Assessing risk factors for chronic diseases

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A pilot survey of men aged 35 and over in Buenos Aires indicated that many had one or more risk factors for chronic diseases. A low response rate hampered the investigation; on average it proved necessary to visit several homes in order to obtain one interview. Furthermore, at the cost of US$10 incurred per interview, large prospective investigations would be precluded in most developing countries, but case-control studies assessing tobacco use and other risk factors retrospectively would be a good alternative.

In many developing countries, premature deaths are now largely attributable to vascular, neoplastic or chronic respiratory diseases, the incidences of which in developed countries are often caused by tobacco and alcohol consumption, obesity, hypertension, and abnormal blood biochemistry. The same risk factors are likely to be important in the developing world, although their quantitative effects may differ greatly from one country to another. They should be assessed separately in different populations.

In Argentina, tobacco and alcohol are more widely used by males than by females. A prospective study of avoidable causes of chronic diseases would have to include large numbers of middle-aged men. At current mortality rates, for example, a prospective study of 100,000 men aged over 35 would be expected to yield about 9500 deaths within five years, some 500 of them caused by lung cancer.

With a view to the subsequent planning of larger epidemiological investigations, a questionnaire was devised for the purposes of a pilot study in Buenos Aires covering tobacco and alcohol consumption, height, weight, blood pressure and previous medical history among 1152 men aged 35 and over. They were interviewed in their homes by students who were mainly studying social work or social sciences; the training for this task involved:

- a group meeting during which an instruction document with detailed notes on all the questions was discussed;
- teaching and practice of blood pressure measurement;
- role play with two interviewers;
- role play between one interviewer and one instructor;
- interviewing practice with relatives or neighbours of each interviewer;
- discussion between interviewers and instructors about problems arising during practice.

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It was found necessary to improve the response rates of people interviewed in the field by:

- working in districts with small buildings rather than large blocks;
- sending introductory letters a few days before it was intended to conduct interviews;
- working at weekends;
- using female interviewers;
- paying the interviewers a basic rate plus an additional amount per interview;
- requiring every questionnaire to be checked by a supervisor in the presence of the interviewer immediately after interviews were conducted, so as to ensure satisfactory completion.

On average it proved necessary to visit four or five homes in order to achieve one interview. A good interviewer required about an hour for each interview, although only 15 minutes were spent face to face with the interviewee, the remaining time being taken up by briefing, debriefing and checking with a supervisor. Each interviewer completed about 20 interviews in a weekend, at a rate of about US$ 5 per interview. Supervision, administration and the checking, correction and analysis of data cost almost the same, so that the total cost was roughly $10 per man interviewed.

The prevalence of current tobacco use decreased from 42% in men aged 35–54 years to 25% for men aged 55–74 years, while that of previous tobacco use increased with age. Overall, a third of the interviewees had never smoked and a third were current smokers, almost exclusively of cigarettes. Among the men who had ever smoked, 9.8% had suffered angina and/or myocardial infarction; the corresponding figure was 6.5% for men who had never done so. The high prevalence of smoking among middle-aged men suggests that a major epidemic of tobacco-related diseases can be expected when these men become older.

Roughly a third of the interviewees said they consumed wine daily, and the same proportion reported doing so less frequently or never. Only 2% consumed other alcoholic beverages daily.

The mean systolic and diastolic blood pressures of the interviewees were 135 and 86 mm Hg respectively and the mean body mass index was 27 kg/m². A willingness to give a sample of blood, if requested, was expressed by 65% of the interviewees, and 90% said they would be prepared to give their identity numbers to facilitate long-term follow-up.

The risk factor profile in Buenos Aires appears to be dominated by a high prevalence of smoking among men aged 35–54, indicating the probability of a large epidemic of tobacco-induced disease in the next few decades. The public health implications of alcohol use are unclear in the population studied, since there was no information on whether the drinking pattern generally involved heavy consumption on particular occasions.
It is important both scientifically and politically that local evidence be gathered to monitor the incidence of tobacco-related diseases. At a cost of $10 per interview, however, large prospective studies, in which individuals were interviewed at baseline and their survival was monitored by long-term follow-up, would be out of the question in many developing countries. Retrospective case-control studies on tobacco use and other risk factors, avoiding the logistical difficulties of long-term follow-up, providing quicker answers and costing much less per case, would probably be more appropriate.

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Legislation, the cornerstone of smoking control

Developing countries face the spectre of rising rates of tobacco-related diseases. But there is still time to arrest the increase, to stop young people from taking up smoking and to prevent an epidemic among women. Many developing countries have enacted restrictive legislation against tobacco use, and their rate of response can be accelerated. Much has been learned in the industrialized countries over the past 25 years as to the most effective strategies for combating the tobacco epidemic. The developing countries will not need to go through the steps of first enacting limited legislation and then having to strengthen it, as many industrialized countries have done. They may be able to adapt to their own needs the best of the legislation already enacted in industrialized countries.