department staff, great difficulties were experienced. Much time and effort were wasted when a key person in the recruitment site expressed either overt or covert antagonism because of a perceived increase in the workload (handing out screening forms, introducing the idea of the study), and the lack of any immediate reward or benefit for them in being involved in the study. Meetings and discussions between the project manager and staff, and recruitment site staff helped to reduce but not completely obviate this barrier. Screening and recruitment were accomplished much more readily in the outpatient and rehabilitation services. Staff saw the project as being much more relevant to their normal work.
The personality of the health adviser and follow-up interviewers, and their professional status as nurses were major factors in reducing these difficulties. On the other hand, as we were careful to ensure by training and monitoring that the screening and interventions were standardized throughout the conditions, the task of the health advisers and follow-up personnel easily became repetitive and boring, even for dedicated and committed staff. The sense of participation in a notable and scientifically planned endeavour was developed and nurtured by the close involvement of the project manager and principal investigators.

Some specific problems in recruitment that we experienced at the hospital were: (1) half the total patient population could not complete the screening questionnaire because they were not literate in English (approximately 20%), had a disease or injury that prevented their writing responses (approximately 20%), or were called for their medical appointment before they had finished; (2) eligible patients were frequently unable to be interviewed at the time of screening due to the length of time required or non-availability of the health adviser; (3) of those eligible patients who could not be seen at the time of screening, only 25% attended for an interview subsequently, and (4) the requirement of recruiting simultaneously from two sites was too onerous for the health adviser.

On the other hand, support from the hospital administration was very good. The Biochemistry and Haematology laboratories were very helpful, and in all departments some individuals gave excellent support. There was also good acceptance by patients of the survey and a reasonably positive response to the invitation to participate further.

The study progressed extremely well at Medichuck until the rebate for fees payable by Medichuck's patients was removed. As a consequence the number of patients attending declined from 260 to 30 per week. Nevertheless, a final sample of 235 recruits was obtained. The only significant impediment to recruitment here was organizational: patients who could not be interviewed at the time of screening and who were booked for interview but did not attend reduced the time available for recruitment of patients on site. Appointments had to be rescheduled and it was a precondition that recruitment should not interfere with the Medichuck routine. The concept of early intervention for harmful drinking was entirely congruent with Medichuck's role as a health screening service. The success of recruitment is underscored by the 90% response rate at six month follow-up.

RESULTS

Before conducting the analyses, patients assigned to the four study conditions were compared within each sample to determine whether the hospital patients and the Medichuck patients could be combined in the same analysis. In all comparisons on the six dependent measures there were no site by condition by time interaction effects, indicating that the two samples had the same pattern of results. For this reason the two samples were combined into one group, as has been done with other centres where multiple recruitment sites were employed.

Table 5.1 presents group means for males for the six drinking measures assessed before and after the patient's exposure to either the control condition or brief interventions. The ANOVA results indicate that there was a significant reduction (main effect for time) on all primary and secondary outcome measures at six month follow-up. Figures 5.1 and 5.2 illustrate the changes in average daily consumption and the intensity of drinking for each group. The data show that there were major reductions in the drinking behaviour of patients exposed to Simple Advice, Brief Counselling, and Extended Counselling but minimal change in the drinking behaviour of patients in the Control group. Analysis of the differences between the control group and the combined intervention groups indicated
that the treatment effects for typical consumption ($F=3.44, \ p<.001$) and the intensity of drinking ($F=3.18, \ p<.01$) were highly significant.

The results for females are shown in Table 5.2 and Figures 5.3 and 5.4. Significant reductions were observed at six month follow-up evaluation on each of the three drinking measures and on the problem score. No time by condition interaction effects were observed, either across the four conditions or when the intervention conditions were combined.

**DISCUSSION**

The Sydney centre conducted parallel studies of male and female heavy drinkers at two recruitment sites. The results for males were consistent with the general hypothesis that simple advice and brief counselling would successfully persuade patients to modify their drinking habits. The reduction in average consumption in the intervention groups was two centilitres, which amounts to one and one-half standard drinks per day. The same magnitude of reduction was observed in the intensity of drinking.

The results also indicate that the reduction in alcohol consumption did not vary with the intensity of the intervention. Patients in the Simple Advice condition changed as much as patients in the Extended Counselling condition.

Although the results for males indicate that the intervention clearly had an impact on their drinking, the findings for females suggest that changes can take place in the absence of an intervention. Women in the control group changed as much as those who were exposed to the different interventions. These findings may be attributable to regression to the mean, lack of statistical power, or the influence of merely being interviewed in the context of a health study. These explanations are discussed in more detail in Chapter 16, which presents the combined results from all collaborating centres.

One additional explanation for the modification in drinking behaviour among female heavy drinkers is the climate of public opinion that began to change during the study period in Sydney. A very significant national initiative during the conduct of the WHO Collaborative Study was the launch of the National Campaign Against Drug Abuse by the Federal Government in collaboration with all State governments (5, 6). In addition, a National Health Policy on Alcohol was formulated. The policy includes self-regulation of advertising by the liquor industry (using a voluntary code of practice) and a focus on alcohol consumption rather than alcohol abuse in the community, using such methods as public education and health promotion.

In addition, in recent years there have been significant increases in penalties for persons convicted for drink-driving offenses. In New South Wales, police operate a system of random-breath-testing (RBT) of drivers. Under this scheme any driver may be stopped for the purpose of a random breath test. There has been much publicity concerning this programme with public education in the various mass media in the form of government-paid advertisements. These environmental influences could have persuaded the women drinkers in the control group to modify their drinking habits, which would account for the lack of differences between these patients and those exposed to the intervention.

The reasons patients gave for changing their drinking behaviour were varied. Some comments were: "I didn't realize I had a problem till now. I'm definitely doing something about this." and "I hadn't known that alcohol could affect as many parts of the body as it does. This is really serious. People should know these things". On the other hand, the health advisers reported that problems were encountered with the following kinds of patients: (1) persons with a "couldn't care less attitude", who
denied they were drinking in a hazardous way (e.g. "I never get drunk, my friends drink more than I do"); (2) publicans and people in the sales side of the brewing industry; (3) people who were more concerned about their addiction to cigarettes, and who kept trying to shift the emphasis of the advice away from changing drinking habits; (4) women, particularly those in the 41-70 age group, who refused to believe they are drinking in a hazardous way and potentially damaging their health; (5) some binge drinkers who refused to accept that a once-a-week binge is harmful.

Generally, the five minutes of Simple Advice was taken very well. However, for some, the sensible drinking goals were not acceptable. Several women thought that nine standard drinks a week was too low a target, and would not accept that three drinks or six days per week (and never binge drinking) was potentially harmful. It was difficult to convince younger women who binge drank twice a month or had an average 18-21 drinks a week that they were drinking in a hazardous way, and likewise older women who never drank six or more drinks at one time and had weekly totals between 18-21.

Brief counselling, too, was generally accepted well. The drink diary cards were used by about one third of subjects. However, Extended Counselling was less well accepted. Subjects were often reluctant to return for further counselling visits, especially those who at first interview appeared unwilling to change their drinking pattern.
REFERENCES


APPENDIX

Funding and Administrative Support

Funding was granted through the Research into Drug Abuse Program (RIDAP) of the Australian “National Campaign Against Drug Abuse (NCADA)”, which is under the auspices of the Drugs of Dependence Branch of the Commonwealth Department of Community Services and Health in Canberra. Work was continued after completion of the field work through the Early Intervention Unit, which was established in 1989 at Royal Prince Alfred Hospital on the basis of a research unit grant from the Directorate of Drug Offensive, New Department of Health. Additional support was provided by RPAH in the form of premises and use of general departmental facilities of the Center for Drug and Alcohol Studies, and the availability of main-frame computers and laboratory testing of all biochemical and haematological samples by the Departments of Biochemistry and Haematology. The project at Medicheck was completely funded by that organization, a private preventive medicine foundation which provides medical services on a non-profit making basis.

The following personnel were affiliated with project at the Sydney Centre’s Royal Prince Alfred Hospital: Principal Investigators: Dr F. Harding Burns, MB, FRCP, FRACP (until 1986), Visiting Physician, Drug and Alcohol Services; Assistant Professor John B. Saunders, MD, FRACP, Head, Drug and Alcohol Department; Dr R.B. Reznik, MD, Acting Director, Department of Community Medicine; Project Manager: Steven Hanratty, BA (Hons); Health Advisers: Alana Douglas, RN, BA; Lucinda Burns, RN, BA; Stephen Wigley, MA (Psych); Research Assistants: Ann-Maree Hanratty; Anna Stewart, MA (Psych); Rosemarie Chen, MA; Hazel Watson RN; Follow-up Interviewers: Jenny Robinson, RN, BA; Jenny Greenwood, RN, BA; Anne Connolly, RN, BA; Sue Archibald, RN, BA; Kim Foulds, MB, BS; Kim Stewart, RN, BA; Jan Clarke, RN, B Soc Sci; Stan Theodorou, MB, BS; Medicheck: Executive Director: Dr Michael Legg, Ph.D.; Health Adviser: Joy Dryland, RN.
Table 5.1  Changes in Alcohol Consumption and Alcohol-related Problems According to Experimental Condition:

Sydney, Australia (Males)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Means for Conditions</th>
<th>F Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control (N=63)</td>
<td>Simple Advice (N=56)</td>
</tr>
<tr>
<td>Average CL ETOH*</td>
<td>BEFORE 7.03</td>
<td>AFTER 6.80</td>
</tr>
<tr>
<td>Intensity CL/day b</td>
<td>BEFORE 24.24</td>
<td>AFTER 23.48</td>
</tr>
<tr>
<td>Days Drinking</td>
<td>BEFORE .38</td>
<td>AFTER .32</td>
</tr>
<tr>
<td>Problem Score</td>
<td>BEFORE 1.33</td>
<td>AFTER .43</td>
</tr>
<tr>
<td>Concern Score</td>
<td>BEFORE 2.29</td>
<td>AFTER 1.65</td>
</tr>
</tbody>
</table>

*** p < .001
**  p < .01
*   p < .05

* Average daily alcohol consumption during a typical month in centilitres absolute alcohol.

b Average amount absolute alcohol (in centilitres) consumed on a typical drinking day.
Table 5.2  Changes in Alcohol Consumption and Alcohol-related Problems According to Experimental Condition:
Sydney, Australia (Females)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Means for Conditions</th>
<th>F Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control (N=19) Simple Advice (N=28) Brief Counselling (N=23) Extended Counselling (N=18) Condition (C) Time (T) CxT</td>
<td></td>
</tr>
<tr>
<td>Average CL ETOH&lt;sup&gt;a&lt;/sup&gt; BEFORE</td>
<td>5.07 4.69 4.25 4.28</td>
<td>1.16</td>
</tr>
<tr>
<td>Affter</td>
<td>3.99 3.56 2.83 2.63</td>
<td></td>
</tr>
<tr>
<td>Intensity CL/day&lt;sup&gt;b&lt;/sup&gt; BEFORE</td>
<td>5.82 7.97 6.70 6.58</td>
<td>1.21</td>
</tr>
<tr>
<td>After</td>
<td>5.05 6.24 5.23 4.60</td>
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<tr>
<td>Days Drinking  BEFORE</td>
<td>26.16 20.11 20.30 20.28</td>
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<tr>
<td>After</td>
<td>23.84 18.11 18.48 18.39</td>
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<tr>
<td>Problem Score  BEFORE</td>
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<td>1.82</td>
</tr>
<tr>
<td>After</td>
<td>.00  .18  .09  .06</td>
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<tr>
<td>Concern Score  BEFORE</td>
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<td>.47</td>
</tr>
<tr>
<td>After</td>
<td>.11  .00  .13  .44</td>
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<tr>
<td>Dependence Score BEFORE</td>
<td>1.11 2.21 2.17 3.28</td>
<td>.99</td>
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<tr>
<td>After</td>
<td>1.26 2.61 1.44 1.89</td>
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</table>

*** p < .001
** p < .01
* p < .05

<sup>a</sup> Average daily alcohol consumption during a typical month in centilitres absolute alcohol.

<sup>b</sup> Average amount absolute alcohol (in centilitres) consumed on a typical drinking day.
Figure 5.1 Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

Sydney, Australia (Males)

(N=63) (N=56) (N=46) (N=47)

Control Simple Advice Brief Counselling Extended Counselling

Before After

Average Cl Etoh
Figure 5.2  Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e. Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

Sydney, Australia (Males)

(N=63)  (N=56)  (N=46)  (N=47)

Control  Simple Advice  Brief Counselling  Extended Counselling

INTENSITY CL ETHO

Before  After

0  2  4  6  8  10  12  14
Figure 5.3  Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

Sydney, Australia (Females)

- Control (N=19)
- Simple Advice (N=28)
- Brief Counselling (N=23)
- Extended Counselling (N=18)

Bars indicate average alcohol consumption before and after intervention.
Figure 5.4 Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e. Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

Sydney, Australia (Females)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Before</th>
<th>After</th>
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<tr>
<td>Control</td>
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<tr>
<td>Simple Advice</td>
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<tr>
<td>Brief Counselling</td>
<td>(N=23)</td>
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<tr>
<td>Extended Counselling</td>
<td>(N=18)</td>
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Chapter 6

PLEVEN, BULGARIA

M. Boyadjieva

INTRODUCTION

Bulgaria has a territory of 111,000 square kilometres and almost 10 million inhabitants. The development of Bulgaria over the past 50 years has been marked by rapid social change and a transition from a predominantly agricultural economy to an industrial state with modern intensive agriculture and a socialist sociopolitical structure. This process radically changed the ratio between urban and rural population: while in 1956, 75.3% of the population lived in rural areas and only 24.7% in urban ones, in 1985 the percentage of urban dwellers was more than 60%. These demographic trends and social processes have been associated with medical and psychological consequences, including alcohol abuse.

Alcohol Consumption in Bulgaria

During the period 1960-1975 the production of alcoholic beverages increased dramatically. Wine consumption tripled, the amount of spirits consumed doubled, and beer drinking increased more than fourfold. For 1986 the per capita consumption of 100% ethanol was 2.22 litres of wine, 1.53 litres of spirits and 1.59 litres of beer. The total per capita consumption was 7.03 litres.

Alcohol-related Problems

Table 1 shows the prevalence of registered alcoholism and alcoholic psychosis in Bulgaria between 1980 and 1987. This is the officially registered prevalence. In fact, it is higher as shown by studies in different regions of the country. Alcoholism increased 16.4% during this time while reported cases of alcoholic psychosis increased 30%. Consistent with these data, alcohol-related traffic accidents (injuries and deaths) increased 82.8% between 1985-1988.

<p>| Table 6.1 Prevalence of Registered Alcoholism and Alcoholic Psychosis for the Period 1980-1987 |
|-----------------------------------------------|-----------------------------------------------|
| Year  | Alcoholism   | Alcoholic Psychoses                  |</p>
<table>
<thead>
<tr>
<th>Number</th>
<th>Rate</th>
<th>Number</th>
<th>Rate</th>
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</thead>
<tbody>
<tr>
<td>1980</td>
<td>23,692</td>
<td>2.67%</td>
<td>2,521</td>
</tr>
<tr>
<td>1983</td>
<td>25,054</td>
<td>2.80</td>
<td>2,885</td>
</tr>
<tr>
<td>1986</td>
<td>27,418</td>
<td>3.06</td>
<td>3,474</td>
</tr>
<tr>
<td>1987</td>
<td>27,938</td>
<td>3.11</td>
<td>3,604</td>
</tr>
</tbody>
</table>
Organization of Prevention and Health Services for Alcohol Problems

The growth of alcohol-related problems in Bulgaria is a matter of great concern for the government. In 1976 in State’s Council and the Central Committee of the Communist Party issued a resolution embracing governmental and nongovernmental institutions and organizations. This resolution became the basis for short and long-term programmes on different levels. The objective was to promote development of comprehensive national policies and programmes leading to reduction in alcohol abuse and its effects on the health and social well-being of the population. The resolution led to an intensification of activities in administration, legislation, research and education.

In 1986 the State’s Council proclaimed additional provisions to the Resolution of 1976 concerning alcohol-related problems. These included:

1) limitations of the production of alcoholic beverages, especially brandy;
2) pronounced limitations on trade, making alcohol available only in a few specialized shops;
3) reinforcement of legal measures.

Medical care in Bulgaria is free. The basic institutions are primary health care services, hospitals and the outpatient clinics. There are many specialized hospitals and clinics. The dispensary system is well developed. There are 28 psychiatric dispensaries in the country with a narcological outpatient clinic associated with each. Its functions are to conduct registration, follow-up and monitoring, and to provide help for patients with problems related to alcohol and other drugs. These services work closely with the specialized hospitals for alcoholics and exchange regular information about the patients in the given region. One of their most important tasks is to discover and register new cases of harmful alcohol consumption and dependence together with the primary health care services.

There are four specialized alcohol hospitals in the country. Two of them, Suhodol and Pleven, are University departments. The total number of alcoholic beds is 470. Some of the large psychiatric hospitals in the districts have specialized alcohol wards. There are six with 250 beds. Thus, there are 720 narcological beds for the whole country. The State plan for health programmes is to organize more outpatient services, day hospitals and rehabilitation centres for alcoholics, instead of building new hospitals and increasing the number of beds. In this respect 720 beds for alcoholic patients are sufficient for the needs of our country.

Rationale for Study

Given the growing concern in Bulgaria about the public health consequences of hazardous alcohol consumption, and the need for more effective secondary prevention measures in primary health care, the present project was initiated in order to evaluate brief intervention procedures directed at heavy drinkers who are not seriously dependent on alcohol. A major purpose of the study was to determine whether Simple Advice and Brief Counselling, delivered in the context of a single consultation in a community setting, would result in a significant reduction in the patient’s drinking over a six month period. To the extent that the quantity and frequency of drinking can be reduced in hazardous drinkers, it was expected that this would also have an effect on the incidence of alcohol-related problems occurring during this time.
METHODS AND PROCEDURES

This section describes the experimental design and procedures employed by the Pleven collaborating centre. Additional information about the assessment procedures, eligibility criteria, intervention procedures and training of the health advisers is provided greater in detail in Chapter 3 of this report. Information about the definition of primary and secondary outcome measures is given in Chapter 4.

Study Site and Catchment Population

The study was carried out by the Department of Alcoholism at the Pleven Medical Institute. Pleven is one of the principal towns in the northern part of the country. It has approximately 400,000 inhabitants together with the surrounding region. More than 30% of the inhabitants of Pleven immigrated to the region during the last 20 years from the villages. It is now an industrial area with many plants and factories and thousands of workers. There is a medical facility with a considerable number of foreign students, predominantly from Africa and South America. The region is well known for its production of wine. Another interesting feature is that in some villages the illegal production of grape brandy is well organized.

In the Pleven district there is only one specialized institution, the Department of Alcoholism, with 50 beds and a well-trained staff. General Practitioners have no special qualification in alcohol-related problems. They are not prepared to deal with them.

Screening and Recruitment

There were three sources of screening and recruitment: three blocks of flats, a nearby village and a local town club. Most of the screening was conducted in blocks of flats where health advisers lived. The advantages were that: 1) the sample was chosen at random from different parts of the city; 2) interviewers could give the screening instrument, leave it for 24 hours, then collect it and ask for more details if it was not filled out properly; 3) the contact between the persons involved was informal; 4) the residents of these flats were always available for follow-up, with some exceptions; 5) the intervention was made in the home, which saved time in scheduling meetings and arranging visits.

We also screened two other small groups, one from a village and the other from a local town club. Most of the people seemed to be sincere. It is important to mention one of the apartment blocks contained the families of military men. All of them were very disciplined and did everything properly and on time. Two of them (a man and a woman) even asked for additional information about the diary and about ways to avoid drinking.

The results of the screening instrument were not discussed with respondents. It was accepted favourably. Sometimes we had to let some of the respondents write down the quantities of alcohol consumed, instead of the number of drinks, and had to calculate them later. The concept of a "drink" in Bulgaria differs very much from the West European notions. Some people were inaccurate in calculating the number of their own drinks, and thus minimized the total amount of alcohol.

One health adviser declared that most of the people in his group were hostile and refused to recognise their drinking habits. He had the impression that some of them deliberately gave false information. Thus, we cannot rely upon the information obtained by intervening agent 2, who screened the lowest percentage of harmful drinkers.
Approximately 1200 people were screened and 98 were recruited into the study. Of these 62 males and 12 females (76% of original sample) were successfully re-interviewed approximately six months later. When the data were submitted to the Technical Focal Point, it was determined that the number of females was too small to permit separate analysis within this centre. Because it was not considered advisable to combine the male and female samples, the data obtained from the Pleven females have been merged with female data from other centres and are now presented in Chapter 16.

Of the 62 males in the follow-up sample, 12 were excluded because their average or typical alcohol consumption was above the cut off point (25 cl per day, typical; 30 cl per day, intensity) established as the upper limit of nonalcoholic drinking across all centres. Thus the final sample included in the analysis consists of 50 males.

Description of Study Sample

The average age of the men described in this chapter was 37.8 years. A high proportion of the sample was married (78.0%). Only 4.0% were separated or divorced, and 16% were single. Subjects reported drinking an average of 23 days per month. Average daily alcohol consumption was approximately six standard drinks (9.71 cl). The average number of drinks consumed per drinking day was approximately four (12.77 cl).

Research Design

Three conditions were used in the Pleven study: Control, Simple Advice and Brief Counselling. The complete multicentre study design is described in Chapter 3.

After screening and recruitment, all three groups were assessed using the WHO Composite Interview Schedule. Group 2 was then given five minutes of advice. Patients assigned to Group 3 received the Simple Advice in addition to 15 minutes of Brief Counselling. All patients were then asked to fill out the Health and Daily Living form, a self-report questionnaire designed to measure psychological, medical, and environmental variables that may help to explain why some persons are capable of changing their drinking while others are not.

These three conditions will now be described in more detail:

**Group 1:** Control condition. Group 1, the Control group, was treated exactly the same as the experimental groups (Groups 2 and 3) except that they received no advice or counselling about their drinking. Health advisers were strongly encouraged to show the same level of concern for patients in all groups. Group 1 members were told that they were taking part in a World Health Organization study of general health practices. Before leaving, this group was told they would be seen in six months' time to collect further information.

**Group 2:** Simple Advice. After the 20-minute WHO Composite Interview, the second group was given five minutes of advice about drinking. They were told that they seemed to be drinking too much. Mention was also made of any problems they had described which could be related to their drinking. These problems were noted by the health adviser during the assessment interview. The Sensible Drinking leaflet was then used to demonstrate that the person's drinking fell into the heavy drinking category. One illustration presented in the leaflet showed this in graphic terms. The health adviser was instructed to say: "Most people fall into this sensible drinking group but your drinking puts you into the heavier drinking category."
The idea of a standard drink was also introduced. Information about the alcohol content of local drinks was designed to help the drinker to set sensible drinking limits. Guidelines were given in the leaflet about whether to choose total abstinence or a sensible drinking goal.

The aim of the Simple Advice was to gently persuade the drinker to study the leaflet, consider whether a change in drinking habits was needed and to set sensible drinking limits.

When the counselling had finished the subject was asked to complete the Health and Daily Living form and was told that he would be seen again in six months.

**Group 3: Brief Counselling condition.** After the interview, the Brief Counselling group was given the same information as the Simple Advice Group, but this was followed by 15 minutes of counselling about drinking. The Brief Counselling was structured by referring to a 30-page illustrated Problem-Solving manual that emphasized personal problem-solving rather than just warning about the dangers of alcohol.

The overall aim of the session was to communicate the idea that habits can be changed. The first five minutes of the Brief Counselling were identical to the Simple Advice given to Group 2. The rest of the session was designed to suit the particular patient but it began with an attempt to identify good reasons for drinking less (e.g. money, health, friendships). A list of benefits described in the manual was noted at this stage. The next section of the manual mentioned various high risk situations (such as parties, particular people, or negative feeling states) and asked the patient to devise strategies to avoid them.

Next, the health adviser very briefly described the drinking diary cards. It was pointed out that keeping a drinking record would help to keep drinking under control. The health adviser also tried to identify a helper who would be willing to help the drinker to use the manual.

**Health Advisers**

The team in Pleven consisted of six health advisers: two psychiatrists, two nurses, and two medical assistants. Their ages ranged from 30 to 45 years. All were employees of the Alcohol Department in Pleven.

**Problems in Implementing the Project**

During the study we were forced to change some of the previously established research protocol. For example, the follow-ups were made by the same health advisers who did the interventions. It was more convenient because the health advisers from the blocks of flats knew the people who lived there. Clients were more confident responding to someone they knew personally. The health advisers could easily check the written data, discreetly asking the client's relatives if necessary, or reporting on the basis of actual observation of the client's drinking behaviour. We believe that there was less bias associated with having the same health adviser conduct the follow-up interviews than would have been the case if a complete stranger contacted the clients at follow-up.

**RESULTS**

Before conducting the analyses, patients assigned to the three study conditions were compared on demographic characteristics and drinking behaviour at intake. No differences were found between groups in age, socioeconomic status, average daily consumption, intensity of drinking, and days
drinking. However, there were significant differences on the measure of dependence. As indicated in Table 6.2, clients assigned to the Simple Advice condition had significantly higher levels of pre-intervention dependence than clients assigned to the other groups. These differences should be taken into account when interpreting the findings.

The results of the main comparisons among groups on the three primary and three secondary outcome measures are presented in Table 6.2 and Figures 6.1 and 6.2. The table indicates that there was only one significant effect for time, and two significant interaction effects. One interaction effect is primarily attributable to the decline in dependence score for men in the Simple Advice condition and a slight increase in the dependence score for those in the Brief Counselling condition. These results are idiosyncratic and are not easily interpretable. The other interaction effect reveals that reductions in days drinking occurred in the Control group and Simple Advice group, but not in the Brief Counselling condition.

DISCUSSION

As illustrated in the figures, the changes in the intervention groups were negligible and do not support the study hypothesis that Simple Advice and Brief Counselling are effective for these heavy drinkers. The results of the Pleven centre suggest that Simple Advice and Brief Counselling are not effective when applied in a community setting. It is possible that the lack of random assignment to conditions and the use of local health advisers had some effect on the results, but this is not readily apparent as an explanation for the negative findings. The most parsimonious explanation may be that community-based screening and brief interventions are not as relevant to health behaviour as they are when implemented in primary care settings by medical personnel or social workers.

One of our theories is that "drinking people gather with drinking people". Some blocks of flats contained mostly drinkers, while others mostly non-drinkers. Drinking could be contagious, or seen as a way of life, or the result of imitating the example of friends and neighbours. The clustering of drinkers does not seem to be pure coincidence. For example, one health adviser screened 128 people who were members of the same club. Obviously, this was not a drinking club, because only 7.8% of them had drinking problems. At the same time another health adviser found 24.5% alcohol abusers among 45 people from another group.

Concerning the interventions, our experience was that the Simple Advice was accepted more readily than the Brief Counselling. We think that it was not a question of time, but the fact that some people feared being identified with a group of persons with harmful alcohol consumption, the way patients are treated. Some of our "clients" admitted but did not accept their drinking problems in the real sense of the word. Others tried not to take it seriously, joking and giving examples such as "but then everybody needs help", or "I am an alcoholic, am I not?", or "I think that there is no need for you to spend your time with me, I know all about my problems, so leave me alone to manage my own life".

Of course, a great number of the "clients" seemed to be sincerely concerned about their drinking habits and were satisfied with the intervention. Some of them wanted to come back before the six month follow-up if possible. We gave them the telephone number of our service.

It is interesting to note that with some of our clients the intervention began with the screening and the other questionnaires. That is, the client became curious, asked questions, needed more information about alcohol-related problems (especially about the harmful quantities and the eventual consequences on the physical health). In a way such clients were prepared for an intervention.
From our experience we could divide the clients into three groups. The first group consisted of drinkers who were submissive, eager to cooperate, and ready to follow advice. Usually they were more or less neurotic, with hypochondriacal tendencies who experienced anxiety and guilt because of their drinking. The contact with us was a welcome solution to their problems.

The second group contained people with strong denial of the problem. These people politely followed instructions and listened to the advice. The third group were protesting, even hostile clients, who were difficult to manipulate, feeling frustrated and offended. Fortunately they were very few.

It is interesting to mention that the leaflet in comparison with the manual was better accepted. The leaflet is short, concrete, illustrated with figures and examples. Often the clients asked for extra copies to bring to relatives and friends to show them "How much is too much". It aroused curiosity and interest and could be ed for national prevention campaigns.

The activities connected with the project (e.g. screening, intervention studies, and follow-up evaluations) aroused public interest. More people came for consultations - parents, wives, friends of people who are not alcoholics, but who are at risk and correspond to our inclusion criteria. It was the first time we had the opportunity to meet not only dependent alcoholics, but also people with "problems" who have a better chance to recover.

In our Department we received many invitations for lectures and information about alcohol-related problems and their treatment from health services in plants, schools, and social organizations. One of the reasons for this is the National Programme for Alcohol Problems Prevention, and the obligation of all institutions to show some involvement. Nevertheless, the useful effect of the WHO Project is evident.

There has also been progress and development in the Department of Alcoholism in Pleven. New concepts, activities outside the hospital, a better understanding of the real problem, knowledge and training of staff obtained from our experience with the interventions all can be considered positive effects of the project.

In conclusion, the second Phase of the WHO Project was much more difficult and complicated than the first, but it was extremely interesting and useful theoretically and practically.
The Project in Bulgaria was supported by local funds and resources. It had administrative and technical support in the form of printed materials, supplies and personnel. The following individuals contributed materially to the success of the project:

<table>
<thead>
<tr>
<th>NAME</th>
<th>PROFESSION</th>
<th>ROLE IN PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr M. Boyadjieva</td>
<td>Psychiatrist</td>
<td>Principal Investigator</td>
</tr>
<tr>
<td>Dr D. Kirov</td>
<td>Psychiatrist</td>
<td>Health Adviser</td>
</tr>
<tr>
<td>Dr G. Georgiev</td>
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</tr>
<tr>
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<tr>
<td>Ms A. Veleva</td>
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</tr>
<tr>
<td>Mr V. Docev</td>
<td>Medical Assistant (Senior)</td>
<td>Health Adviser</td>
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<tr>
<td>Mr A. Alexandrov</td>
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<td>Variable</td>
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<td></td>
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<tr>
<td>Average CL ETOH*</td>
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</tr>
<tr>
<td></td>
<td>AFTER</td>
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<tr>
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<tr>
<td></td>
<td>AFTER</td>
<td>.92</td>
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*** p < .001  
** p < .01  
* p < .05

* Average daily alcohol consumption during a typical month in centilitres absolute alcohol.  
  ** Average amount absolute alcohol (in centilitres) consumed on a typical drinking day.
Figure 6.1  Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

Pleven, Bulgaria

(Average

Control Simple Advice Brief Counselling

(N=13) (N=15) (N=17)

Before After
Figure 6.2  Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e. Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

Pleven, Bulgaria

<table>
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<th>Brief Counselling (N=17)</th>
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<td>After</td>
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- Intensity level represents the average amount of absolute alcohol in centilitres consumed per drinking day.
- The data is presented for three groups: Control, Simple Advice, and Brief Counselling.
- The comparison is made between intake (Before) and follow-up evaluation (After) in Pleven, Bulgaria.
Chapter 7

SAN JOSÉ, COSTA RICA

S. Montero

INTRODUCTION

Costa Rica is a small Central American country (population 2,922,000) with coastlines on both the Atlantic and Pacific Oceans. Its capital, San José, is a city of 241,000, which was the site of the present research. Still largely an agricultural country, Costa Rica has achieved a relatively high standard of living and has developed one of the best health care systems in Latin America. Like other Central American countries, its culture and drinking customs are closely linked to its pre-Columbian and colonial history.

Drinking Patterns in Costa Rica

Up to colonial times in Costa Rica, Indians used fermented drinks in their religious and social activities. These activities, called "chichadas", had two interesting facets: they could last up to 8 days of continuous drinking, and uninhibited conduct was permitted. Later, after the Spanish conquest, and due to social, economic and geographical factors, alcohol consumption changed mainly to distilled liquors.

There are certain sociocultural conditions that are basic in Costa Rica’s pattern of drinking. There is no clear notion of the excessive drinker in Costa Rica. What the average citizen knows in relation to alcoholism is a combination of prejudices, myths, and misunderstandings of the effects of prolonged use of alcoholic beverages. Drunkenness is tolerated. It is not perceived as a problem, except if there are gross symptoms of motor incoordination, or if the drinker’s conduct becomes very inappropriate. Families tend to deny the problem until it is advanced and there are clear problems in certain basic areas (work, psychological adjustment, social functioning).

Costa Rica’s consumption per capita is 3.9 litres of absolute alcohol. This is an approximate estimate because of liquor bought outside the country, and other alcohol produced illegally ("guaro de contrabando"). Our pattern of drinking is to consume alcohol mainly on weekends, Christmas time, Easter and New Year’s celebrations. Drinking tends to be excessive and rapid. People tend to drink a lot in a short time, often to intoxication. Costa Ricans drink more for the effect of alcohol than because of flavour. Intoxication is very common at popular feasts that are celebrated at each one of the small towns or villages at Christmas and New Year. Generally, the fiesta is organized as a collective solidarity between men, and is associated with masculine activities and behaviour ("machismo"). In the context of these activities popular fermented drinks are consumed, such as chicha, chinchibí, and chicheme.

Alcohol production is controlled by a national monopoly. Alcoholic beverage production has been increasing since 1970. Clandestine production is also high. For example, from 1973 to 1977, 1900 producers of illegal "guaro de contrabando" were captured. We have 11,558 canteens distributed throughout the country, approximately one for each 200 inhabitants. The State receives substantial revenues for production and selling of liquors. It is the second source of revenue for the state.

According to epidemiological research, alcoholism is one of the most serious public health problems, with repercussions in the entire social and economic system. A survey carried out in 1982
(1) showed that 57% of the adult population drink alcoholic beverages: 10% are excessive drinkers and 5% have physical dependence on alcohol. In relation to women, only 4% are considered affected (3% are excessive drinkers, 1% are alcoholics). With higher educational levels and employment outside the home, women tend to drink more.

Moderate drinking is sometimes associated with intoxication, and it is more common in men (19%) than in women (6%). Drunkenness in women is met with social disapproval, and in lower socioeconomic levels it is usually associated with prostitution.

Those Costa Ricans not included in previous drinking surveys are abstainers or near abstainers. Usually people in this group drink 4-5 times a year, at family activities, and their consumption is minimal. Sweet drinks and punch are usually used by women and adolescents on these occasions.

Alcohol-related Problems

Excessive drinkers (approximately 10% of Costa Rica’s population over 14 years of age) usually have problems in their families, are more likely to be absent from work, tend to have accidents, and sometimes are involved in aggressive conduct. Very commonly they present medical complications. In 1986 for example, 140,978 consultations were given in the emergency wards related to alcohol. The average age of excessive drinkers is 30 years, and 50% of them are married, a situation that interferes with family relationships. Alcoholics represent 5% of the population (1). Their average age is 40 years, and 60% are married. In relation to occupation, the highest prevalence is found in non-agricultural workers, operators of heavy machinery and transport workers. The lowest prevalence is found among professionals and technicians.

In 1983, a study on Alcohol and Drugs in Marginal Areas in San José showed that in the population over 15 years old, 14% had problems with alcohol consumption, and that 5% combine alcohol with drugs.

A comparative study of 10 high schools in San José (1978-1984) showed an increase in alcohol consumption in students. A recent study of the prevalence of drugs and alcohol in Costa Rica shows a high relation between consumption of these two substances.

Alcoholism and alcohol-related problems have a great impact on the economy of the country, and on health resources. In recent years accidents related to alcohol have increased. In 1981, 15,933 accidents were registered, with 4% attributed to the driver’s drunkenness. In 1987, 22,025 accidents were registered with 5% attributed to drunkenness. Data provided by the General Direction of Statistics indicate that mortality from alcoholism has increased from 2.7 to 4.3 per 100,000 inhabitants and death because of cirrhosis has increased from 0.2 to 1.5 per 100,000 inhabitants.

Accurate data are in many cases difficult to obtain. Much of the time one can only study statistics about the consequences, or medical complications of alcoholism, and not a direct diagnosis because the information is hidden in order to avoid social stigma.

Costa Rica has been undergoing serious economic and social changes due to the political situation in the neighbouring countries of Nicaragua and Panama. There is a lot of migration from Nicaragua, and most probably this will eventually create changes in our drinking patterns. Because Costa Rica is located geographically between South and North America, in recent years it has been used as a bridge by narcotic traffickers. We are now observing more consumption of drugs associated with alcohol use.
Management of Alcohol-related Problems

In 1925 the Secretary of Public Education published the Anti-alcoholic Lecture, in which education was seen as the main vehicle to combat alcoholism and alcohol-related problems. This document was the basis for the development of the Anti-alcoholic League, a temperance organization created in that year. In 1935, the first law regulating alcoholic beverages was established dealing with commerce, industrialization, production and sale. In 1954, by national decree, the "Comisión Sobre Alcoholismo" began programs in research, treatment, and prevention of alcoholism. In 1973, by another decree, the National Institute of Alcoholism was created. Under it, all activities in relation to alcohol are gathered. Its budget is provided by the Ministry of Health and the Ministry of Labour.

In 1986, the National Institute was given responsibility for both alcoholism and drug dependence. It is the main organization at a national level in these areas, and the one that is responsible for the development of treatment policy (2). This agency provides detoxification within a general hospital and, for more deteriorated patients, an inpatient treatment unit that delivers rehabilitation services for one or two months. During this time, patients receive group, occupation, and behavioural therapy, as well as social and family rehabilitation. Costa Rica also has a network of outpatient clinics, which have links with the innovative "promotor" development. Promotores are workers based in local communities in which they are often already known, who are trained at the National Institute in detecting alcohol problems and in providing prevention measures and techniques. They can either deal with the problems themselves or refer those who are seeking help to the nearest outpatient clinic.

In summary, Costa Rica has many problem drinkers who experience various medical emergencies and yet whose underlying alcohol problem remains largely ignored. Conventional inpatient services can attend only to the most damaged alcoholics. It is within this context that the WHO Project on the Treatment of Management of Alcohol-related Problems was initiated.

METHODS AND PROCEDURES

This section describes the experimental design and procedures employed by the San José collaborating centre. Additional information about the experimental design, assessment procedures, eligibility criteria, intervention methods and training of the health advisers is provided in Chapter 3. Information about the definition of the primary and secondary outcome measures is given on Chapter 4.

Study Sites

During the winter months of 1986, the screening questionnaires were given to all new patients coming to the outpatient clinic of the National Institute of Alcoholism and Drug Dependence. In that three-month period only two patients were included in the study. Given the prospect of not being able to recruit the required number of patients, alternative recruitment settings were sought. The new settings were located in an occupational area. For ten years the Institute has conducted a programme of alcoholism prevention and treatment in factories and business. This is a programme with national coverage within both public and private enterprises. Recruitment for the Brief Intervention project was established in seven work settings, which in total have a population of 7,153 workers. Meetings were held at each of the work sites to get them interested in the project and to establish coordination with them. In March 1987, the project began at the following locations: the National Production Council, the National Bank of Costa Rica, the National Petroleum Refinery, the Metropolitan Policemen, the National Liquor Producers, Gerber Company, the Anglo Banks of Costa Rica, and the Ministry of Public Affairs and Transportation. Of the patients included, 34% came from the National Production Council.
Screening and Recruitment

The following recruitment method was employed. In each company, employees who knew the personnel selected all workers who might have or did have problems in relation to alcohol. Our receptionist then administered the screening instrument to each person identified. If they qualified for the study and wanted to participate, they were randomized to one of three conditions. Then the health advisers proceeded with the application of the different treatment or brief intervention procedures. Each enterprise provided us with a room to work privately with the patient during working hours.

In total, 230 employees were screened. Of these, 36 patients qualified for the study (16%). Of those who were excluded, 59% did not meet inclusion criteria, and 41% were dropped because of exclusion criteria. Almost all drinkers included in the study were selected on the basis of intoxication criteria, and not because of the frequency of their drinking, which tended to be limited to weekends and holidays.

Research Design

Because the National Institute is the primary treatment facility in San José, it was not considered ethical to assign patients seeking treatment to a control group. The research design was therefore modified so that standard outpatient treatment could be compared to two of the WHO interventions: Brief Counselling and Extended Counselling.

Patients assigned to the Brief Counselling condition (N=12) were first given the Guide to Sensible Drinking and exposed to five minutes of advice about their drinking. They were then given a 26-page "problem solving" manual ("How to Prevent Alcohol-Related Problems") that described a self-management procedure to reduce alcohol consumption and avoid alcohol-related problems. The health adviser explained that the manual could be used to develop a "habit breaking plan" that would assist the patient to achieve the sensible drinking goals described in the sensible drinking leaflet. The health adviser introduced the manual by reviewing sections that required the patient to choose a drinking goal (i.e., stop drinking or drink sensibly), identify reasons for cutting down, describe high risk drinking situations, develop procedures for coping with these situations, and identify other activities that could substitute for drinking. At the end of the counselling session the patient was encouraged to record the habit breaking plan in the back of the manual and to identify a helper, such as a spouse or friend, who could assist the patient to adhere to the plan.

Patients assigned to the Extended Counselling condition (N=13) were given the same intervention as the Brief Counselling group and were also told that they should return for a review of their progress on three occasions during the next six months.

The third condition consisted of the National Institute’s standard outpatient group therapy programme. Group therapy consisted of six ninety-minute educational sessions, with an interval of 2 weeks between meetings. The following topics were discussed: alcoholism as a disease; alcohol as a drug; physical, psychological and social consequences of alcohol; and treatment resources.

Patients assigned to each of the conditions concluded the session by completing a brief self-report inventory (the Health and Daily Living Questionnaire) that was designed to measure self-confidence, global depression, typical coping responses to problems, and the patient’s perception of the health adviser.
Health Advisers

Four health advisers participated in the study: one male medical doctor, one female psychologist, and two female social workers.

Follow-up

Of the 36 eligible patients recruited, all were successfully contacted for follow-up evaluations.

Problems Encountered in Implementing Project

The health advisers considered that some of the assessments were too long. The interviews plus Brief Counselling took a lot of time and this tended to diminish the patient's interest. We also experienced difficulties in the coordination of appointments with some clients because of changes in their working schedules, or because they were transferred to other places. This situation forced us to conduct four follow-up interviews by telephone. Because the project was not supported by the Institute’s budget, there were many difficulties in relation to travel expenses, printing of materials and other costs. One of the health advisers left his position before the end of the study, necessitating the training of a replacement. There were also changes in the administration of the project on three occasions.

RESULTS

Before conducting the analyses, patients assigned to the three study conditions were compared on demographic characteristics and drinking behaviour at intake. No differences were found between groups in age, socioeconomic status, average daily consumption, intensity of drinking, and days abstinent. However, there were significant differences on measures of recent problems and concern expressed by others. In both cases patients assigned to the Brief Counselling condition tended to score higher than the other groups. These differences should be taken into account when interpreting the findings.

Table 7.1 presents group means for the two primary and four secondary drinking measures assessed before and after the interventions. The ANOVA results indicate that there was a significant reduction in the intensity of drinking (number of drinks per drinking day) in all three conditions, but no differential effect for the WHO conditions. These results are illustrated in Figures 7.1 and 7.2. There were no changes in typical consumption or drinking days for any of the conditions, and there was no improvement in the patients’ problem scores, concern scores or dependence scores.

DISCUSSION

The results of this study indicate that while there were no significant changes in average consumption and days drinking, there was a significant reduction in the intensity of drinking across all three groups. This is an important and clinically significant finding given the predominance of binge drinking in Costa Rica. To the extent that patients reduced the number of drinks they consumed per occasion from approximately six standard drinks to four, it is likely that the risk of problems was also reduced. Although there was no change observed on measures of the problem score, it should be noted that these clients were relatively free of problems at the time they were recruited, and they were all currently employed.
The second major finding is that there were no differences among the three groups in their response to the interventions. This finding is not unexpected given the fact that two of the conditions (Standard Treatment and Extended Counselling) both consisted of multiple sessions. Although the Extended Counselling condition required considerably less time with the patient, it may not have been as economical as Standard Treatment because the latter was delivered in a group setting. Nevertheless, the findings also indicated that the Brief Counselling group, which received only one session of advice and counselling, fared as well as the other two groups. This finding suggests that the Brief Counselling condition may be as effective as more intensive interventions for this type of heavy drinker.

Despite these interesting findings, the results should be considered tentative given the small sample size and the possibility that heavy drinkers recruited from work settings may be difficult to study in the context of a clinical trial. A number of employees who were identified as heavy drinkers did not report sufficient alcohol consumption to meet the coordinating centre’s minimal inclusion criteria. This could have resulted from the drinker’s reluctance to be identified as a heavy drinker, or from a failure of the screening procedure to accurately identify heavy drinkers. Given the small sample size and the difficulties involved in the implementation of the WHO study at the San José centre, the findings should be considered tentative. Nevertheless, the results are highly encouraging and are consistent with the general findings reported in other parts of this report, and with previous research on brief interventions summarized in Chapter 2. That literature suggests that a single session of brief advice is often as effective as more intensive outpatient treatment, particularly with socially stable, nondependent heavy drinkers.

REFERENCES


APPENDIX

Initially the project was supported by a small contribution from WHO. Subsequently, the National Institute assumed the costs of the study. Since this money was not budgeted initially, we had to depend on the budget of the Department of Technical Services and Community Extension. The following persons were responsible for the planning and implementation of the project:

Dr Sandra Montero, Principal Investigator; Dr Enrique Madrigal, Technical Coordinator.
Table 7.1  Changes in Alcohol Consumption and Alcohol-related Problems According to Experimental Condition: San José, Costa Rica

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** p < .01

* Average daily alcohol consumption during a typical month in centilitres absolute alcohol.

b Average amount absolute alcohol (in centilitres) consumed on a typical drinking day.
Figure 7.1  Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

San José, Costa Rica

Average ClEtOH

(N=11)  (N=12)  (N=13)

Standard Treatment  Brief Counselling  Extended Counselling

Before  After
Figure 7.2 Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e. Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

San José, Costa Rica
Chapter 8

NAIROBI, KENYA

W. Acuda

INTRODUCTION

The Republic of Kenya is located on the Indian Ocean coast of East Africa. Its population of 24 million is made up of a number of different ethnic and linguistic groups, including the Kikuyu (21%), Luo (13%) and Luhyas (14%). Although Swahili is the official language, English is widely spoken in addition to the many traditional languages. Much of Kenya is arid with a tropical climate, except in the low coastal areas and the plateau and mountain regions. Its economy is mainly organized around tourism and light industry. In addition to Kenya's rich African heritage, its history has been strongly influenced by contacts with the Arab world, dating from the 8th century, and by British colonization, which began in the late 19th century. These two influences, Moslem and Western, have coloured Kenya's relationship with alcohol, as discussed in the following section. The capital city and site of the present investigation is Nairobi, an urban metropolis of approximately one million people.

Drinking Patterns in Kenya

Alcoholic drinks have been consumed in Kenya for many years to enhance a variety of social functions. The plants used as raw material for production of alcohol, namely maize, sorghum, millet, bananas, sugar cane, cassava, to mention just a few, have been cultivated in the country traditionally for food and cash. When the Europeans arrived in the 18th century, they brought with them, among other things, "European" types of alcoholic beverages such as gin, whisky and brandy, as well as commercially produced beers from the breweries (1).

There is considerable evidence to show that alcohol used to play a very significant and often indispensable part in the traditional lives of rural Kenyans. For instance alcohol was always present in meetings of elders, during settling of disputes, at the negotiation of a bride's dowry and at all sorts of celebrations. Platt (2), who travelled widely in the Rift Valley region of Kenya in the early 1950's, noted that a typical villager had to get drunk occasionally even if he was short of food because beer was a social necessity, not merely a source of enjoyment. He estimated that among the Nandi tribe in the Rift Valley of Kenya at the time, up to one sixth of all grain was converted to alcohol.

However, there has been a tremendous change in drinking patterns and habits in Kenya during the past two or three decades both in rural areas and in towns. The traditional role of alcohol, which was mainly for socialization and celebrations, has largely been abandoned (3).

Traditionally most of the available alcohol was fermented. It thus had relatively low alcohol content. Alcohol was made mainly for domestic consumption or celebrations, or as reward for labour. Drinking varied according to availability of alcohol with plenty of drinking during or after a good harvest, and little or no drinking during famine times (3).

These days alcohol is being produced more and more for commercial purposes and by professionals. Home-made drinks can be found everywhere alongside "European" types of beers or spirits. The distilled alcohol with very high alcohol content, which was introduced into the country during the Second World War, is threatening to replace the traditionally fermented types of alcohols.
Distilled alcohol, which is quite cheap and easy to make and distribute, can be stored for many days compared with the fermented ones which deteriorate after only a few days. The manufacture and consumption of this liquor has been prohibited in Kenya since colonial days. Despite heavy penalties for its distillation and possession, the business thrives. A study conducted in a slum area of Nairobi in 1977 showed that the production and sale of illicit alcoholic drinks was the main occupation for women in the area, most of whom supported their families on income from the illicit business (4).

In most towns in Kenya today alcohol has become a feature of all forms of social life, though traditional drinking may still exist in some villages (5). In Nairobi and other major towns, more and more people are enjoying higher standards of living and better economic status. This includes a growing number of females who are economically independent. Such people can afford considerable amounts of alcohol despite high prices. A recent study has shown that virtually all forms of alcohol are readily available in Nairobi to anybody day and night despite the existence of laws meant to reduce easy availability (6).

Several studies have recently been done in Kenya which indicate the nature and extent of drinking and drinking problems. The first epidemiological study ever (7) was a household survey carried out in the rural Kisii District in Kenya in 1979. In that study of 200 randomly selected households in the district, up to 27% of males and 24% of the female heads of household fell within the WHO 1952 definition of alcoholism. A similar household survey in Mathari Valley, an overpopulated slum area in Nairobi (4), revealed that 46% of males and 24% of female heads of households were alcoholics according to the WHO criteria.

Another study which focused on youth aged 10-25 years old in Nairobi and one rural district in Kenya in 1983 (8) revealed less alarming figures. Only 11% of boys and 4% of girls interviewed in the household survey could be classified as "abusers" of alcohol. Another study, designed to identify psychiatric morbidity among outpatients attending six rural district hospitals representing all provinces in Kenya (9), found that of the 24.9% who had definite psychiatric morbidity, 12.7% of them (or 3.1% of the entire sample of 881 patients) were alcoholics fitting ICD-9 categories 303 (alcohol dependence syndrome) and 291 (alcoholic psychosis).

A more recent study (10) focused on alcohol problems among psychiatric patients. In that study, all consecutive admissions to Mathari Psychiatric Hospital on the outskirts of Nairobi were screened for alcoholism during a six month period using a locally validated version of the Brief Michigan Alcoholism Screening Test. The study showed that 23% of the admissions (85% males and 15% females) were alcoholics or heavy drinkers. Forty per cent of the alcoholics were aged between 21-30 years.

Finally, in 1988 alcohol dipsticks were used to determine alcohol concentration in the saliva of randomly selected patients presenting in the casualty department of a busy district hospital in Kenya (11). The study found that of 245 patients screened, 25% had varying concentrations of alcohol in their saliva and nearly half (42%) of all injury cases had positive dipstick scores, although some of the patients had denied use of alcohol on the survey day.

In summary, the studies described above show that the majority of heavy drinkers in Kenya are aged between 25-40 years, although heavy drinking among teenagers and females is also increasingly being reported. The same studies have shown that heavy drinking is equally prevalent in the rural areas and in towns and involves all socioeconomic strata of the country.
Alcohol-related Problems

There has been a considerable increase in the level of awareness of alcohol problems in Kenya in recent years. The few epidemiological studies highlighting the magnitude of the problem have been supported by anecdotal reports from leading citizens (chiefs, church leaders and some politicians). There has also been a renewed interest by physicians and other health professionals in alcohol problems among general medical patients.

The whole range of alcohol problems occurs in Kenya. These can be classified under physical, psychological and social problems. The physical problems that are frequently seen can be acute, sub-acute or chronic. The acute problems which normally present in the emergency departments include gastritis, intoxications, hypoglycaemic coma, injuries and pancreatitis. The sub-acute and chronic problems include malnutrition, gastric ulcers, liver disease, and dementia.

The psychological complications of prolonged heavy alcohol abuse generally present in mental hospitals, psychiatric clinics, casualty departments of general hospitals and police stations. By far the commonest one is alcoholic psychosis. These include delirium tremens, alcoholic paranoia, hallucinosis, blackouts, and 'mania potu'. A recent study (10) has shown that 21% of consecutive admissions into a mental hospital in Nairobi had alcoholic psychosis. Other psychological presentations, which are more often detected among outpatients, are depression, occasionally with a suicide attempt, anxiety, chronic insomnia and non-specific physical complaints such as poor general health and weakness. Infrequently patients may present with one or more features of the alcohol dependence syndrome such as inability to abstain despite awareness that harm is being done and uncontrollable intoxication lasting several days. Social problems consequent upon chronic alcohol abuse are equally common though only a few come to the attention of psychiatrists. These range from domestic problems, which include violence, to problems at work and economic hardships. A recent investigation into the drinking history of factory workers in Nairobi prematurely retired on medical grounds has shown that chronic alcohol abuse seemed to be the most common cause of retirement.

Management of Alcohol Problems

Coupled with the increasing awareness of alcohol-related problems has been the realization of the need for treatment. So far there are no specialized services for the treatment of alcohol problems in the country. Apart from psychiatrists, no other profession is currently offering specialized treatment. Indeed, there is a serious shortage of clinical psychologists, psychiatric nurses and psychiatric social workers in the country. These are some of the professions that would be expected to play a leading role in extending treatment services in general hospitals and into the community. Efforts are currently being made to stimulate general practitioners and physicians to improve their skills in recognition and management of alcohol problems. Because of the often atypical or late presentation of alcohol disorders, only a small fraction of the problem is currently being detected and managed.

Treatment is carried out mainly in psychiatric hospitals and general medical hospitals. Both inpatient and outpatient treatment is provided, depending on mode and severity of presentation. In either setting, treatment unfortunately stops with detoxification, usually with benzodiazepines, vitamin supplements and treatment of any co-existing physical illness. Antidepressant and antipsychotic drugs are also used when indicated. For the patients who get referred to mental health professionals, marital or family therapy are also being tried. Overall the outcome of treatment of alcohol problems remains poor though no systematic outcome study has been done so far.
Various voluntary and religious groups have started counselling services. But their efforts have been curtailed by lack of knowledge and counselling skills. On many occasions they have requested psychiatrists to assist in training their personnel in this respect. Of all these voluntary groups, it is Alcoholics Anonymous (AA) which is most active in Kenya, especially in Nairobi. Psychiatrists and other counsellors frequently refer clients to these groups. A.A. meetings are announced daily in both national newspapers. They have two daily meetings - one for the upper socioeconomic group (in English) and the other for the working class (in Swahili). Finally, there are various traditional healers and herbalists who claim that they cure all psychiatric illnesses including alcohol problems. Their claims, however, cannot be verified as they do not permit other therapists to observe their clients.

The main criteria for admission of patients to treatment are the state of the patient and mode of presentation. Those presenting with medical complications are received and treated in the general medical facilities. Those presenting with psychosis are received, treated and followed up in the psychiatric hospital, or psychiatric unit, in general hospitals. Occasionally patients refer themselves, voluntarily or following pressure from the spouse, other relatives or the employer.

Because of the shortage of qualified staff, no special attention is given to groups such as adolescents or women although there is a real awareness of the mushrooming alcohol abuse by adolescents and young adults both in and out of school.

Virtually nothing is known about the cost of treatment for alcohol problems in Kenya. Many patients are admitted, treated and discharged without the doctors being aware that the cause of the illness was alcohol. But even in cases where an accurate diagnosis is made, the clinicians are reluctant to enter a diagnosis of alcohol dependence because of stigma and the implication of such diagnosis on the patient’s employment and future.

Although the Kenyan government provides low cost medical services to its citizens including in-patient treatment in government institutions, all government health facilities are chronically congested and usually short of essential supplies such as drugs and laboratory materials. Health personnel at government hospitals or health centres usually have no more than five minutes per patient. Consequently, disorders that usually require a bit more probing for an accurate diagnosis, such as alcohol dependence, are largely missed.

For people who want to avoid the overcrowding in government hospitals or clinics, and for employees in the private sector, there are numerous private clinics and hospitals. Usually their health insurance policies cover all medical treatment including alcohol dependence, but the diagnosis of "alcoholism" is hardly ever entered in the case notes or on the sick sheet. Even in these settings the cost of treatment for alcohol problems remains unknown.

In conclusion, it is important to reiterate that the existence of alcohol problems in the Republic of Kenya has been recognized, although accurate information is still lacking. The question now being asked is what should be done to curtail the problem. Two main approaches are being debated. One is the development of preventive measures. The other is the creation of treatment facilities and the training of health workers to man the facilities.

Recent attempts at prevention by suppression of production, distribution and consumption of traditional alcoholic beverages have not made any impact on consumption of illicit alcoholic brews. Consequently there have been repeated calls for the training not only of health personnel but other
professionals as well, to enable them to recognize and deal with alcohol problems wherever they may present. Most training curricula for health personnel now include alcohol and other drugs.

Kenya has recently initiated Pilot Primary Health Care projects in at least three districts in the country. The plan is to integrate alcohol and drug problems into the primary care system. It is within this context that the WHO Project on the Treatment of Management of Alcohol-related Problems was initiated.

METHODS AND PROCEDURES

This section describes the experimental design and procedures employed by the Nairobi collaborating centre. Additional information about the research design, assessment procedures, eligibility criteria, intervention methods and statistical analysis is provided in greater detail in Chapter 3 of this report. Information pertaining to the definition of primary and secondary outcome measures is presented in Chapter 4.

Study Site and Catchment Population

The study was carried out at the Kenyatta National Hospital adult filter clinic which serves a population of over 1.2 million in Nairobi and surrounding communities. No prior appointment or referral is necessary. Kenyatta National Hospital is the University of Nairobi teaching hospital. It is also the national referrals hospital as well as the catchment hospital for the city of Nairobi. It draws patients from over fifty miles away.

Recruitment Method

A trained junior medical student or high school leaver administered the Health and Lifestyle (Screening) Questionnaire to patients waiting to see the doctor, usually after a brief introduction of the purpose of the study. A brief verbal enquiry was used to determine whether the patient worked, ate breakfast, smoked cigarettes and used alcoholic beverages. Only those who admitted taking alcohol in the past month were administered the screening questionnaire. If the patient met the inclusion criteria he was taken to the health adviser after he was seen by the doctor and had collected his medicine. In many cases the screening assistant helped to obtain the medicines or laboratory results while the health adviser interviewed the patient.

Description of Study Sample

Screening interviews were administered to 803 patients at the adult filter clinic. Of these, 203 eligible patients were recruited into the study. Because of limits on staff time and difficulties involved in locating patients who lived outside of Nairobi (described below), only 64 of the eligible patients (32%) were re-interviewed at the six month follow-up. Because of the small number of females, only the data from the men are analyzed in this chapter. The women's data have been combined with data from other centres and are reported in Chapters 4 and 16. The patients, who constitute the study sample for the purpose of the present report, had an average age of 34.6 years. According to Treiman's (12) International Occupational Prestige Scale, the average score of 37.9 that these patients reported indicates that they were primarily employed as skilled workers and unskilled labourers.

In their responses to the Composite Interview questions about drinking behaviour, these patients reported drinking an average of 18 days per month. The beverage of choice was beer. The average
amount of pure alcohol consumed per day during the previous six months was 9.5 centilitres, the equivalent of approximately six standard drinks. When the total amount of reported alcohol consumed is divided by the actual number of drinking days, these patients reported consuming approximately 15 centilitres of absolute alcohol per drinking day, or the equivalent of 10 standard drinks.

Experimental Design

At the time they were recruited into the study, patients were told that they were participating in a general health survey being conducted by the World Health Organization. It was explained that the information would be used to plan better health services in different countries and that all information would be kept strictly confidential. Patients were then interviewed for 20 minutes using the WHO Composite Interview Schedule, which asked about various health risk factors (including nutritional habits, smoking, exercise, sleep, and drinking behaviour). Following the interview patients were randomly assigned to one of three conditions: 1) a Control group that received no therapeutic intervention; 2) a group that received five minutes of advice about hazardous drinking (Simple Advice condition); and 3) a group receiving five minutes of advice as well as 15 additional minutes of counselling about their drinking (Brief Counselling condition).

At the completion of the Composite Interview, patients assigned to the Control group (N=22) were thanked for their participation in the study and were asked to return for a follow-up interview in approximately six months. No information was provided about the specific purpose of the of the study, nor were they given any feedback about the potential hazards associated with their drinking.

Patients assigned to the Simple Advice condition (N=15) were told at the end of the interview that, on the basis of the information provided, their drinking might place them at risk for a variety of alcohol-related problems. They were then given an illustrated brochure ("A Guide to Sensible Drinking") that showed the proportions of alcoholics and heavy drinkers in the general population; illustrated the amounts of alcohol contained in standard drinks of beer, wine and liquor; suggested what a sensible drinking limit was for men and women (no more than four standard drinks, five times per week for men; no more than three standard drinks four times a week for women); encouraged the patient to consider abstaining completely from alcohol under certain circumstances; and pointed out the health risks associated with heavy drinking.

Patients assigned to the Brief Counselling condition (N=17) were first given the Guide to Sensible Drinking and exposed to the same five minute intervention as the Simple Advice group. They were then given a 26-page "problem solving" manual ("How to Prevent Alcohol-Related Problems") that described a self-management procedure to reduce alcohol consumption and avoid alcohol-related problems. The health adviser explained that the manual could be used to develop a "habit breaking plan" that would assist the patient to achieve the sensible drinking goals described in the sensible drinking leaflet. The health adviser introduced the manual by reviewing sections that required the patient to choose a drinking goal (i.e. stop drinking or drink sensibly), identify reasons for cutting down, describe high risk drinking situations, develop procedures for coping with these situations, and identify other activities that could substitute for drinking. At the end of the counselling session the patient was encouraged to record the habit breaking plan in the back of the manual and to identify a helper, such as a spouse or friend, who could assist the patient to adhere to the plan.

Patients assigned to each of the three conditions concluded the session by completing a brief self-report inventory (the Health and Daily Living Questionnaire) that was designed to measure
self-confidence, global depression, typical coping responses to problems, and the patient’s perception of the health adviser.

At the end of the session all patients were asked to return in six months for a follow-up interview. At that time a revised version of the WHO Composite Interview was administered in addition to several self-report questionnaires. During the interview the alcohol dipstick was employed to test for recent alcohol consumption and to emphasize to the patient the importance of providing accurate information about their drinking behaviour.

Health Adviser

Because the study extended over a period of 18 months, several health advisers were used, but generally only one at a time. The transition from one health adviser to the next was made as smooth as possible by means of identical training procedures which included at least two weeks of working together. Two of the health advisers were clinical psychologists, two were social workers, and one was an advanced medical student. All but one of them were female. The health advisers ages ranged between 28 and 39 with the average age being 31.

Problems Encountered in Implementing Study

Financial limitations made it difficult to employ a full time health adviser throughout the study and another assistant to do the screening. Consequently the study took much longer than planned. All personnel were involved in the study part-time and were paid for hours spent in the study. This meant that a number of subjects who met inclusion criteria were lost because personnel were not available to contact them.

The follow-up rate proved disappointing. During the pilot phase of the study, 90% of patients given appointments six months ahead came back (this is also true of patients attending the psychiatric clinic and other medical clinics). Unfortunately, only 32% of subjects recruited into the study came back for the follow-up interview. Attempts to trace the subjects were more disappointing. Subjects were not present at the physical address or telephones they had given. Many had changed their jobs or had moved to other towns. Many patients who had given a Nairobi address apparently had come from up-country specifically to see a doctor at Kenyatta National Hospital. As soon as they were seen, they went home having given the address of the relative with whom they stayed in Nairobi.

RESULTS

Before conducting the analyses, patients assigned to the three study conditions were compared on demographic characteristics and drinking behaviour at intake. No differences were found between groups in age, socioeconomic status, average daily consumption, intensity of drinking, and days abstinent. However, there were significant differences on measures of recent problems and concern expressed by others. In both cases patients assigned to the Brief Counselling condition tended to score higher than the other groups. These differences should be taken into account when interpreting the findings.

Table 8.1 presents group means for the six drinking measures assessed before and after the intervention. The ANOVA results indicate that there was a significant reduction in all measures except the problem score at six month follow-up. Figures 8.1 and 8.2 illustrate the changes in average daily consumption and the intensity of drinking for each group. These measures are the ones most pertinent
to the main hypothesis of the study. The data show that while there were major reductions in the drinking behaviour of patients exposed to Simple Advice as well as Brief Counselling, there was also a comparable change in the drinking behaviour of patients in the Control group. Nevertheless, patients in the intervention groups tended to show more change than those in the Control group. These findings can only be interpreted as a trend because the predicted interaction effect was not statistically significant.

Table 8.2 summarizes information provided by patients at follow-up concerning their impressions of the study and how it affected their drinking behaviour. Consistent with the results presented in Table 8.1, most patients in each condition reported that their drinking decreased in the previous six months. When asked why it changed, 70.6% of the patients in the intervention conditions attributed the change to "information received from their participation in the project". Only 27.3% of the Control group believed that the study was responsible. While the Control patients were more likely to cite health reasons for the change, the three groups did not differ in other reasons cited.

Questions designed to check the patient's compliance with the health adviser's recommendations indicated that most patients (94.1%) assigned to the intervention groups recalled receiving the leaflet, and most tried to reduce their drinking after reading it. Although most patients (82.4%) in the Brief Counselling group remembered receiving the problem solving manual, only 17.6% reported reading it entirely, and only 11.8% followed the health adviser's advice to recruit a helper. Nevertheless, more than half of the Brief Counselling group (58.8%) reported using the diary cards.

DISCUSSION

The results of the Nairobi centre's participation in the WHO Collaborative Project should be interpreted in light of the drinking patterns in Kenya, the difficulties of conducting a clinical trial in a developing country, the results of the combined analyses (presented in Chapter 16), and the importance of integrating secondary prevention into the primary care setting.

As described in the Introduction, all types of alcoholic drinks are easily available all over Kenya and are widely consumed. The home-made alcohols are consumed mainly in rural areas and by people of lower socioeconomic status. Among these, alcohol consumption level is largely determined by availability of money. The typical drinking pattern is heavy consumption at the end of the month or during pay days and very little or no drinking for the rest of the time. Those with steady income, on the other hand, tend to drink regularly throughout the week, but also with heavy consumption during weekends or at the end of the month.

The results indicate that there was a significant reduction in average alcohol consumption, intensity of drinking, days drinking, concern expressed by others, and dependence symptoms in both the intervention groups and the control group. Although there was some suggestion that the intensity of drinking changed more in the intervention groups than the controls, in general there was no clear evidence that the intervention per se was responsible for the change in alcohol consumption. Several factors may account for these findings. It is conceivable that patients at follow-up reported reductions in their drinking to please the investigators. This is possible but unlikely because of the use of the alcohol dipstick and other validity enhancement techniques that should have motivated patients to answer accurately (see Chapter 3). Another explanation is regression to the mean. Because these patients were selected on the basis of recent heavy drinking, it is possible that they had merely returned to their average consumption six months later. Yet another explanation in the possible influence of participation in a WHO study on these patients. The attention that the control group received from the University of Nairobi research team may have been as influential as the simple advice and brief counselling in
motivating patients to reduce their drinking. Another factor common to patients in all three conditions was their use of medical services at the time of the intervention. Conceivably, their recent illness, which in many cases may have been alcohol-related, could have led to a reduction in drinking regardless of the intervention. The failure to detect differences between groups may have also been due to the relatively small sample size. Indeed, when the data from the Nairobi sample are pooled with those from the other centres, the trends suggested in the Nairobi data are statistically significant in the combined sample (see Chapter 16).

The lack of a clear intervention effect may have also been related to the difficulty of implementing the study protocol, the frequent changes in health advisers, and the problems experienced in locating patients six months later for follow-up. To the extent that these difficulties introduce random error into the measurement process, it becomes more difficult to detect differences between groups.

Finally, broader social and political factors need to be considered in interpreting the results. During the period of the study (1985-1988) no major political or economic changes took place in the country. The Kenya economy remained stable although there were slight price rises which also affected alcoholic drinks. A general election took place early in 1988 while follow-up of study subjects was still in progress; but no major policy changes followed the elections. In 1986, a major campaign against illegal brewing and consumption of home-made alcoholic drinks was launched by the Head of State. This resulted in country-wide closures and destruction of drinking places and illicit “breweries and distilleries”. This was also followed by suppression of public consumption of such drinks. However, the campaign was short lived. Within a few months the business came back to previous levels. This campaign had no direct effect on the study since actual recruitment started later in 1986, but it may have contributed to a climate that influenced patients in the control group to modify their drinking.

Despite the possibility that the Nairobi results could have been caused by chance fluctuations in drinking or by factors not related to the intervention, the overall study findings, reported in Chapter 16, indicate that the study intervention produced a significant reduction in alcohol consumption and alcohol-related problems. To the extent that the Nairobi data contributed to these findings, it is logical to conclude that the small sample size and difficulty with implementing the project account for the lack of differences between the control and intervention groups. If this is true, than the reduction in drinking observed in the Nairobi sample is impressive, given the hazardous levels being consumed and the problems associated with drinking.

Heavy drinkers in Kenya appear to be responsive to environmental factors that can affect alcohol consumption, including brief interventions at the primary care level. The results of this project suggest that the integration of brief intervention measures into routine practice at the primary care level should have a beneficial impact on health in Kenya.
REFERENCES


APPENDIX

The Nairobi centre's participation in the study was funded almost exclusively by a grant from WHO through Technical Service Agreements with the University of Nairobi. The University of Nairobi provided secretarial assistance, papers, office space and local telephone and mailings. The following personnel contributed to the planning and implementation of the project at the University of Nairobi:

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<th>NAME</th>
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Table 8.1 Changes in Alcohol Consumption and Alcohol-related Problems According to Experimental Condition:

Nairobi, Kenya

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<td>AFTER .55</td>
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<tr>
<td></td>
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<tr>
<td>Concern Score</td>
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<td>AFTER 1.36</td>
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<tr>
<td></td>
<td>AFTER 1.36</td>
<td></td>
</tr>
<tr>
<td>Dependence Score</td>
<td>BEFORE 5.68</td>
<td>AFTER 5.18</td>
</tr>
</tbody>
</table>

*** p < .001
* p < .05

* Average daily alcohol consumption during a typical month in centilitres absolute alcohol.
  b Average amount absolute alcohol (in centilitres) consumed on a typical drinking day.
### Table 8.2  Percent of Patients Answering Positively to Questions about their Participation in the Project

<table>
<thead>
<tr>
<th>Question</th>
<th>Control (N=22)</th>
<th>Simple Advice (N=15)</th>
<th>Brief Counselling (N=17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did your drinking decrease in last 6 months?</td>
<td>68.2%</td>
<td>70.6%</td>
<td>70.6%</td>
</tr>
<tr>
<td>Why did it change?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information received from project</td>
<td>27.3%</td>
<td>70.6%</td>
<td>70.6%</td>
</tr>
<tr>
<td>Family situation</td>
<td>9.1</td>
<td>23.5</td>
<td>5.9</td>
</tr>
<tr>
<td>Health</td>
<td>45.5</td>
<td>35.3</td>
<td>29.4</td>
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<tr>
<td>Work</td>
<td>9.1</td>
<td>11.8</td>
<td>5.9</td>
</tr>
<tr>
<td>Other Reason</td>
<td>13.6</td>
<td>5.9</td>
<td>17.6</td>
</tr>
</tbody>
</table>
Figure 8.1  Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

Nairobi, Kenya

Control  Simple Advice  Brief Counselling

(N=22)  (N=15)  (N=17)

AVERAGE
ELEVATION

Before  After
Figure 8.2  Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e. Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

Nairobi, Kenya

Control  Simple Advice  Brief Counselling

(N=22)  (N=15)  (N=17)

Before  After
Chapter 9

MEXICO CITY, MEXICO


INTRODUCTION

The Republic of Mexico, situated at the southern part of the North American continent, was the site of advanced Indian civilizations before the Spanish conquest in the 16th century. In addition to agriculture and manufacturing, the Mexican economy has in recent years been driven by the exploitation of its vast oil reserves. Although Mexico's climate is hot and temperate, it is more moderate in the capital, Mexico City, which is 2,250 meters above sea level. During the period of the present study, Mexico was marked by economic austerity (due to fluctuations in oil prices) and a natural disaster (the 1985 earthquake in Mexico City).

Drinking Patterns in Mexico

Alcohol use was an established part of the Aztec and Mayan cultures well before the arrival of the Spanish, but the native drinks of chicha and pulque had relatively low amounts of alcohol. In the 1600s and 1700s, however, the Spanish introduced wine and spirits, which altered the Indians' drinking pattern and lifestyle irrevocably. Today Mexico is a dynamic country of 88 million people, whose heritage is 60% Mestizo, 29% Indian and 9% Caucasian. The most popular alcoholic beverage is beer, although rum and pulque are also consumed by some segments of the population.

According to recent studies (1-3), there is a large number of abstainers, especially among women in rural environments. Among drinkers, one group consumes alcohol frequently and in high quantities, reporting symptoms related to dependence. These individuals often develop alcohol-related conditions, such as hepatic cirrhosis.

Another, much more numerous group of drinkers reports infrequent ingestion but in high quantities, which implies that each episode of consumption results practically in drunkenness. Many negative health and social events that occur under the effects of alcohol, such as accidents, crimes or suicide attempts, are observed in individuals who correspond to this drinking pattern.

Epidemiology of Alcohol Problems

Data on hospitalizations from the Mexican Institute of Social Security shows that 3.4% of the total number of patients treated in 1983 had alcohol-related ailments, especially alcoholic cirrhosis (4). For that same year, the Institute of Social Services and Security for State Workers estimated that 2.4% of hospitalizations were related to alcohol-related ailments. In Health Ministry psychiatric hospitals, the percentage of alcohol-related cases is higher, representing 8.1% of all ailments in 1978. Notable among these are alcohol addiction, delirium tremens and alcoholic hallucinosis.

Among men who attended outpatient psychiatric consultations between 1978 and 1980, alcoholism represented 15.4% of the diagnoses between 35 to 44 years of age and 16.2% among those between 45 to 54 years of age (5). According to the same study, alcoholism accounted for 21% of hospitalizations for psychiatric problems in the 45 to 54 year age group, and 17.3% of the hospitalization among patients between 55 to 64 years of age.
In an internal medicine service for men in a general hospital in the provinces (6), 36% of the 500 recorded admissions were diagnosed as alcoholics, of which 80% were between the ages of 20 and 50 years. The main reasons for admission were digestive tube bleeding and liquid retention with significant ascites, both complications related to ethanol dependence. Clinical and laboratory data indicated hepatic insufficiency in 31.6% of these alcoholics. Alcoholism was frequent in the family background of these individuals.

According to archival data from three emergency hospitals in Mexico City (7), 10.7% of patients admitted between 1980 and 1984 were under the influence of alcohol. Among these, 4.7% had suffered intentional wounds in assaults and fights, 22% presented self-inflicted wounds resulting from suicide attempts, falls and other accidents, and 3.5% presented alcohol intoxication without wounds. The majority of these alcohol-related cases were men between the ages of 15 and 34.

In a study carried out by the Mexican Institute of Psychiatry in eight emergency services where the alcohol level is estimated through breath tests, positive concentrations were found in 25% of the cases (8).

Death rates due to hepatic cirrhosis are considered classic indicators of alcoholism. The rate of cirrhosis observed in Mexico is among the highest in the Americas. Based on mortality rates for hepatic cirrhosis, it is estimated that between 1956 and 1971, 5% to 7% of the population in Mexico over the age of 20 were alcoholics (9).

The number of cases of suicide in Mexico is low when compared with that of other countries, but there may be under-reporting of this phenomenon, mainly due to cultural reasons. "Alcohol intoxication" has been cited in approximately 5% of the cases of suicide (10). Nevertheless, the role played by alcohol seems to be more important than indicated by the records. In research carried out in the Forensic Medicine Service (11), levels of alcohol above 100 mg/% were found in blood samples in 17% of the autopsied suicides.

The role of alcohol consumption as a risk factor in accidents and violent acts has been extensively reported in the international literature. In Mexico, data on this is scarce, but in a study carried out in 1974 by the Forensic Medicine Service of Mexico City on cases of violent deaths, elevated alcohol concentrations were found in 57.6% of the 1600 blood samples analyzed. In these cases, 35% had died in traffic accidents, mainly by being run over by cars. Another study reports that of the traffic accidents that occurred in Mexico City in 1968, 8% involved someone in a state of inebriation, a proportion that rose to 15.85% in 1983 (12,13). According to the Attorney General's Office, in 1975 17.5% of the criminals sentenced in Mexico were found to be under the effects of alcohol. This proportion increased in subsequent years, reaching 24.7% in 1982.

Other social effects of alcohol consumption occur in the family and in the work place. It is estimated that 84% of family disagreements and 82% of separations are caused by alcohol (14). In cases studied in a child care institution as part of a prevention programme against child abuse, alcoholism occupied the second place as the cause of violence against children, being present in 19% of the cases (15).

Work accidents in Mexico are frequent, as well as absenteeism and job loss due to alcohol. According to the Mexican Social Security Institute (16), 18% of work accidents are related to alcohol intake, representing great material and human losses. It has also been reported that alcohol consumption is responsible for the loss of thousands of work hours among those with medical coverage from the
Mexican Social Security Institute (17). Another study (18) estimates that 12% of work absenteeism may be attributed to the effects of the "day after" drinking.

From the information presented here it can be inferred that excessive alcohol consumption has significant effects on society and constitutes important public health problem in Mexico. In addition, many of the health and social problems that occur under the influence of alcohol are manifested in drinkers with a pattern of occasional but excessive consumption.

Management of Alcohol-related Problems

General policy governing management of alcohol-related health problems is guided by the General Health Law and also by the introduction of the National Health System. One of the intents of the new system is for each state to share the responsibility of arranging policies and administrating funds.

The Health Ministry considers alcohol problems to be a priority. A National Antialcohol Council was installed in 1985 and is coordinated by the Health Ministry. It includes representatives of social, governmental, and private sectors. Its purpose is to develop legal, educational, and preventive activities. The National Antialcohol Council has elaborated a national programme that considers treatment measures as a priority issue. The changes that have occurred in the alcohol field in Mexico now permit coordination of different institutions, as well as the sharing of responsibilities at the federal, state, and district levels.

There are three basic systems of care for a population of about 88 million people. The first system assists individuals in the lower socioeconomic levels, offering virtually free services. The second system is a social security programme financed by employers and employees with regular jobs. The third system embraces private institutions and practitioners and covers the higher socioeconomic levels. It is also important to point out that, for various reasons, approximately 14 million Mexicans do not have access to health facilities.

The Mexican government provides most of the available medical assistance programmes. In general, they are crowded and insufficient to assist the whole population. As a result, there are few specialized treatment programmes for alcohol problems. Rather, such services are integrated with other treatment programmes, most often in the form of acute detoxification centres.

Despite the small number of programmes in this area, government health authorities and the professionals related to this field are conscious of the need for a better prevention and management policy because they recognize the magnitude of the problems created by high rates of alcohol consumption. Alcohol problems already represent a substantial burden for the country's health services. It is evident that, in the future, this burden will increase, mainly as a result of the pyramidal structure of the population, which is wider at the base. The group of greatest morbidity is between 35 to 50 years of age. In the near future the more numerous younger population will be in this age range. Consequently, there will be a larger number of drinkers who will require medical assistance.

It is generally accepted in Mexico that alcohol-related problems should be treated by medical personnel, even though drinkers are reluctant to recognize the problem and ask for help. Catholic priests are trusted by drinkers and are often sought out for help. The personnel who work in agencies that handle alcohol-related problems (policemen, doctors, nurses) consider themselves untrained in handling alcohol problems and lack the time to deal with them. None the less, they report that they would like to have more knowledge of this topic and would be willing to undertake special training.
Rationale for Study

Given the growing concern in Mexico about the public health consequences of hazardous alcohol consumption, and the need for more effective measures in primary health care, the present project was initiated in order to evaluate brief intervention procedures directed at heavy drinkers who are not seriously dependent on alcohol. A major purpose of the study was to determine whether simple advice and brief counselling, delivered in the context of a single consultation in a medical setting, would result in a significant reduction in the patient’s drinking over a six month period. To the extent that the quantity and frequency of drinking can be reduced in hazardous drinkers, it was expected that this would also reduce the likelihood of alcohol-related problems occurring during this time.

METHODS AND PROCEDURES

This section describes the experimental design and procedures employed by the Mexico City collaborating centre. Additional information about the assessment procedures, eligibility criteria, intervention techniques and training of the health advisers is provided in greater detail in Chapter 3 of this report. Information about the definition of primary and secondary outcome variables is provided in Chapter 4.

Study Site, Screening and Recruitment

The study was carried out by the Mexican Institute of Psychiatry. The study took place in Mexico City at Clinic #10 belonging to the Mexican Institute of Social Security and in the General Hospital Dr Manuel Gea Gonzalez.

Clinic #10 is located in the southern part of the city. It has 32 family medical offices, 4 dental offices, 5 emergency rooms, 6 preventive medicine offices, 2 social work offices, and one emergency ward with 7 beds. There are 277 technical personnel, including 71 physicians, 97 nurses, and 11 social workers.

Patients were recruited from the outpatient ward of the Clinic, either from the clinical record files or from the patients’ waiting room. Recruitment was conducted in two steps. First, the Health and Lifestyle (Screening) Questionnaire was given. If the individual was eligible then the WHO Composite Interview was given.

Because we were not able to recruit the number of patients that had been planned for the project, it was necessary to find another place for recruitment. After a careful investigation a general hospital was chosen because the Mexican Institute of Psychiatry had finished an epidemiological study showing that the frequency of alcohol abuse was high in the patient population.

The hospital serves a large population that comes from all over the city and even from different parts of the country because it is prestigious and well known. But most of the patients come from the proximate areas. It is supported directly by the Ministry of Health. It deals mainly with patients of low socioeconomic class.

Screening took place in the outpatient clinic and in the hospital wards. The emergency room was not used because of the difficulties anticipated with the follow-up, since not all emergency patients are registered in the hospital.
At the hospital site social workers helped with the recruitment of patients. In order to improve the process, a training course was given to familiarize them with the research project, and to use the screening interview. The course was quite successful. It was attended also by the head of the department of social work. She was so enthusiastic that after the course she became a health adviser.

In this way, an average of 15 screenings were performed daily between April 1987 and January 1988. Once a probable candidate was detected, a health adviser conducted the Composite Interview to confirm his eligibility for the study. Hospitalized patients were interviewed in the general surgery and orthopaedic wards.

A total of 2,319 patients were screened, 1,748 at the clinic and 571 at the hospital. A total of 244 patients were considered eligible, 84% from the clinic and 16% from the hospital. Only seven women were eligible according to the local selection criteria. After applying the Coordinating Centre's universal selection criteria, 196 male patients were included in the final study sample, the others being excluded either because they drank too much or too little.

Research Design

At the time they were recruited into the study, patients were told that they were participating in a general health survey being conducted by the World Health Organization. It was explained that the information would be used to plan better health services in different countries and that all information would be kept strictly confidential. Patients were then interviewed for 20 minutes using the WHO Composite Interview Schedule, which asked about various health risk factors (including nutritional habits, smoking, exercise, sleep, and drinking behaviour). Following the interview patients were randomly assigned to one of six conditions: 1) a control group that received no therapeutic intervention after the Composite Interview; 2) a control group that received 20 minutes of general health counselling after the Composite Interview; 3) a group that received five minutes of advice about hazardous drinking (Simple Advice condition); 4) a group that received Simple Advice plus 15 minutes of additional health counselling; 5) a group receiving five minutes of advice as well as 15 additional minutes of counselling about their drinking (Brief Counselling condition); and 6) a group that received the same intervention as the Brief Counselling condition in addition to three follow-up consultations (Extended Counselling condition). Thus, in addition to the four basic conditions, Mexico City included two additional groups to test the effect of general health counselling. Groups 2 and 4 were added to determine whether attention from the health adviser could exert an influence on the patient's drinking regardless of the specific content of the intervention. Thus, the two control groups (1 and 2) differed only in the amount of time the health adviser spent with the patient. Neither group received specific alcohol-related information. Similarly, groups 3 and 4 differed only in the additional health counselling given to Group 4. By comparing these four groups, it becomes possible to evaluate the additional effect of general health counselling on the patient's drinking behaviour.

At the completion of the Composite Interview, patients assigned to the two control groups (N=47) were thanked for their participation in the study and were asked to return for a follow-up interview in approximately six months. No information was provided about the specific purpose of the of the study, nor were they given any feedback about the potential hazards associated with their drinking.

Patients assigned to the Simple Advice conditions (N=57) were told at the end of the interview that, on the basis of the information provided, their drinking might place them at risk for a variety of alcohol-related problems. They were then given brochure ("A Guide to Sensible Drinking") that showed the proportions of alcoholics and heavy drinkers in the general population; illustrated the amounts of
alcohol contained in standard drinks of beer, wine and liquor; suggested what a sensible drinking limit was for men and women (no more than four standard drinks, five times per week for men; no more than three standard drinks four times a week for women); encouraged the patient to consider abstaining completely from alcohol under certain circumstances; and pointed out the health risks associated with heavy drinking.

Patients assigned to the Brief Counselling condition (N = 22) were first given the Guide to Sensitive Drinking and exposed to the same five minute intervention as the Simple Advice group. They were then given a 26-page "problem solving" manual ("How to Prevent Alcohol-Related Problems") that described a self-management procedure to reduce alcohol-consumption and avoid alcohol-related problems. The health adviser explained that the manual could be used to develop a "habit breaking plan" that would assist the patient to achieve the sensible drinking goals described in the sensible drinking leaflet. The health adviser introduced the manual by reviewing sections that required the patient to choose a drinking goal (i.e. stop drinking or drink sensibly), identify reasons for cutting down, describe high risk drinking situations, develop procedures for coping with these situations, and identify other activities that could substitute for drinking. At the end of the counselling session the patient was encouraged to record the habit breaking plan in the back of the manual and to identify a helper, such as a spouse or friend, who could assist the patient to adhere to the plan. An additional 19 patients were assigned to the Extended Counselling group that was asked to return for three counselling sessions in the six months following the initial intervention.

Patients assigned to each of the conditions concluded the session by completing a brief self-report inventory (the Health and Daily Living Questionnaire) that was designed to measure self-confidence, global depression, typical coping responses to problems, and the patient's perception of the health adviser.

At the end of the session all patients were asked to return in six months for a follow-up interview. At that time a revised version of the WHO Composite interview was administered in addition to several self-report questionnaires. During the interview the alcohol dipstick was employed to test for recent alcohol consumption and to emphasize to the patient the importance of providing accurate information about their drinking behaviour.

Follow-up Procedures

Of the 196 patients meeting the study's eligibility and inclusion criteria, 145 (74%) were interviewed at follow-up. The average time to follow-up interviews was 7.4 months. Twenty-five interviews were conducted by telephone. Forty-six patients were lost, and four died.

Problems Encountered

Two strategies were used for the screening of patients: a waiting room survey and routine screening. In spite of having sensitized the medical staff of the clinic about the referral of eligible patients, we did not get a positive response from them. In addition, some patients were reluctant to participate in the screening. We also tried to recruit inpatients in the medical and surgery wards of the General Hospital. However, this was not feasible because of the severity of their illness.

Although we screened 594 female patients, it was only possible to recruit seven women. The rest did not satisfy the inclusion criteria and two eligible women did not want to participate. The same phenomenon has been experienced in other Mexican surveys across different socioeconomic strata.
Possible explanations for the difficulties in the recruitment of Mexican women are: a) only a small proportion of them drink alcohol; b) drinking behaviour is not socially acceptable, c) the women who drink tend to deny it; and d) the screening procedures applied in this study may not be suitable for Mexican women.

Although we tried to recruit patients of all ages, most patients were in the younger age group. This situation may be explained by the population pyramid of Mexico, where more than the 50% of the population is under 25 years of age.

With other patients the problem was illiteracy. They were unable to read the screening questionnaire. Other important groups were not eligible because of their drinking problems. We found a large proportion of drinkers with dependence. Other patients were initially included but were subsequently excluded by the Coordinating Centre because they were found to be drinking extremely high or very low amounts (see Chapter 3).

After a year and a half of recruiting patients at Clinic 10, it was necessary to find another study site. Therefore, we initiated the research in the general hospital.

It was not feasible to conduct extended counselling sessions because most of the patients were reluctant to be re-interviewed several times. We made a lot of effort to overcome this situation but it was impossible to resolve it. So we abandoned the booster groups.

RESULTS

Before conducting the analyses, patients assigned to the six study conditions were compared on demographic characteristics and drinking behaviour at intake. No differences were found between groups in age, socioeconomic status, average daily consumption, intensity of drinking, and days abstinent. However, there were significant differences on measures of recent problems and concern expressed by others. In both cases patients assigned to the Brief Counselling condition tended to score higher than the other groups. These differences should be taken into account when interpreting the findings.

The initial data analysis compared the two control groups (one with and one without general health counselling) with the two simple advice groups (one with and one without general health counselling) in a 2 x 2 factorial design. Repeated measures ANOVA on six outcome measures failed to show any differences between groups attributable to the additional general health counselling. In subsequent analyses the health counselling control group has been combined with the standard control group, and the health counselling Simple Advice group has been combined with the regular simple advice group.

Table 9.1 presents group means for the two primary and four secondary outcome measures assessed before and after the intervention. The table indicates that there were significant changes over time reported for all outcome measures. As illustrated in Figures 9.1 and 9.2, the reductions in average consumption and intensity of drinking were somewhat greater in the intervention groups but the interaction effect did not achieve statistical significance (Table 9.1). Because the control group changed almost as much as the intervention groups, we cannot attribute the changes in average consumption and intensity of drinking solely to the effect of the interventions. Nevertheless, there was a significant interaction effect for days drinking ($F = 3.93, p < .05$), which declined approximately two days in the control group and approximately four days a month in the intervention groups.
Changes were also observed over time in measures of alcohol-related problems, concern expressed by others, and dependence symptoms. Because there was no time by condition interaction effect, these changes cannot be attributed to the effects of the intervention.

DISCUSSION

The results of the Mexico City centre's participation in the WHO collaborative study should be interpreted in light of the drinking patterns in Mexico, the results of the other centres, and the importance of integrating secondary prevention into the primary care setting.

First, the results indicate that there was a significant reduction in average alcohol consumption, intensity of drinking, days drinking, concern expressed by others, alcohol-related problems, and dependence symptoms in both the intervention groups and the control groups. Although there was some evidence that the number of drinking days changed more in the intervention groups than the controls, in general there was no clear indication that the intervention per se was responsible for the change in alcohol consumption or alcohol-related consequences. Several factors, discussed in greater detail in Chapter 16, may account for these findings.

It is conceivable that patients at follow-up gave reports of reduced drinking to please the investigators. This is possible but unlikely because of the use of the alcohol dipstick and other validity enhancement techniques that should have motivated patients to answer accurately. Another explanation is regression to the mean. Because these patients were selected on the basis of recent heavy drinking, it is possible that they were merely returning to their average consumption six months later. Yet another explanation is the possible influence of participation in a WHO study on these patients. The attention the control group received from the research team may have been as powerful as the simple advice and brief counselling in motivating patients to reduce their drinking. Another factor common to patients in all conditions was their use of medical services at the time of the intervention. Conceivably, their recent illness, which in many cases may have been alcohol-related, could have led to a reduction in drinking regardless of the intervention.

Despite the possibility that the results could have been caused by chance fluctuations in drinking or by factors not related to the intervention, the overall study findings, reported in Chapter 16, indicate that the study interventions produced a significant reduction in alcohol consumption and alcohol-related problems. This implies that the lack of differences between the control and intervention groups may have been the result of inadequate statistical power. If this is true, then the reduction in drinking observed in the Mexico City sample is impressive, given the hazardous levels being consumed and the problems associated with drinking.

As discussed at the beginning of this report, a large number of medical and social problems are typically present in heavy drinkers. Many drinkers, without being alcoholics, have important health and social problems related to their drinking. In Mexico these problems are often related to acute episodes of intoxication, such as accidents and acts of violence. It is essential to take these different types of drinkers and the different medical and social problems into account, both to obtain a proper diagnosis of the alcohol problem, and to make appropriate clinical decisions.

Heavy drinkers in Mexico appear to be responsive to environmental factors that can affect their drinking, including brief interventions at the primary care level. The results of this project suggest that the integration of brief intervention measures into routine practice at the primary care level should have a beneficial impact on health in Mexico.
REFERENCES


10. Mexican Psychiatry Institute, Alcohol Information and Documentation Center (1985).


APPENDIX

Funding and Administrative Support

Three funding sources supported the participation of the collaborating centre in Mexico City: 1) the Mexican Institute of Psychiatry; 2) a grant from the US National Institute on Alcohol Abuse and Alcoholism (RO1AA06558), which was administered through the University of Connecticut (USA); and 3) a grant from the National Council of Science and Technology of Mexico.

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Besides these personnel, there were 14 social workers and two secretaries from the General Hospital who participated in patient recruitment.
# Table 9.1

Changes in Alcohol Consumption and Alcohol-related Problems According to Experimental Condition: Mexico City, Mexico

<table>
<thead>
<tr>
<th>Variable</th>
<th>Means for Conditions</th>
<th>F Statistics</th>
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<tbody>
<tr>
<td></td>
<td>Control (N=47)</td>
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<tr>
<td>Average CL ETOH(^a)</td>
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<td>Intensity CL/day(^b)</td>
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<td></td>
<td>AFTER 3.20</td>
<td>2.91</td>
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</tbody>
</table>

*** p < .001  
** p < .01  
* p < .05

\(^a\) Average daily alcohol consumption during a typical month in centilitres absolute alcohol.  
\(^b\) Average amount absolute alcohol (in centilitres) consumed on a typical drinking day.
Figure 9.1 Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

Mexico City, Mexico

- Control (N=47)
- Simple Advice (N=57)
- Brief Counselling (N=22)
- Extended Counselling (N=19)

Average CLETOH

Before

After
Figure 9.2  Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e. Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

Mexico City, Mexico

Control  Simple Advice  Brief Counselling  Extended Counselling

(N=47)  (N=57)  (N=22)  (N=19)

Before  After

Intensity

ClEtOH

0  2  4  6  8  10  12  14  16  18
Chapter 10

BERGEN, NORWAY

A. Skutle

INTRODUCTION

With a population of 4.2 million, Norway is a sparsely populated country located on the northwest perimeter of Europe. The health and social welfare system is well developed, and the economic climate is rather stable. The site of the present investigation is Bergen (population 207,000), an important coastal city noted for its fishing industry and petroleum products.

Drinking Patterns in Norway

The Norwegian drinking pattern is characterized by relatively infrequent drinking of distilled spirits, such as aquavit. Thus, a greater amount of alcohol is consumed when Norwegians drink, especially on festive occasions. An old Norwegian saying goes: 'God have mercy on those on whom God's gifts have no effect'.

As a result of the stream of Norwegian tourists to countries in the south, a more continental drinking pattern has been adopted during the last 10-15 years. In many families mineral water has been replaced by wine at the main meals, in particular on weekends. Unfortunately, frequent drinking of low alcohol-content beverages has been added to the former drinking pattern, not replaced it. Due to this there is a small increase in the total alcohol consumption in Norway.

Drinking on the job or with lunch, however, is not accepted, nor is it proper to have a drink on the way home from work. Most drinking takes place in private homes at leisure time. Drinking in private homes represents approximately 80-85% of the total alcohol consumption. All kinds of alcoholic beverages are sold at restaurants, but the prices are quite high compared to most Western countries. This is also true with regard to the alcoholic beverages sold at the State Monopoly of Wine and Spirits. Beer is sold at local shops with a special license given by the local authority in the municipalities. The high prices and the reduced availability of alcohol have proved to be effective methods of primary prevention. In the larger cities, however, with many restaurants and pubs, the high prices do not seem to be a barrier for binge drinking among certain groups of people, especially youngsters.

A survey taken in 1985 showed that 84% of the Norwegian population consumed alcohol during the previous year. No sex differences were observed. 73% had drunk beer, 72% wine and 74% liquor. Almost half of the liquor drinkers reported that they had drunk illicitly distilled liquor the previous year. Beer is the beverage most frequently drunk, followed by liquor and wine. The mean consumption per drinking occasion is 4.2 cl pure alcohol for beer, 4.4 cl for wine and 6.6 cl for liquor. The mean consumption per adult in 1985, including the unrecorded consumption, is approximately 7 litres of pure alcohol.

Among the alcohol consumers, 10% drank 45% of the total amount consumed, while 50% drank only 9% of the total. Due to the low annual consumption, there are relatively few heavy alcohol consumers in Norway compared to other European countries like France.
Women drink 29% of the alcohol. They consume rather small amounts of beer and liquor, but they drink as much wine as men. Alcohol consumption has its peak around 20 to 25 years of age in both sexes, and gradually drops as age increases. There is a shift in alcoholic beverages during a lifetime from mostly beer in the younger age groups to more liquor when passing 50 years of age. After that age the total annual alcohol consumption is only one third of that consumed by younger age groups. Middle age represents a peak in the frequency of drinking.

In addition to sex and age there are several other factors that influence peoples' alcohol consumption, such as income, level of education and degree of urbanization. Persons with a high income, a high level of education and those living in larger cities contribute disproportionately to the per capita alcohol consumption.

Compared to most Western countries, the annual alcohol consumption in Norway is relatively low. High prices and limited availability contribute to the low consumption level. However, compared to prices in the 1950s, current prices are low after adjusting for inflation. Alcoholic beverages are also more easily available today than before. Since the 1950s there has been a high degree of urbanization, and more people have a higher education. These factors should have resulted in a dramatic increase in alcohol consumption, but that has not happened. Annual alcohol consumption in Norway since 1950 has almost doubled, but compared to other European countries this increase has been quite modest. However, there has been a considerable increase in the negative health-related consequences stemming from chronic alcohol abuse and especially acute intoxication.

Alcohol-related Problems

From a secondary prevention perspective, moderate alcohol consumers are an important target group because of their risk of becoming involved in accidents when under the influence of alcohol. On an individual basis heavy consumers are more at risk than moderate drinkers. But due to the fact that moderate consumers constitute the majority, negative consequences of their drinking are considerable from a national perspective.

Alcohol is involved in at least 35% of the violent deaths in Norway, especially with respect to crimes of violence, alcohol poisoning, drownings, suicides, falls, and motor vehicle accidents. In most of these cases alcohol seems to be a significant causal factor, and the victims are often young people. The typical Norwegian drinking pattern, infrequent and heavy drinking, is an important reason for violent deaths.

It is estimated that 60,000 alcohol-related accidents occur each year in Norway. In more than one third of the violent deaths, alcohol is a significant factor. The annual number of alcohol-related violent deaths exceeds one thousand.

In addition to the problems resulting from acute intoxication, the social, psychological and medical problems from chronic abuse represent a major public health problem. Among the most frequent medical problems are cancer of the pancreas and liver cirrhosis. Compared to countries with a higher per capita consumption, however, these medical problems have a relatively low incidence in Norway. The major alcohol problems in Norway may well be the psychosocial consequences of alcohol intoxication, in combination with accidents.

Defining groups at risk for developing alcohol-related problems is to some extent based upon local cultural norms for drinking: e.g. drinking levels, the drinking behaviour, consequences from drinking
and degree of dependence on alcohol. Groups frequently referred to as "populations at risk" are general hospital patients (especially those with disorders associated with problem drinking), persons who attempt suicide, psychiatric patients and persons attending emergency services. Identification and recruitment of these patient populations requires that screening be conducted in a diversity of recruitment settings, e.g., medical and psychiatric hospitals and outpatient units. A common underlying objective in most secondary prevention programmes has been to prevent early-stage problem drinking from developing into more severe alcohol dependence. However, there is another group at risk that has not received much attention within the secondary prevention area. This group is represented by binge drinkers who are not seriously dependent on alcohol.

Concerning the first group at risk, often referred to as early-stage problem drinkers, it is important to have knowledge about prognostic factors. Who will be a permanent problem drinker, and who will develop more severe alcohol dependence? Many early-stage problem drinkers will probably be able to return to less harmful drinking on their own without professional help. How many, and from which stage of their drinking career, is uncertain. The development of alcohol dependence is not gradual, but rather an intermittent process involving heavy drinking episodes interrupted by abstinent periods. This makes predictions of future drinking very difficult.

A neglected and probably much larger group at risk is composed of persons who combine heavy drinking with some kind of risk behaviour, e.g. driving, or swimming. From a national perspective the negative consequences, as already outlined, are significant. There is probably a large overlap between the two risk groups. This definition of groups at risk emphasizes the need for focusing on the alcohol user, dependent or not, and especially alcohol users prone to accidents and injuries.

Management of Alcohol-related Problems

The issues of alcohol and drinking have always been actively debated in Norway, as seen in the conflict of interest between a public health perspective and a liberal alcohol policy. Historically, temperance organizations have had, and in certain groups still have, a strong influence on peoples' attitudes towards alcohol, as well as on the official alcohol policy in Norway.

The National Directorate for the Prevention of Alcohol and Drug Problems is the coordinator of the preventive efforts against the alcohol and drug problems on a national basis. The municipalities have their own sobriety boards sponsoring local campaigns and initiatives concerning prevention. Public campaigns against alcohol and drug problems have a strong tradition in Norway, and they are almost regarded as national symbols (together with our fjords and rucksacks). Since the start of the WHO collaborative study public campaigns have been infrequent. They have probably had no influence on the drinking habits of the sample during the present study.

Compared to other European countries, Norway has very strict laws with regard to drunk driving. In June, 1988, the Norwegian law on drinking and driving was changed. The present punishment for driving with a blood alcohol concentration from 0.05 to 0.1 is a fine and suspended prison sentence. BACs above 0.15 result in an obligatory combination of a fine and unconditional imprisonment.

The main responsibility for managing Norwegian treatment facilities is exercised by the county. In Norway there are approximately 25,000 admittances to various treatment institutions annually. The mean length of hospitalization is 32.7 days. Admittance to public treatment facilities is free of charge. Recently there has been a growth of private institutions for persons with alcohol problems, which charge substantial sums of money for a four week stay.
The number of outpatient units has also been increasing. At some places the outpatient facilities are the responsibility of the municipality; in other places, they are managed by the county.

Traditionally, it has been "the disease of alcoholism" and the severely dependent person that have received most attention from health and social professionals. During the last few years, however, brief outpatient programmes for persons with minor alcohol problems have developed. The need for secondary preventive efforts has been emphasized. An important setting for secondary prevention is the primary health care service. Large groups of problem drinkers can be reached through their general practitioner who most Norwegians see once a year. More than 5% percent of the general practitioners' consultations are alcohol-related. However, there is a problem in establishing reliable diagnostic criteria and efficient treatment programmes.

Within the treatment area there is a trend toward the development of shorter and more intensive programmes followed by relapse prevention training. Emphasis is also put on the maintenance process, i.e., not only how to quit drinking, but also how to meet the daily risks of relapse and how to cope with them. The dominant treatment models in Norway are based upon social psychological and social learning theories. Private institutions are exceptions to this rule. They are strongly influenced by the principles of Alcoholics Anonymous.

Rationale for Study

Given the longstanding concern in Norway about the public health consequences of hazardous alcohol consumption, and the need for more effective secondary prevention measures in primary health care, the present project was initiated in order to evaluate brief intervention procedures directed at heavy drinkers who are not seriously dependent on alcohol. A major purpose of the study was to determine whether Simple Advice and Brief Counselling, delivered in the context of a single consultation by a health professional, would result in a significant reduction in the patient's drinking over a six month period. To the extent that the quantity and frequency of drinking can be reduced in hazardous drinkers, it was expected that this would also have an effect on the likelihood of alcohol-related problems occurring during this time.

METHODS AND PROCEDURES

This section describes the experimental procedures employed by the Bergen collaborating centre. Additional information about the experimental design, assessment procedures, eligibility criteria, intervention methods and training of health advisers is provided in greater detail in Chapter 3 of this report. Information pertaining to the definition of primary and secondary outcome measures is provided in Chapter 4.

Recruitment Settings and Methods

Subjects were recruited from four health centres and general practitioners' (GPs) offices located in different parts of Bergen, and from a work site and its Medical Department.

The method of recruitment within the health centres was a combination of waiting room survey and mail survey. After a brief introduction to the study and its purpose, the local nurse or GP handed out the screening questionnaire to non-emergency patients between 18 and 60 years of age. The majority of the questionnaires were answered at home. All questionnaires were returned directly to the principal investigator at the University of Bergen who was responsible for the selection of eligible subjects. The
screening period lasted from December 1985 to June 1986. A total of 1,797 questionnaires were administered from the health centres, and 1,130 questionnaires (62.8%) were returned by mail.

The recruitment method at the work-site was a mail survey. The questionnaires were sent out by the medical service to 1,657 employees, and 46.7% were returned to the principal investigator. The recruitment period lasted from February through March, 1987. Thus, a total of 3,454 questionnaires were administered in the Bergen study and 55.1% were returned.

The recruitment of subjects into the study was a difficult and time-consuming process. One hundred sixty-seven persons met one or more of the inclusion criteria (8.7% of the total sample of 1,903 persons). The majority were included on the basis of meeting the intoxication criterion: exceeding certain consumption levels on one drinking occasion. For various reasons 81 persons did not take part in the study. The major reason was not giving their consent to participate (N=36). Other reasons were not having time to participate, practical problems interfering with their appointment, being on vacation, and moving to another city (N=26). The remaining subjects (N=36) did not respond in spite of repeated reminders.

Other problems were encountered as well. One of the GPs who was engaged as a health adviser became seriously ill during the study. Therefore, seven eligible subjects had to be excluded from the study. For various reasons 12 subjects did not show up for the interview. Of the remaining 675 subjects who were interviewed and took part in the study, 12 were excluded because of the study wide exclusion criteria applied by the Coordinating Centre (see Chapter 3).

The Sample

There were 37 men and 15 women in the sample at the intake interview. The mean age of the subjects was 32.9 years, with a range from 20 to 62. The majority of the sample was below 30 years of age. Because of the small number of females at follow-up, only the data from the men are analyzed in this chapter. The women’s data have been combined with women’s data from other centres and are reported in Chapters 4 and 16.

In their responses to the Composite Interview questions about drinking behaviour, the male patients reported drinking an average of nine days per month. The beverage of choice was beer. The average amount of pure alcohol consumed per day during the previous six months was 3.2 centilitres, the equivalent of approximately two standard drinks. When the total amount of reported alcohol consumed is divided by the actual number of drinking days, these patients reported consuming approximately 12 centilitres of absolute alcohol per drinking day, or the equivalent of eight standard drinks.

Experimental Design

At the time they were recruited into the study, patients were told that they were participating in a general health survey being conducted by the World Health Organization. It was explained that the information would be used to plan better health services in different countries and that all information would be kept strictly confidential. Patients were then interviewed for 20 minutes using the WHO Composite Interview Schedule, which asked about various health risk factors (including nutritional habits, smoking, exercise, sleep, and drinking behaviour). Following the interview patients were randomly assigned to one of four conditions: 1) a Control group that received no therapeutic intervention; 2) a group that received five minutes of advice about hazardous drinking (Simple Advice condition); 3) a group receiving five minutes of advice as well as 15 additional minutes of counselling.
about their drinking (Brief Counselling condition); and 4) a group that received the Advice, Brief Counselling and three follow-up visits to monitor progress (Extended Counselling). This latter condition was only conducted at the health centres.

At the completion of the Composite Interview, patients assigned to the Control group (N=11) were thanked for their participation in the study and were asked to return for a follow-up interview in approximately six months. No information was provided about the specific purpose of the study, nor were they given any feedback about the potential hazards associated with their drinking.

Patients assigned to the Simple Advice condition (N=5) were told at the end of the interview that, on the basis of the information provided, their drinking might place them at risk for a variety of alcohol-related problems. They were then given an illustrated brochure ("A Guide to Sensible Drinking") that showed the proportions of alcoholics and heavy drinkers in the general population; illustrated the amounts of alcohol contained in standard drinks of beer, wine and liquor; encouraged the patient to consider abstaining completely from alcohol under certain conditions; and pointed out the health risks associated with heavy drinking.

The Norwegian pamphlet for the Simple Advice condition did not suggest a specific sensible drinking limit. This section was replaced by information about mean consumption levels in Norway. This was introduced with the following explanation. "It is difficult to give a clear definition of use and abuse of alcohol. However, the more you drink, the greater chance for experiencing problems related to drinking. Most Norwegian men drink less than 12 alcohol units per week, and most women less than 4."

Patients assigned to the Brief Counselling condition (N=9) were first given the Guide to Sensible Drinking and exposed to the same five minute intervention as the Simple Advice group. They were then given a 26-page "problem solving" manual ("How to Prevent Alcohol-Related Problems") that described a self-management procedure to reduce alcohol-consumption and avoid alcohol-related problems. The health adviser explained that the manual could be used to develop a "habit breaking plan" that would assist the patient to achieve the sensible drinking goals described in the leaflet. The health adviser introduced the manual by reviewing sections that required the patient to choose a drinking goal (i.e., stop drinking or drink sensibly), identify reasons for cutting down, describe high risk drinking situations, develop procedures for coping with these situations, and identify other activities that could substitute for drinking. At the end of the counselling session the patient was encouraged to record the habit breaking plan in the back of the manual and to identify a helper, such as a spouse or friend, who could assist the patient to adhere to the plan.

Patients assigned to the Extended Counselling condition (N=5) were given the same intervention as patients in the Brief Counselling condition. In addition, they were told that they should return for a review of their progress on three occasions during the next six months.

Patients assigned to each of the conditions concluded the session by completing a brief self-report inventory (the Health and Daily Living Questionnaire) that was designed to measure self-confidence, global depression, typical coping responses to problems, and the patient's perception of the health adviser.

At the end of the session all patients were asked to return in six months for a follow-up interview. At that time a revised version of the WHO Composite interview was administered in addition to several self-report questionnaires.
Health Advisers

The health advisers at the health centres were four general practitioners, all males between the age of 30 and 40. At the work-site Medical Department, two nurses and one psychologist were the health advisers, all females between 30 and 50 years of age. All of the health advisers had participated in a two day training programme at the University of Bergen developed especially for the purpose of the study.

Problems with Implementing Study

As outlined above, the recruitment of subjects for the study was a difficult process. The turnover rate of patients at the health centres was much lower than anticipated, and therefore the total population from which the sample should be selected was limited.

In order to increase the number of available subjects, a work site recruitment setting was chosen. This new source recruitment made it possible to double the number of eligible subjects for the study.

The recruitment of subjects at the work site also encountered problems. Some employees viewed this kind of research with a reserved or sceptical attitude. This may have to do with the sensitive information that they were asked for, and the uncertainty with regard to what the information could be used for. Although the employees were assured that nobody at the worksite ever would receive any information about their participation in the study, except from the nurses at the medical ward who were engaged as health advisers, some of them were still sceptical. In contrast, management and the majority of the employees were very positive about taking part in this study.

Another problem was the heavy workload involved with implementing the study at the recruitment settings. Furthermore, when it was realized that the desired number of subjects in the four conditions could not be reached, the number of conditions were reduced from four at the health centres to three conditions at the work site. The excluded condition was Extended Counselling.

The health advisers raised objections to the length of the interview and the large number of questions. As the interview was part of a research project, a comprehensive assessment was necessary. In daily practice the interview could be cut down, making implementation of the programme much more feasible.

Follow-up Procedures

The follow-up interviews took place at the same setting where they met for the intake interview, the health centres and work site, respectively. The interviews were conducted by independent interviewers, who were especially trained graduate psychology students. The alcohol dipstick was not employed in the Norwegian study to test for recent alcohol consumption because of logistical problems. Of the 52 eligible subjects, 83% were met for the follow-up interview. The main reason for the drop-outs were not having the time and opportunity to meet again. This was especially the case for subjects from the health centres.

RESULTS

Before conducting the analyses, patients assigned to the three study conditions were compared on demographic characteristics and drinking behaviour at intake. No differences were found between groups in age, socioeconomic status, average daily consumption, intensity of drinking, and days
abstinent. However, there were significant differences on measures of recent problems and concern expressed by others. In both cases patients assigned to the Brief Counselling condition tended to score higher than the other groups. These differences should be taken into account when interpreting the findings.

Table 10.1 presents group means for the six drinking measures assessed before and after the intervention. Because of the small number of subjects in the Extended Counselling condition, these data were combined with the Brief Counselling condition in the analyses of variance (ANOVA). The ANOVA results indicate that there were no significant differences over time or across treatment conditions on any of the primary or secondary outcome measures. Figures 10.1 and 10.2 illustrate the changes in average daily consumption and the intensity of drinking for each group. The data show that while there were no statistically significant reductions in the drinking of patients exposed to the interventions, patients in the Brief Counselling group tended to show more change in the intensity of their drinking than those in the Control group.

DISCUSSION

Alcohol use in Norway has a signal property resulting in an expectancy of drinking as a "time-out" from daily stress and problems. Furthermore, in many drinking cultures and especially among youngsters, alcohol signals "fun-time", discharging them from individual responsibility when drinking. Heavy drinkers perceive alcohol as a "magic elixir" capable of transforming emotional states and relieving them from dysphoria, bad conscience and conflicted thoughts. Due to the deleterious effect of heavy drinking on memory storage, they frequently forget their negative experiences by drinking. Consequently, their ability to respond to the anticipated negative consequences from drinking is impaired. The "here-and-now" situation, when drinking and having fun, is more important than their fragmented memory of what happened "yesterday".

One of the greatest challenges for future secondary prevention efforts will be developing programmes relevant for persons at risk for alcohol problems. In this connection the issue of cultural norms for drinking and the cognitive mediating factors mentioned above are of great importance. Effective intervention programmes require culture-specific recruitment strategies and motivational approaches. In this way motivational problems should be analyzed prior to developing the intervention programmes themselves. In other words, outcome expectancies related to use of alcohol in different risk groups should be handled together with the development of the programmes concerning how to cope with risk situations for drinking. These issues may help to explain why the brief intervention procedures designed by WHO were apparently not effective in the settings tested in Norway.

The majority of subjects revealed a typical Norwegian drinking pattern: they met the intoxication criteria and not the weekly consumption criteria. The Brief Counselling procedure and problem-solving manual were regarded as too comprehensive and detailed, and more suited for persons with heavy weekly alcohol consumption with minor or moderate dependence problems than for the non-dependent binge-drinking persons. This objection raises the issue of developing a more culture-specific and differentiated counselling programme, including a programme more adjusted to the Norwegian drinking pattern.

The Simple Advice pamphlet was regarded as easier to handle because it was less time consuming and less comprehensive. But the response of subjects to the advice given by the health advisers was both positive and negative. Some subjects felt provoked by participating in the study, and refused to admit that they were drinking too much. On the contrary, they felt that they were drinking less than their
friends and what was seen as "normal" in their environment. This highlights the difficulty in overcoming the cultural norms for drinking and prevailing attitudes towards alcohol.

Questions designed to check the patient’s compliance with the health adviser’s recommendations indicated that most patients assigned to the intervention groups recalled receiving the leaflet, but few tried to reduce their drinking after reading it. Although most patients in the Brief Counselling group remembered receiving the problem solving manual, only 38.5% reported reading it entirely, and no patient followed the health adviser’s advice to recruit a helper or to use the diary cards.

On the other hand, some subjects received the pamphlet and the advice in a positive manner, and wanted to share them with their friends. The general impression has been that this study represents a positive and useful preventive effort in dealing with alcohol problems. The health advisers reported that their awareness about their clients’ alcohol problems increased, and that the training in interviewing and counselling had been of great value. Their participation as health advisers in the study has given them relevant experience in handling alcohol problems, which can benefit their future professional work.

A final consideration in the interpretation of these findings is the small sample size. The inability to meet the recommended recruitment goals may have decreased the likelihood of finding statistically significant differences among the study groups. As suggested by the results of the combined analyses presented in Chapter 16, the small trends observed in the Norwegian sample may not be readily interpretable unless a very large sample is studied. Thus while a conservative interpretation of these findings is that brief interventions were not effective in Norway, this conclusion should be tempered by the realization that a better test of brief intervention can occur only when these data are pooled with other samples.
APPENDIX

The project was funded by The Ministry of Health and Social Affairs in Norway (Sosialdepartementet). The project had administrative support from the University of Bergen, the Municipality of Bergen Health Department, and Bergen Postomrade. The principal investigator was engaged in the project part-time from the start in 1985. In 1987, a research assistant was engaged in a full time position, and four additional research assistants were involved in the study as part of the follow-up interviews. Seven health advisers participated in the study after being especially trained: Finn Markussen, M.D.; Knut Joso, M.D.; Jostein Buanes, M.D.; Sigurd Toft, M.D.; Signe Dahl and Margunn Duhle, both nurses, and Gurli Henriksen, psychologist. Among the health advisers were four general practitioners, one psychologist and two nurses.
Table 10.1  Changes in Alcohol Consumption and Alcohol-related Problems according to Experimental Condition: Bergen, Norway

<table>
<thead>
<tr>
<th>Variable</th>
<th>Means for Conditions</th>
<th>F Statistics</th>
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<tbody>
<tr>
<td></td>
<td>Control (N=11)</td>
<td>Simple Advice (N=5)</td>
</tr>
<tr>
<td>Average CL ETOH*</td>
<td>BEFORE 3.44 2.90 3.25 2.76 0.29 0.17 1.10</td>
<td>AFTER 3.69 3.47 2.57 2.13</td>
</tr>
<tr>
<td>Intensity CL/day**</td>
<td>BEFORE 11.87 11.10 12.82 13.24 0.21 0.84 1.01</td>
<td>AFTER 12.83 11.02 12.40 8.11</td>
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<tr>
<td>Days Drinking</td>
<td>BEFORE 9.55 8.60 9.00 9.00 0.33 0.17 1.36</td>
<td>AFTER 5.55 12.60 7.67 8.00</td>
</tr>
<tr>
<td>Problem Score</td>
<td>BEFORE 0.00 0.00 0.22 0.20 0.38 0.63 2.12</td>
<td>AFTER 0.18 0.00 0.00 0.00</td>
</tr>
<tr>
<td>Concern Score</td>
<td>BEFORE 0.82 0.40 0.67 0.20 0.57 3.70 0.35</td>
<td>AFTER 0.09 0.00 0.33 0.00</td>
</tr>
<tr>
<td>Dependence Score</td>
<td>BEFORE 3.64 2.00 2.44 1.80 1.11 4.09 0.40</td>
<td>AFTER 3.00 1.80 1.11 0.40</td>
</tr>
</tbody>
</table>

* Average daily alcohol consumption during a typical month in centilitres absolute alcohol.
** Average amount absolute alcohol (in centilitres) consumed on a typical drinking day.
Figure 10.1  Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

Bergen, Norway

(N=11)  (N=5)  (N=9)  (N=5)

Control  Simple Advice  Brief Counselling  Extended Counselling

Before  After

Average Amount

CL

ETOH

0  1  2  3  4
Figure 10.2  Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e., Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

Bergen, Norway

<table>
<thead>
<tr>
<th>Experiment</th>
<th>Before</th>
<th>After</th>
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<tbody>
<tr>
<td>Control</td>
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<tr>
<td>Simple Advice</td>
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<td>Brief Counselling</td>
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<tr>
<td>Extended Counselling</td>
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(N=11) (N=5) (N=9) (N=5)
Chapter 11

MOSCOW, USSR

N.N. Ivanets & M.I. Lukomskaya

INTRODUCTION

At the time this study was conducted, the former Union of Soviet Socialist Republics (USSR) was the largest country in the world. Stretching from Eastern Europe across North Asia to the Pacific Ocean, it covered one-sixth of the earth's land area. The most populous ethnic group, the Russians, accounted for 52% of the nation's population of 287 million. Rich in natural resources, the Russian economy is oriented toward heavy industry and agricultural production. Among its most important agricultural exports are vodka and wine. The site of the present study was Moscow, the capital city with a population of 8.7 million. Since the dissolution of the Soviet Union, Moscow now is the capital of the Russian Federation.

Drinking Patterns in the USSR

A study (1) of 4,241 persons showed that the consumption of alcoholic beverages in the USSR is in general close to what is described in the Anglo-Saxon literature. Most of the sample drank episodically, but in quantities sufficient to get drunk. The degree of "alcoholizations" on Saturdays and Sundays was several times higher than during the week ("end-of-week drunkenness"). Often spirits are consumed on pay day. Frequent consumption of alcoholic beverages over the whole week (delta or Stammtisch alcoholism) is not typical.

Men generally consume alcoholic beverages 2-3 times more frequently than women (1). The usual quantity of alcohol drunk by men on one occasion is twice that for women. This difference, with slight variations, is found among all age-groups. Alcohol consumption increases with age (up to 30-39 years) and then fairly quickly declines. The intensity of alcohol consumption reaches a maximum in the 30-39 age group. This was found among men and women consuming both habitual and maximum amounts of alcohol. The most frequently admitted motives for "alcoholization" among both men and women are to get into a better mood, to improve appetite and to socialize with friends, although these factors differ by sex. For men, the strongest motives are communication; for women, improvement of mood, and elimination of shyness. Motives such as "to improve appetite" and "to chat with friends" were found to increase with age.

The differences in drinking between various regions of the USSR are illustrated by the results of an inquiry among adults (over 18 years of age) in two fairly typical towns (2). According to the survey results, 9.3% of the sample consumed no alcohol at all, 27.5% drank alcoholic beverages very rarely (a few times a year), and 52.5% drank moderately. Finally, 11% of the respondents were categorized as abusing alcohol. The data showed that the consumption of alcoholic beverages among the male population, and especially among male workers, is considerably higher than in the general population. The proportion of abusers of alcohol among male workers is more than twice as high as the average (24.8%).

Vodka is still the preferred beverage in terms of quantities of 100% ethanol consumed, followed by beer. Vodka and brandy together account for almost three times as much alcohol consumption as
beer. Grape wine comes fairly closely after beer and only relatively small quantities of berry wine are consumed.

Production and sale of alcoholic beverages are under the control of the state. Recent statistics reveal a clear pattern of increase in availability between 1960 and 1980 and a considerable reduction in subsequent years, following the strong government-led programme against alcohol problems.

**Alcohol-related Problems in the USSR**

Alcohol abuse is linked with unfavourable disease morbidity trends in several population groups (3). In recent decades, such trends have included increases in mortality indices, especially among men of working age; a significant rise in the death rate among men compared with women between ages 15-49 years; and stabilization or, in certain regions, a decline in the average life expectancy among men.

In particular, a considerable increase was noted in deaths from accidental causes, trauma and poisonings. According to a study carried out by Kopit and Sidorov (3), a third of the deaths from these causes occurred among persons severely intoxicated by alcohol, about half from accidents connected with transport. Further down in the list of causes of death are disorders of the digestive system (primarily liver cirrhosis) and of the respiratory organs. About 60% of the alcohol abusers die before the age of 60 years.

In the 1980s there were about 60,000 traffic accidents each year linked with inebriety, in which 13,000-14,000 persons died and up to 60,000 were injured to various degrees (4). In 1986, 39,500 traffic accidents occurred in the country because of drunken driving, one in five involving death and injury.

A majority of cases of hooliganism, murders, and crimes, including infliction of severe bodily injury, occur in a state of alcoholic intoxication. Parasitism and a great number of mercenary offences are associated with drunkenness. Two-thirds of recidivists are in need of treatment for alcoholism (5). Studies of juvenile delinquents show that 80% of the offences committed were related to the use of alcohol.

Among other alcohol problems are the negative consequences to the family and the offspring. More than 40% of divorces are linked with inebriety of one of the spouses. In the last five years, the number of court proceedings for loss of parental rights increased by 35% (5).

In the mid-eighties, about 4.5 million cases of alcoholism were registered. According to data from medical narcologists, for every alcoholic patient registered in a narcological department, there are 3-4 unregistered alcoholics (6).

**Management of Alcohol-related Problems in the USSR**

There is still a major emphasis on the treatment of alcohol dependent persons, but since 1985 early identification and care have been given greater attention. Formerly, treatment of alcoholics took place mainly within psychiatric services, but in 1975 "narcological care" was reorganized as a separate service. The basic component is the "narcological dispensary". In each district, the tasks of these dispensaries are:
1) early detection and registration of alcoholic patients;
2) medico-diagnostic, consultative and psychoprophylactic care;
3) follow-up observations and care;
4) preventive activities in industrial enterprises, educational establishments, etc.; and
5) training of personnel.

The dispensary has a day centre with various therapeutic possibilities, including work therapy, and a night centre which can accommodate and treat patients, who go out to work in the daytime.

Local subsectors comprising a population of about 100,000 are staffed by a physician-narcologist and a feldsher. Industrial enterprises have a unit staffed by feldsher-narcologists who work under the supervision of the sector physician-narcologist.

There is also an expanding network of payed alcoholism treatment, which is anonymous, and clinics for the compulsory treatment of seriously affected alcoholics.

Extensive training is being made available for the development of services with highly qualified personnel. In 1987 the teaching of narcology as an independent speciality was included in the programme of all the medical institutes in the country. Moreover, a higher qualification for physician narcologists will be systematically pursued in specialized departments of regional institutions for the training of physicians and in the central narcology department based at the All-Union Research Center on Problems of Narcology. Since, 1988, a new scientific journal has been published under the title, "Problems of Narcology." This is designed to promote the professionalism of medical workers dealing with narcological problems.

Rationale for Study

In accordance with the study plan developed by the collaborating centres, the main objective of our investigation was to test the efficiency of the screening technique in identifying persons with harmful alcohol consumption and to develop intervention strategies to be used for the management of these patients in primary health care settings. A major purpose of the study was to determine whether simple advice, brief counselling, and periodic follow-up, delivered in primary care settings such as outpatient clinics and general hospitals, would result in a significant reduction in the patient's heavy drinking over a six month period. To the extent that the quantity and frequency of drinking can be reduced in hazardous drinkers, it was expected that this would also have an effect on the likelihood of alcohol-related problems occurring during this time.

METHODS AND PROCEDURE

This section describes the experimental procedures employed by the Moscow collaborating centre. Additional information about the experimental design, assessment procedures, eligibility criteria, intervention methods, and training of the health advisers is provided in greater in detail in Chapter 3 of this report. Information about the definition of primary and secondary outcome measures is provided in Chapter 4.

Screening and Recruitment

Screening, recruitment and implementation of the intervention were conducted between September, 1985 and July, 1987. The bulk of work was carried out at one of Moscow's outpatient clinics where
2,869 patients were screened. In addition, beginning in 1987, screening was performed in one of Moscow's general hospitals where 388 patients were interviewed. Thus, a total of 3,257 subjects were screened. Most of them were men (67%).

Three different recruitment procedures were used in the study. The first was routine screening widely used in the USSR during comprehensive preventive medical examination of workers and employees. The second was a waiting room survey among patients of the trauma department of an outpatient clinic. The third procedure was directed at inpatients with cardiovascular and pulmonary disorders who were screened just after their admission to the hospital.

The study sample was comprised entirely of men. We failed to identify women with harmful alcohol consumption, in part because of their small numbers in the population under study and in part because of cultural reasons. Women often conceal their drinking habits thus making screening techniques less effective with this population.

The information obtained from the screening questionnaire was reviewed according to the inclusion and exclusion criteria specified in the study protocol. In most cases, patients at risk were recruited by the intoxication criterion (i.e. they reported drinking more than 60 grams of absolute ethanol on a single occasion at least once a month). The frequency of drinking criterion was used in rare instances to select patients at risk. As a rule, regular daily consumption was exhibited by alcohol dependent persons. A reduced intoxication criterion was used for a relatively small number of patients.

The exclusion of persons who reported morning drinking and who had been referred to alcohol-related professional help permitted us to estimate the prevalence rate of persons with harmful alcohol consumption. This was 12.4% among male outpatients and 5.3% among male inpatients. The prevalence rate of persons with early stage problem drinking among inpatients was markedly lower due to a larger number of persons with severe alcohol dependence assessed by exclusion criteria. A total of 175 male patients were recruited into the study. Of these, 156 were found to meet the universal inclusion criteria used by the coordinating centre. A total sample of 114 patients with complete follow-up evaluations were available for analysis.

**Experimental Design**

At the time they were recruited into the study, patients were told that they were participating in a general health survey being conducted by the World Health Organization. It was explained that the information would be used to plan better health services in different countries and that all information would be kept strictly confidential. Patients were then interviewed for 20 minutes using the WHO Composite Interview Schedule, which asked about various health risk factors (including nutritional habits, smoking, exercise, sleep, and drinking behaviour). Following the interview patients were randomly assigned to one of four conditions: 1) a Control group that received no therapeutic intervention; 2) a group that received five minutes of advice about hazardous drinking (Simple Advice condition); 3) a group receiving five minutes of advice as well as 15 additional minutes of counselling about their drinking (Brief Counselling condition); and 4) a group that received the same intervention as the Brief Counselling condition in addition to three follow-up consultations (Extended Counselling condition).

At the completion of the Composite Interview, patients assigned to the Control group (N=26) were thanked for their participation in the study and were asked to return for a follow-up interview in
approximately six months. No information was provided about the specific purpose of the study, nor were they given any feedback about the potential hazards associated with their drinking.

Patients assigned to the Simple Advice condition (N=30) were told at the end of the interview that, on the basis of the information provided, their drinking might place them at risk for a variety of alcohol-related problems. They were then given a leaflet ("A Guide to Sensible Drinking") that showed the proportions of alcoholics and heavy drinkers in the general population; illustrated the amounts of alcohol contained in standard drinks of beer, wine and liquor; suggested what a sensible drinking limit was for men and women (no more than four standard drinks, five times per week for men; no more than three standard drinks four times a week for women); encouraged the patient to consider abstaining completely from alcohol under certain circumstances; and pointed out the health risks associated with heavy drinking.

The peculiarities of sociocultural traditions in the USSR required us to introduce some changes in the screening instrument and intervention procedure. The definition of a "standard drink" was presented in a more common and familiar format such as 20 g, 50 g, 100 g, 250 g, (or more) of vodka or equal doses of other alcoholic beverages.

The idea of a similar dose of standard drinks of different alcoholic beverages was introduced in the leaflet by the definition of absolute alcohol dose. A special part of the leaflet was called: "How to compare different alcoholic beverages". This used an example of an equally harmful dose of 2 bottles of beer and 100 g of vodka, as both contain equal amounts of absolute alcohol. In the part with recommendations for sensible drinking limits we mentioned 150 g of vodka or equal quantities of other alcoholic beverages, not to be consumed more than 2-3 times a week.

Patients assigned to the Brief Counselling condition (N=32) were first given the Guide to Sensible Drinking and exposed to the same five minute intervention as the Simple Advice group. They were then given a 26-page "problem solving" manual ("How to Prevent Alcohol-Related Problems") that described a self-management procedure to reduce alcohol-consumption and avoid alcohol-related problems. The health adviser explained that the manual could be used to develop a "habit breaking plan" that would assist the patient to achieve the sensible drinking goals described in the sensible drinking leaflet. The health adviser introduced the manual by reviewing sections that required the patient to choose a drinking goal (i.e. stop drinking or drink sensibly), identify reasons for cutting down, describe high risk drinking situations, develop procedures for coping with these situations, and identify other activities that could substitute for drinking. At the end of the counselling session the patient was encouraged to record the habit breaking plan in the back of the manual and to identify a helper, such as a spouse or friend, who could assist the patient to adhere to the plan. An additional 26 patients were assigned to the Extended Counselling group that was asked to return for three counselling sessions in the six months following the initial intervention.

Patients assigned to each of the conditions concluded the session by completing a brief self-report inventory (the Health and Daily Living Questionnaire) that was designed to measure self-confidence, global depression, typical coping responses to problems, and the patient's perception of the health adviser.

At the end of the session all patients were asked to return in six months for a follow-up interview. At that time a revised version of the WHO Composite interview was administered in addition to several self-report questionnaires. During the interview the alcohol dipstick was employed to test for recent
alcohol consumption and to emphasize to the patient the importance of providing accurate information about drinking behaviour.

Description of Study Sample

The WHO Composite Interview Schedule data revealed some common characteristics of the patient samples at the time of screening. Temporary working disability due to illness was exhibited by 35% of the patients under study. All of them were employed. Subjects with secondary education and manual or skilled labour occupations predominated in the sample. Subjects with higher education and superior professional training comprised less than 10% of the sample. Most of the patients (82%) were married and lived with their families. They characterized their state of health as good or satisfactory. Their drinking was not accompanied by withdrawal symptoms; they denied hand tremor connected with drinking. Most of them reported some family and work troubles related to alcohol consumption; only 16% of patients denied any alcohol problems. The average age of the eligible patients was 38 years.

In their responses to the Composite Interview questions about drinking behaviour, these patients reported drinking an average of 9 days per month. The beverage of choice was vodka. The average amount of pure alcohol consumed per day during the previous six months was 3.1 centilitres, the equivalent of approximately two standard drinks. These patients reported consuming approximately 10.3 centilitres of absolute alcohol per drinking day, or the equivalent of seven standard drinks.

Follow-up Procedures

The follow-up interview was completed an average of 18.9 months after the patients were exposed to the intervention. During the follow-up period 10% of patients were referred to a narcologist because of their social problems (for instance, work situation). Twelve percent of the patients underwent inpatient treatment for various somatic disorders and fractures.

We started the follow-up study in March, 1987, when the translation and adaptation of the final version of the WHO working documents and the development of coding forms for computer processing of primary data had been completed. One hundred fourteen of the eligible subjects (86% of the total number of patients recruited) were re-interviewed from March, 1987, to April, 1988. The follow-up procedure was performed in two steps. The patients were first interviewed by a researcher (psychiatrist or psychologist) using the follow-up interview. Health advisers were rotated so that patients met a new person at a follow-up session who presented herself as a scientist. Personal contact with the patient during the interview was aimed at creating a favourable psychological atmosphere to minimize the effect of bias. Then the patient was asked to fill in the follow-up questionnaires. In translating the questionnaires into Russian, we tried to make them simple and understandable, stylistic features being taken into account while the general meaning of the questions was preserved. Special coding forms were made simple in order that the respondents could understand the task and do the work themselves. When they had difficulty reading or understanding the questions, the questionnaires were filled in by the interviewer. The interview lasted between 60 and 90 minutes which was rather tiring for the patients, many of whom displayed impatience and discontent. However, in most cases the session resulted in obtaining all necessary information.

It should be noted that the follow-up procedure was complicated by patients' unwillingness to be repeatedly interviewed about their drinking and other health habits. The researchers had already faced this problem in the Extended Counselling group where most patients in this condition missed the appointed visit. Only 12 patients came to the follow-up session (that was scheduled beforehand) after
the third mailed reminder. Twenty-two patients came after repeated telephone calls. Most of the patients were interviewed at the medical stations at their work. Interview by telephone was also employed as a last resort. It is interesting that an obvious opposition to being interviewed about their drinking behaviour was displayed by those patients whose subsequent attitude and evaluation of the intervention effect was quite positive. This tendency to resist the Extended Counselling visits was confirmed by the fact that, with the exception of three patients, the great majority were against frequent visits as a way of improving the programme.

The majority of patients (71%) completed the entire questionnaire battery at follow-up. Patients interviewed by telephone also gave the information necessary to fill in the Composite Interview and Health and Daily Living questionnaire (9%). The Short Telephone Follow-up Interview was used with 6% of patients.

In order to ensure that patients had been truthful in their answers, 95 family members (63%) were interviewed by telephone. The validity of the information was confirmed in 96% of these cases. This indicates that during the follow-up procedure a favourable psychological atmosphere for patients' cooperation was created. A discrepancy was only detected in isolated cases.

The major part of the sample (81%) was composed of patients whose follow-up evaluation was completed between one and 2.5 years after the intervention. The average duration of the follow-up period was 18.9 months.

The primary method for evaluating patients' changes in drinking behaviour was the assessment of their alcohol consumption during a "typical month". These data were obtained from subjects after using the dipstick for determining alcohol content in saliva. Patients were told that these tests would reveal information about their alcohol consumption over the last month. This highly impressed the patients and usually increased the validity of the self-report information.

Problems in Implementation

It should be noted that we failed to accomplish the Extended Counselling programme because of subjects' opposition to this kind of intervention. In their interview patients usually gave their consent to one visit in a month. However, only one patient did not miss the scheduled date. In most cases, appointments made with a mailed reminder or through other people were futile. Repeated telephone calls (3-4 times) rarely gave results. Only two out of 41 patients made all three monitoring visits, four subjects made two monitoring visits and three subjects one monitoring visit.

RESULTS

Before conducting the analyses, patients assigned to the three study conditions were compared on demographic characteristics and drinking behaviour at intake. No differences were found between groups in age, socioeconomic status, average daily consumption, intensity of drinking, days drinking, recent problems and concern expressed by others.

One set of analyses compared intake and follow-up measures across the three conditions using one-way Analysis of Variance (ANOVA) for repeated measures. A second set of analyses tested for differences between the Control and Intervention conditions after combining patients assigned to the Simple Advice, Brief Counselling and Extended Counselling conditions. This analysis was performed to answer the more general question of how much change in drinking behaviour could be attributed to
any type of intervention, regardless of its intensity. A more complete description of the statistical analyses and the measures employed is provided in Chapters 3 and 4.

Table 11.1 presents group means for the six drinking measures assessed before and after the intervention. The ANOVA results indicate that there was a significant reduction in all drinking measures except the problem score and dependence score at follow-up. Figures 11.1 and 11.2 illustrate the changes in average daily consumption and the intensity of drinking for each group. The data show that while there were major reductions in the drinking behaviour of patients exposed to Simple Advice as well as Brief Counselling, there was also a comparable change in the drinking behaviour of patients in the Control group. Nevertheless, patients in the combined intervention groups showed more change than those in the Control group. The predicted interaction effect was statistically significant for both typical consumption ($F = 7.3, p < .01$) and intensity of drinking ($F = 4.9, p < .05$), indicating that the intervention groups decreased their drinking more than the control group.

Table 11.2 summarizes information provided by patients at follow-up concerning their impressions of the study and how it affected their drinking behaviour. Consistent with the results presented in Table 11.1, most patients in each condition reported that their drinking decreased in the previous six months. When asked why it changed, more of the patients in the intervention conditions attributed the change to "information received from their participation in the project". Only 6.7% of the Control group believed that the study was responsible.

Questions designed to check the patient's compliance with the health adviser's recommendations indicated that most patients (94.1%) assigned to the intervention groups recalled receiving the leaflet, and most tried to reduce their drinking after reading it. Although most patients (82.4%) in the Brief Counselling group remembered receiving the problem solving manual, only 17.6% reported reading it entirely, and only 11.8% followed the health adviser's advice to recruit a helper. Nevertheless, more than half of the Brief Counselling group (58.8%) reported using the diary cards.

Patients were also asked whether the intervention had any influence on their health behaviour. The highest rate of positive assessment was exhibited by the Brief Counselling group: 65% of patients considered the intervention important for their health habits. Patients' impressions of the influence of Simple Advice and Extended Counselling were nearly the same.

Table 11.2 also shows the reasons cited for changing drinking behaviour: information received in the study, family situation, health, work situation, increasing price of alcoholic beverages, and decreased availability of alcohol. In most cases patients named several reasons for changing their drinking habits. About half of the subjects in both control and intervention groups said that they had reduced their alcohol consumption due to the increasing price and decreased availability of alcoholic beverages. About a quarter of the patients of both groups pointed to various family and work situations. A significant difference in motivation between the intervention and the control groups is reflected in their evaluation of the importance of their health improving and the significance of the information received in the study for reducing their alcohol consumption.

The information obtained by contacting family members was also taken into account in evaluating changes in alcohol consumption. Patients who did not change their alcohol consumption during the "typical month", as compared with the level registered by the intake interview, comprised 64% in the control group and 29% in the intervention group. These data indicate a significant difference between the control and the intervention groups when assessed by family members. Thus, the number of patients in the intervention group who considerably reduced their alcohol consumption (conditions 2, 3 and 4)
was 2.5 times as large as that in the control group. It is noteworthy that patients who stopped drinking (7%) or made it a rare event (7%) were found in the intervention group only.

DISCUSSION

Analysis of the follow-up data revealed marked changes in drinking behaviour of patients in the intervention groups as manifested by an actual reduction in their alcohol consumption. There was a two-fold increase in the percentage of the intervention group patients who changed their drinking habits compared to the control group.

It should be noted that the follow-up study was conducted just at the time when the "Resolution on Actions Taken to Overcome Drunkenness and Alcoholism" was made by the Soviet Government (May 1985). Certain social, economic, administrative, and legislative measures were directed to cut down production and sale of alcoholic beverages, to provide stricter control over alcohol consumption, and to encourage sobriety. This new national alcohol policy may have influenced the drinking habits of our patients as well. This should not be disregarded in estimating the effectiveness of individual interventions within the framework of the study.

The effectiveness of the intervention was evaluated on the basis of the patient’s opinion of the condition they were exposed to, the perceived influence of the patient’s participation in the study on his health habits, and assessment of changes in drinking behaviour. The comparison between the control and the intervention groups permits us to differentiate the effect of the new national alcohol policy from that of the interventions conducted within the framework of the study.

The patients' evaluation of the programme showed that it influenced health behaviour of 51% of the intervention group. Some subjects in the control group (21%) also reported a favourable influence of the study. They said that the interview had made them think about their harmful habits.

The majority of the patients said that they had changed their drinking habits during the follow-up period. Thus, 63% of the Control group said that they had changed their alcohol consumption when compared with the initial (intake) interview. This subjective evaluation differs insignificantly from that given by the patients of the intervention group, which exhibited a somewhat larger percentage of those who reported changing their drinking habits.

As indicated in the Methods section, there was strong opposition to active monitoring of drinking habits with few patients returning for the Extended Counselling sessions. The information received in the follow-up study indicates that the results of Extended Counselling are less pronounced than those of Brief Counselling irrespective of the identity of the counselling session in both groups. The perceived authoritarian behaviour of the specialist and the control he imposes over the subject's drinking habits are probably the reasons for the relative lack of success of this kind of intervention.

Questions asked at follow-up to evaluate the Sensible Drinking Leaflet and Problem-Solving Manual gave interesting results as well. The diagrams reproduced in the leaflet provided subjects with the concept of risk and the somatic disorders resulting from harmful alcohol consumption. They were also informed of the WHO recommendations on sensible drinking limits. The experience of the health advisers suggests that in most cases subjects took part in the dialogue readily and showed interest in information previously unknown to them. For instance, many were interested in the possibility of comparing harmful effects of beer or wine with vodka according to the amount of absolute alcohol in different volumes (a Russian interpretation of the standard "drink"). This information was often
impressive since many patients considered beer a non-alcoholic harmless beverage. Most of the patients involved in the follow-up study (93%) remembered receiving the leaflet. Half of them could describe what was meant by a risk group and reported attempts to cut down their drinking after receiving the advice in the leaflet. Only about a third of them could remember amounts and frequency of moderate alcohol consumption and reported reducing drinking to those limits. The most typical answer was: "I remember that my dose of vodka should be reduced, but I cannot remember the frequency of drinks". Others said: "It is better to drop it altogether rather than drinking a little". Such a response reflected the features of drinking habits in the risk group under study that were very much like those of the Scandinavian type of drinking, that is, infrequent consumption of excessive amounts of alcohol. The fact that patients could not remember sensible drinking limits recommended by the leaflet was not directly connected with changes in drinking behaviour. In the Brief Counselling group, where the intervention efficacy was the highest, the number of patients who remembered these doses was the smallest. It is worth noting that some patients who could not remember the sensible drinking limits succeeded in reducing their drinking to recommended doses.

Answers to other questionnaires administered to patients showed changes in reasons for drinking or not drinking among those who considerably reduced their alcohol consumption. They exhibited obviously stricter acceptable norms for heavy drinking and a reduced number of drinking situations. On the whole, the information received indicates a tendency toward a better understanding of harmful consequences of alcohol consumption in the intervention group. In other words, internal motivation for reducing alcohol consumption distinguished subjects who considerably changed their drinking behaviour from those of the control group who somewhat reduced drinking, perhaps because of outside restrictions. The typical answers provided by the patients in the intervention groups illustrate that changes in their drinking behaviour were closely associated with an internal locus of control and recognition of drinking as a problem. One patient said: "It was my own decision to give up drinking." Another reported: "I've decided to drop it for no good will come of it". Other patients stated that: "Once you've decided to give up drinking you need no doctor's advice."

Most patients remembered receiving the manual (88%). However, only half of them (54%) read it to the end. Only 16% named the major parts of the manual, and only 5 of them evaluated it as useful for their health habits. Only 3 subjects used their own habit-breaking plan and drinking diary cards, albeit for a short time. A total of 17% of patients reported that they cut down their drinking after receiving the advice in the manual. Others formulated their opinion of the manual as follows: "Once you have decided to give up drinking, no advice is needed". More sensitive and nervous patients with a higher education level displayed a keener interest in the manual.

The fact that most patients assessed the manual indifferently or negatively does not permit us to attribute the success attained in the Brief Counselling group to the informational aspect of the intervention. We think that it was the extra time given by the health adviser and the wider spectrum of alcohol-related problems discussed that produced a better effect on patients receiving Brief Counselling, in contrast to Simple Advice, and the absence of pressure imposed by the specialist on the patient, in contrast to Extended Counselling.

The effectiveness of the intervention during the follow-up period is closely associated with the new national alcohol policy in the USSR. The anti-drinking campaign and formal and informal restrictions imposed on alcohol consumption (for instance, concerns in the family and at work, and decreased availability of alcoholic beverages) seemed to prepare the patient to accept the individual advice of a health worker. The intimate dialogue between the specialist and the patient in a medical setting helped the latter to "crystallize" his decision to reduce alcohol consumption or cut off drinking entirely. Thus,
the patients often said: "It had been my own intention to reduce drinking. The talk to the doctor put an end to my doubts and made me cut off," or "At first I had not taken the doctor's advice. But after my alcohol-related conflicts at work I thought of it again, re-read the leaflet and tried to follow its recommendations"; or "I thought of giving up drinking for I was going to buy a car. And you, in addition, have intimidated me by the possibility of my health worsening". Indirectly, the intervention promoted the patient to perceive his alcohol problem and to cope with it.

In conclusion, the main reasons for the positive results obtained by the Moscow collaborating centre are: 1) we worked with early problem drinkers, patients without dependence; 2) we used as a basis the system of primary care, without labelling patients; 3) a new alcohol policy in the USSR with the emphasis on problem drinking; and 4) the mass-media campaign that provided a useful background for our interventions. The study demonstrates that routine screening permits health workers to identify male subjects with harmful alcohol consumption within the general health care network, and that it is expedient to conduct preventive work with these patients using an intervention strategy that takes into account the personality traits of the patient and conditions within a medical institution. The data indicate that the intervention strategies used for management of persons with harmful alcohol consumption in primary health care settings can be highly effective for many heavy drinkers.
REFERENCES


APPENDIX

Sponsorship and Administration

The All-Union Research Centre on Medico-biological Problems on Narcology is the collaborating centre responsible for implementing the World Health Organization project in the USSR.

Personnel

Professor N.N. Ivanets, Principal Investigator,
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A.M. Barinov, Psychiatrist, Health Adviser
E.S. Melnikova, Psychologist, Health Adviser
M.V. Gatieva, Health Worker
Table 11.1  Changes in Alcohol Consumption and Alcohol-related Problems According to Experimental Condition:
Moscow, USSR

<table>
<thead>
<tr>
<th>Variable</th>
<th>Means for Conditions</th>
<th>F Statistics</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Control (N=26)</td>
<td>Simple Advice (N=30)</td>
</tr>
<tr>
<td>Typical daily consumption</td>
<td>BEFORE</td>
<td>AFTER</td>
</tr>
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<td></td>
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<td>2.27</td>
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<tr>
<td>Intensity</td>
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<td>AFTER</td>
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<tr>
<td></td>
<td>10.00</td>
<td>9.00</td>
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<tr>
<td>Days Drinking</td>
<td>BEFORE</td>
<td>AFTER</td>
</tr>
<tr>
<td>Problem Score</td>
<td>BEFORE</td>
<td>AFTER</td>
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<td>2.27</td>
<td>1.27</td>
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*** p < .001
** p < .01
* p < .05
Table 11.2  Patients’ Responses (Percent Answering Positively) to Questions about their Participation in the Project:

Moscow, USSR

<table>
<thead>
<tr>
<th></th>
<th>Control (N=26)</th>
<th>Simple Advice (N=30)</th>
<th>Brief Counselling (N=32)</th>
<th>Extended Counselling (N=26)</th>
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</thead>
<tbody>
<tr>
<td>Did your drinking decrease in last 6 months?</td>
<td>63.3%</td>
<td>75.8%</td>
<td>91.2%</td>
<td>75.9%</td>
</tr>
<tr>
<td>Why did it change?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information received from project</td>
<td>6.7%</td>
<td>36.4%</td>
<td>64.7%</td>
<td>37.9%</td>
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<td>Family Situation</td>
<td>30.0</td>
<td>42.4</td>
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<td>Health</td>
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<td>36.4</td>
<td>38.2</td>
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<td>Work</td>
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<td>18.2</td>
<td>17.6</td>
<td>10.3</td>
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<tr>
<td>Other Reasons (decreased availability)</td>
<td>46.7</td>
<td>48.5</td>
<td>70.6</td>
<td>41.4</td>
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Figure 11.1 Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

Moscow, USSR

<table>
<thead>
<tr>
<th>Condition</th>
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<th>After</th>
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<td>2</td>
</tr>
<tr>
<td>Extended Counselling</td>
<td>1</td>
<td>2</td>
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</tbody>
</table>

(N=26) (N=30) (N=32) (N=25)

Legend: 
- Black: Before
- Grey: After
Figure 11.2 Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e. Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

Moscow, USSR

<table>
<thead>
<tr>
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<th>Simple Advice</th>
<th>Brief Counselling</th>
<th>Extended Counselling</th>
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<td><img src="image2" alt="Before" /></td>
<td><img src="image3" alt="Before" /></td>
<td><img src="image4" alt="Before" /></td>
</tr>
<tr>
<td>After (N=30)</td>
<td><img src="image1" alt="After" /></td>
<td><img src="image2" alt="After" /></td>
<td><img src="image3" alt="After" /></td>
<td><img src="image4" alt="After" /></td>
</tr>
<tr>
<td>After (N=32)</td>
<td><img src="image1" alt="After" /></td>
<td><img src="image2" alt="After" /></td>
<td><img src="image3" alt="After" /></td>
<td><img src="image4" alt="After" /></td>
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<tr>
<td>After (N=26)</td>
<td><img src="image1" alt="After" /></td>
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<td><img src="image3" alt="After" /></td>
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</tr>
</tbody>
</table>
Chapter 12

CARDIFF, UNITED KINGDOM

S. Rollnick, R.J. Hodgson, & S. Snail

INTRODUCTION

The United Kingdom of England, Scotland, Wales and Northern Ireland is an island nation of 57 million inhabitants located off the northwest coast of Europe. It has a cool, temperate, oceanic climate primarily due to the influence of the Gulf Stream. Great Britain's major occupations are manufacturing, trade and agriculture.

Cardiff is the beautiful capital of Wales, a country which has two main recreational pastimes, drinking and rugby, in that order. The emphasis on drinking in Welsh society inevitably results in a diversity of problems. This WHO project is asking the very important question: Can this be avoided?

Drinking Patterns in the United Kingdom

In contrast to many other countries in Europe, alcohol in the UK tends to be used in recreational settings as an end in itself. In other words, while the Italian, French, Greek, Spanish or Portuguese might drink with food or as an adjunct to social encounters, UK drinkers frequently go out with the specific intention to drink, the pub being the most commonly used outlet. There are obviously regional and class variations in drinking customs but the above generalization probably holds true nonetheless.

A second generalization about UK drinking customs is that, while drinking for the sake of it is normal custom, being drunk is not, with the exception of a small number of subgroups. Thus, someone stumbling around the street drunk is not regarded as normal, and is usually frowned upon.

A third generalization, markedly less true today than 50 years ago, is that heavy drinking in the UK has usually been concentrated in what has been termed the working class. In the 19th century and early twentieth centuries, pubs were mostly frequented by working people. For example, in Scotland, some of the existing rules governing behaviour in pubs were specifically designed to focus activity around drinking among working men: thus one is still not allowed to sing in some Scottish pubs. Heavy drinking was viewed as a morally dangerous activity which should not be encouraged through its association with other forms of recreation or family gatherings.

Although drinking patterns have changed over the years, the above generalizations provide some basis for understanding the way in which problem drinking manifests and is viewed by others in the UK.

Turning to drinking customs, it is probably most appropriate to describe the drinking practices and customs among the group at the highest risk - young men. Essentially, their drinking is a social affair, heavily influenced by peer pressure and peer group values. Among the most influential are notions that "having a good time" is usually only possible when drinking pints of beer - in rounds - in pubs; that drinking heavily is a sign of masculinity, and that alcohol-related casualties are, as with sports injuries, the understandable consequences of "having a good time". Weekend evenings are the times for going out and drinking. In some areas of the UK, for example, in the North of England and in South Wales, it is not at all uncommon for a group of male friends to drink 7-9 pints each on Friday night, 2-3 pints on Saturday lunchtime, 6-8 pints on Saturday night, 4-6 pints on Sunday, producing a weekend total of
at least 20 pints per person. Week days are usually times for recovery and lower consumption levels, but a weekly total of 30-40 pints (60-80 units) is not uncommon, and not regarded within the group as in any way abnormal.

If beer drinking is the beverage of choice among young men, it is also the choice among many other groups in the UK. Wine drinking is on the increase, as is, in more recent years, the consumption of low alcohol drinks among a small section of society. It is probably true to say that drinking in pubs is still the most popular form of recreation for most people in the UK, although it is also the case that more alcohol is purchased from supermarkets and off licences than from pubs.

Alcohol-related Problems

Alcohol problems in the UK, from the general public's point of view, have been associated with the term alcoholic. As in the United States, this dates back to the emergence of Alcoholics Anonymous and the disease concept of alcoholism from the 1940s onwards, culminating in the setting up of specialist units for alcoholism treatment in the 1960s and 1970s.

It would be unwise to simply restrict the understanding of alcohol problems to the term alcoholic and people labelled as such, important as it is in the development of treatment services. The general public, and particularly drinkers themselves, have considerable experience with problems caused by drinking. These are not confined to the relatively small number of people who are labelled as alcoholics. Much more common is the experience of knowing or coming across the person who is banned from driving, someone who has forgotten what happened the night before because of drinking, the young man who has to take the morning off work because of feeling bad after heavy drinking, or the person who appears to be "drinking too much for their own good".

These are common drink-related problems in the UK, but they are not necessarily viewed as such by all sectors of society, let alone labelled as symptoms of alcoholism, which they are usually not. The man who misses work because of drinking will not be regarded by his friends as "having a drinking problem", although he might be viewed this way by doctors or other groups in society. Many drink-related problems are viewed by many people as the natural consequence of recreation - not unlike a football injury. One does not necessarily play less football just because one has been injured. In general, the level of tolerance of drink-related problems in the UK is fairly high, although this varies a great deal across different groups.

The prevalence of drink-related problems in the UK falls in line with the general finding of other countries - that there is a clear correlation between levels of consumption and harm. The adult population in the UK drank about twice as much in 1984 as it did in 1950, and between this period the price of alcohol in real terms (i.e. related to disposable income) almost halved. In 1984, for example, the British population drank the equivalent of over 9 pints of beer per week for each individual over the age of 16. This represented 7.5% of all consumer expenditures and was more than that spent on clothing or on running cars (1).

Knowledge of drinking patterns in different groups in the UK is derived largely from consumer surveys, the results of which are currently viewed, for a range of reasons, as underestimates (2). Among the most important and consistent findings are that it is the young men who are most likely to drink heavily, that social class differences have tended to disappear over time, that clear correlations exist between consumption and type of occupation, that regional differences in consumption are most marked among young men, and that consumption levels are higher in Scotland, Wales and Northern England.
than in the south of the country (3). So too, sex differences in consumption levels are clearly significant, with a tendency for consumption among women to be on the increase. In 1980, 25% of males aged between 18 and 24 drank more than 36 standard drinks a week in England and Wales. For those between the ages of 35 and 44 years, this weekly figure was 16%. Among women, 10% drank more than 21 standard drinks per week among the 18-24 age group; among the 35-44 year group this figure was only 4% (3).

Although the link between alcohol consumption and harm is well-established, it is not refined enough to generate clear statements about the kind of problems caused by differing levels of consumption. Clinically, one of the difficulties facing general practitioners and other primary care workers is that simply drinking over 40 standard drinks a week is not always associated with identifiable alcohol-related harm in every case. Nevertheless, high levels of consumption are associated with a range of social problems (e.g. accidents at work, absenteeism, family conflict, road accidents, etc), psychological problems (e.g. concentration difficulties, panic attacks, insomnia, impotence) and physical problems (e.g. gastric disorders, gout, cardiomyopathy).

A useful conceptual distinction can be made among problems caused by dependence, intoxication and regular excessive drinking (4). Seen in this light, primary care workers in the UK are faced with a range of alcohol-related problems, caused by a range of factors, with young men in particular at high risk for developing alcohol-related disabilities.

Management of Alcohol-Related Problems

There are three settings in the Cardiff area for helping problem drinkers, in addition to the AA self-help fellowship. These are fairly representative of the kinds of management and formal treatment available to persons with alcohol problems in the UK. The first is a hospital-based in-patient unit. Based in a psychiatric hospital, this is typically staffed by consultant psychiatrists, nurses and social workers. The length of stay is 2–6 months. Support groups during the day and individual counselling are the main therapeutic interventions. A Day Hospital facility is attached for aftercare.

The second type of setting in Cardiff is a community-based 25-bedded hostel. The average stay is three months. Only limited "support" is available. A third approach to management is the Community Alcohol Team. In Cardiff this consists of 6 full-time staff and 17 volunteers. This team operates a counselling service as well as primary and secondary prevention programmes.

Against the background of public attitudes which endorse a disease concept of alcoholism, it is probably not unfair to say that, until fairly recently, a drinker had to hit "rock bottom" before services became available. The typical recipient of these services would usually encounter the agency in a state of crisis: the spouse who had reached the point of complete breakdown and helplessness and contacted the general practitioner, the person who entered a medical ward suffering from gastric or liver disorder who agreed to go for help after medical treatment, the drinker who finally decides to call Alcoholics Anonymous when he realizes that his drinking cannot continue.

A number of general points need to be made about the typical management of drinking problems in the UK in the 1960s and 1970s. Firstly, almost by definition, many drinkers running into serious difficulty with alcohol were "missed" by these services, due to a number of forces such as the stigma associated with being an alcoholic and the reluctance or inability of hospital and primary care personnel to identify and deal with drinkers in trouble. Less serious drinking problems were generally neglected. Secondly, treatment itself, although often appropriately involving the whole family, particularly in the
specialist hospital units, revolved around lifelong abstinence and the immediate impact of stopping drinking. After that, with the exception of AA, the drinker was often left to get on with life with much less involvement from the agency.

In the UK and to a much lesser degree in the USA, treatment services underwent a major shift in the 1980s which is still in evidence today. At its root was a conceptual shift: problem drinking was increasingly seen as affecting not just a few individuals labelled alcoholics, but as a much broader problem affecting many more people. Dependence itself was viewed as a continuum, not as an either/or diagnostic category, thus embracing people at all points on the continuum. People could also get into difficulty with alcohol in the absence of dependence as a result of episodes of intoxication or regular excessive drinking. Moderate drinking was viewed as a legitimate goal, not only abstinence.

In response to these conceptual shifts, many of which were underpinned by research and to some extent controversy, treatment services began to change. Among the most important developments have been the construction of community alcohol teams with a much wider brief - to counsel the large number of people who run into difficulty, and to train primary care workers to deal with problem drinking in the course of their everyday work. So too, many of the specialist units have closed down or minimized their inpatient facility and focused on outpatient or community-based work. Less well-developed, but growing in strength, and based upon recently-emerging research reports, are the hospital and general practitioner intervention programmes which follow the orientation and philosophy of the current WHO study. Doctors and nurses are in an ideal position to identify and counsel large numbers of excessive drinkers who enter their facilities and refer on more serious cases as appropriate.

Having described the recent changes in thinking and design of treatment services in the UK, it should also be noted that one further development appears to be moving in the opposite direction. Privately run hospitals, often based on the Minnesota Model - a traditional Twelve Step approach akin to the design of inpatient units of the 1960s - are growing in number. These have received considerable publicity in the UK and fall in line with the current Conservative Government policy of encouraging the development of private medical treatment facilities.

Rationale for Study

Given the growing concern in Wales about the public health consequences of hazardous alcohol consumption, and the need for more effective secondary prevention measures in primary health care, the present project was initiated in order to evaluate brief intervention procedures directed at heavy drinkers who are not seriously dependent on alcohol. A major purpose of the study was to determine whether simple advice and brief counselling, delivered in the context of a single consultation in a general hospital or clinic setting, would result in a significant reduction in the patient’s drinking over a six month period. To the extent that the quantity and frequency of drinking can be reduced in hazardous drinkers, it was expected that this would also have an effect on the likelihood of alcohol-related problems occurring during this time.

METHODS AND PROCEDURES

This section describes the procedures employed by the Cardiff collaborating centre. Additional information about the experimental design, assessment procedures, intervention techniques and statistical analyses is provided in Chapter 3 of this report. Information pertaining to the definition of primary and secondary outcome measures is provided in Chapter 4.
Study Sites and Catchment Population

The study was carried out at two types of health care facilities in the city and surrounding suburbs of Cardiff, which has a population of approximately 400,000. The first setting consisted of three community-based health centres in which family doctors (GPs) were based. Patients made appointments with the doctor of their choice for consultation. These usually lasted 10-15 minutes. The health centres, based in the centre of three respective suburbs, function as primary care facilities, i.e. offering routine medical and nursing care (including access to health visitors, chiropodists, midwives, dentists and psychologists) as well as referring patients to secondary level specialists in hospital settings. These services are provided free under the UK National Health Service. Although patients made their own appointments to see a doctor in these settings, the brief intervention study made use of mailed questionnaires for recruitment purposes, and not the spontaneous or opportunistic contact between doctor and patient.

The number of doctors in the three centres ranged from 4 in one small centre to 12 in another. Each doctor was responsible for approximately 400 patients. Staffing for the intervention study in this setting consisted of a clerk and a total of four practice nurses (as health advisers) employed in the health centres to conduct nursing and preventative work (e.g. cervical screening).

The sample of subjects recruited into the study covered the full range of social and economic status, with a bias in the larger health centre towards middle class socioeconomic status. Most of the subjects lived on housing estates on the outer edges of the city of Cardiff. Housing conditions varied, with about 30% living in council-owned housing, the remainder in owner-occupied housing.

The second recruitment setting consisted of general hospital medical wards. The study was conducted in two general hospitals at either end of the city. One, a large teaching hospital, contained four general medical wards which were the focus of recruitment. Each had 14-18 beds. Turnover was reasonably quick, with an average of 18 patients newly-admitted each week across the four wards. One of these had mostly dermatological patients who tended to stay for longer periods.

The second general hospital also had four general medical wards which served as the focus of recruitment, with a slightly faster turnover than the teaching hospital, averaging 21 new patients each week. By definition, the patient problems were of a general medical/diagnostic nature, although two of the wards had a clear orientation towards dealing with the immediate impact of myocardial infarction and related disorders.

The patient sample recruited in the hospital settings had a slight bias towards the lower end of the socioeconomic range. They varied considerably in disability. Some were very ill - too ill to participate - while others were more mobile and healthier.

Recruiting Method

In both the general practice setting and the general hospital setting recruitment was conducted through a self-completion Health and Fitness Questionnaire which was mailed to general practice patients and handed out personally to hospital patients. The number of subjects screened at the general practice settings was 3,467; 961 were screened in the general hospitals. In both settings, it must be noted, not every excessive drinker identified by screening subsequently became a subject in the study. Some were excluded because they were too ill, had received previous help for problem drinking, were drinking too much (probable alcohol dependency), or were found to be low consumers at interview, and so on.
Furthermore, as is the case in other studies of this kind (5,6), there is an inevitable problem of subject loss at various stages of the recruitment process. Thus, in the general practice setting, potential subjects were excluded because they failed to turn up for interview, and in the hospital setting, some excessive drinkers chose not to take part in the study.

Because of the personnel and budgetary problems noted below it was decided to limit the total subject number in the general hospital setting to 115, made up of 45 Controls, 45 Brief Counselling subjects, and 25 in the Simple Advice condition. The smaller number of Simple Advice subjects represents a compromise which allows a comparison between two conditions with at least 45 subjects in each, and which also allows tentative comparisons to be made with the smaller number of subjects in the Simple Advice Group.

Description of Study Sample

The patients who constitute the study sample had an average age of 44.2 years. They were primarily employed as skilled workers and unskilled labourers. No females were recruited. The majority of the male patients (58.8%) were married; 26.7% were single and 14.5% were separated or divorced.

In their responses to the Composite Interview questions about drinking behaviour, these patients reported drinking an average of 22.5 days per month. The beverage of choice was beer. The average amount of pure alcohol consumed per day during the previous six months was 8.1 centilitres, the equivalent of approximately five standard drinks. When the total amount of reported alcohol consumed is divided by the actual number of drinking days, these patients reported consuming approximately 11 centilitres of absolute alcohol per drinking occasion, or the equivalent of 6.6 standard drinks.

Experimental Design

At the time they were recruited into the study, patients were told that they were participating in a general health survey being conducted by the World Health Organization. It was explained that the information would be used to plan better health services in different countries and that all information would be kept strictly confidential. Patients were then interviewed for 20 minutes using the WHO Composite Interview Schedule, which asked about various health risk factors (including nutritional habits, smoking, exercise, sleep, and drinking behaviour). Following the interview patients were randomly assigned to one of three conditions: 1) a Control group that received no therapeutic intervention; 2) a group that received five minutes of advice about hazardous drinking (Simple Advice condition); and 3) a group receiving five minutes of advice as well as 15 additional minutes of counselling about their drinking (Brief Counselling condition). In the hospital setting this allocation was done in randomized blocks so as to avoid patients currently on the same ward being allocated to different groups. Cardiff also experimented with a "non-assessment" control condition in the general practice setting.

At the completion of the Composite Interview, patients assigned to the Control group were thanked for their participation in the study and were asked to return for a follow-up interview in approximately six months. No information was provided about the specific purpose of the study, nor were they given any feedback about the potential hazards associated with their drinking.

Patients assigned to the Simple Advice condition were told at the end of the interview that, on the basis of the information provided, their drinking might place them at risk for a variety of alcohol-related
problems. They were then given an illustrated brochure ("A Guide to Sensible Drinking") that showed the proportions of alcoholics and heavy drinkers in the general population; illustrated the amounts of alcohol contained in standard drinks of beer, wine and liquor; suggested what a sensible drinking limit was for men and women (no more than four standard drinks, five times per week for men; no more than three standard drinks, four times a week for women); encouraged the patient to consider abstaining completely from alcohol under certain circumstances; and pointed out the health risks associated with heavy drinking.

Patients assigned to the Brief Counselling condition were first given the Guide to Sensible Drinking and exposed to the same five minute intervention as the Simple Advice group. They were then given a 26-page "problem solving" manual ("How to Prevent Alcohol-Related Problems") that described a self-management procedure to reduce alcohol-consumption and avoid alcohol-related problems. The health adviser explained that the manual could be used to develop a "habit breaking plan" that would assist the patient to achieve the sensible drinking goals described in the sensible drinking leaflet. The health adviser introduced the manual by reviewing sections that required the patient to choose a drinking goal (i.e. stop drinking or drink sensibly), identify reasons for cutting down, describe high risk drinking situations, develop procedures for coping with these situations, and identify other activities that could substitute for drinking. At the end of the counselling session the patient was encouraged to record the habit breaking plan in the back of the manual and to identify a helper, such as a spouse or friend, who could assist the patient to adhere to the plan.

At the end of the session all patients were asked to return in six months for a follow-up interview. At that time a revised version of the WHO Composite interview was administered in addition to several self-report questionnaires. During the interview the alcohol dipstick was employed to test for recent alcohol consumption and to emphasize to the patient the importance of providing accurate information about their drinking behaviour.

Health Advisers

In the general practice setting four practice nurses, all female, were used as health advisers. In the hospital setting one male psychology graduate, untrained in clinical psychology, was used as the health adviser.

Problems in Implementation

Underlying the comments below, which refer to problems in implementation, is the assumption that difficulties in carrying out this study should not be confused with the validity of early intervention procedures of this kind in the future. Conducting a rigorous clinical trial in any setting is a difficult task. Implementing a similar approach in the future, with a purely clinical rather than research orientation, will be much easier.

1) Selection of Recruitment Sites. General Practitioners in the UK are only linked by contract to the National Health Service. They have to run their own businesses, with a busy clinical load. Without the offer of financial reward for participation, it was difficult to locate agreeable GPs. Participation was also based on having an up-to-date computerized age-sex register, since recruitment was to be based on a mailed survey. This further limited the options available.

One further problem affected recruitment, perhaps the most crucial of all: we wanted to use practice nurses as health advisers and only 40% of health centres employed these people. They were
usually extremely busy. Although we were prepared to pay them for their interviewing and counselling time, it was nevertheless difficult to recruit. In the end, we relied on the personal contacts already established.

Because of difficulties in recruitment at the general practice clinics, the study was moved into a general hospital setting where the methodology appeared to work much better. It was placed under the control of one person who did all the screening and another who did all the counselling. Because of the serious delay caused by earlier personnel problems, a decision was made to focus primarily on two conditions (Control and Brief Counselling) in the hospital setting, with a smaller number of additional subjects being assigned to the Simple Advice condition.

With regard to the two General Hospitals selected for recruitment there are a number of related factors which make some wards more suitable than others. Piloting revealed that some wards, some patients, and some wards at particular times, were unsuitable for recruitment. In general, the quicker the turnover of patients, the more difficult it was to recruit. This was because of the weight of the study materials and procedure: a screening questionnaire followed by a lengthy interview, needed more than one day to complete. Some wards, like the surgical wards, of which there were many, had a very fast turnover. After some piloting these wards were abandoned. Some patients were simply too disabled or ill to participate. Intensive care wards, for example, had to be excluded, as well as one medical ward. Some wards had to be excluded simply because the ward staff felt that the study would be too much of an intrusion.

2) Cooperation of Patients. Some patients attending the three health centres understandably failed to return mailed questionnaires. This was expected. The return rate varied from 60-70%. So too, having filled in the screening questionnaire, about 50% of excessive drinkers preferred not to attend for interview at the health centre. This dropout problem made the operation of the study in this setting extremely unsatisfactory, and coupled with the personnel problem noted below, eventually resulted in the decision to shift the study from this setting altogether.

An obvious but serious problem for drinkers in the hospital setting is their illness. Coupled with the rigours of frequent medical examinations, consultations with students, other research projects, and the demands of the current study, patients were often reluctant to take part. Close to 50% of the identified excessive drinkers chose not to take part. A further problem, noted above in relation to the health centre patients, was that some drinkers did not think they drank too much. This obviously affected the quality of the contact with the counsellor. On some occasions the counsellor came away feeling despondent.

3) Difficulty with Mailed Survey. The mailed survey used in the health centre setting worked reasonably well, although as noted above, only between 60-70% returned their questionnaires. This is not an uncommon response rate in this kind of setting. Also important was the cost of running this kind of recruitment procedure. Reminders were sent to non-responders which further added to the considerable cost of clerical time.

4) Adaptation of Procedures to Different Settings. In general, because of the need to keep procedures constant across countries, the Cardiff study was quite often faced with an inability to adapt to local settings. Among the chief problems was simply the weight of interview and questionnaire material. This affected the morale of counsellors and clerks, and to some extent, the cooperation of patients. For example, we found at follow-up that drinkers often failed to distinguish between the interview prior to counselling, and the counselling itself. To some extent we were able to adapt to this
problem, by leaving a small time gap between interview and counselling, but we were not able to sufficiently reduce the total amount of questionnaire completion and interviewing time.

5) Other Problems. For about a year, from January 1987 to January 1988, the project suffered serious personnel difficulties mainly due to illness and personal problems that seriously affected the motivation of one of the health advisers. Some follow-ups among the general practice sample were not done, and a decision was made to move out of the general practice setting into general hospitals. Screening at the general practice clinics by means of mailed questionnaires proved to be an ineffective way of recruiting patients. When patients did return their questionnaires, many did not come in for the scheduled interview, and many of those who came were subsequently ineligible because their consumption was too low. The Composite Interview was considered too long for some patients. Many patients had difficulty responding to the drinking questions that focused on the number of low, medium and high drinking days.

RESULTS

A total of 110 subjects comprised the follow-up sample. Of these, 31% came from the general practice setting, and 69% from the hospital setting. The follow-up evaluation was conducted on average eight months after the intervention; 110 patients (66.3%) were contacted. Because of the personnel problems experienced with one of the health advisers, a number of the clinic patients were not contacted for the follow-up evaluation. Thus the relatively low follow-up rate does not mean that the patients were uncooperative.

Before conducting the statistical analyses, patients assigned to the three study conditions were compared on demographic characteristics and drinking behaviour at intake. No differences were found between groups in age, socioeconomic status, average daily consumption, intensity of drinking, and days abstinent. However, there were significant differences on measures of recent problems. Patients assigned to the Brief Counselling condition tended to score higher than the other groups. These differences should be taken into account when interpreting the findings.

Table 12.1 presents group means for the six drinking measures assessed before and after the intervention. The ANOVA results indicate that there was a significant reduction (main effect for time) in all measures except the problem score and dependence score at follow-up. The significant interaction effect for average consumption indicates that the intervention groups reduced their drinking significantly more than the control group on this measure. Figures 12.1 and 12.2 illustrate the changes in average daily consumption and the intensity of drinking for each group. The data show that while there were major reductions in the drinking behaviour of patients exposed to Simple Advice as well as Brief Counselling, there was also a smaller change in the drinking behaviour of patients in the Control group. In general, patients in the intervention groups showed more change than those in the Control group.

DISCUSSION

The results show modest but statistically significant changes in the average amount of daily alcohol consumption in Cardiff males following a brief intervention that was directed at their drinking. Although similar changes occurred with respect to the intensity of drinking, number of drinking days and reported concern expressed about drinking by others, the Control group also showed a significant reduction on these measures. These results are consistent with the hypothesis proposed initially in this study, especially when interpreted in the context of the combined analyses summarized in Chapter 16. These results show that while the Control groups in most centres reduced their alcohol consumption at
follow-up, the groups exposed to the brief intervention showed significantly greater improvement. It is conceivable persons assigned to the Control group changed their drinking because of their participation in a health study. Another explanation is regression to the mean, that is, a return to a more natural pattern of moderate consumption after a temporary period of heavy drinking. What is most important about the results is the apparent success of the brief intervention in accelerating this return to "sensible" drinking.

During the course of the Cardiff Study a number of general contextual issues were operating, and provide a useful framework in which to place the findings. Firstly, it should be borne in mind that heavy drinking remains something a social norm among key at-risk groups in the UK, and that no political or social change has shifted this norm to any significant degree over the course of the study. Indeed, with the impact of advertising across all the media, and no significant reduction in per capita consumption over the last five years, problem drinking remains as serious a problem as ever.

Alcohol education efforts have become increasingly public in recent years, with the emergence of a national "drinkwise" day each year. In Cardiff, for example, the local community alcohol team organized a week of events in the city centre which included competitions, displays, free samples of non-alcoholic beer, and the appearance of well-known personalities. While the effectiveness of this kind of campaign remains a complex question, the media coverage certainly brought the issue of safe drinking levels into the public’s attention. Whether or not this got through to the at-risk groups is not known. Nevertheless, the increasing public concern about the consequences of heavy drinking may provide a helpful context for screening and brief intervention programmes.

We conducted screening in two very different hospitals. One is new with smaller, more private wards and the other is older with much larger wards. Both hospitals are far from ideal settings for counselling. They are noisy, distracting, and not particularly private. We have, however, found that the cooperation of staff and the willingness of the patient to talk to be the most important facets of success.

Note that none of the implementation problems cited previously should have a bearing on the future use of early intervention strategies in medical settings, since this would be more naturalistic in orientation, not relying on mailed survey recruitment of drinkers, but on the opportunistic contact between patients and doctors or nurses in the course of their everyday work.

In the general practice setting, the morale of the practice nurses was affected by the drop-out problem, but most seriously by their experience with some of those who did turn up. Some of the drinkers probably found it difficult to speak to a female nurse about their drinking. So too, they faced a problem which will be of central concern to developers of future programmes: some of the drinkers did not feel that they drank too much. They perceived their drinking as a social custom, while the nurse was treating this as an individual pathology. This resulted in communication difficulties which left the nurses feeling undermined.

Discussions of feedback from the health advisers about the brief intervention process itself reveals that "counselling" and "treatment" are perhaps not quite the right words to use. More often it is a process of negotiation, sometimes among people who do not even accept that they are drinking too much in the first place. Among the issues worth considering in future work on face-face contact are whether receiving general health rather than alcohol-specific advice is more attractive to drinkers; how can the practitioner tailor the intervention to suit the stage of change of the individual; how can stages of change be assessed in the limited time available in medical settings; and will a less didactic intervention like
brief motivational interviewing prove more effective than a skills-based procedure among some of the drinkers. These issues have been discussed in Rollnick and MacEwan (7), Rollnick and Bell (8), Miller and Rollnick (9) and Rollnick et al (10).

This kind of work is truly breaking new ground in the alcohol field. Whatever else comes out of the Cardiff project in the form of concrete results, we have clearly learned a lot about this process of negotiation. This is important because services for excessive drinkers in general practice and hospital settings are growing fast in the UK at present. Clearly the next logical question to arise from our study is: How do you actually set up and run appropriate services for excessive drinkers in different settings? Among the issues to be considered here are: how should practitioners be trained; how should specialists and generalists divide up their roles; how should screening be organized; and how can patient uptake be maximized?
REFERENCES


APPENDIX

Financial support for this research was provided by a grant from the Alcohol Education Research Council (UK). The collaborating investigators and support staff were:

Investigators: Professor R. Hodgson, Mr S. Rollnick, Dr S. Smail; Support: Mr R. Davies, Ms H. Evans; Health Advisers (General Practice): Mrs Smail, Mrs Hughes, Mrs James - Practice Nurses; (General Hospitals): Mr R. Davies - Social Science graduate.
Table 12.1  Changes in Alcohol Consumption and Alcohol-related Problems according to Experimental Condition:
Cardiff, UK

<table>
<thead>
<tr>
<th>Variable</th>
<th>Means for Conditions</th>
<th>F Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control (N=52)</td>
<td>Simple Advice (N=26)</td>
</tr>
<tr>
<td>Average CL ETOH&lt;sup&gt;a&lt;/sup&gt;</td>
<td>BEFORE: 7.58</td>
<td>BEFORE: 8.53</td>
</tr>
<tr>
<td></td>
<td>AFTER: 6.92</td>
<td>AFTER: 5.33</td>
</tr>
<tr>
<td>Intensity CL/day&lt;sup&gt;b&lt;/sup&gt;</td>
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<td>BEFORE: 11.19</td>
</tr>
<tr>
<td></td>
<td>AFTER: 9.50</td>
<td>AFTER: 8.06</td>
</tr>
<tr>
<td>Days Drinking</td>
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<td>BEFORE: 23.39</td>
</tr>
<tr>
<td></td>
<td>AFTER: 19.21</td>
<td>AFTER: 17.96</td>
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<tr>
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<td></td>
<td>AFTER: .12</td>
<td>AFTER: .31</td>
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<td>Concern Score</td>
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<td>BEFORE: 1.08</td>
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<tr>
<td></td>
<td>AFTER: .42</td>
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</tr>
<tr>
<td>Dependence Score</td>
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<td>BEFORE: .50</td>
</tr>
<tr>
<td></td>
<td>AFTER: .98</td>
<td>AFTER: .33</td>
</tr>
</tbody>
</table>

*** p < .001  
**  p < .01  
*   p < .05

<sup>a</sup> Average daily alcohol consumption during a typical month in centilitres absolute alcohol.

<sup>b</sup> Average amount absolute alcohol (in centilitres) consumed on a typical drinking day.
Figure 12.1  Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

Cardiff, UK

(N=52)  (N=26)  (N=32)

AVERAGE

CONTROL  SIMPLE ADVICE  BRIEF COUNSELLING

BEFORE  AFTER

WHO/PSA/91.5
Figure 12.2  Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e. Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition.

Cardiff, UK

(N=52)  (N=26)  (N=32)

Control  Simple Advice  Brief Counselling

Before  After
Chapter 13

FARMINGTON, USA

T.F. Babor, R. Lauerman, H. Kranzler, B. McRee, P. Korner, C. Wilber, & S. Possemente-Good

INTRODUCTION

The United States of America is a federal republic located on the North American continent. It is the fourth largest country in the world in population (250 million) and the fifth largest in land area. It is made up of diverse ethnic and racial groups, including African-Americans (11%), Hispanic-Americans (6%), Asians (2%), Native Americans (1%) and numerous groups of European origin. Its economy is dominated by manufacturing (automobiles, aerospace, telecommunications), agriculture and the exploitation of petroleum and minerals. The town of Farmington, which was the site of the present study, is located in the State of Connecticut in the Northeast section of the country.

American Drinking Patterns

American drinking is a patchwork of traditional and modern customs, related as much to the age and sex of the drinker as to religious, ethnic and economic factors. Per capita consumption has risen steadily since the 1950s, with beer accounting for slightly more of the total alcohol consumed than distilled liquor (1). During the 1980s there was a gradual reduction in per capita alcohol consumption. Possible reasons for this phenomenon are the aging of the post-war "baby boom" population, an awareness of risks associated with drinking, a growing emphasis on health and fitness, and changes in the social acceptability of intoxication.

Surveys (2,3) indicate that about a third of the total population abstains from alcohol, another third drinks only occasionally, while the remaining third accounts for most of the alcohol consumed. More men drink than women, and men drink more heavily than women. Alcohol use by youth has risen since the 1950s, with over 90% of high school seniors using alcohol within a given year. Heavy drinking among males appears to peak between the ages of 35 and 49.

Substantial variation exists across states in the type and amounts of alcohol consumed (2). Despite the lower per capita consumption in the Western and Southern states, drinkers in these regions consume more alcohol on average than drinkers in other regions. In addition, drinkers in these regions experience more alcohol-related problems (2). These regional variations are related to such factors as tourism (Nevada, New Hampshire), the frontier drinking style (Alaska, Wyoming), the brewing industry (Wisconsin) and religious proscriptions (Utah and the southern states).

Within states, ethnic drinking customs still exert an influence on alcohol consumption. One study (4) of the major white American ethnic groups found that the Irish are the most likely to be drinkers (only eight per cent were abstainers) and were more likely to consume three or more drinks of hard liquor at a sitting. Although there were also low rates of abstention among Jews and Italians, these groups were found to drink less per occasion and to experience fewer drinking problems. Among other American ethnic groups, Hispanics tend to have a greater proportion of heavier drinkers, while blacks tend to drink less. One of the ethnic drinking subcultures that is most misunderstood and difficult to fathom is that of the American Indian. Contrary to the "firewater myth" that all Indians are biologically
predisposed to drink excessively, anthropological studies (5) have shown that many tribes drink in moderation or not at all. Among certain Arctic Coast and Northwest Coast Indian tribes, alcohol use is thought to be rare or nonexistent, despite occasional drunkenness. Other tribes such as the Hopis drink regularly, rarely get drunk in public, but have high rates of alcoholic cirrhosis of the liver. Still other tribes, such as the Apaches, drink more in public settings and tend to experience problems associated with intoxication such as accidents and aggression.

American drinking customs are concentrated around three types of social settings: the home, the house party, and the public drinking establishment (6). The place where most Americans drink most often is at home. Here ethnic drinking customs are likely to prevail, especially with respect to mealt ime drinking by Italians or ceremonial drinking by Jews. Private parties are the contexts where Americans tend to drink most heavily, although the amount of drinking depends on the age and socioeconomic level of the drinkers. The greatest amount of drinking occurs among teenagers and college students at beer parties where large groups and loud music are the rule. More sedate are the wine and cheese gatherings and cocktail parties typically organized by married couples for an evening of conversation and socializing. Americans also tend to drink heavily at bars and taverns, whose decor and character is closely related to its clientele. Singles bars cater to unmarried males and females under age 30, providing a forum for dancing and courting. Cocktail lounges appeal to an older and more affluent clientele, while neighborhood bars are frequented most by working class men and ethnic minorities. Skid row bars are typically located in the inner city slums where urban alcoholics drink. "Country and Western" bars are more often located in rural settings. In recent years many drinking establishments have attempted to entice patrons in the afternoon or early evening hours by discount known as "happy hours". Typical inducements include "twofers" (two drinks for the price of one), nickel beers, and free drinks for women.

What these social and cultural differences indicate is that no single drinking style or set of drinking customs that apply broadly to all Americans. Rather, there are a variety of drinking subcultures that influence the pattern of drinking and the kinds of drinking problems that are experienced. To the extent that some of these drinking patterns are learned in the family setting, they are likely to persist from one generation to another (4). However, as ethnic and religious influences become less important to new generations of drinkers, the role of fads, peer groups and advertising takes on added importance.

Alcohol-related Problems

Results of a national survey conducted in the United States in 1984 give evidence of the high prevalence of heavy drinking in the general population (7). In this study, 18% of all men and 5% of all women were found to be frequent, heavy drinkers (i.e. they drink five or more drinks per occasion, at least weekly). Of those who drank, 9% of men and 4% of women reported three or more drinking-related problems during the preceding year. The survey found that 7% of all drinkers had experienced dependence symptoms and 10% reported moderate levels of alcohol-related consequences. Drinkers who were young, male and single were more likely to report frequent heavy drinking, dependence symptoms, and alcohol-related problems.

National and regional surveys of the American adult population (8) have indicated that alcohol abuse and dependence are among the most prevalent psychiatric conditions. Survey data and hospital records have consistently shown that alcohol dependence reaches its peak prevalence among persons in the 35-45 year age range (7). The maturing of the post-war baby boom population, which encompasses the 1945-1960 birth cohorts, means that an increasingly larger proportion of the population is just beginning to pass through the period of greatest risk for alcohol-related consequences (9). In 1987 more
than 1.4 million persons were treated in the United States for alcohol abuse and dependence (10). Nearly 75% were men.

Epidemiological data point to a broad diversity of alcohol problems, only some of which overlap with the continuum of alcohol dependence symptoms. The prevalence of alcohol-related problems and heavy drinking in patients seeking treatment for other health problems ranges from 15% to 20% of male patients and from 4% to 10% of female patients in general hospital settings (11,12). This estimate of alcohol-related morbidity is probably conservative. Hospital studies that have routinely screened for alcohol problems have noted a much higher prevalence rate (12), in large part because physicians tend to underdiagnose alcohol abuse and alcoholism.

Surveys indicate that younger heavy drinkers are also frequent users of other psychoactive substances, such as marihuana and cocaine, and are more likely than primary alcoholics to have other psychiatric co-morbidities, such as depression and antisocial personality. These trends toward multiple substance use patterns, greater numbers of individuals at risk, and the pervasiveness of alcohol-related problems in general medical patients are now being taken into consideration in the planning of health services.

Management of Alcohol-related Problems

According to a recent US Federal Government survey, in 1984 there were 6,963 alcoholism units providing treatment services to more than one-half million patients (13). Almost half of the alcoholism treatment units were freestanding facilities; 21% were based in community mental health centres, and 19% were allocated to general, specialized or Veterans hospitals. One study has documented the emergence of two separate treatment systems within the United States, one privately owned and serving middle and upper income clients, the other publicly owned and serving uninsured lower income patients (14).

Within these treatment systems, there has been a marked trend toward diversification and specialization. Early counselling or referral to specialized treatment is becoming increasingly prevalent in employment settings and Health Maintenance Organizations. Both inpatient and outpatient programmes are targeting their services at special population groups, such as the military, adolescents, children of alcoholics, employee groups, professionals, women, homosexuals, and drunk drivers. Media advertising is being used to promote programme utilization in many parts of the country (15).

Despite tremendous increases in the availability and scope of alcoholism treatment services, there has also been a trend to organize therapeutic approaches around an inpatient rehabilitation model consisting of detoxification, alcohol education, group confrontational therapy, AA meetings and disulfiram therapy (16). This treatment package is typically delivered to all patients in the course of a standard three to four-week residential programme.

The best current epidemiological evidence suggests that only 5-15% of persons with alcohol problems in the areas surrounding cities such as Hartford, CT, ever seek or receive treatment for alcoholism. A variety of treatment services exist for severely dependent drinkers in the catchment area employed in the present study. Access to these facilities is determined to some extent by socioeconomic circumstances. The major types of facilities dealing with alcoholism treatment are AA groups, detoxification centres, hospital-affiliated treatment centres, and free-standing inpatient facilities. Few ambulatory or outpatient programmes are available. Alcoholics without private medical coverage, or those ineligible for public assistance, must make use of state-supported facilities for detoxification and treatment.
In general, problem drinkers tend to be overlooked or misdiagnosed in hospital settings. Alcohol-related problems are often disguised by other diagnoses such as insomnia, depression and anxiety disorders. In non-medical settings, alcohol problems are usually diagnosed by their behavioural manifestations. Drunk drivers in Connecticut can be incarcerated or referred to alcohol education classes. Problem drinkers in industry are identified primarily on the basis of poor job performance. Most Connecticut industries have "employee assistance programmes" which serve primarily as counseling and referral agencies. If the worker's drinking problem appears serious, he or she is usually referred to either AA groups or to inpatient treatment facilities. Persons arrested for alcohol-related violence may be referred by the courts to counselling services, but generally alcoholism treatment is ignored. Public intoxication has been decriminalized for a number of years, so public inebriates usually are referred immediately by the police to state-supported detoxification centres. Homeless alcoholics and those recently released from inpatient treatment are sometimes sent to "halfway" houses. These community-based group homes provide counselling, lodging and support during the readjustment period.

Programmes available to alcoholics and problem drinkers can be classified into three general categories: medical, rehabilitation and peer group approaches. All three emphasize total lifetime abstinence from alcohol as the primary treatment goal. Most treatment programmes combine elements from these three approaches. Medical treatment consists of vitamin therapy, pharmacologically-assisted detoxification, disulfiram therapy, and pharmacotherapies for various psychological disorders (e.g., depression). Rehabilitation approaches include behavioural therapy, aversive conditioning, psychological counselling, vocational rehabilitation, relaxation therapy, family counselling, and in some cases, relapse prevention training. Peer (self-help) approaches include Alcoholics Anonymous groups, or group homes where patients and recovering alcoholics take primary responsibility for organizing and running the treatment programme. In general, inpatient programmes serving middle-class clientele are staffed by professional treatment personnel who favour a combination of medical and rehabilitation approaches. Thus, inpatient programmes usually consist of medical detoxification, some pharmacotherapy, group counselling, alcohol education, and perhaps some behaviour therapy and family therapy. Aftercare is voluntary. AA participation and disulfiram are strongly recommended. Lower-class and unemployed clients are more often sent to brief, publicly-supported detoxification facilities.

Rationale for Study

Given the growing concern in the United States about the public health consequences of hazardous alcohol consumption, and the need for more effective measures in primary health care, the present project was initiated in order to evaluate brief intervention procedures directed at heavy drinkers who are not seriously dependent on alcohol. A major purpose of the study was to determine whether simple advice and brief counselling, delivered in the context of a single consultation in a community setting, would result in a significant reduction in the patient's drinking over a six-month period. To the extent that the quantity and frequency of drinking could be reduced in hazardous drinkers, it was expected that this would also reduce the likelihood of alcohol-related problems occurring during this time.

METHODS AND PROCEDURES

This section describes the procedures employed by the Farmington collaborating centre. Additional information about the experimental design, assessment methods, eligibility criteria, intervention procedures and training of the health advisers is provided in Chapter 3 of this report. Information pertaining to the primary and secondary outcome measures is given in Chapter 4.
Screening and Recruitment

The research staff was based at the University of Connecticut (UCONN) Health Center. Patient recruitment was conducted at the Health Center’s John Dempsey Hospital (230 beds), Hartford Hospital (1,000 beds), and at two Kaiser Permanente Health Maintenance Organization (HMO) clinics located in East Hartford and Farmington.

Screening was conducted by means of the WHO Health and Lifestyle interview that was in some cases administered as a self-report questionnaire. Several questions about drinking behaviour, perceived problems and attempts to control drinking were embedded in a series of similar questions about weight control, smoking, and exercise. Persons who reported drinking regularly at hazardous levels (4 cl absolute alcohol a day for men, 3 cl for women), or who reported high levels of alcohol consumption at least once a month, were considered to be at risk of both long-term and acute consequences of alcohol. The interview also permitted the identification of persons not eligible for brief intervention because of previous treatment for alcoholism or current symptoms of alcohol dependence. More than two-thirds of the patients were screened on medical and surgical wards, or at outpatient services. Because of difficulty in securing suitable patients at the two hospitals, newspaper advertising was initially a major source of referral to screening. With the addition of other sources of recruitment, advertising was discontinued. Screening was conducted by telephone interviews, face-to-face surveys, and by self-report questionnaires left in waiting areas or the hospital admissions office. Of the 2,700 persons screened, 18.1% of the males and 12.1% of the females were eligible for admission to the study. Eighty-two per cent of the eligible patients agreed to participate in the subsequent 20-minute interview and advice session.

Experimental Design

At the Farmington centre, 293 non-alcoholic, non-dependent drinkers were randomly assigned to three levels of intervention (control, simple advice, brief counselling) and two levels of counselling (none vs three sessions). This six-cell, factorial design made it possible to evaluate the independent effect of extended counselling alone (control condition) and such counselling in combination with different levels of intervention (Simple Advice and Brief Counselling). In addition, the Farmington centre also included two conditions that added general health counselling to the standard control and Simple Advice conditions. These additions made it possible to evaluate the added effect of nonspecific general health counselling on changes in drinking behaviour in the control and simple advice conditions.

This expanded design assured that the Farmington data obtained from the core conditions would be compatible with data collected at the other WHO collaborating centres. The remaining conditions allowed Farmington to conduct technical analyses to evaluate the effects of monitoring and additional attention. To conduct these analyses it was necessary to expand the Farmington centre’s recruitment goal.

Procedures

At the time they were recruited into the study, patients were told that they were participating in a general health survey being conducted by the World Health Organization. It was explained that the information would be used to plan better health services in different countries and that all information would be kept strictly confidential. Patients were then interviewed for 20 minutes using the WHO Composite Interview Schedule, which asked about various health risk factors (including nutritional habits, smoking, exercise, sleep, and drinking behaviour). Following the interview patients were randomly assigned to one of eight conditions: 1) a control group that received no therapeutic
intervention after the Composite Interview (WHO Control condition); 2) a control group that received 20 minutes of general health counselling after the Composite Interview (UConn Control condition); 3) a control group that received 20 minutes of general health counselling plus three follow-up sessions to review progress (UConn Control plus extended counselling condition); 4) a group that received five minutes of advice about hazardous drinking (WHO Simple Advice condition); 5) a group that received five minutes of advice about drinking and 15 minutes of general health counselling (UConn Simple Advice condition); 6) a group that received Simple Advice plus 15 minutes of additional health counselling as well as three follow-up sessions to review progress (UConn Simple Advice plus extended counselling); 7) a group that received five minutes of advice as well as 15 additional minutes of counselling about their drinking (WHO Brief Counselling condition); and 8) a group that received the same intervention as the Brief Counselling condition followed by three additional consultations (WHO Extended Counselling condition). Thus, in addition to the four basic WHO conditions, Farmington included four groups to test the independent effects of general health counselling and extended counselling. Groups 2 and 5 were added to determine whether the attention of the health adviser could exert an influence on the patient’s drinking regardless of the specific content of the intervention. Thus, Control Groups 1 and 2 differed only in the amount of time the health advisor spent with the patient. Neither group received specific alcohol-related information. Similarly, Groups 4 and 5 differed only in the additional health counselling given to Group 5. By comparing these four groups, it becomes possible to evaluate the additional effect of general health counselling on the patient’s drinking behaviour. In addition to these comparisons, two groups were included to evaluate the independent contribution of extended counselling (Groups 3 and 6). By comparing Groups 2, 5, and 7 with Groups 3, 6, and 8, it becomes possible to study whether additional sessions with the patient following the initial intervention add significantly to the effect.

Patients assigned to the three control groups were thanked for their participation in the study and were asked to return for a follow-up interview in approximately six months. No information was provided about the specific purpose of the study, nor were patients given any feedback about the potential hazards associated with their drinking.

Patients assigned to the Simple Advice conditions (Groups 4, 5, 6) were told at the end of the interview that, on the basis of the information provided, their drinking might place them at risk for a variety of alcohol-related problems. They were then given a brochure ("A Guide to Sensible Drinking") that showed the proportions of alcoholics and heavy drinkers in the general population; illustrated the amounts of alcohol contained in standard drinks of beer, wine and liquor; suggested what a sensible drinking limit was for men and women (no more than four standard drinks, five times per week for men; no more than three standard drinks, four times a week for women); encouraged the patient to consider abstaining completely from alcohol under certain circumstances; and pointed out the health risks associated with heavy drinking.

Patients assigned to the conditions with alcohol-specific Brief Counselling (Groups 7 and 8) were first given the Guide to Sensible Drinking and exposed to the same five minute intervention as the Simple Advice groups. They were then given a 26-page "problem solving" manual ("How to Prevent Alcohol-Related Problems") that described a self-management procedure to reduce alcohol consumption and avoid alcohol-related problems. The health adviser explained that the manual could be used to develop a "habit breaking plan" that would assist the patient to achieve the sensible drinking goals described in the sensible drinking leaflet. The health adviser introduced the manual by reviewing sections that required the patient to choose a drinking goal (i.e. stop drinking or drink sensibly), identify reasons for cutting down, describe high risk drinking situations, develop procedures for coping with these situations, and identify other activities that could substitute for drinking. At the end of the
counselling session the patient was encouraged to record the habit breaking plan in the back of the manual and to identify a helper, such as a spouse or friend, who could assist the patient to adhere to the plan.

Patients assigned to the Extended Counselling groups (Groups 3, 6, and 8) were asked to return for three counselling sessions in the six months following the initial intervention.

Patients assigned to Conditions 2, 3, 5 and 6 were given a "Self-Health Manual" that differed from the Problem Solving Manual in that it provided advice about four health areas other than drinking. The areas were nutrition, smoking, exercise and stress management. The purpose of this manual was to provide general health counselling. As such it could be combined with the WHO Control and Simple Advice conditions to control for the amount of time spent with the patient.

Patients assigned to each of the conditions concluded the session by completing a brief self-report inventory (the Health and Daily Living Questionnaire) that was designed to measure self-confidence, global depression, typical coping responses to problems, and the patient's perception of the health adviser. At the end of the session all patients were asked to return in six months for a follow-up interview.

Problems with Implementing the Project

Because of our expanded recruitment goal, screening was initiated at three other facilities during the first year: a Veterans Administration (VA) Hospital, a family practice clinic, and a Kaiser Permanente HMO. Of these, only the HMO proved to be a fruitful source of recruitment. Efforts to recruit patients from the VA and the family practice clinic were abandoned primarily because of the lack of staff cooperation in conducting routine screening.

Approximately one-third of the patients assigned to the extended counselling conditions failed to appear for one or more of their scheduled monitoring visits. However, most of these sessions were completed by telephone.

Description of Study Sample

When recruitment was completed in September 1987, 293 eligible patients had been accepted into the study and randomly assigned to the eight conditions specified in the modified research design. Of these, 265 (152 males, 113 females) met the universal selection criteria imposed by the Coordinating Centre once all samples had been recruited. The average age of the male and female patients was 36.8 and 32.9 years, respectively. Both groups reported approximately 14 years of education. Approximately half of the sample was single (49.3% males vs 55.8% females), with smaller proportions married (33.6% males, 20.4% females) or separated/divorced (17.1% males, 23.9% females). The male sample reported 20.6 drinking days per month; the females drank on 17 days in a typical month. Males reported drinking 7.75 cl absolute alcohol per day (approximately five standard drinks); females drank an average of 4.5 cl absolute alcohol per day (three standard drinks). On days when alcohol was consumed, males drank 11.5 cl absolute alcohol (approximately eight standard drinks per drinking day) while females reported 8.1 cl (approximately five standard drinks). There were no significant differences among groups assigned to the different study conditions in terms of sociodemographic characteristics or alcohol consumption measures.
Follow-up Evaluation

Of the 265 patients who were eligible according to the Coordinating Centre's universal selection criteria, 82% were successfully interviewed as part of their six-month follow-up evaluation. Approximately one-third of the follow-up interviews were conducted by telephone. A revised version of the WHO Composite interview was administered along with several self-report questionnaires. During the interview the alcohol dipstick was employed to test for recent alcohol consumption and to emphasize to the patients the importance of providing accurate information about their drinking behaviour.

RESULTS

The data were analysed according to both the four-cell (WHO) and six-cell (UCONN) research designs. The six-cell (2 x 3) design was included in the Farmington study to test the independent contributions of extended counselling (present, absent) and different levels of intervention (control, simple advice, brief counselling). Analysis of variance indicated no main effects or interaction effects on average daily consumption or days drinking during the follow-up period. However, the analysis of changes in intensity of drinking showed a significant main effect for condition (F = 3.5, p. < .05), but not for extended counselling, and no interaction effects. The adjusted change scores for the three conditions were -.92 (control), -3.34 (simple advice) and -5.13 (brief counselling), indicating that these heavy drinkers had reduced the intensity of their drinking from approximately six drinks per occasion (9 cl ethanol) before the intervention to approximately five drinks per occasion after simple advice, and to approximately four drinks (6 cl ethanol) after brief counselling. These changes conform closely to the target changes necessary to reduce alcohol consumption from hazardous to nonhazardous levels. They also suggest that extended counselling did not contribute to the initial effect of the intervention, which was strongest when advice was combined with skills training (brief counselling).

The next stage of data analysis evaluated the effect of nonspecific health counselling on changes in drinking behaviour. Groups receiving only simple advice about their drinking were not found to differ in their response to the intervention from groups receiving advice plus general health counselling. The results indicated that the added time spent with the health adviser did not enhance the effect of the simple advice.

Because there were no main effects for the added attention provided by the health adviser, the health counselling groups were combined with similar groups in their respective conditions. The main analysis of the Farmington data is presented in Table 13.1 for males and Table 13.2 for females. The results for males (Table 13.1) show a significant main effect for time on all dependent measures except the concern score, and significant interaction effects for average alcohol consumption, intensity of drinking and the problem score. In all cases, the intervention groups improved significantly more than the control group. There were no significant differences between the intervention groups when compared with each other. The results for females (Table 13.2) showed similar main effects for time, but no interaction effects except for the problem score. These results, however, are difficult to interpret because of the initial differences between groups assigned to the different conditions on scores measuring problems, concern and dependence. Because these scores are highly skewed and relatively low, the results are probably influenced by outliers. The main findings are illustrated graphically in Figures 13.1 and 13.2 for males, and in Figures 13.3 and 13.4 for females.
Audiotape Analysis of Therapeutic Content and Process

Several additional analyses were conducted to evaluate the integrity of the experimental conditions. All simple advice and brief counselling sessions were tape recorded for subsequent analysis. These analyses were designed to evaluate the degree to which the health adviser followed the study protocol, and whether there were differences in the content or quality of the experimental and control conditions that would affect the integrity of the experimental design. Another objective of the audiotape analysis was to measure individual differences among health advisers that might suggest differences in therapeutic style or an inability to adhere to the study protocol. Seventy-two sessions (41 alcohol-specific brief counselling, 31 non-alcohol general health counselling) conducted by three health advisers (two female nurses, one male counsellor) were evaluated according to Bales Interaction Process Analysis content categories (e.g. seems friendly, gives information, etc.) and several psychotherapy process scales. The findings indicate that the experimental and control conditions were comparable in terms of time spent with the patient and the quality of verbal interaction. Health advisers were found to be similar to each other in terms of therapeutic style and verbal interaction with patients. In general, it appears that the brief intervention and its attention placebo control were implemented with a high degree of consistency across conditions and health advisers.

DISCUSSION

The Farmington centre expanded the basic WHO four-cell design in order to evaluate the influence of nonspecific attention provided through general health counselling, and to study the unique contribution of extended counselling. The results indicate that nonspecific attention provided by means of additional health counselling did not have an influence on drinking behaviour in the control group and did not add to the effect of the simple advice. This aspect of brief intervention was studied because some studies have shown that patients who receive little or no alcohol-specific advice change their drinking behaviour as much as those who do (17,18). The results suggest that the effect of brief intervention is primarily attributable to alcohol-specific advice and not to the attention given by a health professional.

A second variation on the basic WHO study design was to investigate the effect of extended counselling. Control patients assigned to the Farmington control condition, as well as the Simple Advice and Brief Counselling conditions were asked to return for three additional sessions over a six-month period. At these sessions they received general health counselling consistent with what they were given at the first session. The results indicate no significant differences between groups receiving extended counselling and those receiving a single session of advice or counselling. These data suggest that extended counselling does not add to the effect of a brief intervention with heavy drinkers. Given the general inconvenience of returning for additional sessions, and the relatively inconsistent compliance with extended counselling, it appears that this type of enhancement does not warrant the cost or effort in the context of a brief intervention programme.

Because these enhancements did not produce differences among groups assigned to the same type of condition (e.g. control, simple advice, brief counselling), it was possible to combine the enhancement groups with the standard WHO groups before conducting the basic four-group analysis. That analysis, summarized in Table 13.1 for males, indicates that heavy drinkers in the intervention group significantly reduced the average daily amount and the intensity of their drinking. The reductions in the intervention groups were approximately two standard drinks in average daily consumption and four standard drinks in intensity. These reductions are clinically meaningful and are consistent with the sensible drinking limits recommended by the health adviser.
In the female samples (Table 13.2), both control and intervention groups showed significant reductions. These results can be interpreted in several ways. First, they may reflect a general tendency for heavy drinkers to moderate their drinking periodically, regardless of whether they are exposed to specific health interventions (19,20). A second explanation is that women in the control group were ready to change their drinking behaviour and found other ways to do so. This is sometimes referred to as spontaneous remission. This may have occurred after a specific illness associated with drinking, or because of the changes in public attitudes toward drinking that were taking place during the time of this study. Given the evidence (21) that women may be more responsive to brief interventions than men, and the results of the combined analyses presented in Chapter 16, the second explanation is equally plausible. A third possibility is that there was insufficient statistical power to detect differences that would have been evident had larger numbers of female patients been recruited. This explanation is partially supported by the analyses reported in Chapter 16, where the Farmington data are combined with those obtained from other centres that recruited females.

In conclusion, the results give clear evidence of an intervention effect for males, but only suggestive evidence for females. Moreover, there is no indication that counselling provides additional benefit over simple advice.
REFERENCES


APPENDIX

This proposal was supported by grants from the US National Institute on Alcohol Abuse and Alcoholism (Nos. R01AA06558, P50AA3510, T32AA07290).

Key personnel who worked on the project are: Thomas F. Babor, Principal Investigator; Bonnie McRee, Project Coordinator; Richard Lauerman, Postdoctoral Fellow, Senior Investigator; Henry R. Kranzler, Postdoctoral Fellow, Senior Investigator; Charles Wilber, Senior Investigator/Health Adviser; Patricia Korner, Health Adviser; Susan Possedente-Good, Health Adviser; Frances K. Del Boca, Statistical Analyst.
Table 13.1  Changes in Alcohol Consumption and Alcohol-related Problems according to Experimental Condition:

Farmington, USA (Males)

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<th>Mean for Conditions</th>
<th>F Statistics</th>
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<td>Control (N=42)</td>
<td>Simple Advice (N=56)</td>
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<tr>
<td>Average CL ETOH</td>
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<td>AFTER 7.41 4.90</td>
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<td>Intensity CL/day</td>
<td>BEFORE 9.92 9.88</td>
<td>AFTER 11.32 7.82</td>
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<td>Days Drinking</td>
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<td>AFTER 19.93 16.36</td>
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<td>Problem Score</td>
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<td>AFTER .61 .09</td>
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<td>Concern Score</td>
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<td>AFTER .84 .50</td>
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<td>Dependence Score</td>
<td>BEFORE 3.05 2.57</td>
<td>AFTER 3.09 2.15</td>
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*** p < .001
** p < .01
* p < .05
<table>
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<th>F Statistics</th>
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*** p < .001
**  p < .01
*   p < .05
Figure 13.1 Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

Farmington, USA (Males)

(N=42)  (N=56)  (N=15)  (N=11)

Control  Simple Advice  Brief Counselling  Extended Counselling

AVERAGE CL ETHOH

Before  After
Figure 13.2 Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e. Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

Farmington, USA (Males)
Figure 13.3 Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

Farmington, USA (Females)
Figure 13.4  Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e. Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

Farmington, USA (Females)
Chapter 14
HARARE, ZIMBABWE
A.M. Machona

INTRODUCTION

Zimbabwe is a landlocked nation located in southern Africa. Zimbabwe's modern history and emergence as an independent republic are closely linked to British colonization, which began in 1897 under Cecil Rhodes. After a five year struggle for independence, the Republic of Zimbabwe was established in 1980. With a population of approximately ten million, it is comprised of two main ethnic and linguistic groups, the Shona (80% of the population) and the Ndebele (19%). Though situated in the tropics, Zimbabwe has a remarkably temperate climate throughout the year because most of the country is on a high plateau. Its major industries are textile manufacturing and mining, with tobacco being its most important agricultural product. Its capital is Harare (population 730,000), which is the site of the present study.

Drinking Patterns

The consumption of alcohol has a long history in Zimbabwe. As noted by Moses (1), traditionally beer had important social, economic and cultural functions at the time of ritual ceremonies, communal planting, harvesting, and spirit medium celebrations. Brewing was done by specified members of society, usually elderly women. Access to alcoholic beverages was usually limited to mature, married males and elderly women. Thus, in the past brewing and beer drinking were controlled by traditional customs and rituals. Alcohol abuse and its associated problems were minimal according to most observers.

The commercial production and sale of alcohol in Zimbabwe was introduced during the colonial era (2). Within the context of industrialization and economic development, alcohol consumption assumed a new functional role in society. It is now an important economic and commercial product. Since the 1940s traditional beer has become commercialized and is now referred to as "opaque" beer. Clear beers, wines and spirits were introduced as imported products. The availability of this wide range of alcoholic products in association with dramatic changes in traditional patterns of life have been associated with the rapid growth of alcohol consumption during the past twenty years. Realization of the commercial value of alcohol has accelerated the production and sale of illicit beer and liquor, especially within the economically deprived sections of the population (1). The advertising and modelling of alcohol in the mass media have increased demand by portraying drinking as desirable and a symbol of status. In Zimbabwe alcohol now plays a major role in all kinds of social activity. The traditional customs and rituals, although still observed in some rural communities, have been replaced by a more modern kind of drinking pattern.

There are two commercial breweries, one in Harare and the other in Bulawayo. These breweries produce clear beers with an average alcohol content of 4.2% (1).

Opaque beers are produced by local governments and commercial firms. Chibuku is produced by a commercial firm. Opaque beers such as Indhlovu, Go Beer, and Upenyu are produced by municipalities. The alcohol content of these beers varies between 1.5% - 4.2%.
Spirits and wines are produced by a number of commercial firms. The alcohol content of domestic wines varies between 8% and 10%. Spirits vary between 22% and 43%.

Alcohol production in the informal economy is believed to be growing (1). Illicit brewing is inexpensive. The products sell cheaply, especially on paydays. Their alcohol content is not known.

There is little scientific information about the frequency and extent of alcohol use in Zimbabwe. It is believed that the majority of the drinking population are adult males, and that there is a rapidly growing proportion of youth and women who are drinking on a regular basis (1).

The typical drinking pattern in Zimbabwe is centered around public places (1,2). People visit pubs or beer gardens after work, on weekends or on feast days. Public beer gardens can accommodate up to several thousand people (2). The social aspect of drinking is very evident. Beer is sold in two litre pails. Two or more people often drink out of the same pail. This makes the actual amount drunk by individual participants difficult to evaluate. The Harare sample in the WHO Study described in this chapter can be said to represent the drinking pattern of Black Zimbabweans in urban areas.

Reports in the national press and elsewhere have drawn attention to the excessive nature of alcohol use in Zimbabwe (1). The clergy, parents-teachers' associations, political groups and women's organizations have begun to express concern at the rate at which alcohol is used, especially among youth. In one study (3), 35% of sixth grade students reported drinking alcohol on a regular basis.

A recent (unpublished) survey was carried out by the Ministry of Health among industrial workers in Zimbabwe. Preliminary results indicate that of the 75% who consume alcohol, 66% drink every week-end, whilst 22% drink alcohol on a daily basis (1).

Despite the lack of statistical data on alcohol consumption, it is thought that the spectrum of alcohol drinking situations has become greatly diversified (1). Any social occasion is likely to become a drinking occasion. Drinking groups have become more heterogeneous in respect to age and sex. The traditional drinking practice of sharing a pot of beer, "chikari", is slowly disappearing. Now more importance is attached to individual and private alcohol drinking. Most high income groups drink heavily at home with their wives and friends.

The wide-spread availability of alcoholic beverages has reduced the difference between the urban and rural drinking patterns (1). What is conspicuous, however, are social differences in the type of alcoholic beverage used. Higher income groups tend to consume clear beers, wines and spirits. Low-income groups and the unemployed tend to drink opaque beers, illicit brews and illicit spirits (e.g. chikokiana and kachasu, respectively). Particularly on paydays, illicit beers and spirits are consumed on commercial farms, in high density suburban areas, in areas frequented by unemployed youths and low-income groups, and in low density areas where there is a large population of domestic workers.

Alcohol-related Problems

Despite the inadequacy of epidemiological data, there are a number of observations which indicate widespread abuse. Alcohol-related social problems are now managed increasingly by the Department of Social Welfare. The volume of hospital admissions with alcohol-related injuries and diseases is high.

The number of police arrests is increasing along with the prosecution of illicit brewers and beer sellers. Finally, the number of alcohol-related road traffic accidents is significant. The Casualty
Departments of most hospitals are overwhelmed by alcohol related injuries, especially at the end of the month and paydays.

Management of Alcohol Related Problems

According to the Ministry of Health, the problems of alcohol abuse are a significant factor in the provision of mental health services. A committee comprised of representatives from government ministries and nongovernmental organizations was formed in 1983. The committee recommended that alcohol-related problems need full involvement at all levels of health care and should not be seen in relation to the socioeconomic and cultural aspects of Zimbabwean life.

With regard to treatment services, the Health Ministry provides out-patient and in-patient treatment in general hospitals, psychiatric hospitals and clinics for patients who have alcohol-related medical or psychiatric problems (1). Rehabilitative and counselling services are offered by the occupational therapy staff, social workers and clinical psychologists in hospitals, psychiatric units and halfway houses. The Community Psychiatric Services provide counselling and support for problem drinkers in the community and those discharged from central, provincial and district hospitals.

The Zimbabwe Council for Alcohol and Drug Abuse is a voluntary organization that provides counselling for clients who have alcohol-related problems. It also provides public lectures on alcohol use to primary and secondary schools.

Alcoholics Anonymous (AA) is a fellowship of recovering alcoholics which provides psychological and moral support through the medium of group meetings. The fellowship has branches in most major towns of Zimbabwe. Social workers in the Department of Social Welfare provide counselling to clients with alcohol problems, and give support to health workers and other agencies involved in alcohol abuse and related issues.

Being one of the countries affected by problems caused by excessive alcohol consumption, Zimbabwe agreed in 1987 to participate in this international project, with the aim of finding preventive and curative measures to combat this problem.

METHODS AND PROCEDURE

This section describes the procedures employed by the Harare collaborating centre. Additional information about the experimental design, eligibility criteria, intervention procedures and training of the health advisers is provided in greater in detail in Chapter 3 of this report. Information about the primary and secondary outcome measures is given in Chapter 4.

Method of Recruitment and Recruitment Sites

This research was carried out in and around Harare, the capital of Zimbabwe. Participants were recruited from primary health care centres (general hospitals and polyclinics) and from teachers' training colleges.

Hospital and clinic participants (75%) were recruited at the outpatient departments where they were seeking treatment for various complaints. Patients were recruited in two ways. In some cases patients were referred by the medical staff. In other cases the health adviser sat side-by-side with the medical
staff, to whom the patients first reported, and requested that heavy drinking patients come to see her later in the day for screening.

The student teachers (25%) were recruited from colleges after first holding a meeting with the principals of the institutions, to whom the purpose of the research was explained and permission sought to recruit interested students. The Head of the College then called all students together in a hall, introduced the health adviser and left her with the students. The students were told that the research had to do with the general health of everyone and might help to solve personal problems of college students. It was further noted that the interviews would be done voluntarily and that the findings would be kept secret from anybody else, except the student concerned.

The patients at the clinics were told about the study in a similar way, emphasizing confidentiality. Screening was performed on a total of 900 persons at all sites. Of these, 161 were considered eligible and 129 (119 males, 10 females) were included in the study using the coordinating centre's universal eligibility criteria. Follow-up evaluations were completed on 92% of the eligible individuals.

The sample is composed exclusively of black Zimbabweans of low and middle class origins living in and around the City of Harare's high density population areas. They typically came from large extended families.

Experimental Design

At the time they were recruited into the study, patients were told that they were participating in a general health survey being conducted by the World Health Organization. It was explained that the information would be used to plan better health services in different countries and that all information would be kept strictly confidential. Patients were then interviewed for 20 minutes using the WHO Composite Interview Schedule, which asked about various health risk factors (including nutritional habits, smoking, exercise, sleep, and drinking behaviour). Following the interview patients were randomly assigned to one of four conditions: 1) a Control group that received no therapeutic intervention; 2) a group that received five minutes of advice about hazardous drinking (Simple Advice condition); 3) a group receiving five minutes of advice as well as 15 additional minutes of counselling about their drinking (Brief Counselling condition); and 4) a group that received the same intervention as the Brief Counselling condition in addition to general health counselling that dealt with smoking, diet, and exercise (Supplemental Counselling).

At the completion of the Composite Interview, patients assigned to the Control group (N=33) were thanked for their participation in the study and were asked to return for a follow-up interview in approximately six months. No information was provided about the specific purpose of the of the study, nor were they given any feedback about the potential hazards associated with their drinking.

Patients assigned to the Simple Advice condition (N=23) were told at the end of the interview that, on the basis of the information provided, their drinking might place them at risk for a variety of alcohol-related problems. They were then given brochure ("A Guide to Sensible Drinking") that showed the proportions of alcoholics and heavy drinkers in the general population; illustrated the amounts of alcohol contained in standard drinks of beer, wine and liquor; suggested what a sensible drinking limit was for men and women (no more than four standard drinks, five times per week for men; no more than three standard drinks four times a week for women); encouraged the patient to consider abstaining completely from alcohol under certain circumstances; and pointed out the health risks associated with heavy drinking.
Patients assigned to the Brief Counselling condition (N = 40) were first given the Guide to Sensible Drinking and exposed to the same five minute intervention as the Simple Advice group. They were then given a 26-page "problem solving" manual ("How to Prevent Alcohol-Related Problems") that described a self-management procedure to reduce alcohol-consumption and avoid alcohol-related problems. The health adviser explained that the manual could be used to develop a "habit breaking plan" that would assist the patient to achieve the sensible drinking goals described in the sensible drinking leaflet. The health adviser introduced the manual by reviewing sections that required the patient to choose a drinking goal (i.e., stop drinking or drink sensibly), identify reasons for cutting down, describe high risk drinking situations, develop procedures for coping with these situations, and identify other activities that could substitute for drinking. At the end of the counselling session the patient was encouraged to record the habit breaking plan in the back of the manual and to identify a helper, such as a spouse or friend, who could assist the patient to adhere to the plan.

An additional 17 patients were assigned to the Supplemental Counselling group that received the same intervention as the Brief Counselling group as well as additional advice about nutrition, smoking, exercise and stress management. This group was also given a 25-page "Self-Health Manual" that reinforced this advice.

Patients assigned to each of the conditions concluded the session by completing a brief self-report inventory (the Health and Daily Living Questionnaire) that was designed to measure self-confidence, global depression, typical coping responses to problems, and the patient's perception of the health adviser.

At the end of the session all patients were asked to return in six months for a follow-up interview. At that time a revised version of the WHO Composite interview was administered in addition to several self-report questionnaires. During the interview the alcohol dipstick was employed to test for recent alcohol consumption and to emphasize to the patient the importance of providing accurate information about their drinking behaviour.

**Health Advisers**

Although eight health advisers were trained initially to carry out the interviewing, only five of them participated in the investigation. All health advisers were female nurses by profession. Audio tapes were used to train health advisers to carry out the interviews in a standardized way. Several video recordings were made while health advisers were interacting with the clients. These were used for training purposes.

**Follow-up Procedures**

One hundred thirteen follow-up interviews were completed (92% of final sample). Twenty-five of them were short telephone follow-up interviews. The same five health advisers carried out the follow-ups. No health adviser did follow-ups where she had previously screened.

**Problems of Implementing the Study**

The problems encountered in carrying out this project developed primarily in the areas of funding, administration, personnel and logistics. WHO funds were delayed in Brazzaville for over six months for no apparent reason. By the time the funds arrived, some of our participants had dropped out. The Harare City Health Department had a policy against their staff members carrying out follow-ups at
government and other institutions during the follow-up phase. Two health advisers simultaneously took maternity leave. Printing materials (especially paper) were in short supply at the Ministry of Health.

Student teachers were away on internships throughout the country at a time when their follow-up interviews were due. As a consequence more money was needed to pay for travelling expenses of student teachers to come for follow-up interviews. We also did not have enough money to cover all travelling expenses of health advisers during the follow-up phase. Finally, there was a lack of consultant rooms for clients at some polyclinics and it was not possible to provide food to clients who came from far away for the interviews.

RESULTS

Before conducting the analyses, patients assigned to the four study conditions were compared on demographic characteristics and drinking behaviour at intake. No differences were found between groups in age, socioeconomic status, average daily consumption, intensity of drinking, days abstinent, recent problems and concern expressed by others.

Table 14.1 summarizes the findings for the control group and the intervention groups. The analysis of variance results indicate that there were significant changes after the intervention in typical consumption, intensity of drinking and number of drinking days. These changes occurred primarily in the intervention groups, as reflected in the significant interaction effect for drinking days. These results are illustrated in Figures 14.1 and 14.2, which show the before and after means for typical consumption and intensity of drinking. When the intervention groups are combined and compared with the control group, the interaction effect is significant for the two primary dependent measures (typical consumption, \( F = 6.45, p < .05 \); intensity, \( F = 9.22, p < .01 \)).

Regarding the other secondary outcome measures, Table 14.1 indicates that there were also significant reductions in the concern score and the dependence score. The lack of a significant interaction effect means that these changes cannot be attributed solely to the interventions because there were also changes in the control group.

DISCUSSION

The results of the Harare collaborating centre’s study of brief interventions in educational and hospital settings are highly encouraging in light of the significant reduction in drinking observed in the intervention groups. These reductions were uniform across all three types of intervention, suggesting that brief counselling did not add to the effect of the simple advice. These findings are particularly important for the planning of screening and early intervention services in primary care settings like those found in Zimbabwe. Primary care facilities are easily accessible to most of the population but they tend to be crowded and the nurses and doctors who staff them are preoccupied by more pressing health problems. To the extent that a brief screening interview and a few minutes of simple advice can influence a significant proportion of the male heavy drinkers, these findings may encourage health workers to take a more active role in advising their heavy drinking patients.

Not only were the interventions associated with significant reductions in the average amount of alcohol consumed, there were also changes in the intensity of drinking and the number of days drinking. The most dramatic change occurred in the intensity of drinking (see Fig. 14.2). At the time of screening these patients reported drinking approximately 10 standard drinks (16 cl) per drinking day, primarily in the form of beer. At the time of follow-up the intensity of drinking had been reduced to approximately
six standard drinks (9.82 cl), a level that is considerably closer to the recommended "sensible" drinking limits.

The results of this project have benefitted Zimbabwe beyond meeting its research objectives. The scientific methodology we have learned provides a basis to carry out similar research projects on our own with some assurance of its scientific acceptability. Not only that, this research has motivated us to train our own people to combat alcohol-related problems.

APPENDIX

Administrative Support/Funding

This research project was funded in part by the World Health Organization. In order to conclude the project the Zimbabwe Government donated extra funds in 1989. The study was carried out by the Ministry of Health. The following nursing sisters contributed materially to the project: J. Wachenjuka, M. Massunda, P. Dada, and E. Chinyadza.

REFERENCES


Table 14.1  Changes in Alcohol Consumption and Alcohol-related Problems according to Experimental Condition:
Harare, Zimbabwe

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*** p < .001
** p < .01
* p < .05
Figure 14.1
Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

Harare, Zimbabwe
(N=40)
(N=33)
(N=17)

Supplemental Counselling
Brief Counselling
Simple Advice
Control

Average to Home
Figure 14.2  Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e. Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

Harare, Zimbabwe

Control  Simple Advice  Brief Counselling  Supplemental Counselling

(N=33)  (N=23)  (N=40)  (N=17)

Before  After
Chapter 15

HOW BRIEF INTERVENTION WORKS: REPRESENTATIVE CASES AS VIEWED BY THE HEALTH ADVISERS

R. Hodgson & S. Rollnick

So far the main focus of attention in this report has been upon the effectiveness of Brief Interventions at each of the participating centres. In this chapter we will consider the process of giving such interventions, based upon written reports provided by 24 health advisers from nine of the countries involved in the study (18 female; 6 male). At the conclusion of the data collection phase at each site, the health advisers were asked to complete a semistructured questionnaire that asked about the reasons for good or bad outcomes, their impressions of the materials and methods, and ways of improving the programme. Health advisers were also asked to provide case histories of representative clients. We are very grateful for the help given by these health advisers in our attempt to draw upon their experiences in a variety of different countries, cultures and settings.

The following generalizations emerge from these reports:

1) Some drinkers were very antagonistic and some did not intend to change even though they listened politely. Having to carry out an intervention with these unwilling clients was usually an unpleasant experience for the health advisers.

2) Even with motivated clients, the longer intervention (20 minutes) which involved a detailed exploration of the contents of the self-help manual, was sometimes not well received.

3) All of the health advisers were able to describe examples of good interventions which appeared to have been effective.

An important concept which emerges clearly from the following reports is that of stages of change (1). Within that group of clients who are not ready for change there are some who are aggressive and others who simply do not intend to change. Some clients who are ready for action are cooperative but do not take the first step. Others are cooperative but are not able to change. This leaves a relatively small group who successfully initiate significant changes in their alcohol consumption and lifestyle.

In order to clearly communicate how difficult it can be to deal with uncooperative clients we will provide three examples of drinkers who were aggressive as well as resistant.

1. Pleven, BULGARIA: A retired military officer, aged 49, married with two grown-up children, drank mostly brandy. His wife requested help secretly because she was afraid of him. During the screening session he said to the health adviser: "I understand your problem - helping people, ha-ha-ha, but you don’t understand mine, because I have none. I live a healthy life. I am not a drunkard, dear lady, and so you had better leave me alone. My wife here will tell you that my drinking is normal." She informed the health adviser later that he had liver disease, but continued to drink heavily.

2. Mexico City, MEXICO: Mr P. was a 38-year old man who worked as a security agent. He usually carried guns with him. Mr P. lived with one woman who had three girls but they weren’t
married. He did not have a regular schedule at work; sometimes he worked at night, sometimes at noon. He was very reluctant to receive the Simple Advice since "all that stuff is useless and the information is only for young kids who do not know what they want". He was very aggressive during the interview and he only accepted the short version of the six-month follow-up interview. Mr P. did not change at all and continued to drink an average of 180 standard drinks per month.

3. Cardiff, UNITED KINGDOM: There were many people I saw who, if they took their car into a garage and the mechanic told them that they had a wheel missing, would ask for an oil change. So it was with Mr G: I had identified him as a very heavy Guinness drinker - ten pints a night. He was in hospital with stomach illness and gastritis which, given his consumption levels, were more than likely caused by his alcohol intake. On commencing the interview, I was given the impression of a middle-aged "macho lager lout". He answered every question with either ridicule or scorn. Working through the section on 'Good reasons for cutting down your alcohol consumption', Mr G. had an answer to every suggestion. For example, when I asked him how he afforded to drink, given he was unemployed, he answered that he was the Treasurer of the Club where he drank. When I asked him about his health given what I had said concerning the physical damage alcohol does, he said that everyone dies eventually anyway. I guess the best way to sum up the session was that he saw me as an opponent.

Other clients were cooperative during the interview but it was very clear that they had no intention of changing or attempting to change. For example:

1. Pleven, BULGARIA: A 48-year old baker, married with two children, had been drinking excessively for more than 20 years - mostly beer but sometimes brandy. During the screening and the 'Simple Advice' he was cooperative and didn't deny his drinking problem but added "I want to stop but I can't. Nobody can help me because I have no willpower. I am weak and I like drinking more than I like my wife and children. Friends forced me to stop but I couldn't and I can't. That is all." He still drinks too much but now works on a farm. Otherwise nothing has changed.

2. Harare, ZIMBABWE: An elderly woman started drinking when she lost her husband. She was left in charge of seven children who had to be fed, clothed and schooled. She tried hard to find a job and, in order to follow up contacts, started visiting hotels and pubs. Because she was shy she resorted to drink. Eventually she found a job that pays a minimum wage. Unfortunately, the job involves prostitution and she is now in a social setting where it is very difficult to resist drinking. It was clear from her comments that she couldn't change whilst working in this setting.

Another group of clients were very cooperative and tried hard to change but could not resist the temptation to drink.

1. Farmington, USA: A 65-year old divorced male, a retired lawyer, was drinking four 12 oz cans of beer two days a month, six oz of liquor plus five 12 oz beers 19 days a month, and ten oz of liquor plus six 12 oz beers, eight days a month with two days of abstinence per month. He was unable to stop drinking once he started and noticed hand tremors after a heavy drinking bout. He agreed that his goal was abstinence since he had tried to decrease his drinking several times in the past and was unsuccessful. He listed increased productivity and better health as his reasons for not drinking. High-risk situations for him were loneliness, or a telephone call from his diabetic son who had also lost his vision. He planned to cope by telephoning his brother or a friend. He attended all monitoring sessions and reported each time that he had tried to stop drinking but
failed. He had strong denial regarding his drinking and was not amenable to going to a self-help group or attending a more intensive programme. He did not identify a helper or use the diary cards. At follow-up he reported that his drinking had caused him to have a car accident, resulting in physical complications that ultimately caused him to be admitted to a convalescent home. He died approximately a year and a half following his participation in the study.

2. Nairobi, KENYA: Mr Y. aged 37, lived alone in a room in the city away from his family. His salary as a clerk was very meagre and, being the sole supporter of the family, he found it very difficult to cope. He suffered from a depressive illness. Mr Y. responded well during the interview and intervention. He seemed quite motivated to cut down his drinking; however, overwhelmed with problems, he found it very difficult to stop or reduce his consumption of alcohol. Mr Y. probably required continued support and counselling to help him cope with his problems. Brief counselling and advice could not have helped him.

3. Farmington, USA: A 55-year old separated female filled out the questionnaire in the medical clinic where she was being treated for arthritis. She mentioned in the interview that she thought she possibly had a problem with alcohol in the past and currently felt that her drinking had increased because she was dealing with problems related to her job, her family and a recent separation. She had received counselling in the past for emotional and nervous problems. She reported 14 years of education and was distressed that she was currently working in the hospital as a cleaning person. She mentioned that alcohol caused her to have difficulty concentrating, interfered with her sleep pattern and caused her to feel depressed. She presented as a passive person with low self-esteem who had tried to decrease her alcohol consumption in the past but resumed heavy drinking when problems with her children and husband recurred. At intake she had six days of abstinence per month with her low level being one eight oz glass of wine or one 12 oz beer. Her medium level was three oz drinks made with whisky and a high level being a fifth of whisky. At her first monitoring visit she had 17 days of abstinence with a low level of two 12 oz beers two days, no medium level drinking and a high level of four 12 oz beers on 11 days. At the remaining monitoring visits, she reported that she had increased her drinking in response to being unable to cope with family problems. She stated that she used alcohol to self-medicate even though it caused her emotional and family problems as well as exacerbating her problems with arthritis. She tearfully reported at follow-up that she attempted to cut down after each session and succeeded for a few days but was unable to continue. She stated at follow-up that she considered herself an alcoholic but was not ready for more intensive treatment at this time.

As indicated by the results reported in previous chapters, many clients responded to the Brief Intervention, usually because they were at the right stage and ready to receive advice.

1. Farmington, USA: A 41-year old married female, a high school graduate with 70 credits towards her Bachelors Degree, responded to the Health and Lifestyle Questionnaire. She was employed full time as a clinical instructor and worked part time as a hostess at an Inn. She reported a stable marriage with grown children. She rated herself as above average physically. She exercised at a gym, bicycled and played racquetball. She had an engaging personality with a social circle of approximately 50 friends, identifying eight as close personal friends. She attended church weekly. She completed the questionnaire and agreed to participate in the study because her consumption of wine was interfering with her health. She reported that consumption of alcoholic beverages caused her to have angina attacks, oftentimes resulting in a short period of hospitalization, the most recent within the past six months while on vacation. Another concern that she kept foremost in her mind was "my father was an alcoholic and I do not want to follow in his footsteps". The
patient was concerned about her alcohol use prior to the interview, motivated to make changes and receptive to the advice. She related an anecdote about her recent hospitalisation involving a similar type of questionnaire. She stated that she drank four glasses of wine and the 'young doctor' reviewing the questionnaire assumed that she meant per week and stated that '4 glasses of wine per week never hurt anyone.' She said that, although her increased consumption of wine on vacation was the precipitating cause for her hospitalisation, she did not correct him because she became embarrassed. During the 'Simple Advice' she agreed that she was in the heavy drinker category and was surprised at the effect of alcohol on various body systems. While reviewing the Self-help Manual, the patient related that her family was so conditioned to her drinking that her husband would have a glass of wine poured for her when she came in the house after work. She felt that her drinking had become such a habit that she no longer made the decision to drink but did so automatically. She identified health as the major reason to decrease her alcohol use and listed ongoing problems with a co-worker as a high-risk situation for her. She planned to reduce tension by exercising and by using the Jacuzzi to relax. She chose her husband as her helper. She returned for all monitoring sessions, used her diary cards and was able to decrease her drinking. Interestingly, she reported that her husband also decreased his drinking significantly. At follow-up a typical month for this subject was ten days of abstinence, 19 days at her low level, one day a month at her medium level (four glasses of wine) and no high-level days. At follow-up this patient reported that her participation had a large influence on her health by increasing her awareness of the link between alcohol and health problems. She noted that the diary cards were an excellent aid, forcing her to look at the amount she drank every day. She remembered the amount in a standard drink and the need for three days of abstinence per week. She liked the idea of writing down goals and choosing alternative behaviours, remarking that the interviews with the health adviser were the most helpful and that, at no time, did she feel lectured to.

2. Harare, ZIMBABWE: Mr M. is a single 21-year old gentleman, a graduate in Civil Engineering who lived alone. He felt depressed at times due to loneliness. He had loss of energy at times, had lost interest or pleasure in sex and was having trouble concentrating, thinking and making decisions. He had problems finding a job and was drinking too much as a result. He was given Simple Advice and the self-help manual. He was extremely interested and eager to change as he realised that he was a heavy drinker. Mr M. made use of the ideas in the Sensible Drinking Leaflet. Gradually, he changed his social life and found a girlfriend. He needed minimal help since he was highly motivated to change his pattern.

3. Pleven, BULGARIA: Mr V. aged 33, is a married agricultural worker with two children. For ten years he has been drinking too much, predominantly beer and brandy. The main problem for him is family conflict. Shortly before the screening and the Simple Advice his wife declared that she would leave him for ever and would leave the children with him. During the sessions Ivan was very cooperative and eager to know more. He immediately stopped drinking and was abstinent more than two years later. His wife is very satisfied and this year they began to add an additional wing to their house.

4. Cardiff, UNITED KINGDOM: Mr L. was an elderly gentleman who was about to retire from his school caretaker's job. His drinking was fairly heavy. He drank from habit and ignorance of the harm. This gentleman was very amiable and did not hesitate to volunteer information of any kind. I think with my tweed jacket and gold-rimmed glasses I appeared very much like a young doctor attached to the establishment. The rapport which I had developed with the nursing staff increased the pretence that I was part of the medical establishment. I had just started the interview when the Mr L.'s wife joined us. It was not long before she began to join in like an informant.
They both participated willingly, as if it were a game show with the prize being better health. When I came to the counselling session, it seemed a natural progression, putting my questionnaire aside and making my informal stance clear, so there could be no doubt that I had moved away from one task and had begun another. I opened with the usual question "How do you feel about your drinking?" I got the dream reply "I think perhaps I drink too much. What do you think?" Mr L. said this genuinely. I think he was surprised when I was assessing his consumption levels, with his wife's help, during the questionnaire phase. It was no problem from then on to go through the booklet. His wife was a good motivator. I had sold her the idea that there was risk and she had implicitly formed her good reasons why he should cut down. As he did all his drinking at home the prognosis was good. He did very well.

5. Mexico City, MEXICO: An 18-year old man was randomly assigned to the Extended Counselling condition. He used to work repairing shoes but had been fired. He got depressed after drinking because his parents got angry. He drank at least 200 beers per month. He cooperated very well. He accepted the blood test during the monitoring sessions. He came back to all these sessions. He brought to each session his diary cards and his habit-breaking plan. He learned to drink no more than six drinks a day. Not all months were successful but he only got drunk once during this follow-up period. I think the intervention was effective because the sessions provided him with a place to talk about his loneliness and his failures. The Brief Counselling gave him some coping strategies and he became aware of the damage caused by the alcohol. The intervention was also successful because 'someone' was concerned about his life and habits. After six months his life had changed; he got a job and a girlfriend, and he was planning to live by himself. I don't know what part of the intervention helped but it was an important factor which motivated him to change.

6. Sydney, AUSTRALIA: T. was a middle-aged lady who was separated from her husband and had custody of her two adolescent children. She was quite a religious person. T. had moved to Australia after separating from her husband who stayed in New Zealand. Since moving to Australia T.'s children had become rather rebellious, especially her daughter. This upset her and she believed that this was partly to blame for her excessive drinking. T. was in the Extended Counselling Group. One major focus of the intervention was on her hobbies and leisure activities. For example, she used to paint and write songs. She was encouraged to take these up again. T. did this very successfully and both her relationship with her daughter and her ability to drink sensibly significantly improved.

7. Moscow, USSR: A 38-year old married man, with secondary education, who was the leader of a team of metal workers, usually drank 300 g of vodka twice a month, and 2-3 bottles of beer several times a month. There were no negative social consequences caused by alcohol. He was sure that he "drinks like all other people". During the first consultation, the patient was worried about being overweight. He was hypochondriacal and had high blood pressure. He was enthusiastic about the consultation and was very interested in the relationship between his weight and alcohol abuse. The patient agreed to come again and was the only person who came for the monitoring three times. He said that he had read both the manual and the leaflet which, together with the consultation, showed him the necessity of "giving up drinking". He didn't make a plan as the monitoring demanded, he just decided "to refuse alcohol". Follow-up examination was two years later. During that time he practically didn't drink at all. This was confirmed by his wife. Now he is pleased with his sober mode of life, tries to be an example to members of his working team, and showed them the manual. He decided to stop drinking to reduce his weight and high blood pressure. His hypochondriacal tendencies probably helped.
8. Harare, ZIMBABWE: A married 55-year old lady who is a housewife in Harare had visited a primary health clinic for skin rashes, and found herself a willing candidate for the project. Her husband was retired and both parents were being maintained by their children and the little that the husband got from his pension. This lady was drinking Super Draft, four litres every day. She was extremely interested in taking part because she knew she would get help. She was assigned to the Simple Advice group. She was extremely keen to know the effects of alcohol on one's organs. She admitted she had a serious problem and said she would cut down as she did not want to end up as an alcoholic. She responded favourably to our intervention and indicated she needed more information. The session went very well and the lady cut down on her drinking considerably. Her participation had a large influence on her health. She commented that she felt healthier than ever before and was caring for her husband and they were living happily. I think this lady changed her drinking pattern because she realised she was getting hooked on drink, was not eating, and relatives were complaining and upset.

9. Moscow, USSR: A single man of 33 who worked as an engine fitter in a factory was detected during screening. The patient honestly admitted that he had been drinking a lot: 350 g of vodka 1-2 times a week and sometimes up to 500-700 g. He also bought 3-4 bottles of beer several times a week. Lately, the patient had noticed that he was beginning to feel worse and had frequent severe pain in the left hypochondrium. He said that, because of his health, he began to drink less during the last year as he felt bad after alcohol. Tiredness and bad mood were reasons for his drinking when he was with his friends. During a consultation the doctor directed the patient’s attention to the negative influence of his excessive consumption on his health. For the sake of health he was encouraged to change his attitude to drinking. The patient was rather friendly, sincere, and showed interest and enthusiasm in the advice. At the same time the intellectual level of the patient was not very high: he had difficulty in understanding some questions and didn’t read the manual because it was too long. At follow-up almost two years later, the patient said that after consultation with the health adviser his life was the same. As he put it, he “didn’t take doctor’s words seriously”. Half a year later, during an examination, the reason for which was stomach pain, a doctor diagnosed pancreatitis. The internist mentioned again the harmful influence of alcohol on health. After a course of treatment for pancreatitis the patient refused to take special medicine any more and instead tried to lead a healthy life. He finally realised that it was important for him to give up alcohol. Since then, for more than six months, he didn’t drink at all. This example shows the possibility of a 'postponed influence' of Simple Advice. At first, the recommendations were not followed but played a role in combination with other life events.

VIEWS ON WHY AND WHEN A BRIEF INTERVENTION WORKS

The aim of this section is to pool the views of health advisers in order to develop a range of hypotheses about the process of change. What follows is certainly not hard evidence; nevertheless, these views can be tested in future research.

The clients who are most unlikely to respond to a Brief Intervention are as follows:

1. Those who have experienced a very significant loss as a result of their excessive consumption and feel helpless (e.g. loss of family or job).

2. Those with a severe psychological problem (e.g. depression).
(3) Those who are just about getting by in life and have many more urgent and pressing needs than reducing their alcohol consumption.

(4) Young men who do not accept that they have a problem.

(5) Those who are not concerned about their physical or psychological health.

(6) Those for whom drinking is the only social activity.

(7) Those who have a strong compulsion to drink.

Health advisers commented that a Brief Intervention works best when a person is ready to change, or almost ready to change. The Brief Intervention can act as a cue to action or can help to reinforce the perception of a link between excessive consumption and negative consequences. The following are verbatim statements from health advisers.

REASONS GIVEN FOR GOOD OUTCOME

(a) Perception of risk

- concerned about health
- interested in physical harm caused by alcohol
- learned he had high blood pressure
- father was an alcoholic
- loss of energy
- lost interest in sex
- wanted to get rid of tiredness/depression
- "no one ever told me that drinking so much can be harmful"

(b) Negative social or environmental pressures

- arguments with sister
- arguments with spouse
- arguments with children
- problems at work
- poor relationship with friends
- driving licence taken away
- son’s illness

(c) Positive social or environmental changes

- moved house
- motivated by health adviser
- separated from heavy drinking wife
REASONS GIVEN FOR POOR OUTCOME

(a) Social context

- only social outlet
- peer pressure too strong
- drinking is integral part of culture
- no alternative leisure activities

(b) Denial or resistance

- refused to admit intake was excessive
- no desire to change
- did not believe that medical problems were related to alcohol consumption
- hostile and uncooperative
- indifferent
- doesn’t believe in doctors
- no intention to change
- resistance to label 'excessive drinker'
- if I wanted to stop I would

(c) Attempt to change unsuccessful

- agreed to goal of abstinence and tried to change but couldn’t
- tried but could not stop

Health advisers tended to believe that alcohol consumption that was associated with severe psychological problems or strong social pressures could not be easily influenced by a Brief Intervention. They concluded that a Brief Intervention should focus very strongly upon the family and physical problems caused by alcohol (including impotence in men). The focus has to be on cutting down rather than stopping, and on personal responsibility rather than repeated professional interventions. The style of intervention has to be accepting with a touch of humour rather than lecturing and accusing. The central aims should be to focus on reasons for changing and to give confidence that change can be achieved.

VIEWS ON THE BRIEF INTERVENTION MATERIALS

Most health advisers responded favourably to the Simple Advice leaflet. It caught clients’ interest: it was clear and simple. On the other hand, the manual which was used in the longer intervention (Brief Counselling) had a mixed reception. Some reported that it was just about right and helped to structure sessions. Others found it to be too long and some of the sections were not relevant to their particular clients, in their particular social context. (37% found it to be too long; 47% found clients to show opposition/indifference; 40% rated the manual as NOT culturally appropriate).

SUMMARY OF HEALTH ADVISERS’ VIEWS ON THE MANUAL CHAPTERS

Health advisers were asked to rate and comment on each section of the self-help manual. The overall ranking of usefulness is based upon their combined comments.
(a) Good reasons for drinking less: Generally rated highly. A useful way of exploring personal reasons for changing. 
RANKED 1

(b) High-risk situations: Reasonably good response. Good basis for exploring pressure to drink excessively. 
RANKED 2

(c) What to do when you are tempted: Conflicting views. This section was viewed by some as boring and not relevant in their cultures. Others had more positive experiences. 
RANKED 5

(d) People need people: Health advisers tended to be more critical of this section. It was considered too long, not culturally relevant, and difficult to implement. 
RANKED 7

(e) What to do about boredom: Again, a mixed response. Boredom was often not a major factor and some suggestions were not considered culturally appropriate. 
RANKED 6

(f) How to stick to your plans: Often difficult to implement since many of the drinkers in the study do not habitually make plans or repeatedly bring them to mind. 
RANKED 4

(g) The habit-breaking plan: Some health advisers had a good response to this section and found that it was clear, concise and easy to use. Others found that clients did not respond well to a simple plan. 
RANKED 3

The health advisers' comments suggest that only four sections should be used for Brief Interventions in the future. They are:

- Good reasons for drinking less
- High-risk situations
- The Habit-Breaking Plan
- How to stick to your plans

The health advisers were also asked about the monitoring visits. On the whole monitoring visits were not well received but it did appear that those who agreed to this intervention were well motivated and did well.

DELIBERATING A BRIEF INTERVENTION SERVICE

Health advisers were asked about possible methods of delivering the service. The most popular choice was to add screening and Simple Advice to the everyday work of health workers in a range of settings. The second choice was a health promotion team covering drinking, smoking, over-eating, drugs and exercise. Support and supervision were considered to be important by the majority of health advisers with psychiatrists or psychologists being the professions most frequently proposed. Sixty per
cent of the health advisers considered the sex of the health adviser to be of no importance. The health adviser should be realistic, warm, not a preacher, and have a sense of humour.

A wide range of suggestions were made about the length of time required for training, presumably because of different views about the level of skill required of a health adviser.

Overall, the health advisers were happy with their role and obtained some satisfaction from helping people and gaining knowledge. On the other hand, the unpleasant aspects of their work would need to be addressed. These include dealing with difficult and aggressive clients, boring and repetitious interventions, time pressures and lack of confidence.

The views of health advisers support the careful research on stages of change carried out by Prochaska and DiClemente (1). The usefulness of determining stage of change in hazardous and harmful drinkers has led to the development of a brief questionnaire that can be employed by health workers (2). Brief Interventions should be tailor made to apply to particular stages of change. The following examples illustrate how this could be done.

Pre-contemplation: Look for an entry point - that is, a small area of agreement about the harmful effects of excessive drinking (e.g. drunk drivers). Explore possible relationships between alcohol and physical/social damage.

Contemplation: Focus upon actual concerns. Explore and reinforce appropriate outcome and efficacy expectancies.

Ready for Action: Discuss simple coping strategies. Discuss the possibility of relapse.

Action: Help to reinforce strategies which are actually being used as well as future relapse prevention strategies. Encourage clients to return for continued monitoring.

Maintenance: Review successful coping experiences. Discuss the possibility of relapse.

Having available a set of Brief Interventions to match the stages of change deals with many of the comments from health advisers.

- Clients are more likely to feel that the intervention is relevant.
- They are less likely to be aggressive and bored.
- They are more likely to remember the content of the interchange.
- They are more likely to return for further Brief Interventions.
REFERENCES


Chapter 16

COMBINED ANALYSES OF OUTCOME DATA:
THE CROSS-NATIONAL GENERALIZABILITY OF BRIEF INTERVENTIONS

WHO Collaborating Investigators*

INTRODUCTION

This chapter reviews the results of the individual centre studies and lays out the rationale for a series of combined analyses that aggregate data across centres. These analyses not only evaluate the robustness of the findings reported by the collaborating centres in previous chapters, they also explore various moderator variables that may help to explain the findings.

As described at the beginning of this report (Chapter 2), the major aims of this project were: 1) to study the relative effects of simple advice and brief counselling on short-term changes in hazardous drinking behaviour; 2) to investigate the mediating role of reduced consumption on the incidence of alcohol-related problems; and 3) to evaluate the robustness and cross-national generalizability of brief intervention strategies.

The primary hypothesis tested by this study is that the reduction in drinking behaviour over a six month period would be proportional to the intensity of the intervention, with increasing benefit (in comparison with control patients) resulting from simple advice, brief counselling and extended counselling, respectively. Although several studies have demonstrated significant differences between groups exposed to brief interventions and those receiving no treatment (1–4), others have failed to show clear differences between different types or intensities of brief intervention (5–9). The relatively small samples available in many of these studies could have obscured small effects that may nevertheless be meaningful in terms of large scale public health programmes. This is suggested by findings reported by Wallace et al. (1), which showed that response to a brief intervention was greater in patients who returned for additional counselling sessions with their general practitioner.

A second hypothesis is that patients who reduce their drinking will also experience fewer alcohol-related problems. This hypothesis derives from research indicating that reduced drinking following brief interventions is associated with improved liver function (1), fewer sick days (2), less time in hospital (2,10), fewer alcohol-related problems (4), and lower mortality rates (2).

A third hypothesis is that the effects of brief interventions should be similar across different cultural groups and health care settings, to the extent that they are based on sound behavioural principles, are not culture-specific, are directed at universal drinking patterns (frequency of alcohol consumption, intensity of drinking) and are used with persons without severe alcohol dependence. This hypothesis is based on evidence that similar motivational and behaviour change strategies have been effective with high risk drinkers in a variety of different countries, including Sweden (2), the United Kingdom (1,3,4), Canada (11), and Norway (12). Because these studies differ in the type of intervention and in the

* This chapter was drafted by T.F. Babor. The following individuals made substantive contributions to the design, implementation and analysis of those aspects of the project described in this chapter: F. Del Boca, B. McRee, W. Acuda, M. Grant, J. Saunders, A. Skutle, M. Machona, S. Rollnick, C. Campillo, N. Ivanets, M. Lukomskaya.
characteristics of the patients, the present study was conducted in a variety of countries to evaluate the cross-national generalizability of these findings.

Finally, the present study investigated the potential role of several moderator variables expected to either enhance or diminish the effects of brief interventions. One influential study (13) reported that severity of dependence interacts with the intensity of the intervention, suggesting that persons with low dependence respond best to minimal interventions, while persons at higher levels of dependence fare better with more intensive treatment. Other studies (8,13,14) have identified family history of alcoholism, severity of alcohol-related symptoms, sociodemographic factors, motivation for change, and gender as possible moderating variables, but the findings have not been consistent with regard to predictors of successful outcomes and response to specific interventions (1,3). In the present study, a number of potential moderator variables were investigated. It was expected that severity of dependence would be associated with generally poorer outcomes but that patients having higher levels of dependence would respond better to a more intensive intervention. We also investigated depression, perceived motivation for change, social support, demographic factors and a variety of other variables as moderators. It was predicted that patients with less depression and more social support would benefit more from the minimal intervention, simple advice. Patients who were rated by their health advisers as more cooperative, friendly and motivated were expected to respond better than those rated as uncooperative, unfriendly and unmotivated. This is based on the assumption that health professionals are capable of detecting attitudinal tendencies by means of the patient’s verbal and nonverbal cues, and that these tendencies affect the patient’s motivation to comply with the advice and counselling. Regarding demographic variables, it was predicted that married patients would respond better than unmarried patients, and that older patients would respond better than younger patients. Finally, measures of the health adviser’s degree of rapport or empathy with the patient were included to study the role of therapist factors in the effectiveness of brief interventions. The literature on brief intervention (4,15) suggests that an understanding, empathic therapist is an important part of the change process. It was therefore expected that patients who rated their health advisers high in terms of friendliness, pleasantness and warmth would respond more favourably than those not perceiving their therapist in this way.

An underlying assumption of the secondary prevention procedures tested in this study is that chronic drinking and frequent alcohol intoxication increase substantially the risk of social, medical and psychological problems. Consistent with the findings of other investigators (16-18), Chapter 4 showed that, despite pronounced differences among the samples in demographic characteristics and drinking patterns, there were remarkable similarities across centres in the relationship between alcohol consumption and alcohol-related problems such as physical complaints, hypertension, concern expressed by others and psychosocial problems. For both men and women, alcohol-related consequences in practically every category varied directly with the average amount of daily consumption and the intensity of drinking per occasion. These findings were obtained even after controlling for the effects of sociodemographic variables (age and education) and sociocultural differences among the centres. The findings indicate that the pattern and amount of alcohol consumption are important mediators of adverse consequences, and suggest that interventions designed to reduce the quantity and frequency of drinking should reduce the risk of alcohol-related problems.

The results of the individual centre studies (presented in Chapters 5-14) showed significant reductions in at least one of the primary dependent measures (average daily alcohol consumption, intensity of drinking) at five sites (Australia, UK, USSR, USA and Zimbabwe) for male heavy drinkers in the intervention conditions. Two centres (Mexico and Kenya) showed reductions in both the control and intervention groups, and two centres (Norway and Bulgaria) showed no changes in either group.
One centre (Costa Rica) assigned patients to standard treatment rather than to an untreated control group. Female heavy drinkers studied at two sites (Australia and USA) reduced their drinking at follow-up regardless of whether they were assigned to the intervention conditions or control group.

Although the findings from individual centres are encouraging, they are somewhat inconclusive with respect to the major hypotheses under consideration. This lack of consistency is not unexpected, given the differences among the centres in sample size, settings, patient characteristics, drinking patterns and in the implementation of the study design. To the extent that these extraneous factors introduce random variation into the data and affect the power of the statistical tests, it is likely that the results of each individual centre will differ. In the analyses described in this chapter, data from those centres that implemented the core design with random assignment are aggregated to test the consistency of the findings across sites when other sources of variability, such as sociodemographic characteristics and site effects, are taken into account.

**METHOD**

The assessment procedures, experimental design and follow-up methods have already been described in Chapters 3 and 4. This section describes the study samples included in the combined analyses and the rationale for the statistical tests employed.

**Description of Study Samples**

As described in Chapter 3, a total of 1,655 nonalcoholic heavy drinkers (1,356 males, 299 females) were recruited from a combination of hospital settings, primary care clinics, work sites and educational institutions. Although ten centres participated in the study, the analyses reported in this chapter are based on only those patients recruited at the eight centres that were able to implement the core WHO research design, i.e. random assignment of patients to the three core study conditions (Control, Simple Advice, Brief Counselling). One of the centres (Pleven, Bulgaria) was excluded because patients were not randomly assigned to the study conditions (see Chapter 6). Instead, all patients in a given condition were recruited from the same apartment block, thereby introducing the possibility of sampling bias. Another centre (San José, Costa Rica) was not able to assign patients to the standard control group, using instead a six session outpatient programme as a comparison condition for Brief Counselling and Extended Counselling (see Chapter 7).

Of the 1,490 eligible patients initially recruited at the eight centres, 75% were successfully interviewed for the follow-up evaluation. Because of differences in the way the research protocol was implemented at some centres, the time at which the follow-up evaluation was completed varied across centres. On average, these patients were contacted nine months after random assignment to either control or intervention conditions. At two sites (Cardiff, UK, and Nairobi, Kenya) a substantial proportion of patients were unavailable for follow-up because of geographical distance from the site, failure to obtain accurate locator information, or staffing difficulties that prevented a complete search for all patients. Patients who participated in the follow-up evaluation were compared with nonparticipants to determine whether the missing cases could introduce sampling bias into the results. Comparisons were conducted by means of multiple t-tests on the following variables: age, education level, average daily consumption, intensity of drinking, average drinking days per month, dependence score, concern score, and problem score. The results indicated that female participants differed from nonparticipants on two of the nine variables. Nonparticipants at the time of recruitment reported a significantly lower education level ($t = 3.72$, $286 \text{ df, } p < .001$) and significantly higher average daily alcohol consumption (5.51 vs 4.67 cl per day, $t = 2.04$, $286 \text{ df, } p < .05$) than follow-up participants.
Males lost to follow-up differed from follow-up participants on five variables. Nonparticipants were significantly younger (33.9 vs 38.0, t = 5.12, 1271 df, p < .001), less educated (t = 5.59, 1270 df, p < .001), more dependent on alcohol (t = 2.40, 1271 df, p < .05), and reported higher average daily alcohol consumption (7.77 vs 6.68 cl per day, t = 3.81, 1274 df, p < .001) and a greater intensity of drinking (13.37 vs 12.25 cl per day, t = 3.35, 1274 df, p < .001) than follow-up participants.

The presence of these differences to some extent reduces the generalizability of the findings to patients with a less serious history of alcohol involvement and with greater social stability. To address this problem analyses were conducted on subgroups of patients classified according to alcohol consumption (high, low), problem history (greater, lesser) and dependence severity (low, medium, high), as well as marital status, age and educational level. Analysis of these moderator variables provided evidence that the effect of brief interventions is similar for patients with characteristics similar to those lost to the follow-up evaluation.

Tables 16.1 and 16.2 describe the demographic characteristics of male and female patients recruited at the eight centres. Only patients who were successfully contacted for the post-intervention follow-up evaluation are included in this table and in subsequent analyses. Table 16.1 shows that the male patients differ significantly across sites in age and education levels. The average age of the male sample is 38 years, with patients in the developing countries tending to be younger and less educated. Except for the English-speaking centres (Sydney, Cardiff, Farmington), the proportion of divorced patients is relatively low, with most patients either single (30.4%) or married (60.0%). As shown in Table 16.2, the female samples are younger than the males (35.69 years), better educated (12.85 years) and have a higher prevalence of separation or divorce (21.4%). As previously reported in Chapter 4, there were significant differences across sites on all background variables.

To evaluate the effectiveness of the randomization procedure, patients were compared across conditions on demographic variables, alcohol consumption and alcohol-related problems. No significant differences were found between the male groups on age, education level, average daily alcohol consumption, dependence severity, concern expressed by others, and alcohol-related problems. The groups did differ with respect to intensity of drinking (F [2,899] = 4.25, p < .05) with the control patients reporting lower amounts per drinking day than each of the intervention groups (p < .05, multiple range tests). No differences were found across conditions in any of the comparisons of the female samples.

Data Analysis

The results were analyzed separately for males and females using data from the eight centres capable of implementing the core research design. A major problem with the analysis of cross-national data is the separation of treatment effects from other sources of variability that may introduce random or systematic error into the results. Cultural differences in response to the interventions cannot be evaluated independent of other sources of variation, such as setting characteristics, age, and socioeconomic status. Because patients were not sampled randomly from the general populations of the participating countries (or even from the recruitment settings), it is not possible to evaluate differences in treatment response as a function of culture.

While it would have been interesting to study cross-cultural variability in treatment response, a more practical aim is to evaluate the consistency of response across diverse cultural groups and health care settings. To evaluate the independent contributions of the interventions, the effects of two major "extraneous" variables (age and socioeconomic status, as measured by occupational prestige (males) or education level (females)) were controlled by analysis of covariance. In addition, the initial levels of
each dependent variable were entered as covariates to control for differences across conditions in baseline levels of the various primary and secondary outcome measures. In order to control for site differences in the implementation of study procedures and broader sociocultural factors, the eight sites were included in the ANCOVA model of the male samples as an independent factor along with study condition. By using an analysis of variance procedure called Multiple Classification Analysis (MCA), it is possible to evaluate the direct effects of the interventions by controlling simultaneously for the covariates and the site differences. It was not possible to include site as an independent factor in the analysis of the female samples because the numbers were too small for sites other than Sydney and Farmington.

To assure comparability of socioeconomic status across samples, the standard international occupational prestige scale developed and validated by Treiman (19) was employed. This scale provides prestige ratings for over 100 occupations found to have cross-national comparability in western industrialized countries, socialist countries, and the developing countries.

In order to take full advantage of the data collected in this study, it was decided to combine samples assigned to the Brief Counselling and Extended Counselling conditions. There were several reasons for this strategy. First, three of the eight centres (Nairobi, Cardiff and Zimbabwe) did not include this optional condition in their study design. Second, analysis of the data at the six sites with Extended Counselling indicated no differences between this condition and the Brief Counselling condition. Finally, several centres (e.g. Moscow, Mexico City) reported that there was minimal compliance with the return visits required for Extended Counselling, thereby diluting its potential effectiveness.

RESULTS

Mean Differences

Tables 16.3 and 16.4 present adjusted means for the primary and secondary outcome measures for males and females, respectively. The means are adjusted for the effects of covariates and site differences. Because of the large number of comparisons, only F-statistics that are significant beyond the .01 level will be discussed. The results for males indicate significant differences among conditions for all dependent measures. Although there were significant differences across centres (as would be expected from the results presented in Chapter 4), there were no interaction effects on any dependent measure between condition and centre. This means that the main effects for treatment condition were consistent across centres.

Post hoc comparisons of the mean change scores on the primary dependent variables (average daily consumption and intensity of drinking) across conditions showed that the control group reported significantly less change (p. < .05, two tailed t-tests) than each of the intervention groups (Simple Advice and Brief Counselling). There were no significant differences, however, between the Simple Advice and Brief Counselling conditions. These findings are summarized in Figures 16.1 and 16.2, which show the unadjusted baseline as well as follow-up mean values for each condition. Comparison of mean differences between intake and follow-up indicated significant reductions (t-test < .05) in drinking within all conditions for both average daily consumption and intensity of drinking. Although there was a significant reduction in the control group as well as the intervention groups, the differences were greater in the intervention groups. For example, Figure 16.1 shows that while the Control group reduced its typical daily consumption by 10.08%, patients in the Simple Advice and Brief Counselling groups reported 37.79% and 31.85% less drinking, respectively.
Table 16.3 shows that the differences between the control and intervention groups in the average daily amount and intensity of drinking were accompanied by similar differences in the number of drinking days and dependence symptoms. Separate comparisons of the intake and follow-up means for these secondary outcome measures showed significant differences (t-test < .05) within all conditions.

The results for females are presented in Table 16.4 and in Figures 16.3 and 16.4. Table 16.4 shows that none of the F values attained statistical significance. Although these results indicate that there were no differences among conditions at the time of the follow-up evaluation, Figures 16.3 and 16.4 show that there were consistent reductions on both primary drinking measures in relation to baseline levels. Repeated measures analysis of covariance indicated significant main effects for Time on both measures. Post hoc comparisons of the before and after means (see Figs. 16.3 and 16.4) revealed significant reductions within all conditions, although the per cent change in the intervention groups was somewhat higher. The results for the secondary outcome measures were variable. Although there were no differences among the adjusted follow-up means, significant changes over time were found within all conditions in drinking days, within the Simple Advice condition on the concern score, and within the brief counselling condition on the dependence and problem scores. These results indicate that while there was no strong evidence for a differential treatment effect, there were significant reductions in drinking and alcohol-related problems in the female samples that were slightly more pronounced in the intervention groups.

To check the consistency of the findings pertaining to the primary dependent measures, the same Analysis of Covariance was employed using an alternative measure of the typical quantity of drinking. This measure, described in Chapter 3, consisted of four fixed response questions that asked about the typical quantity and frequency of both "usual" and "heavy" alcohol consumption. These questions were asked immediately before the more detailed Tri-level Consumption procedure in order to obtain an independent estimate of alcohol consumption at follow-up. The results are shown on Tables 16.3 and 16.4 next to the outcome variable entitled "Alternative consumption estimate." The means, adjusted for covariates and (in the male sample) the other independent variable (i.e. centres), reveal the same pattern of statistically significant differences between conditions, with the Control group reporting higher alcohol consumption than the intervention groups.

**Indicators of Improvement**

The results presented thus far describe mean differences between groups corrected for covariates and other extraneous factors. Another way to evaluate the results is to examine the proportions of patients that changed in some clinically meaningful way in terms of their drinking behaviour or alcohol-related problems. Table 16.5 shows the proportions of men and women whose drinking at the time of the follow-up evaluation had decreased, increased or remained the same, relative to baseline levels. Using one standard drink [approximately 1.5 cl ethanol (14 g or 0.5 ounces)] as the criterion for both increased and decreased consumption, Table 16.5 shows that 40.5% of the males had reduced their average daily drinking at follow-up, while 22.0% had increased. The figures for the Simple Advice group (58.2% decreased, 9.3% increased) were the most favourable, followed by the Brief Counselling group (52.4% decreased, 12.4% increased). Regarding the intensity of drinking, Table 16.5 shows even greater differences between the intervention and control groups. While 42.4% of the Control group men had reduced the intensity of their drinking by one standard drink or more, approximately 20% more of the Simple Advice and Brief Counselling groups had changed this much. Of equal interest, smaller proportions of the intervention groups (12.7% Simple Advice, 15.1% Brief Counselling) had increased in comparison with the Control group (25%). Chi square analyses were conducted to test for a significant association between treatment group and change status at follow-up. To facilitate
interpretation, persons who indicated no change were combined with those who increased. The results were significant for both average daily consumption (\(X^2 = 18.73, 2\) df, \(p < .01\)) and intensity of drinking (\(X^2 = 34.33, 2\) df, \(p < .01\)).

The results for females show a similar trend toward decreased consumption in the intervention groups. Although the treatment groups did not differ significantly in terms of average daily consumption (\(X^2 = 1.42, 2\) df, N.S.), there were significant differences in the intensity of drinking (\(X^2 = 9.88, 2\) df, \(p < .01\)). A greater proportion of patients assigned to the Simple Advice condition (55.7%) and Brief Counselling condition (66.7%) reported decreased intensity of drinking in comparison with the control patients (39.6%).

A summary of the major findings regarding changes in alcohol consumption and related problems is provided in Tables 16.6 and 16.7, which show percentages of patients within each condition who reported abstinence, hazardous drinking, and alcohol-related problems before and after participation in the study. Table 16.5 shows that while none of the study participants were abstinent during the six month period before the study (primarily because abstinent patients were excluded from participation), small proportions of the patients in the Control condition (4.0%), Simple Advice condition (7.0%) and Brief Counselling condition (9.0%) reported total abstinence at the follow-up evaluation. Similar changes were observed in the proportions of patients reporting daily or almost daily drinking (28 or more days per month). Daily drinking decreased 3% in the Control group (from 26% to 23%), 4% in the Simple Advice group (from 19% to 15%) and 8% in the Brief Counselling group (from 22% to 14%). These latter differences were statistically significant.

An obvious question regarding response to the brief interventions employed in this study concerns the number of patients who succeeded in reducing their alcohol consumption to the recommended limits. The table shows that while 17% of the male Control group patients had reduced their drinking below the recommended weekly limit, greater proportions of those receiving Simple Advice (26%) and Brief Counselling (22%) achieved the "sensible drinking limits." Although the differences between the control and intervention groups are statistically significant, the follow-up proportions indicate that half of the patients in the intervention groups were still drinking above the recommended limits.

A related criterion to evaluate the clinical significance of reduced consumption is the number of patients who were still drinking at "hazardous" levels at follow-up. In order to estimate the extent to which hazardous drinking was reduced, patients were classified according to whether their average daily consumption exceeded 40 g (4.3 cl) pure ethanol per day. The results show that while there was a 12% reduction in the Control group (from 66% to 54%), the reductions in the Simple Advice group (26%) and Brief Counselling group (22%) were approximately twice as great. Although similar reductions occur in the proportion of patients reporting at least one episode of concern expressed about their drinking by others, and the proportion that experienced at least one alcohol-related problem in the past six months, the chi square statistics are not statistically significant.

The results for females are presented in Table 16.7, which shows similar reductions across all measures. Consistent with previously reported findings, the reductions tend to be almost as great in the Control group as they are in the intervention groups. One exception is in the proportions drinking above the recommended weekly limit, which is significantly lower at follow-up in the intervention groups.
Patients' Attributions of Change

Evidence presented thus far indicates that patients in both the control and the intervention conditions reported significant improvement in their drinking behaviour. Nevertheless, the intervention groups showed significantly greater improvement. An important question that was explored at the time of the follow-up evaluation is how and why these patients changed their drinking behaviour. This was explored by the follow-up interviewer through a series of questions that are shown in Table 16.8. Near the end of the follow-up interview, patients were asked whether their drinking had decreased during the last six months. If they answered positively, they were asked why it changed, using prompts that covered the following possible causes: information received from the project, family situation, health, work, other reasons. The results show that significantly greater proportions of the patients in the Simple Advice and Brief Counselling conditions attributed their change in drinking to their participation in the intervention programme. No differences were found between groups in their attributions to other reasons for change.

Subgroup Analyses Using Moderator Variables

An important part of the design and analysis of any study of therapeutic intervention is the identification of patient subgroups who are benefited or harmed by the study treatments. In the present study the following patient characteristics were measured: demographic factors (age, education level), social network (marital status, number of close friends), alcohol involvement (level of alcohol consumption, dependence severity), severity of depression, lifetime and recent alcohol problems, family history of alcoholism, sociopathic personality characteristics, coping skills, attitude concerning the intervention, and empathy with the health adviser. The latter two measures were obtained by asking the health adviser to rate the patient on semantic differential scales dealing with attitude and motivation, and by asking the patient to rate the health adviser (on a confidential rating form) in terms of concern, warmth, pleasantness, etc.

The data were analyzed by means of analysis of covariance using pre-post change scores as the dependent variable, age and education as covariates (except when these were used as independent variables), and each of the subgroup variables as categorical independent variables. These variables were created by natural demarcations (e.g. single, married, divorced/separated) or by median splits. In addition to the subgroup variable, condition was entered into the MCA analysis as an independent variable so that the interactions between patient characteristics and treatment condition could be investigated. We were particularly interested in finding whether certain types of patients responded better to brief counselling than to simple advice. Because of the number of post hoc exploratory analyses conducted in this way, a more conservative p-value (p. < .01) was used to adjust for the fact that multiple comparisons were conducted.

The results for both males and females indicated that there were no main effects or interaction effects on any of the variables except for the level of alcohol consumption, number of alcohol-related problems and dependence severity. Patients with higher levels of alcohol consumption and alcohol dependence at baseline reduced their average daily alcohol consumption significantly more at follow-up (p. < .01) than patients who at baseline were drinking below the median or who had lower dependence scores. In addition, male patients who reported one or more recent alcohol-related problems reduced the intensity of their drinking more than those who had no recent problems. A significant interaction effect was also observed between recent problems and treatment responses. Among those without a recent problem, Brief Counselling worked best. Among those with a recent problem, Simple Advice worked best, suggesting that the effect of minimal intervention is enhanced when the patient has experienced a recent alcohol-related problem.
DISCUSSION

The findings of this cross-national study, particularly those pertaining to male heavy drinkers, provide support for the hypothesis that brief interventions, ranging from five minutes of simple advice to 20 minutes of advice plus counselling, can produce a significant reduction in both the average amount of alcohol consumption and in the amount consumed per occasion. They also suggest that these changes in drinking may result in small reductions in the frequency of alcohol-related problems. These findings are consistent with previous large scale randomized clinical trials (1,2), and with a number of smaller studies (3,4,10,20) that span a wide variety of health care settings and drinking subcultures. To the extent that the results of the present study generalize across drinking cultures, socioeconomic groups and intervention settings, they constitute an important affirmation of recent expert committee reports (21,22) which recommend that screening and brief interventions should be conducted routinely in primary care settings to detect hazardous and harmful drinkers.

Male drinkers

The results show a significant effect of the intervention on both of the primary outcome measures, average alcohol consumption and intensity of drinking in the male samples, even after controlling for demographic factors and sociocultural influences. No differences were found among the intervention conditions. Five minutes of simple advice were as effective as Brief Counselling and Extended Counselling (up to three additional sessions).

On average, the male patients assigned to the intervention conditions reported drinking approximately 1.5 cl less absolute alcohol per day (Table 16.3) and on each drinking occasion. This is a difference of approximately one standard drink. In terms average daily alcohol consumption, patients exposed to the interventions reported drinking approximately 25% less (28% Simple Advice, 22% Brief Counselling) than those in the control group. Relative reductions in the intensity of drinking were approximately 16% (18% Simple Advice, 14% Brief Counselling). The results presented in Table 16.5 indicate that without brief interventions, 42% reduce their drinking by 1.5 cl or more, 25% increase their drinking, and 33% do not change. With intervention, 63% reduce their drinking, 14% drink more intensely, and 23% remain at the same level. Assuming that the consequences of acute intoxication are the main health risks for patients in these samples, and taking into account the improvement that can be expected spontaneously in 40% of the patients, the results suggest that approximately one in five (20%) of the patients exposed to a brief intervention will respond favourably. While these changes may not be dramatic, they should be evaluated in terms of their impact on public health, the relative cost of this type of secondary prevention, and the importance of more heroic treatments for the substantial number of heavy drinkers who do not respond.

The results of the mean comparisons (Table 16.3) indicate that there was a significant reduction in dependence symptoms, and a trend (p < .05) toward reductions in concern expressed by others and alcohol-related problems. While the numbers affected are small, they do suggest that the social, occupational and health consequences of heavy drinking and intoxication could be reduced if brief interventions were employed routinely.

Female drinkers

For females significant reductions were observed in both the control and the intervention groups (Figs. 16.3 and 16.4), with no significant differences between the adjusted means on any of the primary or secondary outcome measures (Table 16.4). Although there is some indication in the comparisons of
percentage changes (Tables 16.5 and 16.7) that the Brief Counselling group improved more, a conservative interpretation of the results is that brief interventions do not contribute as much to the reduction of heavy drinking in females as they do in males. This conclusion should be tempered by a consideration of alternative explanations, methodological issues, and a reading of the brief intervention literature pertaining to gender differences.

Research findings on the effects of brief interventions with females have been inconsistent. Most of the research has been conducted on males, in part because of the difficulty of recruiting sufficient numbers of women to permit adequate statistical analysis of gender differences. However, in the study having the greatest number of females (N = 268), Wallace et al. (1) reported similar findings for both men and women receiving advice and counselling from a general practitioner. Their study showed reductions of excessive drinkers in treatment and control groups of 48% and 29%, respectively. In a study of general practice patients in Sweden, Scott and Anderson (23) found that while male patients exposed to a brief intervention decreased their alcohol consumption significantly more than control patients, female patients in the control group changed as much as those in the intervention group.

There are several methodological issues that are relevant to an interpretation of these findings. The first is the prevalence of alcohol-related problems among females and the difficulty that has been experienced in recruiting female heavy drinkers into brief intervention research. In the present study every participating centre except Sydney and Farmington reported difficulty in the recruitment of females, in part because the prevalence of hazardous drinking in the female primary care population is relatively low in most countries. The low prevalence rate resulted in a smaller sample size, which in turn affects statistical power and the likelihood of finding significant differences between study groups. Even with the reduced sample size, there were statistically significant reductions in drinking, regardless of whether the patient was in the control or the intervention groups. And there was some evidence from analyses using nonparametric statistics (Tables 16.5 and 16.7) that females in the intervention groups, particularly Brief Counselling, decreased their drinking more than the control group.

One explanation for the reduced drinking in the control group, which was also observed in the male sample, is regression to the mean. Because patients were selected on the basis of their high level of alcohol consumption, it is likely that the hazardous drinking reported by some patients was atypical and therefore likely to return to a lower "average" level at follow-up regardless of the advice provided by the health adviser. An alternative explanation is that females in the control condition were influenced by their participation in the research protocol, and that the combination of a health interview and a follow-up evaluation, conducted in collaboration with the World Health Organization, had a salutary effect on their drinking behaviour. Although the investigators made a special effort (see Chapter 3) to keep the control patients blind to the purpose of the study, even their perceived participation in a general health survey could have sensitized them to the need to drink less.

A final interpretation of the gender differences in response is that females respond differently than men and that gender-specific intervention strategies should be evaluated. What is clear from the results is that female heavy drinkers are just as likely to reduce their drinking as men, but the specific effects of brief interventions cannot be clearly established until more research is conducted with larger samples. This means that when public health officials consider the implications of brief intervention research, they should note that the findings apply best to the most prevalent high risk group, which is male heavy drinkers.
Type of Brief Intervention

The results showed that the type of intervention was not related to the amount of change in drinking behaviour, with five minutes of simple advice as effective as brief counselling that included a self-help manual and, in some cases, as many as three follow-up visits. No differences were observed between Simple Advice and Brief Counselling, suggesting that the skills training communicated through the brief counselling and the self-help manual had little effect beyond the advice, personalized feedback and general information communicated by means of the Simple Advice Leaflet. The lack of an additive effect is consistent with the results of other research (7,8,15,24). These findings and the results of the present study suggest that in this population of heavy drinkers, behaviour change is more a function of motivational factors and social influence, than of the moderation skills and social learning techniques that are typically used in behavioural self-control training packages (25). This conclusion applies best to the type and range of interventions that were included in the present study. These were deliberately designed to be brief, noninvasive and efficient, placing minimum demands on the time and skills of the primary care professional. Other intervention programmes (e.g. 25,26), formulated within a clinical psychology perspective and consisting of up to 12 sessions, may be effective for more impaired problem drinkers because they assure that self-control techniques and other therapeutic procedures are learned under the guidance of a skilled therapist. Nevertheless, until it can be demonstrated that multiple sessions with a health adviser add significantly to changes in drinking behaviour with this population, more intensive interventions, including the use of self-help manuals in conjunction with counselling, may be warranted.

The findings summarized in Tables 16.5, 16.6 and 16.7 indicate that the changes in drinking were not attributable solely to the small number of patients who achieved an abstinence goal, nor to the small numbers who gave up daily or almost daily drinking. Rather, the changes seem to have been distributed across a broad spectrum of the drinkers who reduced their consumption by small but clinically meaningful amounts. These findings suggest that moderate drinking goals can be achieved by a substantial proportion of heavy drinkers, and may be the easiest initial step in any attempt to approach and intervene with heavy drinkers who are not seriously dependent on alcohol. It remains to be seen whether more stringent goals than those proposed in the present study would have resulted in a greater amount of change. Nor can it be inferred that these changes are permanent, although several studies have reported positive effects that last for two years or more (2,15).

Cross-national Generalizability

By including the centre variable as a main effect in the analysis of covariance, it was possible to determine whether the intervention was effective regardless of cultural and sociodemographic factors. Because of the small number of females recruited from many of the sites, it was only possible to evaluate cross-national generalizability in the male samples. The results (Table 16.3) showed that despite pronounced differences among the centres in sociodemographic factors and drinking patterns (see Tables 4.1 and 4.2, Chapter 4), the differences between the control and intervention groups were consistent across the eight participating centres. These results suggest that brief interventions at the primary care level, particularly those employing simple advice with males heavy drinkers, are remarkably robust and should generalize to a variety of different health care settings and sociocultural groups.
Subgroup Analyses and Moderator Variables

In addition to the primary hypotheses, the combined data set also provided a rich source of exploratory analyses. In particular, measures of patient demographic characteristics, alcohol involvement, and severity of alcohol dependence were studied in relation to the effects of the interventions. It was expected that certain aspects of the treatment process and certain patient characteristics would be more conducive to a favourable response than others. It was therefore surprising that only one of the hypothesized moderator variables (recent problems with alcohol) interacted with treatment response, and only three were associated with the amount of change. Regardless of study condition, patients with higher baseline drinking, greater dependence severity and one or more recent alcohol-related problems changed more during the follow-up period. The findings are somewhat contrary to expectations, given previous reports (13) that patients with high levels of dependence respond poorly to brief interventions. One would expect that the higher the level of alcohol dependence, the more difficult it would be to modify drinking behaviour. One explanation for the positive association between dependence level and change in drinking is that patients with extremely high alcohol consumption, a primary indication of tolerance, and with the symptoms of withdrawal, a primary indication of physical dependence, were excluded from participation in this study. Without the inclusion of patients representing the full range of dependence severity, it is impossible to provide a proper test of the hypothesis. Nevertheless, the findings are consistent with the hypothesis that prior to the development of severe dependence, heavy drinkers can exercise a considerable amount of self-control over their drinking. The fact that males with a recent alcohol-related problem responded best to Simple Advice indicates that secondary prevention is facilitated by drawing the patient's attention to personal experience.

Methodological Issues

One assumption that guided the investigators participating in the present study was the belief that negative findings would be as beneficial to the scientific community as positive findings, provided that the study was conducted with a high degree of scientific rigour. The sponsoring institution (WHO) and the collaborating investigators were particularly concerned about the possibility that bias could enter into the collection of the data and thereby influence the outcomes independent of actual changes in drinking behaviour. To minimize this possibility, several design features were incorporated to minimize, detect and evaluate experimental bias. These include the use of various validity enhancement techniques (see Chapter 3) to prevent response bias and inaccurate reports of alcohol consumption, the use of parallel measures to check the consistency of patients' self-reported alcohol consumption, the collection of drinking data from a small sample of collateral informants to check the accuracy of self-reports at baseline, the monitoring (at one site) of liver enzymes thought to be sensitive to changes in alcohol consumption, and the evaluation of all patients by the health adviser and follow-up interviewer in terms of their accuracy and honesty. Unfortunately, not all of the procedures intended to detect response bias and inaccurate reporting were implemented at all centres. Nevertheless, the use of redundant consumption measures demonstrated acceptable reliability for the primary outcome measures, in that interview and questionnaire measures of drinking produced similar results. In addition, ratings of patients' honesty and accuracy were generally high, suggesting to the interviewers that patients were motivated to respond accurately. This may be a reflection of the validity enhancement techniques used at the time of the follow-up evaluation, which stressed the critical need for accurate information. In general, there is no indication that the results were biased because of the study's reliance on self-report measures of outcome.
A second methodological issue is the difference between the follow-up sample and those lost to follow-up. Given the diversity of settings and centres, the follow-up rates for males (76%) and females (71%) were acceptable. Although male patients lost to follow-up tended to be heavier drinkers and reported more severe alcohol dependence, the subgroup analyses showed that patients with these characteristics changed more than lighter drinkers who were low in dependence. It is therefore not clear whether the results would have differed had the entire sample participated in the follow-up evaluation.

Conclusion

The findings presented in this chapter provide additional scientific support for the effectiveness of brief interventions. While the cumulative literature dating from the 1970s has been encouraging, the results have been comparable to what can be read from the individual centre studies reported in Chapters 5 through 14. That is, some studies are clearly positive, some are equivocal and only a few are negative. The combined analyses reported in this chapter show that a clearer picture of the strengths and limitations of brief interventions can come from collaborative studies of this kind. The results point to a consistent and clinically meaningful effect as a result of brief interventions with male heavy drinkers, one that is relatively robust across health care settings and sociocultural groups. They also indicate that five minutes of simple advice is as effective as 20 minutes of brief counselling. While the results for the females are less compelling, the data are sufficiently encouraging to conclude that simple advice and brief counselling may be a useful adjunct to a screening programme for women as well. Any future research agenda in this area should definitely give women's issues high priority.
REFERENCES


Table 16.1  Demographic Characteristics of Male Patients in Follow-up Sample

<table>
<thead>
<tr>
<th>Location</th>
<th>N</th>
<th>Mean Age</th>
<th>Mean Years Education</th>
<th>Mean Occupational Prestige</th>
<th>Percent Single</th>
<th>Percent Married</th>
<th>Percent Separated/Divorced</th>
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</thead>
<tbody>
<tr>
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<td>43.00</td>
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<td>26.3%</td>
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<td>Cardiff, UK</td>
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<td>64.0%</td>
<td>9.0%</td>
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<td>Moscow, USSR</td>
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<td>37.88</td>
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<td>37.37</td>
<td>15.8%</td>
<td>83.3%</td>
<td>.9%</td>
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<td>Farmington, USA</td>
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<td>38.03</td>
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<td>40.3%</td>
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<tr>
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<td>41.79</td>
<td>50.9%</td>
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<td>ALL CENTRES</td>
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Table 16.2 Demographic Characteristics of Female Patients in Follow-up Sample

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean Age</th>
<th>Mean Years Education</th>
<th>Mean Occupational Prestige</th>
<th>Percent Single</th>
<th>Percent Married</th>
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</thead>
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<td>Sydney, Australia</td>
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<td>47.94</td>
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<td>60.2%</td>
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<td>15.3%</td>
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<td>Other Centres*</td>
<td>30</td>
<td>31.23</td>
<td>11.03</td>
<td>47.89</td>
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* Women recruited from Bergen, Norway (N=11), Harare, Zimbabwe (N=9), and Nairobi, Kenya (N=10).
<table>
<thead>
<tr>
<th>Outcome Variable</th>
<th>Means for Conditions</th>
<th>F Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control (N=296)</td>
<td>Simple Advice (N=268)</td>
</tr>
<tr>
<td>Average daily consumption</td>
<td>5.93</td>
<td>4.26</td>
</tr>
<tr>
<td>Intensity</td>
<td>10.34</td>
<td>8.44</td>
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<tr>
<td>Days Drinking</td>
<td>15.83</td>
<td>14.02</td>
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<td>Problem Score</td>
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<td>.32</td>
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<tr>
<td>Concern Score</td>
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<td>.65</td>
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<tr>
<td>Dependence Score</td>
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<td>1.80</td>
</tr>
<tr>
<td>Alternative Consumption Estimate</td>
<td>5.11</td>
<td>4.26</td>
</tr>
</tbody>
</table>

* Sydney, Australia; Nairobi, Kenya; Mexico City, Mexico; Bergen, Norway; Cardiff, UK; Moscow, USSR; Farmington, USA; Harare, Zimbabwe.

** p < .01
*** p < .001
Table 16.4

Adjusted Means and ANCOVA Results for Primary and Secondary Outcome Measures:

Combined Results from Five Collaborating Centres¹
Female Patients (N=219)

<table>
<thead>
<tr>
<th>Outcome Variable</th>
<th>Means for Conditions</th>
<th>F Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
<tr>
<td>Average daily consumption</td>
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</tr>
<tr>
<td>Intensity</td>
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<td>5.52</td>
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<tr>
<td>Days Drinking</td>
<td>15.27</td>
<td>14.65</td>
</tr>
<tr>
<td>Problem Score</td>
<td>.12</td>
<td>.18</td>
</tr>
<tr>
<td>Concern Score</td>
<td>.55</td>
<td>.23</td>
</tr>
<tr>
<td>Dependence Score</td>
<td>2.15</td>
<td>2.15</td>
</tr>
<tr>
<td>Alternative Consumption Estimate</td>
<td>3.69</td>
<td>3.55</td>
</tr>
</tbody>
</table>

¹ Sydney, Australia; Bergen, Norway; Nairobi, Kenya; Farmington, USA; Harare, Zimbabwe.
Table 16.5  Percentages of Male and Female Patients who Increased, Decreased or Remained at the Same Level of Alcohol Consumption

<table>
<thead>
<tr>
<th></th>
<th>Average Daily Consumption</th>
<th></th>
<th>Intensity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control Simple Advice Brief Counselling</td>
<td>Control Simple Advice Brief Counselling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male Patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decreased</td>
<td>40.5 58.2 52.4</td>
<td>42.4 64.6 61.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Change</td>
<td>37.5 32.5 35.2</td>
<td>32.6 22.7 23.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased</td>
<td>22.0 9.3 12.4</td>
<td>25.0 12.7 15.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female Patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decreased</td>
<td>49.1 58.6 58.3</td>
<td>39.6 55.7 66.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Change</td>
<td>45.2 32.8 35.0</td>
<td>47.2 28.6 25.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased</td>
<td>5.7 8.6 6.7</td>
<td>13.2 15.7 8.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 16.6: Proportion of Male Samples Reporting Abstinence, Hazardous Drinking and Alcohol-related Problems in Six-month Period prior to Intervention and Following Exposure to Three Study Conditions

<table>
<thead>
<tr>
<th></th>
<th>Control (N=296)</th>
<th>Simple Advice (N=267)</th>
<th>Brief Counselling (N=337)</th>
<th>Chi Squarea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely abstinentb</td>
<td>PRE 0%</td>
<td>POST 4%</td>
<td>PRE 0%</td>
<td>(c)</td>
</tr>
<tr>
<td></td>
<td>POST 7%</td>
<td></td>
<td>POST 9%</td>
<td></td>
</tr>
<tr>
<td>Daily or almost daily drinkingc</td>
<td>PRE 26%</td>
<td>POST 23%</td>
<td>PRE 19%</td>
<td>10.34**</td>
</tr>
<tr>
<td></td>
<td>POST 15%</td>
<td></td>
<td>POST 14%</td>
<td></td>
</tr>
<tr>
<td>Above recommended weekly limitd</td>
<td>PRE 77%</td>
<td>POST 60%</td>
<td>PRE 75%</td>
<td>7.6*</td>
</tr>
<tr>
<td></td>
<td>POST 49%</td>
<td></td>
<td>POST 50%</td>
<td></td>
</tr>
<tr>
<td>&quot;Hazardous&quot; daily consumptione</td>
<td>PRE 66%</td>
<td>POST 54%</td>
<td>PRE 66%</td>
<td>11.68**</td>
</tr>
<tr>
<td>(40g/day)</td>
<td>POST 40%</td>
<td></td>
<td>POST 40%</td>
<td></td>
</tr>
<tr>
<td>At least one recent complaint</td>
<td>PRE 46%</td>
<td>POST 30%</td>
<td>PRE 52%</td>
<td>1.92</td>
</tr>
<tr>
<td></td>
<td>POST 25%</td>
<td></td>
<td>POST 29%</td>
<td></td>
</tr>
<tr>
<td>At least one recent problem</td>
<td>PRE 29%</td>
<td>POST 29%</td>
<td>PRE 39%</td>
<td>4.91</td>
</tr>
<tr>
<td></td>
<td>POST 21%</td>
<td></td>
<td>POST 26%</td>
<td></td>
</tr>
</tbody>
</table>

a Chi square analyses were used to test for significant associations between treatment group and outcome status for each variable. Outcome was defined dichotomously using post test status as a criterion. Chi square tests were performed on the post-test frequencies for each dichotomous outcome variable.

b Patient reported no drinking during previous six month period.

c Chi square not calculated because of small cell sizes.

d Patient reported drinking 28 to 31 days per month.

e For men, no more than 3-4 standard drinks per day, no more than 4-5 days per week. This is approximately 24 cl/wk or 3.4 cl per day ethanol.

f 40g (4.30 cl) average daily consumption.

* p < .05

** p < .01
### Table 16.7
Proportion of Female Samples Reporting Abstinence, Hazardous Drinking and Alcohol-related Problems in Six-month Period prior to Intervention and Following Exposure to Three Study Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Control (N=296)</th>
<th>Simple Advice (N=267)</th>
<th>Brief Counselling (N=337)</th>
<th>Chi Squarea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely abstinentb</td>
<td>PRE 0%</td>
<td>POST 6%</td>
<td>PRE 0%</td>
<td>0%</td>
</tr>
<tr>
<td>Daily or almost daily drinkingd</td>
<td>PRE 26%</td>
<td>POST 17%</td>
<td>PRE 16%</td>
<td>21%</td>
</tr>
<tr>
<td>Above recommended weekly limitc</td>
<td>PRE 78%</td>
<td>POST 75%</td>
<td>PRE 83%</td>
<td>86%</td>
</tr>
<tr>
<td>&quot;Hazardous&quot; daily consumptionf</td>
<td>PRE 75%</td>
<td>POST 57%</td>
<td>PRE 79%</td>
<td>83%</td>
</tr>
<tr>
<td>At least one recent complaint</td>
<td>PRE 18%</td>
<td>POST 15%</td>
<td>PRE 18%</td>
<td>24%</td>
</tr>
<tr>
<td>At least one recent problem</td>
<td>PRE 11%</td>
<td>POST 5%</td>
<td>PRE 22%</td>
<td>28%</td>
</tr>
</tbody>
</table>

---

a Chi square analyses were used to test for significant associations between treatment group and outcome status for each variable. Outcome was defined dichotomously using post test status as a criterion. Chi square tests were performed on the post-test frequencies for each dichotomous outcome variable.

b Patient reported no drinking during previous six month period.

c Chi square not calculated because of small cell sizes.

d Patient reported drinking 28 to 31 days per month.

e For women, no more than 2-3 standard drinks per day, no more than 4-5 days per week. This is approximately 13.3 cl per week.

f 20g/day=2.15 cl ethanol.

** p < .01
Figure 16.1  Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

ALL CENTRES (Males)

Control  Simple Advice  Brief Counselling  Extended Counselling

(N=309)  (N=283)  (N=225)  (N=130)

AVERAGE

CL 

ETOH

Before  After

WHOP00915
page 255
Figure 16.2 Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e., intensity of drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

ALL CENTRES (Males)

Control | Simple Advice | Brief Counselling | Extended Counselling
---|---|---|---
(N=309) | (N=283) | (N=225) | (N=130)

Intensity Units: 0 - 14

- Black: Before
- Grey: After
Figure 16.3  Average Amount of Absolute Alcohol Consumed per Day (in centilitres) at Intake to Study (before) and at Follow-up Evaluation (after) According to Experimental Condition

ALL CENTRES (Females)

- Control (N=44)
- Simple Advice (N=52)
- Brief Counselling (N=38)
- Extended Counselling (N=34)

- Before
- After
Figure 16.4  Average Amount of Absolute Alcohol in Centilitres Consumed per Drinking Day (i.e. Intensity of Drinking) at Intake to Study (Before) and at Follow-up Evaluation (After) According to Experimental Condition

ALL CENTRES (Females)

- Control (N=44)
- Simple Advice (N=52)
- Brief Counselling (N=38)
- Extended Counselling (N=34)

Intensity of Alcohol Consumption

Before | After
Chapter 17

TOWARD A PUBLIC HEALTH APPROACH TO SECONDARY PREVENTION: CLINICAL AND POLICY IMPLICATIONS

E.B. Ritson & T.F. Babor

This research has shown that brief intervention can help modify hazardous drinking in a beneficial way. The impact of this simple procedure is modest but clinically significant. If similar gains were to be made for all individuals attending primary health care in the countries concerned, then the number benefitting in the course of the year would be considerable. An earlier secondary prevention study (1) of the effect of simple advice about giving up smoking showed that only 5% of those given advice stopped smoking. Although the impact was not dramatic, this relatively small percentage would, if adopted throughout the United Kingdom, have resulted in half a million ex-smokers within the space of one year. Small gains, which are multiplied many times throughout a large population, become very significant in public health terms. This study and others described in Chapter 2 provide clear pointers to the likely benefits of brief intervention at the primary care level, but there is an urgent need to translate these research findings into concerted action. This chapter reviews what has been learned from the WHO Brief Intervention project in terms of screening, recruitment, and programme design in order to set the stage for future directions.

RECRUITMENT

The recruitment problems encountered in this study might seem to be a deterrent to effective use of brief intervention procedures. Closer examination of the difficulties encountered, however, suggests that they were more a result of the rather complex research instruments being used than a barrier inherent in the clinical intervention method itself. The research protocol and interview were somewhat long and cumbersome. This may well have deterred many individuals from participating. For example, in the Australian report (see Chapter 5) of recruitment in the emergency department, only 2.8% of those screened could be recruited to the study.

There were a number of other identifiable problems with recruitment. Some investigators experienced difficulty in gaining support of hospital staff to participate in the research project. Eligible patients often could not be seen at the time of screening and had to be asked to return for a further interview. In Mexico there seemed to be a reluctance on the part of the patients and perhaps medical staff to enter into the screening process. Considerable difficulties interviewing suitable patients were also evident in Cardiff, Norway and Farmington. In the USA, advertising for suitable clients enlisted more interest. Mailed questionnaires as a preliminary screening procedure had the problem of relatively poor response rates. It might be thought that a procedure which seems to encounter such resistances is not really suitable for regular use. However, if the screening procedure is simplified by use of the already established AUDIT questionnaire (2), then client cooperation would rise. This two minute procedure has been shown to work in a wide range of different settings and cultures (3).

Evidence from this research indicates that patients are very willing to be asked about their drinking habits and are interested in receiving advice about their style of life. They may be more resistant to participating in a research project which is likely to take up a considerable amount of time.

These same factors may have weighed against the project in the minds of medical and other staff in the clinics concerned. It was clear on occasions that considerable resistances were evident and
overcoming them will be an important task. The future challenge will be to demonstrate to primary level practitioners that these procedures are brief and worthwhile.

SETTINGS

This project has utilized a wide range of different settings: primary health care in Zimbabwe, the U.K. and Mexico; hospitals in Kenya and the USA; occupational settings in the USSR, Costa Rica and Norway; educational establishments in Zimbabwe; health screening programmes in Australia; and the community itself as in the apartment block surveys undertaken in Bulgaria. It seems likely that an even wider range of locations could be used for screening and simple advice. For example, the Mexican report (Chapter 9) mentions the role which priests often play in providing advice in some communities. Social work departments are a further example of locations which might prove fruitful but have not been tested by this particular project. Primary health care appeared to be the most consistently effective site for this kind of approach. Work settings, as indicated by the recruitment difficulties and lack of clear treatment effects in Bergen and San José, seem to be the most difficult for both research and clinical practice. Another difficult setting was the emergency room, as reported by the Australian centre. With the benefit of hindsight, one can well understand the barriers to successful intervention with patients who are in the midst of an acute crisis.

PRIMARY HEALTH CARE

There are many advantages in focusing early identification and secondary prevention on the kind of patients involved at the primary health care level. The services are usually widespread throughout the country and are accessible to the population. They are also non-stigmatizing. In this sense they are frequently "user-friendly" compared with the services which are designed more specifically for problem drinkers. To the extent that primary health care services exist within an established network, a strategy which proves its worth in one location can be transferred with relative ease to other primary health care centres throughout the country. The strategy is also in accord with the current preference towards giving patients the responsibility for their own health.

But a number of resistances are also likely to be encountered. One arises from the tendency to stereotype any concern about alcohol and health as having to do with recognizing and dealing with "alcoholics". This may be one reason why many studies have shown that problem drinkers are low in priority on the agenda for many health professions (4). As a group, "alcoholics" seem unpopular and unrewarding. Many clinic staff also seem to find it embarrassing to enquire systematically about drinking habits. A number of UK studies show that doctors often avoid taking a simple drinking history (e.g. 5). The projects described here show similar evidence of the reluctance of medical workers to be involved as exemplified in the reports from Australia, Mexico and Wales. Clinicians often describe themselves as "too busy to attend to alcohol misuse". Doctors and nurses also commonly feel ill-equipped to respond to drinking problems when they arise and feel that they lack the necessary knowledge and skills to respond appropriately. One advantage of the present "package" is that it provides a technique for identification along with a clear method of intervention which will not be time-consuming. This may reap considerable rewards for the patient and at the same time reduce subsequent demand for health care services.

If the barriers described above are to be effectively overcome, then it may be necessary to train staff in the intervention techniques. Primary health care is delivered in many different ways throughout the world. In some countries all patients are registered with the general practitioner who is responsible for the day to day care of that patient. In other situations there is a health centre which serves a
particular population and provides primary level care but there is no specific link to an identified practitioner. In others there will be a polyclinic which contains a number of generalists as well as specialists. In some circumstances patients gain access to specialist services through the general practitioner while in others they may approach the specialist directly. In many other areas there is no established system of medical care and most primary level health contact will be by nurses or ancillary health workers. The pattern of health services will influence the choice of health adviser in implementing the programme. It is desirable that nurses or doctors in primary level situations will be encouraged to attend courses to learn the simple brief intervention techniques. There is no clear need for a high level of training preceding the acquisition of the skills although the perceived status of the individual may well have some impact on the efficacy of the message delivered.

HEALTH ADVISERS

The health advisers involved in the project came from a wide range of different professional backgrounds, including nursing, psychology, social work and psychiatry. Considerable effort was devoted to training and standardization to ensure that they had comparable styles and conveyed similar information to their clients. It might be assumed that the personality and optimism conveyed by the health worker would have an impact on the recipient of their advice. This relationship between health adviser characteristics and their clients did not show any clear influence, however, as reported in Chapter 16. This may be because of the uniformly high quality of the health advisers participating at each of the collaborating centres. These individuals, it should be remembered, were chosen because of their professionalism, consistency and empathy.

It is hoped that the experiences described in Chapter 15 concerning health advisers will guide future training programmes towards appropriate selection procedures. The status of workers in primary health care is very important in enhancing the quality and credibility of the information which they dispense. In addition to the attitude of the health adviser, the attitude and experience of the client are also crucial factors.

The literature on matching treatment to the needs of the individual client is not well developed although there is a great deal of interest in careful matching procedures as a means of improving treatment efficacy (6). One strand which emerges from this literature is the need to acknowledge that different clients come at different stages of preparedness to make changes (7). Some are very far from acknowledging the need to modify their drinking habits, while others are aware that such a need exists and are looking for active guidance about the steps necessary to improve their own health. It is quite likely that this latter group of clients are most likely to act upon the information received. This area requires further study particularly in relation to the kinds of health experiences, such as accidents, that make people receptive to simple intervention programmes of this kind.

THE SUBSTANCE OF BRIEF INTERVENTION

It is clear that no gains appeared to accrue from an extension of counselling beyond the initial visit. The addition of up to three booster sessions added nothing to the quality of the final outcome. Indeed, in Moscow there was a marked resistance to return to the clinic. In general, this additional ingredient that might have been thought to add considerably to the quality of care being offered was either rejected or made no significant impression. Therefore, for a significant number of clients, the simplest approach also proved to be the most useful.
This trend in favour of simplicity was also evident in the use made of informational materials. The most popular reading material was the leaflet concerned with sensible drinking. The problem solving manual and the diary cards were generally less regularly used by participants.

Although psychologists have developed a convincing rationale for the use of cognitive-behavioural and social learning techniques in brief intervention programmes (8-14), some studies (15,16) have reported positive results without employing these methods systematically. In one study designed to compare the relative effectiveness of a ten-session behavioural self-control programme and bibliotherapy (17), the greatest amount of change took place in the first week of the programme. In other studies (10,18), cognitive behavioural techniques have not proven to be superior to self-help manuals or to group psychotherapy. These findings, and the results of our own research, imply that other mechanisms may be operative with the more socially adjusted drinkers who are typically the target of brief intervention programmes at the primary care level. These mechanisms, which include social influence and motivational enhancement, should be investigated in future research.

TRAINING

The training programme adopted in the study was relatively uniform across the centres. It usually involved the use of audio tapes, role playing and group discussion focused on trying to establish a consistent means of giving advice and a capacity to remain non-judgmental about the information given by the patient. Training schemes along these lines will need to be established within the areas identified for the initial introduction of the project. First it will be necessary to train a corps of "trainers" to introduce the scheme and the philosophy associated with it. They will also have to monitor the development of the project in each community. A somewhat similar scheme in the United Kingdom has shown the benefit of having a nurse facilitator who has the task of informing and interesting primary health care teams in work of this kind.

As mentioned above the resistance to working with people who are drinking in a hazardous way is considerable. The project will have to overcome an understandable reluctance on the part of many of the primary health workers with what seems to be a new task. Some countries have found it beneficial to provide financial incentives for primary health care to undertake health promotion and secondary prevention. At least they should not feel penalized for such work. In the past there has been such a tendency to reward curative treatments of established disease rather than preventive activities.

The training courses and the subsequent actions of health advisers will require careful evaluation and should be a subject of further investigation.

SCREENING, DIAGNOSIS AND REFERRAL

Brief intervention programmes require a means of readily screening out inappropriate people. The experience of Scottish Health Education Group was that doctors wanted to have some technique which they could offer to individuals who already had evident problems or were physically dependent. Exclusion criteria such as liver damage, pregnancy and severe alcohol dependence need to be incorporated into the screening and diagnostic sequence.

Although the findings of the present study provide convincing support for the incorporation of screening and brief intervention techniques at the level of primary care, they should also be evaluated in terms of the patients who did not respond to the interventions. A small but significant proportion of patients increased their alcohol consumption (Chapter 16) and many continued to drink above what are
considered hazardous levels of alcohol consumption. Substantial proportions of the sample continued to exceed the recommended limits at the time of the follow-up evaluation. Approximately 40% of the males and 50% of the females reported hazardous levels of alcohol consumption, and a minority continued to report alcohol-related problems. These findings suggest the need for a continuum of interventions that begins for most individuals with simple advice. If there is no progress in several months, the next step would be a thorough diagnostic evaluation and referral to an appropriate level of outpatient treatment, detoxification or residential rehabilitation.

CULTURAL RELATIVITY

The present research indicates that adaptations to the brief intervention technique must be made so that they are in keeping with the "style" of a particular culture. At its simplest we need to note the importance of discussing standard drinks in terms which are readily understood locally. Although we are justified in stressing the commonalities between countries in terms of the intervention, the experience of the Norwegian centre (Chapter 6) indicates that cultural differences in drinking patterns and the perception of drinkers need to be considered in the design of brief intervention programmes.

There was some evidence (for example, in Moscow) that women were rather less willing to talk about their drinking habits and participate in the study. It is also interesting that the benefits of the intervention were usually more evident amongst men than women. This principally arose because women were more likely to show an improvement in the control condition, possibly indicating that they are more amenable to general advice which they interpret as relevant to their drinking habits without having to have their attention specifically drawn to this area of behaviour. In most countries women drink less than men. They also feel that there is more stigma associated with having an alcohol problem. These factors may well have influenced the less marked changes observed in women throughout the project.

IMPLEMENTATION

Alcohol misuse places a considerable burden on the health services of both the industrialized and the developing countries participating in this project. The earlier chapters have shown, for instance, that 15% of illness of inpatients in an Australian medical ward may be attributed to harmful alcohol consumption; 23% of admissions for psychiatric hospitals in Kenya had alcohol problems, and 25% of the patients screened in the casualty department in Nairobi have raised blood alcohol levels. In a general hospital in Mexico, one third of admissions were "alcoholic" and a quarter of those attending the emergency department had been drinking excessively. In the social sphere it was observed that 80% of the offences by juvenile delinquents in Moscow were alcohol-related. Recognition that alcohol-related problems have a major impact on the cost of health services should prompt health authorities to develop effective alcohol policies.

Now that brief intervention techniques have demonstrated their value it would be important to introduce them into the health care system in a way that would guarantee their maximum use and acceptability. The first task is likely to involve influencing Departments of Health at national, provincial and local levels. A technique which is readily applicable at low cost and does not involve technology should be attractive. None the less, it may well meet resistances. Indeed, its very simplicity may be a barrier to those who are used to thinking of alcohol problems as conditions which require complex, elaborate and time consuming treatments, often in a hospital setting. It is important to prepare a clear summary of the benefits of this approach in a form that can be utilized by health departments who need to convince their colleagues that this is a worthwhile investment.
Credibility will need to be established. It also needs to be made clear that this technique is concerned with helping individuals who are drinking in a hazardous way. In many countries the relationship between hazardous drinking and the harmful consequences of drinking are not fully recognized by the medical profession. There is still a tendency to think about alcohol-related problems in terms of advanced dependence or alcoholism. An approach designed to influence hazardous drinking patterns will have to make its target group very clear. Otherwise the task will be misunderstood. As the report from Costa Rica points out, the average citizen’s view of alcoholism is a combination of prejudices, myths and misunderstandings of the effects of prolonged use of alcoholic beverages. Such misunderstandings are widespread. A further reason to stress hazardous drinking, not necessarily alcoholism, is to assuage some of the concerns of the specialist treatment services within the country. They may rightly resent any implication that five minutes of simple advice is equivalent to their long-term therapeutic endeavours. They should be reassured that the task is concerned with an entirely different client group.
REFERENCES


