Bahrain - Multi Country Study Survey 2000-2001

World Health Organization (WHO)

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Sampling

Sampling Procedure

The sample was a multi-stage random probability sample representative of the population residing in urban and rural areas of Bahrain. A sample design method in 2 stages was used:
1. The survey was conducted in the three main municipalities of Bahrain.
2. The second stage consisted in the selection of the households within the primary sampling areas.

The sampling design employed for the main urban centres was as follows:
- The three main urban centers were divided into Administrative Units which themselves were subdivided into clusters (consisting of an agglomeration within a determined polygon of roads and streets).
- Each cluster has a certain number of blocks. The latter are defined as the smallest tract of land outlined by streets or roads that contain houses and buildings.
- In each block, buildings and houses are identified and counted. The selection of the respondent was done using the Kish Method.

Statistical data acquired from the Block census was used in the sample design of this study. The density of the population varies from one Administrative Unit to another. They were classified into 3 categories:
• high density
• medium density
• low density areas.

The number of sampling units assigned for interviewing per Administrative Unit varied so that the population density was adequately represented.

Questionnaires

No content available

Data Collection

Data Collection Dates

Start	End	Cycle
2000	2001	N/A

Data Collection Mode

Face-to-face [f2f]

Data Collection Notes

Implementation of Survey in the Field
Surveys were conducted in various countries in three different modes. Sampling plans approved by WHO were implemented with specifications of the sampling units and stratification procedures at each sampling stage (primary, secondary and tertiary sampling levels). Several contact calls (at least four in the BFTF and ten in the household mode) were attempted and interviewers tried to contact each selected household at different times of the day and days of the week. Each contact call was recorded together with reasons for non-response.
Interviewers were supervised on a regular basis during fieldwork to ensure that expectations and production requirements were met, interviewers were performing well, information was kept confidential and professional ethics were followed, questionnaires and other materials were completed accurately and submitted on time, and lastly, that any problems were reported as soon as they arose. WHO asked supervisors to sit in on at least 10 interviews during the pilot phase to check that interviews were conducted in a standardized way. The data was entered in the following days of paper-pencil instrument finalization after editing and approval by the supervisors. Each country made a report on the following aspects of the survey implementation:
- Details on each stage of sampling
- Quality control procedures implemented in the fieldwork
- Response rates and efforts undertaken to increase this, and the effects of these incentives
- Qualitative reports on the implementation process from the fieldworkers.

Quality Assurance
In order to monitor the quality of the data and ensure that countries complied with WHO guidelines in all household surveys the conditions under which the interviews were conducted and the problems that survey teams encountered were observed by supervisors first hand. Supervisors reviewed 10% of the questionnaires to check if options had been recorded appropriately and if questions were skipped correctly. About 10% of respondents were called or visited by the supervisor to ensure that the interview had been done, and 10% of all interviews were repeated by another interviewer within a period of one week to check for the reliability of the interview.
In addition, a site visit was scheduled to all full-length household survey sites during data collection.

During these site visits several activities were undertaken:
• Overall survey management: sampling procedures; training/supervision; selection of respondent; and timing of survey were discussed.
• Interview assessment: the WHO staff sat in at least 4 interviews to see how the interview was conducted, the interaction between interviewer and respondent, and the timing of the interview.
• A meeting with the survey team was held to discuss contacting procedures, interviews, data and logistics.
• The data in questionnaires was checked by examining the survey records and data entry program.
Site visits made in the early phases of the data collection detected any problems, ensured that the questionnaire was administered and completed correctly, and confirmed that calibration tests were performed according to the instructions provided by WHO.

Feedback During Data Collection
The data was sent to WHO in a weekly or fortnightly basis such that a quick assessment could be made of the survey for each country in terms of missing information, reliability, use of appropriate skips, etc. Following data submission certain computerized algorithms were run to identify possible errors whilst the survey teams were in the field. Feedback regarding the data quality was routinely given to the site coordinator who took relevant action to ensure good quality data.

Data Processing

Data Editing

Data Coding
At each site the data was coded by investigators to indicate the respondent status and the selection of the modules for each respondent within the survey design. After the interview was edited by the supervisor and considered adequate it was entered locally.

Data Entry Program
A data entry program was developed in WHO specifically for the survey study and provided to the sites. It was developed using a database program called the I-Shell (short for Interview Shell), a tool designed for easy development of computerized questionnaires and data entry (34). This program allows for easy data cleaning and processing.

The data entry program checked for inconsistencies and validated the entries in each field by checking for valid response categories and range checks. For example, the program didn't accept an age greater than 120. For almost all of the variables there existed a range or a list of possible values that the program checked for.

In addition, the data was entered twice to capture other data entry errors. The data entry program was able to warn the user whenever a value that did not match the first entry was entered at the second data entry. In this case the program asked the user to resolve the conflict by choosing either the 1st or the 2nd data entry value to be able to continue. After the second data entry was completed successfully, the data entry program placed a mark in the database in order to enable the checking of whether this process had been completed for each and every case.

Data Transfer
The data entry program was capable of exporting the data that was entered into one compressed database file which could be easily sent to WHO using email attachments or a file transfer program onto a secure server no matter how many cases were in the file.
The sites were allowed the use of as many computers and as many data entry personnel as they wanted. Each computer used for this purpose produced one file and they were merged once they were delivered to WHO with the help of other programs that were built for automating the process. The sites sent the data periodically as they collected it enabling the checking procedures and preliminary analyses in the early stages of the data collection.

Data quality checks
Once the data was received it was analyzed for missing information, invalid responses and representativeness. Inconsistencies were also noted and reported back to sites.

Data Cleaning and Feedback
After receipt of cleaned data from sites, another program was run to check for missing information, incorrect information (e.g. wrong use of center codes), duplicated data, etc. The output of this program was fed back to sites regularly. Mainly, this consisted of cases with duplicate IDs, duplicate cases (where the data for two respondents with different IDs were identical), wrong country codes, missing age, sex, education and some other important variables.

Data Appraisal

No content available