Myanmar - Demographic and Health Survey 2015-2016

Ministry of Health and Sports (MoHS) - Government of Republic of the Union of Myanmar

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Sampling

Sampling Procedure

The sample was based on the 2014 census frame, which is used to coordinate household-based surveys conducted in Myanmar, including the current 2015-16 MDHS. The master sample is a large, nationally representative sample consisting of 4,000 PSUs drawn from the entire census frame; these can be used for sub-selecting multi-stage household-based survey samples.

The 2015-16 MDHS followed a stratified two-stage sample design and was intended to allow estimates of key indicators at the national level, in urban and rural areas, and for each of the seven States and eight Regions of Myanmar. The first stage involved selecting sample points (clusters) consisting of EAs or ward/village tracts. A total of 442 clusters (123 urban and 319 rural) were selected from the master sample.

At the second stage, a fixed number of 30 households was selected from each of the selected clusters (a total of 13,260 households), using equal probability systematic sampling. For the clusters, which were completely enumerated during the population census, the census household listings were taken as the base and updated in the field by the household listing teams. These updated lists were used for selecting the sample households. For the clusters that were not enumerated or partially enumerated during the census, an independent household listing operation was carried out. Because of the non-proportional sample allocation, the sample was not a self-weighting sample. Weighting factors had to be calculated, added to the data file, and applied so that results are representative at the national as well as regional level.

All women age 15-49 who were either permanent residents of the selected households or visitors who stayed in the households the night before the survey were eligible to be interviewed. In half of the selected households (every second household), all men age 15-49 who were either residents or visitors who stayed in the household the night before the survey were eligible to be interviewed.

For further details on sample selection, see Appendix A of the final report.

Deviations from Sample Design

During the course of the fieldwork, 4 clusters were identified as insecure and were replaced with other clusters in the vicinity. In addition, 1 urban cluster had to be dropped due to worsening security.

Response Rate

The total number of households selected was 13,238, of which 12,780 households were occupied. Of those occupied, 12,500 households were interviewed, yielding a 98% response rate.

In the interviewed households, 13,454 women were identified as eligible for the individual Woman’s Questionnaire. Interviews were successfully completed with 12,885 women, yielding a 96% response rate. In the subsample of one-half of the households, 5,218 men were identified as eligible for individual interview. Interviews were completed for 4,737 men, with a 91% response rate.

Weighting

A spreadsheet containing all sampling parameters and selection probabilities was prepared to facilitate the calculation of the design weights. Design weights were adjusted for household nonresponse and also for individual nonresponse to get the sampling weights for female and male surveys, respectively. The differences of the household sampling weights and the individual sampling weights are introduced by individual nonresponse. Sampling weights for the domestic violence survey were calculated based on the number of eligible respondents in the households selected for the domestic violence module. The final sampling weights were normalized to give the total number of unweighted cases equal to the total number of weighted cases at national level, for both household weights and individual weights, respectively. The normalized weights are relative weights, which are valid for estimating means, proportions, and ratios, but not valid for estimating population totals and for pooled data.

For further details on sampling weight calculations, see Appendix A.4 of the final report.

Questionnaires

Overview

Three sets of questionnaires were used in the 2015-16 MDHS: a Household Questionnaire, a Woman's Questionnaire, and a Man's Questionnaire. These questionnaires, developed for the worldwide DHS program, were revised to accord with Myanmar culture as well as to reflect some country-specific health issues.

Data Collection

Data Collection Dates

Start	End	Cycle
2015-12	2016-07	N/A

Data Collection Mode

Face-to-face [f2f]

DATA COLLECTION NOTES

Data collection was carried out by 19 field teams, each consisting of one team supervisor, one field editor, three to four female interviewers, and one male interviewer. However, the team composition had to be adjusted during the different phases of the fieldwork operation. Data collection took place from December 7, 2015, through July 7, 2016, although most of the teams completed the fieldwork by April 2015. The extension of fieldwork in some states and regions reflected sensitivity toward ethnic groups and occurred in non-state-controlled areas where additional advocacy strategies had to be implemented. Karen Department Health and Welfare facilitated the data collection in some enumeration areas of Kayin State. The Wa Health Department and Health Poverty Action also supported data collection in two enumeration areas from Wa Special Region. Despite substantial challenges in the field, the MDHS field teams successfully completed the fieldwork.

Travel plans for data collection by the teams were shared with the central health office and state and regional offices, including local administrative offices. Each team had to inform the MDHS core team as well as the respective state and regional public health departments of their fieldwork’s location and progress.

SUPERVISION

Field supervision was carried out by the state and regional public health directors and officers. A standard supervisory protocol was developed to monitor coverage, and an orientation was conducted by the MDHS team. Technical monitoring was carried out by the MDHS core team and the master trainers. In addition, field supervision visits were conducted by the Deputy Health Minister, two Deputy Survey Managers, the DHS resident advisor from ICF, and other members of the MDHS Technical Committee. The DHS Program survey manager from ICF conducted field monitoring at different stages of field data collection. Additionally, a mechanism was developed to generate weekly field check tables to monitor the data quality, and immediate feedback was provided to the field teams.

Data Processing

Data Editing

The 2015-16 MDHS used computer-assisted field editing (CAFE) procedures with tablet computers. Thus, data processing began simultaneously with the fieldwork. All completed questionnaires were entered into the tablets while in the field by the field editors after they edited them on paper. Entries were checked by the supervisors before the questionnaires were dispatched to the data processing center at the MoHS central office in Nay Pyi Taw. These completed questionnaires were reviewed and re-entered by 13 data processing personnel specially trained for this task. All data were thus entered twice (100 percent verification), once in the field by the field editors and then again in the data processing center in Nay Pyi Taw. Data were entered using the CSPro computer package. The operation included secondary editing, using CSPro software, to resolve computer-identified inconsistencies and to code open-ended questions. The concurrent processing of the data offered a distinct advantage, because it maximized the likelihood of the data being error-free and accurate. Moreover, the double entry of data enabled easy comparison and identification of errors and inconsistencies. Inconsistencies were resolved by tallying with the paper questionnaire entries.

The secondary editing was implemented by four editors and was completed in the second week of July 2016. The final cleaning of the data set was carried out by the DHS Program data processing specialist by the end of July 2016.

Data Appraisal

Estimates of Sampling Error

The estimates from a sample survey are affected by two types of errors: nonsampling errors and sampling errors. Nonsampling errors are the results of mistakes made in implementing data collection and data processing, such as failure to locate and interview the correct household, misunderstanding of the questions on the part of either the interviewer or the respondent, and data entry errors. Although numerous efforts were made during the implementation of the 2015-16 Myanmar Demographic and Health Survey (2015-16 MDHS) to minimize this type of error, nonsampling errors are impossible to avoid and difficult to evaluate statistically.

Sampling errors, on the other hand, can be evaluated statistically. The sample of respondents selected in the 2015-16 MDHS is only one of many samples that could have been selected from the same population, using the same design and expected size. Each of these samples would yield results that differ somewhat from the results of the actual sample selected. Sampling errors are a measure of the variability among all possible samples. Although the degree of variability is not known exactly, it can be estimated from the survey results.

Sampling error is usually measured in terms of the standard error for a particular statistic (mean, percentage, etc.), which is the square root of the variance. The standard error can be used to calculate confidence intervals within which the true value for the population can reasonably be assumed to fall. For example, for any given statistic calculated from a sample survey, the value of that statistic will fall within a range of plus or minus two times the standard error of that statistic in 95% of all possible samples of identical size and design.

If the sample of respondents had been selected as a simple random sample, it would have been possible to use straightforward formulas for calculating sampling errors. However, the 2015-16 MDHS sample is the result of a multi-stage stratified design, and, consequently, it was necessary to use more complex formulas. Sampling errors are computed by SAS programs developed by ICF. These programs use the Taylor linearization method to estimate variances for survey estimates that are means, proportions, or ratios. The Jackknife repeated replication method is used for variance estimation of more complex statistics such as fertility and mortality rates.

Note: A more detailed description of estimates of sampling errors are presented in APPENDIX B of the survey report.

Other forms of Data Appraisal

Data Quality Tables
- Household age distribution
- Age distribution of eligible and interviewed women
- Age distribution of eligible and interviewed men
- Completeness of reporting
- Births by calendar years
- Reporting of age at death in days
- Reporting of age at death in months
- Sibship size and sex ratio of siblings

Note: See details of the data quality tables in APPENDIX C of the report.

Related Materials

Questionnaires

Myanmar Demographic and Health Survey 2015-16, Household Questionnaire

Title	Myanmar Demographic and Health Survey 2015-16, Household Questionnaire
Author(s)	Ministry of Health and Sports
Date	2015-10-22
Country	Myanmar
Language	English
Filename	MMR_2015_DHS_hh_questionnaire.pdf

Myanmar Demographic and Health Survey 2015-16, Woman's Questionnaire

Title	Myanmar Demographic and Health Survey 2015-16, Woman's Questionnaire
Author(s)	Ministry of Health and Sports
Date	2015-10-22
Country	Myanmar
Language	English
Filename	MMR_2015_DHS_woman_questionnaire.pdf

Myanmar Demographic and Health Survey 2015-16, Man's Questionnaire

Title	Myanmar Demographic and Health Survey 2015-16, Man's Questionnaire
Author(s)	Ministry of Health and Sports
Date	2015-10-22
Country	Myanmar
Language	English
Filename	MMR_2015_DHS_man_questionnaire.pdf

Reports

Myanmar Demographic and Health Survey 2015-16, Report

Title	Myanmar Demographic and Health Survey 2015-16, Report
Author(s)	Ministry of Health and Sports, Nay Pyi Taw, Myanmar The DHS Program, ICF, Rockville, Maryland, USA
Date	2017-03-01
Country	Myanmar
Language	English

Table of contents

Filename http://dhsprogram.com/pubs/pdf/FR324/FR324.pdf

Myanmar 2015-16 Demographic and Health Survey, Key Findings

Title	Myanmar 2015-16 Demographic and Health Survey, Key Findings
Author(s)	The DHS Program
Date	2017-03-01
Country	Myanmar
Language	English
Filename	http://dhsprogram.com/pubs/pdf/SR235/SR235.pdf

Myanmar 2015-16 Demographic and Health Survey, Wall Chart

Title	Myanmar 2015-16 Demographic and Health Survey, Wall Chart
Author(s)	The DHS Program
Date	2017-03-01
Country	Myanmar
Language	English
Filename	http://dhsprogram.com/pubs/pdf/DM106/DM106.pdf

Fast Facts from The 2015-16 Myanmar Demographic and Health Survey

Title	Fast Facts from The 2015-16 Myanmar Demographic and Health Survey
Author(s)	The DHS Program
Date	2017-03-01
Country	Myanmar
Language	English
Filename	http://dhsprogram.com/pubs/pdf/DM107/DM107.pdf

Other materials

Frequently Asked Questions about the 2015-16 Myanmar Demographic and Health Survey (MDHS)

Title	Frequently Asked Questions about the 2015-16 Myanmar Demographic and Health Survey (MDHS)
Author(s)	The DHS Program
Date	2017-03-01
Country	Myanmar
Language	English
Filename	http://dhsprogram.com/pubs/pdf/DM108/DM108.pdf