Nigeria Demographic And Health Survey 2013

Preliminary Report

National Population Commission

MEASURE DHS, ICF International

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DEMOGRAPHIC AND HEALTH SURVEY

2013

PRELIMINARY REPORT

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MEASURE DHS
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The 2013 Nigeria Demographic and Health Survey (2013 NDHS) was implemented by the National Population Commission (NPC), and field work took place from February to July 2013. Funding for the NDHS was provided by the United States Agency for International Development (USAID), the Department for International Development (DFID), and the United Nations Population Fund (UNFPA). ICF International provided technical assistance through the MEASURE DHS project, which is funded by USAID.

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ACRONYMS

ACT	Artemisinin Combination Therapy
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ASCON	Administrative Staff College of Nigeria
ARI	Acute Respiratory Infection
ASFR	Age-specific Fertility Rate
CDC	Centres for Disease Control and Prevention
CPR	Contraceptive Prevalence Rate
DHS	Demographic and Health Survey
EA	Enumeration Area
EPI	Expanded Programme on Immunization
FCT	Federal Capital Territory
FMOH	Federal Ministry of Health
GPS	Global Positioning System
HIV	Human Immunodeficiency Virus
IPT	Intermittent Preventive Treatment
IRS	Indoor Residual Spraying
ITN	Insecticide-treated Net
IUD	Intra-uterine Device
LAM	Lactational Amenorrhoea Method
LGA	Local Government Area
LLIN	Long Lasting Insecticidal Nets
PAHO	Pan American Health Organisation
NCHS	National Centre for Health Statistics
NPC	National Population Commission
NPHCDA	National Primary Health Care Development Agency
NDHS	Nigeria Demographic and Health Survey
ORT	Oral Rehydration Therapy
ORS	Oral Rehydration Salt
RHF	Recommended Home Fluid
SDM	Standard Days Method
TOT	Training of Trainers
TFR	Total Fertility Rate
UNAIDS	United Nations Programmes on HIV and AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children’s Fund
UNU	United Nations University
USAID	United States Agency for International Development
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation

FOREWORD

The 2013 Nigeria Demographic and Health Survey (NDHS) is the fourth DHS survey to be implemented in Nigeria by the National Population Commission (NPC). It is the Commission's responsibility to collect, collate, analyse, and disseminate population census and survey data at all levels that contribute to policy formulation and population activity coordination in the country. The 2013 NDHS is the fifth in the series of DHS surveys taking place in the country, which first started in Nigeria at the national level in 1990. We hope that information derived from this survey will assist policymakers and programme managers in monitoring and designing programmes and strategies for improving health and family planning services in Nigeria. This report presents the preliminary results for the major findings of the survey. A more comprehensive and detailed report is scheduled to be published in the first quarter of 2014.

The 2013 NDHS is a national sample survey designed to provide up-to-date information on background characteristics of the respondents, specifically collected information on fertility levels, marriage, fertility preference, awareness and use of family planning methods, child feeding practices, nutritional status of women and children, adult and childhood mortality, awareness and attitudes regarding HIV/AIDS, female genital mutilation, and domestic violence. The target groups were women and men age 15-49 in randomly selected households across Nigeria. Information about children age 0-5 years was also collected, including weight and height. In addition to presenting national estimates, the report provides estimates of key indicators for both the rural and urban areas in Nigeria, the six geo-political zones, the 36 states and the Federal Capital Territory (FCT).

The survey was successfully conducted due to the dedicated support and involvement of a large number of institutions and individuals. The unparalleled success of the survey was specifically strengthened by contributions from these organisations and individuals. I wish to, therefore, acknowledge the support of the United States Agency for International Development in Nigeria (USAID/Nigeria) and the Department for International Development through PATHS-2 for funding the survey. I wish to thank Akintola Williams Deloitte for providing accounting and disbursement services that allowed for the timely and efficient transfer of project funds throughout all the components of the survey. Similarly, I wish to acknowledge the United Nations Population Fund (UNFPA) for funding the household listing exercise and additional field support.

Furthermore, the support and collaboration witnessed from national and state, local government and nongovernment, and international development organisations, as well as other major stakeholders, is hereby acknowledged. Special thanks are given to the Federal Ministry of Health and its allies. I would like to extend gratitude to the representatives of UN Women and UNICEF for providing technical support during the training.

I would like to thank the NPC Honourable Federal Commissioners for providing excellent leadership and advocacy support during the implementation period. The unflinching support and technical assistance provided by the Director General and all other Directors and staff is hereby acknowledged.

On behalf of the Commission, I gratefully appreciate the tireless dedication of Ms. Amaka Ezenwa (Project Director), Mr. Inuwa Bakari Jalingo (Project Coordinator), and the 2013 NDHS technical team for their outstanding and enthusiastic management of all the technical, administrative, and logistical phases of the survey. Due to their effort and commitment, data could be made available in a timely fashion. I would like to put on record my sincere appreciation for the Survey Steering Committee members, field staff, data processing team, and, in particular, the survey respondents. Similarly, I wish to express appreciation to ICF International for its technical assistance during all stages of the survey and for completing the task in time. I greatly appreciate Mrs. Anjushree Pradhan (ICF DHS Country Manager) for the commitment and great expertise with which she managed all the components of this survey. I am also thankful to Ms. Claudia Marchena (Data Processing Specialist), who handled the data processing of the 2013 NDHS. I wish to commend the efforts of Dr. Alfredo Aliaga and Dr. Ruilin Ren (Sampling Specialists), who provided technical support during the sampling. Dr. Pav Govindasamy (Regional Coordinator) also deserves our deep appreciation for her contributions. USAID/Nigeria deserves special thanks for providing financial support for the survey.

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1. INTRODUCTION

The 2013 Nigeria Demographic and Health Survey (2013 NDHS) is the fifth in a series of Demographic and Health Surveys conducted in Nigeria; previous surveys were conducted in 1990, 1999, 2003, and 2008. The three most recent NDHS surveys of 1999, 2003, and 2008 were implemented by the National Population Commission. The field survey for the 2013 NDHS started with the training of trainers and the pretest of survey instruments in Makurdi, Benue State, from 12 - 28 November 2012. This was followed by the training of household listers in six zonal centres. A centralised one-month-long training of data collectors took place at the Administrative Staff College of Nigeria (ASCON), Topo Badagry, from 6 January 2013 to 4 February 2013. The field survey was carried out from the second week of February through the last week of May 2013, with the exception of the work of two teams: Kano and Lagos, who each completed the survey in the fourth week of June 2013. Teams visited 886 clusters across Nigeria and collected data from a nationally representative sample of 38,522 households. All women age 15-49 in these households and all men age 15-49 in a subsample of half of the households were individually interviewed.

The 2013 NDHS significantly expands follow-up to the 1990, 1999, 2003, and 2008 DHS surveys. It also provides updated estimates of some basic demographic and health indicators covered in the earlier surveys. In addition, the 2013 NDHS, like the 2008 NDHS, includes the collection of information on violence against women. Although previous surveys collected data at the national and zonal levels, the 2013 as well as the 2008 NDHS report collected data on key indicators from the six geo-political zones of South, South West, South East, North West, North East, and North Central as well as the 36 states and the Federal Capital Territory (FCT).

This preliminary report presents major findings of the survey. A comprehensive, detailed analysis of the data will be presented in a final report to be published during the first quarter of 2014. Although the figures in this preliminary report are not expected to differ much from the findings to be presented in the final report, the results shown here should be considered provisional and interpreted with caution.

As with prior Nigerian DHS surveys, the 2013 NDHS was designed to provide data to monitor population and health in Nigeria. Its explicit goal was to provide reliable information about maternal and child health and family planning services. The 2013 NDHS specifically collected information on fertility levels, marriage, fertility preferences, awareness and use of family planning methods, child feeding practices, nutritional status of women and children, adult and childhood mortality, awareness and attitudes regarding HIV/AIDS, and domestic violence. This information is intended to assist policymakers and programme managers in evaluating and designing programmes and strategies for improving health and family planning services in the country.

2. SURVEY IMPLEMENTATION

2.1 Sample Design

The sample for the 2013 NDHS is nationally representative and covers the entire population residing in noninstitutional dwelling units throughout the country. The survey used as a sampling frame the list of enumeration areas (EAs) prepared for the 2006 population census of the Federal Republic of Nigeria, provided by the National Population Commission (NPC). The sample for the 2013 NDHS was designed to provide population and health indicator estimates at the national, zonal, and state levels. The sample design allowed for specific indicators, such as contraceptive use, to be calculated for each of the six zones and 37 states (36 states plus the Federal Capital Territory (FCT), Abuja).

Administratively, Nigeria is divided into states. Each state is subdivided into local government areas (LGAs), and each LGA is divided into localities. In addition, during the 2006 Population Census, each locality was subdivided into convenient areas called census enumeration areas (EAs). The primary sampling unit (PSU), referred to as a cluster for the 2013 NDHS, is defined on the basis of EAs from the 2006 EA census frame. The 2013 NDHS sample was selected using a stratified two-stage cluster design consisting of 904 clusters, with 372 in urban areas and 532 in rural areas. A representative sample of 40,680 households was selected for the 2013 NDHS survey, with a minimum target of 943 completed interviews per state. In each state, the number of households was distributed proportionately among its urban and rural areas.

A complete listing of households and a mapping exercise were carried out for each cluster from December 2012 to January 2013, with the resulting lists of households serving as the sampling frame for the selection of households in the second stage. All regular households were listed. The NPC listing enumerators were trained to use Global Positioning System (GPS) receivers to take the coordinates of the 2013 NDHS sample clusters.

In the second stage of the selection process, an average of 45 households was selected from each cluster by equal probability systematic sampling. All women age 15-49 who were either permanent residents of the households in the 2013 NDHS sample or visitors present in the households on the night before the survey were eligible to be interviewed. In a subsample of half of the households, all men age 15-49 who were either permanent residents of the households in the 2013 NDHS sample or visitors present in the households on the night before the survey were eligible to be interviewed. In addition, a subsample of one eligible woman in each household was randomly selected to be asked additional questions on domestic violence.

2.2 Questionnaires

The 2013 NDHS used three types of questionnaires: the Household Questionnaire, the Woman’s Questionnaire, and the Man’s Questionnaire. The contents of the questionnaires were based on model questionnaires developed by the MEASURE DHS programme. The model questionnaires were modified in view of the country's requirement, in consultation with a broad

spectrum of government ministries and agencies, nongovernmental organisations, and international donors, to reflect relevant issues within the population, including family planning, domestic violence, HIV/AIDS, and maternal and child health issues. A stakeholders' meeting, organized by NPC, and held in Abuja on 26 March 2012, provided a platform for the experts to discuss the questionnaires extensively. The results of the discussion were used to finalise the survey questionnaires. The questionnaires were then translated into three major Nigerian languages—Hausa, Igbo, and Yoruba—and were pretested, refined, and finalized for the survey.

The Household Questionnaire was used to list all the usual members of and visitors to selected households. Basic information was collected on the characteristics of each person listed, including age, sex, marital status, education, and relationship to the head of the household. The questionnaire also asked questions about children under age 18, such as their current school attendance and survivorship of their parents. If a child in the household had a parent who was sick for more than 3 consecutive months in the 12 months preceding the survey or a parent who had died, additional questions were asked about support for orphans and vulnerable children. Furthermore, if an adult in the household was sick for more than 3 consecutive months in the 12 months preceding the survey, or an adult in the household died, questions were asked relating to support for sick people or people who had died. The Household Questionnaire also collected information on characteristics of the household's dwelling unit, such as the source of water, type of toilet facilities, materials used for the floor of the house, ownership of various durable goods, ownership of agricultural land, ownership of livestock/farm animals/poultry, and ownership and use of mosquito nets and long-lasting insecticidal nets (LLINs). The Household Questionnaire was further used to record height and weight measurements for children age 0-59 months and women age 15-49 years. The data on the age and sex of household members in the Household Questionnaire was used to identify the women and men who were eligible for the individual interview.

The Woman's Questionnaire was used to collect information from all women age 15-49. These women were asked questions on the following main topics:

- Background characteristics (age, religion, education, literacy, media exposure, etc.)
- Reproductive history and childhood mortality
- Knowledge, source, and use of family planning methods
- Fertility preferences
- Antenatal, delivery, and postnatal care
- Breastfeeding and infant feeding practices
- Child immunisation and childhood illnesses
- Marriage and sexual activity
- Woman's work and husband's background characteristics
- Malaria prevention and treatment
- Women's decision making
- Awareness about AIDS and other sexually transmitted infections

- Maternal mortality
- Domestic violence

The Man's Questionnaire was administered to all men age 15-49 in every second household in the 2013 NDHS sample. The Man's Questionnaire collected much of the same information as the Woman's Questionnaire, but was shorter because it did not contain a detailed reproductive history or questions on maternal and child health or nutrition.

All aspects of the NDHS data collection were pretested in November 2012. The training of trainers and pretesting of survey instruments took place from 12-28 November 2012. Twenty members of the technical team, who were also the trainers/quality assurance personnel, participated in the training of trainers and reviewed the questionnaires thoroughly before finally conducting the pretest fieldwork as interviewers. They were all trained to administer the questionnaires and take anthropometric measurements. The training of trainers consisted of the following topics: a project overview, survey objectives, techniques of interviewing, field procedures, a detailed description of all sections of the household and individual questionnaires, and two days of field practice. The trainers included the technical team members, who also doubled as state coordinators, and the ICF DHS country manager. Representatives of the Federal Ministry of Health (FMOH), National Primary Health Care Development Agency (NPHCDA), USAID, UNICEF, UN Women, and UNFPA attended as resource persons and provided technical sessions on the relevant topics.

The Household, Woman's, and Man's Questionnaires were pretested in four locations in Makurdi, Benue, where the majority of the residents spoke predominantly Hausa, Yoruba, English, and Igbo. The teams were divided according to language. The supervisors and editors were drawn from amongst the trainees. The questionnaires were pretested in 120 households, and at the end of pretest fieldwork, a debriefing session was held on 26-27 November 2012. Based on the observations from the field and suggestions made by the pretest teams, revisions were made in the wording and translation of the questionnaires. Logistical arrangements for the survey were also discussed.

2.3 Training

The NDHS technical team responsible for the survey put considerable effort into recruiting people with the requisite skill and experience to work as field staff. The recruitment process was decentralized and, after screening of the candidates, a written test and interview were conducted, which served as the basis for selection. Almost all of those recruited were university graduates, and a few of them had a master's degree. A substantial number had experience working for the previous NDHS surveys and were willing to spend up to five months on the project. They came from the 36 states, including the Federal Capital Territory (FCT). The NPC organized a four-week training course from 6 January to 4 February 2013, for the 316 participants at the Administrative Staff College of Nigeria (ASCON), Topo Badagry, Lagos state.

The training was carried out simultaneously in six classrooms at ASCON with 50 to 52 participants in each class. The technical team members, who were trained during the pretest/training of trainers (TOT), were assigned to the six classrooms. The training was conducted following the standard DHS training procedures, including class presentations, daily reviews, mock interviews, class exercises, and a written test at the end of every module. The training included lectures on how to complete the questionnaires, mock interviews between participants, and field practice. Remedial classes were set up for those who did not do well in the tests. The trainers included the ICF DHS country manager and the technical team. Special training was conducted for the field editors and the supervisors.

Efforts were made to maintain uniformity during the training sessions. Different measures were adopted: trainers were moved from one classroom to another; field staff from a single state were spread across different classrooms; the DHS interviewer's manual and power point presentations were used as guidelines; and the trainers met every evening to discuss how to respond to the issues raised in each class.

2.4 Fieldwork

Unlike the previous rounds of DHS surveys, the fieldwork was launched in the six zones instead of in the 37 states, thus keeping the teams of each zone together and assigning the first clusters in the vicinity. This enabled close supervision of the teams because three to four trainers were available in each zone. Interviewers had ample opportunities to resolve their doubts and build up confidence before they were finally dispatched to their respective states. Fieldwork for the 2013 NDHS was carried out by 37 interviewing teams, one for each of the 36 states of the country and FCT. Each team consisted of a supervisor, one field editor, four female interviewers, two male interviewers, and two drivers. The fieldwork started on 15 February 2013 and lasted through the end of May 2013, except for the two teams in Kano and Lagos who completed their work in June 2013.

Data quality was ensured by the technical team/trainers who also functioned as quality controllers. Data quality was also monitored through field check tables generated concurrently with data processing. This was an advantage because the technical team/trainers were able to advise/alert field teams to problems detected during data entry. In particular, tables were generated to check various data quality parameters. The technical team/trainers met in Abuja occasionally to discuss issues in the fieldwork, and they travelled to the states where immediate attention was required. Fieldwork was also monitored by representatives from ICF, USAID, UNFPA, PATHS-2, and NPC State Directors.

A number of challenges were faced by the field teams, especially in North East and North West zones, due to the security situation. In some areas, the measurement of height/weight became difficult. However, the teams made the utmost effort to accomplish the task. Because of security concerns, the survey could not be completed in eight clusters (four in Borno, two in Yobe, one in Nasarawa, and one in Plateau). Restricted working hours, not receiving clearance to enter the clusters on a regular basis, and threats were some of the challenges faced by the teams.

2.5 Data Processing

The processing of the 2013 NDHS data began simultaneously with the fieldwork. Completed questionnaires were edited immediately while in the field by the field editors and checked by the supervisors before being dispatched to the data processing centre in Abuja. These completed questionnaires were edited and entered by 26 data processing personnel specially trained for this task. All data were entered twice for 100 percent verification. Data were entered using the CSPro computer package. The concurrent processing of the data offered a distinct advantage because the data were ensured to be error-free and authentic. 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 of the data was completed in the last week of July 2013. The final cleaning of the data set was carried out by the ICF data processing specialist and was completed by the end of August 2013.

3 RESULTS OF THE SURVEY

3.1 Response Rates

The household and individual response rates for the 2013 NDHS are shown in Table 1. A total of 40,320 households were selected from 896 sample points, of which 38,904 were found to be occupied at the time of the fieldwork. Of the occupied households, 38,522 were successfully interviewed, yielding a household response rate of 99 percent. In view of the security challenges in the country, this response rate was highly encouraging and appeared to be the result of a well-coordinated team effort.

In the interviewed households, a total of 39,902 women age 15-49 were identified as eligible for individual interviews, and 98 percent of them were successfully interviewed. A total of 18,229 men were identified as eligible for interviews, and 95 percent of them also were successfully interviewed. As expected, the response rates were slightly lower in urban areas than in rural areas. The response rates for the 2013 NDHS were higher than those for the 2008 NDHS (98 percent for women and 95 percent for men versus 97 percent for women and 93 percent for men, respectively).

Table 1 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence (unweighted), Nigeria 2013

	Residence		
Result	Urban	Rural	Total
Household interviews			
Households selected	16,695	23,625	40,320
Households occupied	16,070	22,834	38,904
Households interviewed	15,859	22,663	38,522
Household response rate	98.7	99.3	99.0
Interviews with women age 15-49			
Number of eligible women	15,972	23,930	39,902
Number of eligible women interviewed	15,545	23,403	38,948
Eligible women response rate[2]	97.3	97.8	97.6
Interviews with men age 15-49			
Number of eligible men	7,553	10,676	18,229
Number of eligible men interviewed	7,144	10,215	17,359
Eligible men response rate[2]	94.6	95.7	95.2

[1] Households interviewed/households occupied.
[2] Respondents interviewed/eligible respondents.

3.2 Characteristics of Respondents

The distribution of women and men age 15-49 by background characteristics is shown in Table 2. It is evident that, with advancing age, there is a declining proportion of women and men, indicating that Nigeria's age structure is broad based, i.e., youthful. One-fifth of the eligible women and men are age 15-19.

About half of the respondents are Muslims (52 percent of women and 51 percent of men), while 47 percent of women and men are Christians. Fifty-six percent of the women belong to the three major ethnic groups (Hausa, Igbo, and Yoruba), while 54 percent of the men belong to these groups. Hausa is the predominant ethnic group (28 percent of women and 27 percent of men).

Currently married women constitute more than two-thirds of all interviewed women, and about half of the men are currently married. The proportion of men who have never been married is twice as high as the proportion of never-married women (48 percent versus 24 percent). Three percent of women are widowed, and 2 percent are divorced or separated. The proportion of widowed, divorced, or separated men is distinctly less than the proportion among women.

More than two-fifths of women (42 percent) and men (44 percent) live in urban areas. Nearly one-third of women and men are from the North West geopolitical zone, and the rest are distributed among other zones, with the smallest percentage being from the South East zone (12 percent of women and 10 percent of men).

While the majority of respondents have had some education, the level of educational attainment varies by sex, i.e., 62 percent of women and 79 percent of men are educated. More men than women have a secondary education (48 percent and 36 percent, respectively). Fourteen percent of men and 9 percent of women have more than a secondary education. More than one-third of women (38 percent) and one-fifth of men (21 percent) have no education.

Table 2 Background characteristics of respondents

Percent distribution of women and men age 15-49 by selected background characteristics, Nigeria 2013

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age						
15-19	20.1	7,820	7,905	20.9	3,619	3,708
20-24	17.3	6,757	6,714	16.7	2,892	2,840
25-29	18.3	7,145	7,037	15.9	2,757	2,763
30-34	14.0	5,467	5,373	13.9	2,414	2,368
35-39	12.1	4,718	4,701	12.5	2,175	2,170
40-44	9.3	3,620	3,663	10.2	1,777	1,777
45-49	8.8	3,422	3,555	9.9	1,724	1,733
Religion						
Catholic	11.1	4,316	4,081	11.6	2,014	1,916
Other Christian	35.7	13,922	15,757	35.6	6,181	7,058
Islam	51.7	20,149	18,578	51.3	8,907	8,134
Traditionalist	0.9	359	352	0.9	161	157
Other	0.0	10	14	0.1	17	17
Missing	0.5	192	166	0.5	79	77
Ethnic group						
Ekoi	0.1	22	34	0.1	20	31
Fulani	6.6	2,565	2,425	5.5	953	954
Hausa	27.5	10,699	9,386	27.2	4,719	4,100
Ibibio	2.2	841	849	2.4	419	435
Igala	1.0	371	416	1.1	196	210
Igbo	14.5	5,636	5,448	13.4	2,330	2,228
Ijaw/Izon	1.9	751	1,590	2.0	346	765
Kanuri/Beriberi	1.7	680	523	1.7	292	209
Tiv	2.1	836	621	2.6	448	312
Yoruba	14.1	5,482	5,606	13.5	2,341	2,416
Others	28.2	11,002	11,987	30.2	5,247	5,653
Don't know	0.0	1	2	0.0	0	0
Missing	0.2	63	61	0.3	48	46
Marital status						
Never married	23.9	9,326	9,820	48.3	8,378	8,531
Married	69.4	27,043	26,403	49.1	8,520	8,292
Living together	2.0	787	871	1.2	203	265
Divorced/separated	2.1	826	861	1.2	206	217
Widowed	2.5	967	993	0.3	52	54
Residence						
Urban	42.1	16,414	15,545	43.8	7,611	7,144
Rural	57.9	22,534	23,403	56.2	9,748	10,215
Zone						
North Central	14.3	5,572	6,251	15.5	2,685	3,018
North East	14.8	5,766	6,630	14.5	2,515	2,843
North West	30.5	11,877	9,673	29.9	5,185	4,131
South East	11.5	4,476	4,462	9.7	1,686	1,681
South South	12.7	4,942	6,058	14.1	2,445	3,035
South West	16.2	6,314	5,874	16.4	2,843	2,651
State						
Sokoto	2.8	1,098	1,314	2.4	424	501
Zamfara	3.4	1,332	1,189	2.8	479	422
Katsina	3.9	1,525	1,304	3.4	596	512
Jigawa	3.5	1,353	1,211	2.9	510	462
Yobe	2.5	971	1,080	2.2	390	451
Borno	3.6	1,412	782	3.9	676	376
Adamawa	2.1	828	1,122	2.1	358	493
Gombe	1.4	550	1,076	1.5	255	490
Bauchi	3.0	1,161	1,196	2.9	512	492
Kano	8.2	3,189	2,228	9.2	1,592	1,108

Continued...

Table 2 – *Continued*

Percent distribution of women and men age 15-49 by selected background characteristics, Nigeria 2013

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Kaduna	5.5	2,136	1,243	6.0	1,033	602
Kebbi	3.2	1,244	1,184	3.2	551	524
Niger	3.8	1,462	1,046	4.0	701	512
FCT-Abuja	0.8	315	761	1.0	175	428
Nasarawa	1.5	594	874	1.6	282	401
Plateau	1.7	662	875	1.7	302	393
Taraba	2.2	844	1,374	1.9	325	541
Benue	3.2	1,240	870	3.6	616	409
Kogi	1.8	704	859	1.9	333	425
Kwara	1.5	596	966	1.6	274	450
Oyo	4.0	1,568	915	3.6	629	373
Osun	2.0	765	1,026	2.1	356	480
Ekiti	0.8	326	863	0.8	148	394
Ondo	2.1	808	916	2.3	404	435
Edo	1.9	742	1,079	2.1	365	517
Anambra	2.7	1,052	903	2.6	446	366
Enugu	2.4	951	965	1.8	320	355
Ebonyi	2.9	1,122	1,075	2.1	368	334
Cross River	1.8	703	727	1.8	310	320
Akwa Ibom	2.2	864	979	2.6	451	502
Abia	1.3	518	805	1.3	229	357
Imo	2.1	833	714	1.9	323	269
Rivers	3.3	1,276	919	3.8	658	490
Bayelsa	0.9	364	1,224	1.1	187	652
Delta	2.6	993	1,130	2.7	473	554
Lagos	5.0	1,964	1,482	5.5	948	701
Ogun	2.3	883	672	2.1	358	268
Education						
No education	37.8	14,729	13,740	21.2	3,685	3,354
Primary	17.3	6,734	7,104	16.7	2,907	2,979
Secondary	35.8	13,927	14,407	47.7	8,281	8,390
More than secondary	9.1	3,558	3,697	14.3	2,486	2,636
Total 15-49	100.0	38,948	38,948	100.0	17,359	17,359

Note: Education categories refer to the highest level of education attended, whether or not that level was completed.

3.3 Fertility

Fertility data were collected in the survey by asking each of the women interviewed for a history of all of her births. Fertility estimates are based on the information about live births obtained in the birth history. The information obtained for each of the women's births included the month and year of each birth. These data are used to calculate two of the most widely used measures of current fertility: the total fertility rate (TFR) and the age-specific fertility rates for the three years preceding the survey. The TFR, which is based on the sum of the age-specific fertility rates, is interpreted as the number of children the average woman would bear in her lifetime if she experienced the currently observed age-specific fertility rates throughout her reproductive years.

As indicated in Table 3, the total fertility rate is 5.5. This means that, on average, a Nigerian woman who is at the beginning of her childbearing years will give birth to 5.5 children by the end of her reproductive period if fertility levels remain constant at the level observed in the three-year period before the survey.

The overall age pattern of fertility as reflected in the age-specific fertility rates (ASFRs) indicates that childbearing begins early. Fertility is low among adolescents (122 births per 1,000 women), peaks at 253 births per 1,000 among women age 25-29, and decreases thereafter. The TFR in rural areas (6.2 births) is considerably higher than in urban areas (4.7 births). Age-specific fertility rates are higher in rural areas than in urban areas for all age groups (Figure 1).

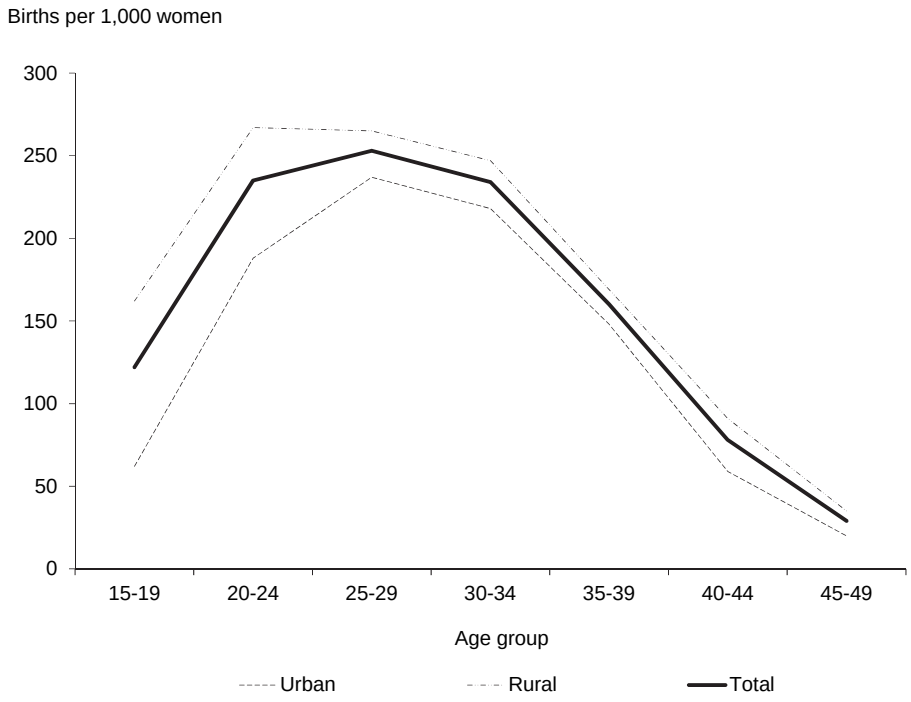
Table 3 Current fertility

Age-specific and total fertility rate, the general fertility rate, and the crude birth rate for the three years preceding the survey, by residence, Nigeria 2013

	Residence		
Age group	Urban	Rural	Total
15-19	62	162	122
20-24	188	267	235
25-29	237	265	253
30-34	218	247	234
35-39	148	169	160
40-44	59	91	78
45-49	20	35	29
TFR (15-49)	4.7	6.2	5.5
GFR	159	213	190
CBR	35	42	39

Notes: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation. Rates are for the period 1-36 months prior to interview.
TFR: Total fertility rate expressed per woman
GFR: General fertility rate expressed per 1,000 women age 15-44
CBR: Crude birth rate, expressed per 1,000 population

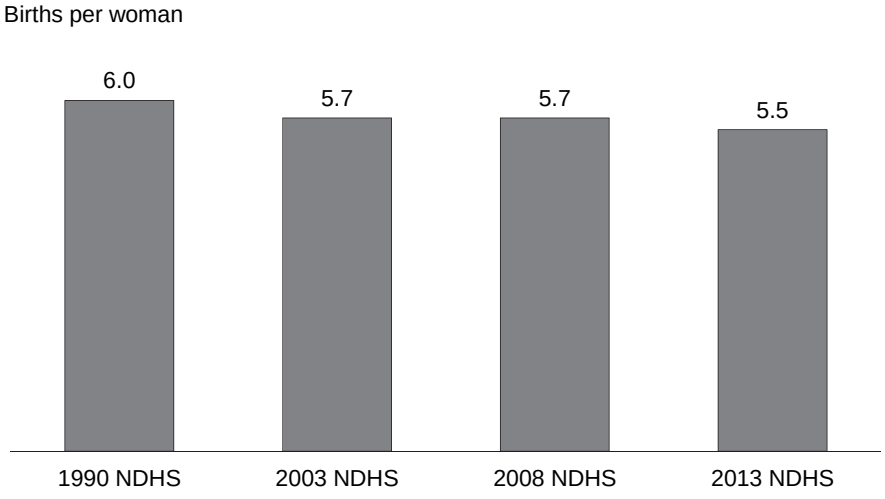
Figure 1
Age-specific fertility rates by residence



NDHS 2013

Fertility is gradually declining in Nigeria. Figure 2 shows the decrease in the TFR from 6.0 births per woman as estimated in the 1990 NDHS to 5.5 births per woman in the 2013 NDHS. However, Nigeria has a long way to go to meet the Millennium Development Goals.

Figure 2
Trends in total fertility rates



Note: Rates are for the three years preceding the survey.

3.4 Fertility Preferences

Information on fertility preferences is used to assess the potential demand for family planning services for the purpose of spacing or limiting childbearing. To elicit information on fertility preferences, several questions were asked of women (pregnant or not) about whether they wanted to have another child and, if so, how soon. Table 4 shows 33 percent of women want to have another child soon, and 34 percent want to have another child later (after two or more years). Nineteen percent of women want no more children or are sterilised. When comparing the 2013 data to the 2003 NDHS data, slightly fewer women reported wanting to have another child soon (33 percent in the 2013 NDHS versus 37 percent in the 2003 NDHS). The proportion of women reporting that they want to have another child later (after two or more years) has remained constant at 34 percent in both the 2003 NDHS and in 2013 NDHS, while those who reported that they do not want any more children or are sterilised has increased by only one percentage point. This indicates that there continues to be a strong desire among many Nigerian women to delay childbearing.

Fertility preference is closely related to the number of living children. More than four-fifths of women with no living children (84 percent) want another child soon compared with nearly one-fourth (18 percent) of those with six or more children. The more children a woman has, the higher is the likelihood that she does not want another child. The proportion of women who either want no more children or who have been sterilised increases rapidly with the number of living children, from 1 percent among women with one child to 5 percent among women with two children and 33 percent or more among women with five or more children.

Table 4 Fertility preferences by number of living children

Percent distribution of currently married women age 15-49 by desire for children, according to number of living children, Nigeria 2013

	Number of living children[1]							
Desire for children	0	1	2	3	4	5	6+	Total
Have another soon[2]	84.2	43.4	37.4	31.6	25.5	22.9	17.8	33.4
Have another later[3]	3.2	48.7	47.4	42.2	32.3	27.9	21.5	34.3
Have another, undecided when	2.8	3.0	4.0	3.1	2.6	1.9	1.2	2.6
Undecided	3.8	2.7	4.4	6.9	9.4	10.4	12.5	7.5
Want no more	0.6	0.8	4.5	12.5	26.3	32.6	40.2	18.3
Sterilised[4]	0.1	0.0	0.2	0.6	0.3	0.5	0.6	0.4
Declare infecund	5.0	1.1	1.6	2.5	2.8	3.4	5.5	3.0
Missing	0.4	0.2	0.5	0.6	0.7	0.4	0.8	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,881	4,292	4,500	4,451	4,126	3,272	5,308	27,830

[1] The number of living children includes current pregnancy.
[2] Wants next birth within 2 years.
[3] Wants to delay next birth for 2 or more years.
[4] Includes both female and male sterilisation.

3.5 Family Planning

Family planning refers to a conscious effort by a couple to limit or space the number of children they want to have through the use of contraceptive methods. Information on knowledge and use of family planning methods was obtained from women by asking them to mention any ways or methods by which a couple could delay or avoid pregnancy. Respondents were asked whether they or their partners were using a method at the time of the survey.

Contraceptive methods are classified as modern or traditional methods. Modern methods include female sterilisation, male sterilisation, the pill, intra-uterine device (IUD), injectables, implants, male condom, female condom, standard days method (SDM), and lactational amenorrhoea method (LAM). Methods such as rhythm (periodic abstinence) and withdrawal are grouped as traditional methods.

Overall, 15 percent of currently married women in Nigeria are using a contraceptive method (Table 5), indicating only a two percentage point increase from the 2003 NDHS. The majority of contraceptive users rely on a modern method (10 percent of currently married women), and 5 percent use traditional methods. Among the modern methods, injectables (3 percent), male condoms (2 percent), and the pill (2 percent) are the most common methods being used. The practice of all other modern methods is far less (under 1 percent). Interestingly, 3 percent use withdrawal as a method of contraception.

As shown in Table 5 and Figure 3, the use of contraceptives varies by women's background characteristics. The proportion of currently married women who are currently using any method of contraception rises with age from only 2 percent among women age 15-19 to 22 percent among age 40-44. The use of contraception then decreases among women who are age 45 and older. Among modern methods, use of condoms is more popular among women under age 35, while injectables are more popular among women age 35-44. Currently married women in urban areas are considerably more likely to use any method of contraception (27 percent) than women in rural areas (9 percent). Use is higher in urban than in rural areas for each of the specific methods.

Table 5 Current use of contraception by background characteristics

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to background characteristics, Nigeria 2013

Background characteristic	Any method	Any modern method	Modern method: Female sterilization	Pill	IUD	Injectables	Implants	Male condom	LAM	Standard days method	Other[1]	Any traditional method	Traditional method: Rhythm	Withdrawal	Other	Not currently using	Total	Number of women
Age																		
15-19	2.1	1.2	0.0	0.3	0.1	0.2	0.0	0.3	0.2	0.0	0.0	1.0	0.3	0.6	0.1	97.9	100.0	2,251
20-24	9.6	6.2	0.0	1.3	0.0	1.7	0.2	2.3	0.5	0.0	0.3	3.3	1.0	1.7	0.6	90.4	100.0	4,362
25-29	14.1	8.8	0.1	1.6	0.6	2.6	0.2	2.8	0.6	0.2	0.3	5.3	2.0	2.6	0.7	85.9	100.0	5,913
30-34	19.1	12.6	0.2	2.3	1.2	3.9	0.9	2.8	0.8	0.2	0.4	6.6	2.0	3.8	0.7	80.9	100.0	4,869
35-39	21.0	13.6	0.4	2.7	1.7	5.3	0.6	2.0	0.4	0.1	0.4	7.4	3.4	3.2	0.8	79.0	100.0	4,302
40-44	21.7	14.4	1.1	2.5	2.2	5.3	0.3	2.1	0.3	0.2	0.3	7.3	3.5	2.8	1.0	78.3	100.0	3,226
45-49	13.2	8.3	1.0	1.6	1.9	2.3	0.2	0.9	0.0	0.1	0.4	4.9	2.7	1.4	0.8	86.8	100.0	2,907
Residence																		
Urban	26.8	16.9	0.5	3.2	2.1	4.4	0.8	4.4	0.7	0.2	0.6	9.9	4.1	4.8	1.0	73.2	100.0	10,124
Rural	8.5	5.7	0.3	1.1	0.5	2.5	0.2	0.7	0.3	0.1	0.1	2.8	1.1	1.2	0.6	91.5	100.0	17,705
Zone																		
North Central	15.6	12.4	1.0	2.1	1.0	4.6	0.6	2.1	0.3	0.3	0.5	3.2	1.0	1.5	0.6	84.4	100.0	3,895
North East	3.2	2.7	0.3	0.5	0.1	1.2	0.2	0.2	0.0	0.1	0.0	0.4	0.1	0.2	0.2	96.8	100.0	4,679
North West	4.3	3.6	0.2	0.5	0.2	1.8	0.4	0.1	0.2	0.1	0.1	0.6	0.1	0.2	0.4	95.7	100.0	10,034
South East	29.3	11.0	0.3	1.8	1.5	2.2	0.3	4.1	0.5	0.3	0.1	18.2	7.9	9.9	0.5	70.7	100.0	2,333
South South	28.1	16.4	0.5	3.8	1.0	5.5	0.4	2.5	1.9	0.1	0.8	11.7	5.6	4.4	1.6	71.9	100.0	2,699
South West	38.0	24.9	0.2	5.0	4.0	6.4	0.3	7.5	0.8	0.1	0.8	13.1	5.1	6.3	1.7	62.0	100.0	4,189
State																		
Sokoto	1.1	0.7	0.1	0.1	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	98.9	100.0	956
Zamfara	3.0	1.3	0.0	0.1	0.2	0.9	0.1	0.0	0.0	0.0	0.0	1.7	0.0	0.0	1.7	97.0	100.0	1,226
Katsina	1.3	1.1	0.0	0.1	0.0	1.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.1	0.1	98.7	100.0	1,408
Jigawa	0.9	0.6	0.0	0.2	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.4	0.1	0.0	0.3	99.1	100.0	1,256
Yobe	1.1	0.5	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.6	0.0	0.1	0.5	98.9	100.0	824
Borno	1.8	1.8	0.4	0.2	0.2	0.7	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.2	100.0	1,120
Adamawa	4.4	3.5	0.4	0.8	0.0	1.2	0.2	0.6	0.0	0.3	0.0	0.8	0.0	0.7	0.1	95.6	100.0	586
Gombe	4.0	4.0	0.7	0.1	0.3	1.5	0.5	0.3	0.3	0.0	0.2	0.1	0.1	0.0	0.0	96.0	100.0	467
Bauchi	2.2	2.1	0.1	0.6	0.0	1.4	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	97.8	100.0	1,051
Kano	0.6	0.5	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	99.4	100.0	2,521
Kaduna	20.2	18.5	1.0	2.1	1.2	9.0	2.6	0.8	0.8	0.3	0.6	1.7	0.2	1.0	0.5	79.8	100.0	1,594
Kebbi	1.3	1.2	0.0	0.7	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	98.7	100.0	1,074
Niger	6.6	5.6	0.2	0.8	0.4	2.7	0.3	0.6	0.2	0.4	0.1	1.0	0.3	0.6	0.1	93.4	100.0	1,190
FCT-Abuja	25.2	20.6	0.5	3.5	4.4	4.7	3.1	3.2	0.2	0.3	0.6	4.6	3.2	1.1	0.3	74.8	100.0	200

Continued…

Table 5—*Continued*

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to background characteristics, Nigeria 2013

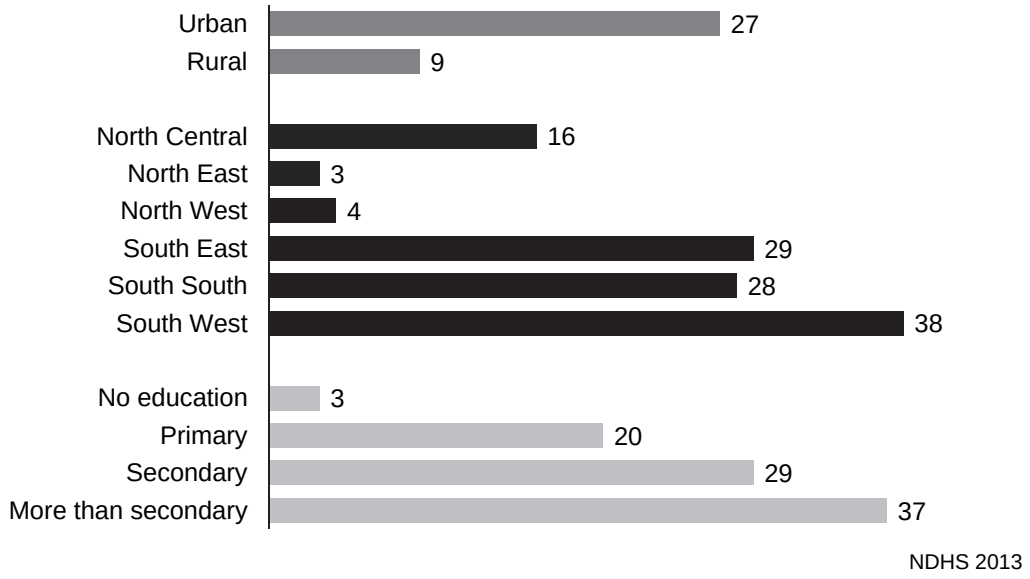
Background characteristic	Any method	Any modern method	Modern method: Female sterilization	Pill	IUD	Injectables	Implants	Male condom	LAM	Standard days method	Other[1]	Any traditional method	Traditional method: Rhythm	Withdrawal	Other	Not currently using	Total	Number of women
Nasarawa	18.1	16.3	1.1	3.0	0.7	9.1	1.4	0.7	0.1	0.1	0.0	1.8	0.1	0.6	1.1	81.9	100.0	420
Plateau	15.2	14.4	0.9	2.3	0.3	8.9	0.3	1.4	0.2	0.1	0.0	0.7	0.3	0.4	0.0	84.8	100.0	442
Taraba	8.0	6.5	0.5	1.2	0.3	3.0	0.6	0.6	0.0	0.0	0.2	1.5	0.5	0.5	0.5	92.0	100.0	632
Benue	16.5	12.1	2.9	1.4	1.0	1.8	0.5	2.6	0.7	0.2	0.9	4.4	2.4	1.5	0.5	83.5	100.0	827
Kogi	10.5	8.5	0.1	2.3	0.4	3.0	0.0	1.5	0.1	0.4	0.8	2.0	1.1	0.4	0.5	89.5	100.0	433
Kwara	40.2	27.7	0.6	5.9	2.5	8.5	0.4	7.8	0.0	0.2	1.7	12.5	1.2	8.4	2.9	59.8	100.0	384
Oyo	37.4	24.4	0.2	3.7	6.1	6.5	0.5	5.4	1.2	0.0	0.7	13.0	3.9	7.5	1.6	62.6	100.0	1,129
Osun	38.3	31.6	0.0	5.0	5.3	7.2	0.0	13.1	0.6	0.0	0.4	6.7	1.5	4.7	0.5	61.7	100.0	465
Ekiti	34.5	26.6	0.1	7.1	3.6	6.9	0.0	8.2	0.0	0.0	0.6	7.8	4.4	3.1	0.4	65.5	100.0	194
Ondo	31.1	20.4	0.4	3.0	5.9	5.7	0.0	4.1	0.4	0.3	0.7	10.7	4.6	4.9	1.2	68.9	100.0	510
Edo	30.3	19.1	0.6	5.6	0.9	6.8	0.0	2.4	2.4	0.0	0.4	11.2	5.1	4.1	2.0	69.7	100.0	395
Anambra	35.0	11.7	0.3	2.0	2.3	1.3	0.8	4.6	0.3	0.0	0.0	23.3	14.7	8.2	0.4	65.0	100.0	564
Enugu	31.4	14.3	0.2	2.1	2.9	1.8	0.0	6.6	0.7	0.0	0.0	17.1	5.6	11.5	0.0	68.6	100.0	467
Ebonyi	15.7	5.6	0.2	1.3	0.2	1.0	0.4	1.7	0.2	0.7	0.0	10.1	3.2	6.7	0.2	84.3	100.0	564
Cross River	24.0	14.4	0.1	3.6	1.5	5.9	0.2	2.1	0.0	0.0	0.9	9.7	4.2	4.0	1.4	76.0	100.0	437
Akwa Ibom	25.5	16.5	0.3	5.1	0.6	6.6	0.7	2.2	0.8	0.0	0.1	9.0	7.2	1.5	0.2	74.5	100.0	410
Abia	33.4	15.6	0.0	2.0	1.5	7.0	0.0	3.5	0.9	0.7	0.0	17.9	7.8	9.5	0.6	66.6	100.0	292
Imo	34.1	10.7	0.5	1.6	0.8	2.3	0.0	4.2	0.8	0.0	0.3	23.4	7.7	14.4	1.3	65.9	100.0	446
Rivers	34.5	17.5	1.0	3.3	1.1	6.6	0.5	3.3	0.8	0.3	0.5	17.1	8.1	7.6	1.3	65.5	100.0	704
Bayelsa	13.3	10.1	0.0	2.9	0.0	4.2	0.0	1.8	0.4	0.0	0.8	3.2	1.0	1.1	1.1	86.7	100.0	202
Delta	28.7	16.8	0.6	2.4	1.2	2.5	0.4	2.1	5.8	0.0	1.8	11.9	4.6	4.3	3.1	71.3	100.0	551
Lagos	48.3	26.4	0.1	6.5	2.4	4.6	0.3	10.3	0.9	0.0	1.2	21.9	10.2	9.0	2.7	51.7	100.0	1,236
Ogun	26.0	21.5	0.0	5.3	1.0	9.0	0.3	4.4	0.3	0.2	0.9	4.6	0.9	2.2	1.4	74.0	100.0	655
Education																		
No education	2.7	1.7	0.2	0.3	0.1	0.7	0.1	0.1	0.1	0.0	0.0	0.9	0.2	0.3	0.4	97.3	100.0	13,470
Primary	19.9	13.6	0.5	2.8	1.7	5.1	0.4	2.1	0.5	0.1	0.4	6.3	2.4	2.7	1.3	80.1	100.0	5,336
Secondary	29.2	18.7	0.4	3.5	1.6	6.1	0.7	4.6	0.8	0.2	0.7	10.5	4.4	5.3	0.8	70.8	100.0	6,981
More than secondary	37.0	22.4	1.0	3.5	3.6	4.5	1.3	6.5	1.0	0.3	0.7	14.6	7.1	6.9	0.6	63.0	100.0	2,043
Number of living children																		
0	2.4	1.2	0.0	0.2	0.0	0.0	0.0	0.8	0.0	0.1	0.1	1.1	0.6	0.4	0.1	97.6	100.0	2,823
1-2	12.9	8.2	0.1	1.6	0.4	1.8	0.2	3.1	0.5	0.1	0.3	4.7	1.5	2.4	0.8	87.1	100.0	8,637
3-4	20.9	13.0	0.4	2.3	1.5	4.4	0.5	2.6	0.6	0.2	0.5	7.8	3.5	3.7	0.7	79.1	100.0	8,305
5+	16.2	11.1	0.6	2.2	1.7	4.5	0.5	0.9	0.4	0.1	0.2	5.1	2.1	2.1	0.8	83.8	100.0	8,065
Total	15.1	9.8	0.3	1.8	1.1	3.2	0.4	2.1	0.4	0.1	0.3	5.4	2.2	2.5	0.7	84.9	100.0	27,830

Note: If more than one method is used, only the most effective method is considered in this tabulation.
LAM = Lactational amenorrhea method.
[1]Includes male sterilization, female condom, diaphragm, and other modern methods.

Contraceptive use among currently married women is highest in the South West geopolitical zone (38 percent), followed by the South East (29 percent), South South (28 percent), North Central (16 percent), and North West (4 percent); it is lowest in the North East (3 percent). Remarkable variations in contraceptive use exist among the states. The use of any method of contraception is highest in Lagos (48 percent), followed by Kwara (40 percent), while it is lowest in Kano and Jigawa (less than 1 percent). A similar pattern is observed for modern methods—their use ranges from a low of less than 1 percent in Yobe, Kano, Jigawa, and Sokoto to a high of 28 percent in Kwara. In the states of Anambra and Imo, a higher proportion of women are using traditional methods (23 percent each) compared with modern methods (12 percent and 11 percent, respectively). A similar, less pronounced pattern is observed in Enugu, Ebonyi, and Abia.

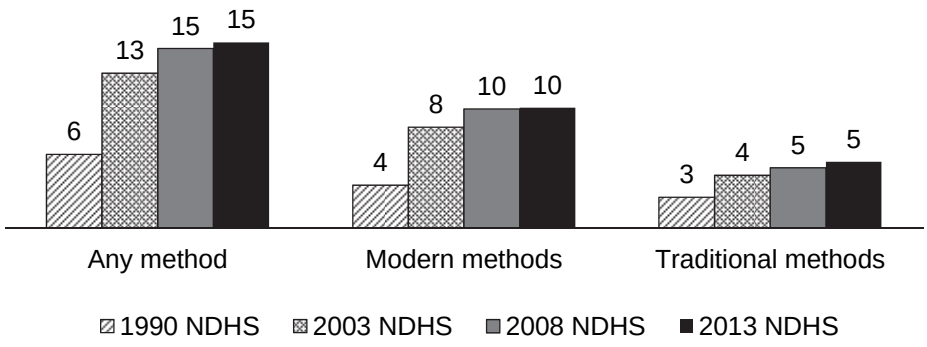
Educational attainment is positively associated with the use of contraception. The use of contraception rises with the educational attainment of women. For example, only 3 percent of women with no education use a method of contraception compared with 20 percent with primary education, 29 percent with secondary education, and 37 percent with more than secondary education. In general, women do not begin to use contraception until they have had at least one child. Contraceptive use increases as the number of living children born to a woman increases. Two percent of women who have no children are currently using family planning methods compared with 13 percent of women with one to two children. The contraceptive use peaks at 21 percent for women with three to four children before decreasing to 16 percent for those with more than five children. This pattern is true for use of modern as well as traditional methods.

Figure 3
Differentials in contraceptive use, Nigeria 2013



As shown in Figure 4, there has been a modest increase in contraceptive use among currently married women since 1990, though the pace has slowed in the last ten years.

Figure 4
Trends in contraceptive prevalence, 1990-2013



3.6 Infant and Child Mortality

Infant and child mortality rates are also basic indicators of a country's socioeconomic situation and quality of life (UNDP, 2007). Estimates of childhood mortality are based on information collected in the birth history section of the questionnaire administered to individual women. The section begins with questions about the aggregate childbearing experience of respondents (i.e., the number of sons and daughters who live with their mother, the number who live elsewhere, and the number who have died). Table 6 presents estimates for three successive five-year periods prior to the 2013 NDHS. The rates are estimated directly from the birth history information on the child's birth date, survivorship status, and the age at death for children who died. This information is used to directly estimate the following five mortality rates:

Neonatal mortality: the probability of dying within the first month of life

Post-neonatal mortality: the difference between infant and neonatal mortality

Infant mortality: the probability of dying before the first birthday

Child mortality: the probability of dying between the first and fifth birthday

Under-5 mortality: the probability of dying between birth and the fifth birthday

All rates are expressed per 1,000 live births, except for child mortality, which is expressed per 1,000 children surviving to 12 months of age.

Table 6 presents infant and under-5 mortality estimates based on the data from the 2013 NDHS for the five years immediately preceding the survey (2009-2013). The level of under-5 mortality is 128 deaths per 1,000 live births during the five-year period before the survey, implying that one in every eight children born in Nigeria during the period died before reaching the fifth birthday. The infant mortality rate estimated in the survey is 69 deaths per 1,000 live births.

Table 6 Early childhood mortality rates

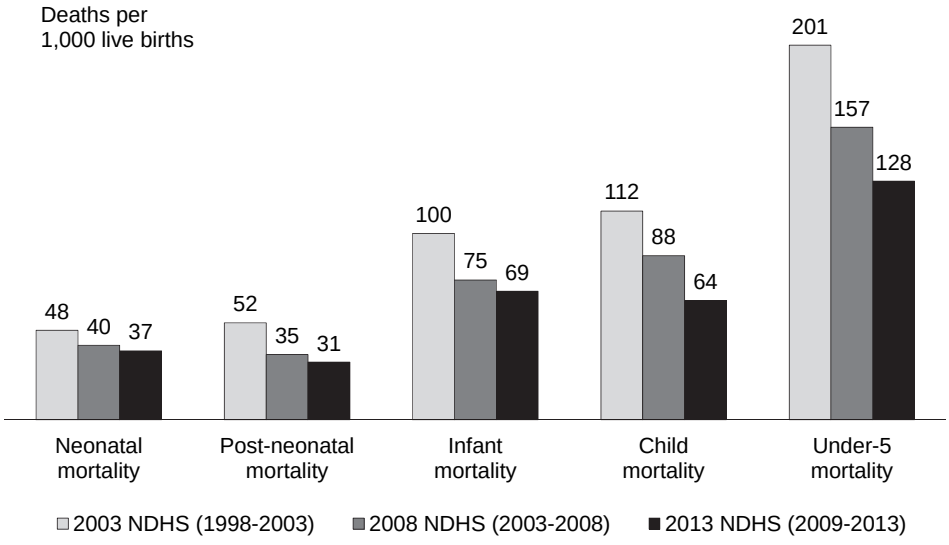
Neonatal, post-neonatal, infant, child, and under-5 mortality rates for five-year periods preceding the survey, Nigeria 2013

Years preceding the survey	Approximate time period of estimated rates	Neonatal mortality (NN)	Post-neonatal mortality (PNN)[1]	Infant mortality (1q0)	Child mortality (4q1)	Under-5 mortality (5q0)
0-4	2009-2013	37	31	69	64	128
5-9	2004-2008	43	42	86	83	162
10-14	1999-2003	46	47	93	102	185

[1] Computed as the difference between the infant and neonatal mortality rates.

Comparison of mortality rates recorded in the 2013 NDHS with the estimates from the 2003 NDHS and 2008 NDHS shows that the rates have decreased in all categories (Figure 5). The under-5 mortality rate decreased from 201 deaths per 1,000 live births in 2003 NDHS to 128 deaths per 1,000 live births in the 2013 NDHS. However, Nigeria still has a long way to go to achieve the MDG target of reducing the under-5 mortality to 64 deaths per 1,000 live births and the infant mortality to 30 deaths per 1,000 live births by 2015 (Government of Federal Republic of Nigeria, 2010).

Figure 5
Trends in childhood mortality, 1998-2013



The estimated infant mortality rate in the 2003 NDHS was 100 deaths per 1,000 live births, which decreased to 75 deaths per 1,000 live births in the 2008 NDHS and further to 69 deaths per 1,000 live births in the 2013 NDHS. The pattern shows that about 29 percent of deaths under age 5 occur during the neonatal period (37 deaths per 1,000 live births), and 24 percent occur during the postneonatal period (31 deaths per 1,000 live births).

3.7 Maternal Health

Proper care during pregnancy and delivery is important for the health of both the mother and the baby. In the 2013 NDHS, women who gave birth in the five years preceding the survey were asked a number of questions about maternal and child health care. For the last live birth in that period, mothers were asked whether they had obtained antenatal care during the pregnancy and whether they had received tetanus toxoid injections and/or iron supplements while pregnant. For each birth in the same period, mothers were also asked what type of assistance they received at the time of delivery. Table 7 presents the results of key maternal health indicators.

Antenatal Care

Antenatal care (ANC) from a trained provider is important in order to monitor the pregnancy and reduce morbidity and mortality risks for the mother and child during pregnancy and delivery. About three-fifths of mothers (61 percent) reported consulting a skilled health provider —a doctor, nurse, midwife, or auxiliary midwife —at least once for antenatal care for the most recent birth in the five-year period before the survey. The differentials in antenatal care coverage are large. Coverage is highest for births to women 20-34 years old (63 percent), and much higher in urban areas (86 percent) than rural areas (47 percent). Across geopolitical zones, the proportion of mothers reporting that they received antenatal care from a skilled provider is markedly lower in the North West (41 percent) followed by the North East (49 percent). Women in the South East (91 percent) and South West (90 percent) are most likely to have received antenatal care from a skilled provider. Among the states, the percentage of mothers who received antenatal care from a skilled provider ranges from a high of 98 percent in Osun to a low of 17 percent in Sokoto. Percentages of women receiving antenatal care from a skilled provider are also relatively low in Zamfara (22 percent), Katsina (23 percent), and Kebbi (24 percent).

As the mother's educational level rises, so does the likelihood that she has seen a skilled provider for care during pregnancy. Antenatal care utilization is highest among women with more than secondary education (97 percent) and lowest among women with no education (36 percent). The proportion of mothers receiving antenatal care from a skilled health provider increased from 58 percent in 2003 to 61 percent in 2013.

Tetanus Toxoid

Tetanus toxoid injections are given during pregnancy to prevent neonatal tetanus, which continues to be an important cause of infant deaths. Table 7 indicates that tetanus toxoid coverage is still far from universal among pregnant women in Nigeria. Only 53 percent of the last births in the five years preceding the survey were fully protected against neonatal tetanus.

Children whose mothers are age 20-34 are more likely to be protected against neonatal tetanus (56 percent) than other children. The pattern of differences by background characteristics follows that for antenatal care, with children born to urban mothers, born to mothers in the South East and South West, and born to better educated mothers being much more likely than others to be protected against neonatal tetanus. Only 14 percent of mothers from Sokoto and Kebbi had their last live birth protected against neonatal tetanus.

Delivery Care

Proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that could cause the death or serious illness of the mother and/or the infant (Van Lerberghe and De Brouwere, 2001; WHO, 2006). Table 7 shows that 38 percent of births in Nigeria are delivered by a skilled health provider and a similar proportion of deliveries (36 percent) take place in health facilities. This represents gradual improvement. A decade ago, 35 percent of births were delivered by a skilled health provider, and 33 percent of the deliveries took place in a health facility.

Differentials in delivery care by background characteristics of the mother are generally similar to those for antenatal care. Rural women and less educated women are less likely than others to receive assistance from a skilled provider during delivery and to be delivered in a health facility. For example, urban mothers are much more likely (67 percent) than rural mothers (23 percent) to have assistance from a skilled provider during delivery. The likelihood of receiving assistance from a skilled provider for delivery also increases substantially with the mother's educational level, from 12 percent among births to mothers with no education to 93 percent among births to mothers with more than secondary education. Births in the South West (83 percent) and South East (82 percent) zones are more likely than those in the North West (12 percent) or North East (20 percent) to be assisted by a skilled provider and to be delivered in health facilities. Among the states, the likelihood of receiving assistance from a skilled provider during delivery and having facility delivery is lower in Sokoto, Zamfara, and Jigawa in relation to the other states.

Table 7 Maternal care indicators

Among women age 15-49 who had a live birth in the five years preceding the survey, percentage who received antenatal care from a skilled provider for the last live birth and percentage whose last live birth was protected against neonatal tetanus, and among all live births in the five years before the survey, percentage delivered by a skilled provider and percentage delivered in a health facility, by background characteristics, Nigeria 2013

Background characteristic	Percentage with antenatal care from a skilled provider[1]	Percentage whose last live birth was protected against neonatal tetanus[2]	Number of women	Percentage delivered by a skilled provider[1]	Percentage delivered in a health facility	Number of births
Mother's age at birth						
< 20	47.8	36.5	2,813	25.2	24.5	4,726
20-34	63.0	55.7	13,877	41.1	38.3	22,220
35-49	61.0	54.6	3,777	37.3	35.1	4,882
Residence						
Urban	86.0	76.9	7,278	67.0	61.7	11,126
Rural	46.5	39.5	13,189	22.7	21.9	20,702
Zone						
North Central	67.0	56.8	2,890	46.5	45.7	4,340
North East	49.3	40.7	3,434	19.9	19.5	5,578
North West	41.0	32.9	7,445	12.3	11.5	11,775
South East	90.6	84.7	1,719	82.2	78.1	2,840
South South	73.0	73.0	2,002	55.4	50.1	2,935
South West	90.4	80.7	2,977	82.5	75.0	4,360
State						
Sokoto	17.4	13.9	693	5.4	4.7	1,151
Zamfara	22.4	17.5	966	6.1	5.0	1,618
Katsina	22.7	25.3	1,066	7.7	9.0	1,703
Jigawa	49.7	34.3	973	7.6	6.7	1,594
Yobe	33.2	25.6	588	10.2	7.6	938
Borno	39.2	32.4	716	22.3	17.0	1,118
Adamawa	85.1	66.5	459	36.3	33.4	732
Gombe	58.2	58.0	361	26.6	27.6	595
Bauchi	55.8	32.7	833	16.3	16.9	1,431
Kano	64.3	47.9	1,907	13.7	12.9	3,024
Kaduna	54.6	52.8	1,051	35.5	32.4	1,439
Kebbi	24.3	14.4	790	9.3	8.5	1,247
Niger	59.9	51.9	916	28.6	25.3	1,394
FCT-Abuja	88.5	72.8	143	70.2	69.1	209
Nasarawa	63.2	51.4	309	40.7	40.1	460
Plateau	63.1	50.6	346	35.8	35.8	505
Taraba	31.8	47.9	476	14.3	23.4	764
Benue	57.4	43.4	615	51.6	50.9	967
Kogi	87.5	81.3	283	70.9	78.9	401
Kwara	89.2	83.4	278	79.6	76.7	405
Oyo	87.2	75.0	783	78.3	74.7	1,108
Osun	98.2	94.1	307	94.2	89.1	445
Ekiti	86.8	89.4	139	84.7	86.3	200
Ondo	78.6	70.4	385	67.2	56.2	568
Edo	83.9	74.4	264	78.3	74.7	405
Anambra	88.4	87.2	379	87.6	84.6	657
Enugu	95.6	91.8	355	91.5	85.5	558
Ebonyi	85.1	72.1	467	62.1	59.6	748
Cross River	72.6	73.2	368	41.3	40.4	532
Akwa Ibom	73.3	67.5	334	45.6	43.2	473
Abia	90.1	91.7	199	77.2	72.8	326
Imo	95.9	87.8	319	96.5	90.9	552
Rivers	75.5	80.3	508	63.4	49.0	730
Bayelsa	47.7	63.4	153	32.1	28.4	233
Delta	72.5	70.8	376	59.8	57.6	561
Lagos	93.9	85.5	867	87.2	77.2	1,303
Ogun	94.8	78.5	495	84.7	74.7	736
Mother's education						
No education	36.2	28.8	9,794	11.7	11.2	15,657
Primary	71.5	63.9	3,915	44.3	41.5	6,127
Secondary	87.6	78.9	5,475	71.7	65.9	8,211
More than secondary	97.3	91.5	1,283	93.2	91.3	1,834
Total	60.6	52.8	20,467	38.1	35.8	31,828

[1] Skilled provider includes doctor, nurse, midwife, or auxiliary midwife.

[2] Includes mothers with two injections during the pregnancy of her last live birth, or two or more injections (the last within three years of the last live birth), or three or more injections (the last within five years of the last live birth), or four or more injections (the last within ten years of the last live birth), or five or more injections at any time prior to the last live birth.

3.8 Child Health and Nutrition

Vaccination of Children

The Nigeria Expanded Programme on Immunization (EPI) follows the international guidelines recommended by the World Health Organisation (WHO). According to WHO, a child is considered fully vaccinated if he or she has received a BCG vaccination against tuberculosis; three doses of vaccine to prevent diphtheria, pertussis, and tetanus (DPT); at least three doses of polio vaccine; and one dose of measles vaccine. These vaccinations should be received during the first year of life. The 2013 NDHS collected information on the coverage for these vaccinations as well as for hepatitis B vaccination among all children born in the five years preceding the survey.

The information on vaccination coverage was obtained in two ways—from health cards and from mothers' verbal reports. All mothers were asked to show the interviewer the health card used to record the child's vaccinations. If the card was available, the interviewer copied the dates of each vaccination received. If a vaccination was not recorded on the card as being given, the mother was asked to recall whether that particular vaccination had been given. If the mother was not able to present a card for a child at all, she was asked to recall whether the child had received BCG, polio, DPT, hepatitis B, and measles vaccinations. If she indicated that the child had received the polio, DPT, or hepatitis B vaccines, she was asked the number of doses that the child received. Following WHO guidelines, Nigeria introduced the pentavalent vaccine in May 2012 in three phases (Salami, 2012). Therefore, information on this vaccine was also captured in the 2013 NDHS[1].

Table 8 presents information on vaccination coverage for children age 12-23 months, who should be fully vaccinated against the six preventable childhood illnesses. The results are based both on the health card record and information provided by the mother. The table shows that health cards were available for more than one-quarter (28 percent) of the children.

Overall, one-quarter (25 percent) of children age 12-23 months are fully vaccinated with BCG, measles, and three doses each of DPT and polio vaccines. There has been a 13 percentage point increase in the proportion of fully vaccinated children since 2003. However, this pace of progress is still far from satisfactory, falling below the increase needed to achieve the MDG target of more than 90 percent by 2015. If one looks at coverage for specific vaccines, 51 percent of children have received the BCG vaccination, 51 percent the first DPT dose, and 77 percent the first polio dose (Polio 1). Coverage decreases for subsequent doses, with only 38 percent of children receiving the recommended three doses of DPT and 54 percent receiving all three doses of polio vaccine.

[1] Phase I (May 2012) covered 13 states: Adamawa, Akwa Ibom, Anambra, Bauchi , Edo, Ekiti, Enugu, Jigawa, Kaduna, Kwara, Lagos, Plateau, Rivers, and the Federal Capital Territory. Phase II (May 2013) covered an additional 12 states, and Phase III (May 2014) will cover 11 states. Because 2013 NDHS fieldwork spanned from February to June 2013, only some states were covered by pentavalent vaccination.

Only 42 percent of children received the measles vaccine. Twenty-one percent of children received no vaccinations at all.

Table 8. Vaccinations by background characteristics

Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), and percentage with a vaccination card, by background characteristics, Nigeria 2013

Background characteristic	BCG	DPT[1] 1	DPT[1] 2	DPT[1] 3	Polio[2] 0	Polio[2] 1	Polio[2] 2	Polio[2] 3	Measles	All basic vaccinations[3]	No vaccinations	Percentage with vaccination card	Number of children
Sex													
Male	52.9	52.4	47.0	39.4	48.2	76.8	70.7	53.4	43.1	25.7	20.0	29.0	3,066
Female	49.3	48.6	44.1	37.0	45.3	76.2	69.1	53.9	41.0	25.0	21.4	26.9	2,834
Residence													
Urban	76.3	73.8	69.8	62.2	70.0	83.3	77.9	58.3	61.9	42.6	13.5	44.0	2,113
Rural	37.1	37.6	32.0	24.9	33.9	72.7	65.5	51.0	31.0	15.8	24.7	19.0	3,787
Zone													
North Central	62.7	62.0	55.0	43.9	57.0	79.1	68.9	45.5	48.1	26.9	17.3	33.3	812
North East	35.1	34.7	28.4	20.6	27.7	51.5	44.4	34.8	26.8	14.2	45.3	20.3	1,023
North West	21.7	22.2	18.1	13.9	26.4	77.2	71.8	61.1	22.3	9.6	20.8	8.5	2,100
South East	90.4	88.9	86.7	80.7	82.9	90.6	87.2	62.8	72.2	52.2	7.2	57.1	550
South South	84.7	84.5	79.1	69.8	65.8	88.6	82.3	64.5	74.0	52.0	9.4	49.0	591
South West	84.5	81.5	76.3	65.5	74.9	85.1	77.4	52.1	62.5	40.9	10.3	47.3	823
State													
Sokoto	3.6	3.3	2.9	2.6	10.6	75.0	70.9	63.2	3.6	1.4	24.1	1.6	204
Zamfara	10.5	12.2	8.1	5.6	7.6	69.1	63.7	53.9	7.9	2.1	28.6	5.0	289
Katsina	21.9	23.3	17.9	14.6	25.7	94.1	88.7	81.3	42.9	8.7	4.9	5.0	326
Jigawa	20.4	20.9	12.7	7.0	23.2	67.2	59.3	49.1	10.9	3.6	29.9	9.6	314
Yobe	22.9	18.8	15.7	11.0	15.0	34.8	32.6	27.2	10.0	6.9	65.2	10.7	158
Borno	17.7	19.5	16.9	12.4	16.2	25.9	21.3	15.3	17.3	9.7	71.0	7.4	226
Adamawa	79.0	80.3	67.5	49.7	62.5	79.7	71.9	60.8	68.7	40.4	13.3	49.9	133
Gombe	44.3	44.4	41.3	36.0	39.3	46.2	39.4	27.3	36.1	22.4	51.9	33.6	98
Bauchi	26.3	25.4	18.9	12.5	15.9	51.9	43.4	33.4	20.3	6.1	44.1	14.9	265
Kano	27.5	26.2	22.3	18.9	28.3	75.9	70.8	57.9	25.3	13.2	22.3	8.4	530
Kaduna	57.9	60.5	56.9	43.7	55.0	67.1	60.5	44.3	56.4	35.3	28.9	30.0	219
Kebbi	5.2	4.9	4.2	2.8	38.5	92.8	90.0	80.5	3.2	2.8	5.8	2.2	220
Niger	51.8	52.7	48.8	37.3	51.5	87.1	81.0	53.3	38.9	23.0	10.9	29.9	253
FCT-Abuja	81.6	83.9	75.3	69.1	77.0	91.8	86.0	77.5	69.6	60.9	7.3	65.5	38
Nasarawa	62.3	60.1	42.6	34.1	45.9	65.2	42.2	25.8	45.4	20.1	29.8	23.1	90
Plateau	68.4	62.4	60.5	46.3	60.8	68.6	61.6	37.1	46.6	23.6	25.7	39.4	91
Taraba	45.0	44.1	32.7	21.4	41.6	86.9	73.9	57.5	27.4	14.4	9.7	24.6	143
Benue	54.8	55.6	45.0	29.0	45.5	76.1	60.6	41.8	42.7	20.0	19.2	23.5	187
Kogi	85.4	87.1	82.7	75.9	85.0	83.1	78.0	40.0	75.2	35.6	12.9	43.6	83
Kwara	79.0	73.5	69.0	65.1	72.9	77.6	70.9	52.0	56.9	42.9	19.1	47.4	69
Oyo	73.8	70.6	64.4	47.7	60.6	77.9	65.9	37.7	45.2	25.8	18.3	39.8	201
Osun	93.5	92.2	89.6	82.8	85.5	91.3	88.0	65.8	75.2	55.3	5.8	60.7	98
Ekiti	97.3	97.6	88.1	79.0	82.6	96.2	90.5	60.9	85.7	49.4	0.0	65.2	33
Ondo	72.7	70.3	68.7	62.5	63.0	85.1	78.0	60.2	60.7	47.2	14.9	43.1	90
Edo	93.4	91.5	85.7	79.6	75.9	94.4	82.7	64.1	76.5	52.2	1.8	57.2	89
Anambra	87.1	85.5	82.1	78.5	77.7	91.0	88.4	57.9	75.0	51.6	9.0	50.1	128
Enugu	89.7	88.2	87.6	81.8	80.7	90.9	87.5	52.5	78.4	47.2	8.6	50.6	122
Ebonyi	91.4	88.7	86.6	80.3	88.0	89.2	86.4	68.6	61.7	51.1	8.1	63.5	137
Cross River	87.3	86.8	80.9	76.1	69.6	91.9	86.5	66.0	77.1	52.5	6.1	56.6	98
Akwa Ibom	87.5	89.5	85.0	65.3	69.6	92.3	86.8	59.7	75.2	48.0	7.2	53.8	102
Abia	86.1	93.4	90.8	79.8	87.9	92.5	84.3	60.5	73.1	49.8	5.4	61.4	64
Imo	97.2	91.8	89.2	83.1	81.9	90.3	88.3	75.4	75.1	62.4	2.8	62.6	98
Rivers	86.0	85.1	77.7	69.2	68.8	91.9	85.4	72.6	79.7	55.5	7.4	45.3	148
Bayelsa	77.4	79.1	73.0	67.7	47.8	79.5	76.4	56.0	73.0	51.5	19.4	32.7	49
Delta	73.6	73.2	70.8	62.2	54.4	76.6	71.8	60.6	60.4	50.7	19.2	42.9	106
Lagos	93.3	90.2	86.6	77.4	86.5	91.2	85.8	65.0	75.8	53.9	4.2	55.7	252
Ogun	82.6	77.5	68.1	56.9	73.0	78.1	68.5	33.9	51.0	24.4	12.3	32.8	149
Mother's education													
No education	20.7	20.8	16.9	12.0	22.4	66.2	59.8	48.4	18.0	6.9	31.8	10.0	2,807
Primary	63.2	61.7	52.6	40.0	52.4	78.0	68.8	48.9	47.9	26.3	16.2	31.4	1,062
Secondary	84.3	83.4	78.1	69.9	74.1	88.5	82.6	61.9	68.2	46.8	9.1	48.8	1,608
More than secondary	96.9	95.3	94.4	87.1	91.1	95.7	91.8	69.0	88.2	64.1	2.4	59.3	423
Total	51.2	50.6	45.6	38.2	46.8	76.5	69.9	53.6	42.1	25.4	20.7	28.0	5,900

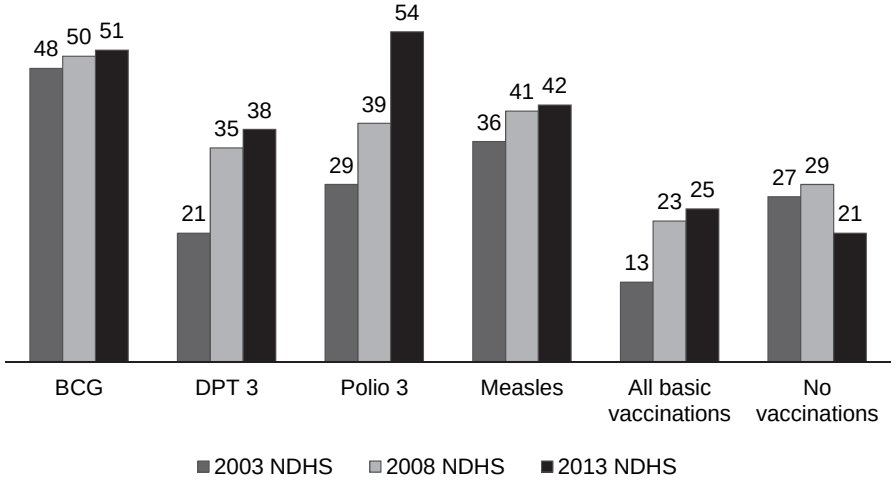
[1] Includes pentavalent.
[2] Polio 0 is the polio vaccination given at birth.
[3] BCG, measles, and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth).

Differentials in the coverage levels show that the proportion of children fully vaccinated is lower for children in rural areas (16 percent) than in urban areas (43 percent). Among zones, the proportion of children fully vaccinated in the North West is the lowest (10 percent), though this is an improvement since 2008. It is notable that 45 percent of children in the North East are reported to have not received any vaccinations at all. The percentage of children who have received no vaccinations is especially high in Borno (71 percent) and Yobe (65 percent) states.

Mothers' educational attainment affects the health of their children. Children whose mothers have no education are far less likely to be fully vaccinated than children whose mothers have more than secondary education (7 percent and 64 percent, respectively).

There has been a gradual rise in vaccination coverage in Nigeria from 13 percent of children fully vaccinated in 2003 to 25 percent in 2013 (Figure 6). It is encouraging to note that the percentage of children receiving no vaccinations at all has decreased by 28 percent in the past five years.

Figure 6
Trends in vaccination coverage among children 12-23 months, 2003-2013



Treatment of Childhood Illnesses

Acute respiratory infection (ARI), fever, and dehydration caused by severe diarrhoea are major causes of childhood mortality in developing countries (WHO, 2003), and Nigeria is no exception. Early diagnosis and treatment of the symptoms of these illnesses is, therefore, crucial in reducing childhood deaths. To obtain information on how childhood illnesses are treated, the mothers of children under age 5 were asked whether the child had experienced the following symptoms in the two weeks before the survey: cough with short, rapid breathing (symptoms of an acute respiratory infection), fever, and diarrhoea.

The results show that 2 percent of children under age 5 had symptoms of ARI in the two weeks preceding the survey (Figure 7). Similarly, 13 percent had fever, and 10 percent had an episode of diarrhoea in the two weeks preceding the survey.

Figure 7
Prevalence of symptoms of acute respiratory infection, fever, and diarrhoea

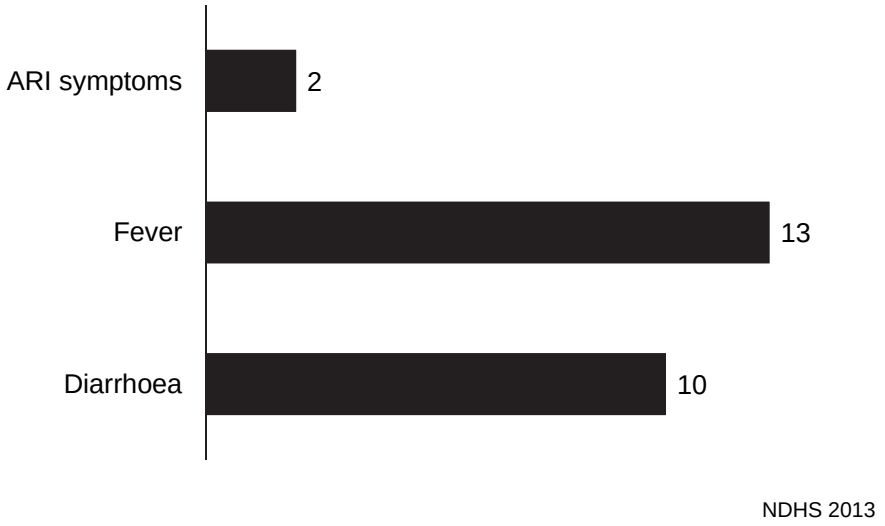


Table 9 shows that slightly more than one-third of children with symptoms of ARI were taken for treatment to a health facility or provider (35 percent). Female children are slightly less likely to have been taken to a health facility for treatment than male children. Children in the North Central zone are least likely to have been taken for treatment for symptoms of ARI. Treatment for symptoms of ARI is higher in urban areas than rural areas, and there is no consistent pattern of differences in the treatment of symptoms of ARI by educational level. Children of mothers with more than secondary education are most likely to be taken to a health facility for treatment of fever.

Table 9 also examines the treatment of diarrhoeal illness. Twenty-nine percent of children who were ill with diarrhoea were taken to a health facility or provider. Children born in the North East are less likely than children in other zones to have been taken to a health facility for treatment when they had diarrhoea. Similarly, children of mothers with more than secondary education were more likely than those with less education to be taken to a health facility for treatment of diarrhoea (64 percent).

Oral rehydration therapy (ORT), which involves a prompt increase in the child's intake of fluids, includes oral rehydration salts (ORS) from packets and/or a recommended home fluid (RHF). This is a simple and effective response to diarrhoeal illness. Mothers reported that 38 percent of the children with diarrhoea were treated with oral rehydration therapy (ORT), and 34 percent were given a solution prepared using a packet of oral rehydration salts (ORS). The use of ORT to treat diarrhoea was least common among children under age 6 months (24 percent) and in the North East zone (31 percent).

Table 9 Treatment for acute respiratory infection, fever, and diarrhoea

Among children under age 5 who had symptoms of acute respiratory infection (ARI) or had fever in the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, and among children under age 5who had diarrhoea during the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, percentage given a fluid made from oral rehydration salt (ORS) packets, and percentage given oral rehydration therapy (ORT), by background characteristics, Nigeria 2013

	Children with symptoms of ARI[1]		Children with fever		Children with diarrhoea			
Background characteristic	Percentage for whom advice or treatment was sought from a health facility/ provider[2]	Number with ARI	Percentage for whom advice or treatment was sought from a health facility/ provider[2]	Number with fever	Percentage for whom advice or treatment was sought from a health facility/ provider[2]	Percentage given fluid from ORS packet	Percentage given ORT[3]	Number with diarrhoea
Age in months								
<6	(28.2)	44	33.3	203	23.5	20.7	23.6	171
6-11	33.5	93	35.5	556	33.3	37.1	41.6	537
12-23	30.5	184	31.8	1,034	31.2	36.3	41.2	984
24-35	44.6	115	31.4	736	24.4	30.8	34.5	609
36-47	31.9	59	31.1	591	29.4	32.1	37.7	387
48-59	35.8	69	26.3	512	25.0	34.3	37.9	279
Sex								
Male	36.2	279	31.8	1,867	28.4	31.8	36.3	1,482
Female	32.8	286	31.1	1,766	29.4	35.6	39.9	1,484
Residence								
Urban	46.6	154	36.5	1,262	35.0	44.7	49.4	958
Rural	30.0	411	28.8	2,370	26.0	28.4	32.7	2,008
Zone								
North Central	28.5	83	38.6	297	42.0	41.7	46.8	295
North East	32.7	257	27.0	1,045	24.4	28.5	30.6	1,061
North West	40.5	91	34.1	1,034	28.7	33.7	37.4	961
South East	29.9	53	23.9	498	27.5	37.0	44.9	266
South South	32.1	48	28.2	460	31.3	31.7	45.0	124
South West	*	33	48.6	297	33.8	43.6	51.5	259
State								
Sokoto	*	10	35.0	62	39.2	11.7	11.7	46
Zamfara	*	3	42.9	100	26.4	17.8	19.1	82
Katsina	*	9	27.5	98	42.5	40.5	45.6	120
Jigawa	(39.6)	39	41.5	260	39.0	53.4	58.8	204
Yobe	21.3	53	16.4	286	12.8	19.4	20.1	293
Borno	*	15	27.7	114	23.8	46.2	49.3	115
Adamawa	(39.4)	28	37.2	87	34.0	36.4	42.1	110
Gombe	42.5	36	34.6	98	31.8	28.2	30.2	88
Bauchi	32.7	98	33.3	315	30.9	33.9	35.5	319
Kano	*	24	37.5	248	28.5	42.6	42.6	176
Kaduna	*	2	12.4	168	15.8	28.2	37.4	185
Kebbi	*	3	39.7	98	17.7	13.2	13.2	149
Niger	*	8	38.4	121	52.6	63.5	63.5	107
FCT-Abuja	*	0	(47.6)	15	(58.4)	(69.5)	(75.0)	11
Nasarawa	*	12	47.8	41	(57.3)	(39.3)	(43.3)	35
Plateau	*	7	35.5	58	(34.5)	(27.3)	(42.4)	26
Taraba	(30.6)	27	22.5	146	21.9	13.9	17.3	136
Benue	(8.7)	54	*	33	23.7	13.6	23.7	83
Kogi	*	0	*	13	*	*	*	13
Kwara	*	1	(50.8)	16	(34.2)	(45.8)	(45.8)	20
Oyo	*	14	48.9	79	28.5	41.7	47.9	96
Osun	*	1	(66.1)	30	*	*	*	18
Ekiti	*	0	(48.7)	12	(32.2)	(52.6)	(52.6)	12
Ondo	*	3	63.6	50	(37.8)	(39.7)	(49.9)	29
Edo	*	0	(49.1)	23	*	*	*	8
Anambra	*	6	11.8	69	(17.6)	(19.8)	(23.6)	34
Enugu	*	16	29.0	125	41.1	46.1	51.3	76
Ebonyi	*	13	19.1	166	19.9	37.0	45.9	87
Cross River	*	13	21.0	128	(34.1)	(19.7)	(46.0)	40
Akwa Ibom	*	7	21.1	83	(18.4)	(15.1)	(27.4)	24
Abia	*	3	(33.0)	33	*	*	*	7
Imo	*	15	30.5	104	(25.2)	(37.6)	(45.4)	61
Rivers	*	24	34.6	192	(36.8)	(52.2)	(61.3)	34
Bayelsa	*	1	(29.6)	9	*	*	*	4

Continued…

Table 9—*Continued*

Among children under age five who had symptoms of acute respiratory infection (ARI) or had fever in the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, and among children under age five who had diarrhoea during the two weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, percentage given a fluid made from oral rehydration salt (ORS) packets, and percentage given oral rehydration therapy (ORT), by background characteristics, Nigeria 2013

	Children with symptoms of ARI[1]		Children with fever		Children with diarrhoea			
Background characteristic	Percentage for whom advice or treatment was sought from a health facility/ provider[2]	Number with ARI	Percentage for whom advice or treatment was sought from a health facility/ provider[2]	Number with fever	Percentage for whom advice or treatment was sought from a health facility/ provider[2]	Percentage given fluid from ORS packet	Percentage given ORT[3]	Number with diarrhoea
State								
Delta	*	4	(20.0)	27	*	*	*	15
Lagos	*	9	41.8	112	30.6	45.4	56.0	92
Ogun	*	6	*	15	*	*	*	13
Mother's education								
No education	31.2	277	27.9	1,718	24.3	28.6	31.5	1,638
Primary	27.5	115	29.3	714	32.2	32.0	39.1	553
Secondary	42.1	151	34.2	982	32.4	42.9	48.9	677
More than secondary	*	22	54.3	219	64.0	65.3	69.1	98
Total	34.5	565	31.5	3,632	28.9	33.7	38.1	2,966

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 cases.
[1] Symptoms of ARI (cough accompanied by short, rapid breathing which was chest-related and/or by difficult breathing which was chest-related) is considered a proxy for pneumonia.
[2] Excludes pharmacy, chemist/PMS, shop, traditional practitioner, market, and other.
[3] ORT includes fluid prepared from oral rehydration salt (ORS) packets and recommended home fluids (RHF).

Breastfeeding and Supplementation

Breastfeeding practices and introduction of complementary foods are important determinants of the nutritional status of children, particularly those under age 2. With improved nutritional status, the risk of mortality for children under age 5 can be reduced and their psycho-motor development enhanced. Breast milk is uncontaminated and contains all the nutrients needed by children in the first six months of life. Supplementing breast milk before age 6 months is unnecessary and discouraged because of the likelihood of contamination, which may result in the risk of diarrhoeal diseases. After age 6 months, breast milk should be complemented by other solid or mushy food to provide adequate nutrition to the child (PAHO, 2002).

The 2013 NDHS collected information on infant feeding for the youngest child under age 2 who is living with the mother, using a 24-hour recall period. Table 10 shows that, as expected, children less than 6 months are more likely to be breastfed than older children. Ninety-six percent of children age 6-8 months, followed by 91 percent of children age 9-11 months in Nigeria are being breastfed. The proportion of children who are still being breastfed decreases steadily with age, yet 35 percent of children age 20-23 months are still breastfed.

The recommendation to exclusively breastfeed children for the first six months of life is met for only 17 percent of children[2]. The results also indicate that complementary foods are often introduced early in Nigeria, with 23 percent of children under age 6 months and 38 percent of children age 4-5 months consuming solid or semi-solid foods in addition to breast milk. Bottle feeding among children below age 2 is on the rise, even though it is not normally recommended. Sixteen percent of infants under age 2 months are being fed using a bottle with a nipple. This proportion rises among children age 6-8 months to 17 percent.

Table 10 Breastfeeding status by age

Percent distribution of youngest children under age 2 who are living with their mother, by breastfeeding status, and the percentage currently breastfeeding; and the percentage of all children under age 2 using a bottle with a nipple, according to age in months, Nigeria 2013

	Percent distribution of youngest children under 2 living with their mother, by breastfeeding status										
Age in months	Not breast-feeding	Exclusively breastfed	Breast-feeding and consuming plain water only	Breast-feeding and consuming nonmilk liquids[1]	Breast-feeding and consuming other milk	Breast-feeding and consuming comple-mentary foods	Total	Percent-age currently breast-feeding	Number of youngest children under age 2	Percent-age using a bottle with a nipple	Number of all children under age 2
0-1	2.9	26.1	54.7	5.1	2.5	8.7	100.0	97.1	776	15.9	802
2-3	4.6	18.9	51.2	4.0	5.8	15.5	100.0	95.4	1,029	15.5	1,046
4-5	4.3	10.0	36.7	4.9	5.7	38.3	100.0	95.7	1,125	16.7	1,141
6-8	4.5	3.3	20.1	4.1	4.3	63.6	100.0	95.5	1,657	17.4	1,682
9-11	9.1	0.9	6.8	2.5	1.7	78.9	100.0	90.9	1,555	15.6	1,581
12-17	21.5	0.5	3.7	1.5	0.2	72.6	100.0	78.5	3,312	10.9	3,411
18-23	58.1	0.2	1.4	0.5	0.2	39.6	100.0	41.9	2,294	6.6	2,489
0-3	3.9	22.0	52.7	4.5	4.4	12.6	100.0	96.1	1,805	15.6	1,848
0-5	4.1	17.4	46.6	4.6	4.9	22.5	100.0	95.9	2,930	16.1	2,989
6-9	5.2	2.9	17.0	3.8	3.9	67.1	100.0	94.8	2,201	16.8	2,235
12-15	16.0	0.6	4.0	1.7	0.3	77.5	100.0	84.0	2,378	11.9	2,439
12-23	36.5	0.4	2.7	1.1	0.2	59.1	100.0	63.5	5,606	9.1	5,900
20-23	64.7	0.1	1.1	0.6	0.2	33.2	100.0	35.3	1,465	6.3	1,621

Note: Breastfeeding status refers to a "24-hour" period (yesterday and last night). Children who are classified as breastfeeding and consuming plain water only consumed no liquid or solid supplements. The categories of not breastfeeding, exclusively breastfed, breastfeeding and consuming plain water, nonmilk liquids, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus children who receive breast milk and nonmilk liquids and who do not receive other milk and who do not receive complementary foods are classified in the nonmilk liquid category even though they may also get plain water. Any children who get complementary food are classified in that category as long as they are breastfeeding as well.
[1] Non-milk liquids include juice, juice drinks, clear broth, or other liquids.

Nutritional Status of Children

The 2013 NDHS included an anthropometric component, in which all children under age 5 and all women age 15-49 in the household were weighed and measured. The anthropometric measurements of children in the survey population were compared with the World Health Organization (WHO) Child Growth Standards, which are based on an international sample (from Brazil, Ghana, India, Norway, Oman, and the United States) of ethnically, culturally, and genetically diverse healthy children living under optimum conditions conducive to achieving a child's full genetic growth potential (WHO, 2006).

[2] The results of the 2008 NDHS and the 2013 NDHS on exclusive breastfeeding should be interpreted carefully as the 2013 study assessed the status for children under age 2 while the 2008 NDHS considered children under age 3.

The WHO Child Growth Standards are used here instead of the previously used NCHS/CDC/WHO reference because of the prescriptive, rather than descriptive, nature of the WHO Child Growth Standards versus the NCHS/CDC/WHO reference. The WHO Child Growth Standards identify the breastfed child as the normative model for growth and development, and document how children should grow under optimum conditions and infant feeding and child health practices.

The use of the WHO Child Growth Standards is based on the finding that well-nourished children of all population groups for which data exist follow similar growth patterns before puberty. The internationally-based standard population serves as a point of comparison, facilitating the examination of differences in the anthropometric status of subgroups in a population and of changes in nutritional status over time. Three standard indices of physical growth that describe the nutritional status of children are presented:

- height-for-age (stunting)
- weight-for-height (wasting)
- weight-for-age (underweight)

Each of these indices gives different information about growth and body composition that can be used to assess nutritional status.

Height-for-age is a measure of linear growth. A child who is below minus two standard deviations (-2 SD) from the median of the WHO reference population in terms of height-for-age is considered short for his/her age, or *stunted*, a condition reflecting the cumulative effect of chronic malnutrition. If the child is below minus three standard deviations (-3 SD) from the reference median, then the child is considered to be severely stunted. A child between -2 SD and -3 SD is considered to be moderately stunted.

Weight-for-height describes current nutritional status. A child who is below minus two standard deviations (-2 SD) from the reference median for weight-for-height is considered to be too thin for his/her height, or *wasted*, a condition reflecting acute or recent nutritional deficit. As with stunting, wasting is considered severe if the child is minus three standard deviations (-3 SD) or more below the reference mean. Severe wasting is closely linked to mortality risk.

Weight-for-age is a composite index of weight-for-height and height-for-age, and thus does not distinguish between acute malnutrition (wasting) and chronic malnutrition (stunting). A child can be underweight for his age because he is stunted, because he is wasted, or both. Weight-for-age is a good overall indicator of a population's nutritional health.

Z-score means are also calculated as summary statistics representing the nutritional status of children in a population. These mean scores describe the nutritional status of the entire population without the use of a cut off. A mean Z-score of less than 0 (i.e., a negative mean value for stunting, wasting, or underweight) suggests that the distribution of an index has shifted downward and that most, if not all, children in the population suffer from undernutrition relative to the reference population.

Table 11 Nutritional status of children

Percentage of children under age 5 classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Nigeria 2013

	Height-for-age[1]			Weight-for-height				Weight-for-age				
Background characteristic	Percent-age below -3 SD	Percent-age below -2 SD[2]	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD[2]	Percent-age above +2 SD	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD[2]	Percent-age above +2 SD	Mean Z-Score (SD)	Number of children
Age in months												
<6	7.8	15.7	-0.0	11.8	24.8	7.2	-0.8	7.4	17.0	2.5	-0.7	2,433
6-8	12.1	22.6	-0.5	11.4	25.3	3.9	-1.1	12.9	29.2	0.9	-1.2	1,489
9-11	16.9	28.7	-0.9	11.1	27.3	4.1	-1.1	13.0	31.2	0.7	-1.3	1,394
12-17	20.6	35.3	-1.3	11.0	25.7	2.2	-1.1	14.6	32.1	0.7	-1.4	2,955
18-23	24.1	41.0	-1.6	8.3	18.9	3.1	-0.7	13.2	29.2	1.4	-1.3	2,210
24-35	27.4	45.7	-1.8	8.8	15.7	3.9	-0.5	14.7	32.4	1.3	-1.3	4,961
36-47	25.3	42.8	-1.7	8.1	14.2	3.7	-0.5	12.2	29.4	0.7	-1.3	5,386
48-59	19.7	37.3	-1.6	5.1	11.8	4.0	-0.4	7.2	27.1	0.9	1.2	5,361
Sex												
Male	22.6	38.6	-1.5	9.3	18.9	3.7	-0.7	12.4	30.2	0.9	-1.3	13,045
Female	19.6	35.0	-1.3	8.0	17.2	4.2	-0.6	10.8	27.3	1.2	-1.2	13,144
Residence												
Urban	13.0	26.0	-0.9	8.4	17.6	3.2	-0.7	8.8	22.9	1.3	-1.0	9,725
Rural	25.9	43.2	-1.6	8.8	18.3	4.4	-0.6	13.3	32.2	1.0	-1.4	16,465
Zone												
North Central	14.3	29.3	-1.1	4.3	11.7	3.6	-0.4	6.1	18.5	1.3	-0.9	3,764
North East	23.6	42.3	-1.5	9.3	19.5	4.1	-0.7	11.1	30.8	1.3	-1.3	4,286
North West	36.2	54.8	-2.2	15.3	27.1	5.3	-0.9	22.6	47.4	0.5	-1.9	9,049
South East	5.8	16.0	-0.5	4.4	11.9	2.6	-0.5	2.5	11.4	0.9	-0.6	2,455
South South	8.3	18.3	-0.5	3.6	11.1	4.5	-0.4	3.4	12.8	2.4	-0.6	2,619
South West	8.5	22.2	-0.9	3.0	10.0	1.6	-0.5	3.8	14.9	1.2	-0.8	4,016
State												
Sokoto	30.8	51.6	-2.1	8.8	19.3	6.8	-0.6	12.3	37.7	0.4	-1.6	929
Zamfara	33.5	55.9	-2.2	6.1	16.2	4.5	-0.5	15.7	37.0	0.2	-1.6	1,301
Katsina	38.0	58.5	-2.2	12.0	24.3	5.5	-0.8	20.8	46.0	0.5	-1.9	1,358
Jigawa	41.5	59.0	-2.2	7.8	17.0	5.0	-0.6	18.3	44.1	1.1	-1.7	1,147
Yobe	31.1	49.3	-1.8	13.3	23.6	10.7	-0.5	14.6	36.6	2.6	-1.4	709
Borno	13.7	26.8	-0.4	17.9	28.2	5.2	-1.0	7.6	23.3	2.9	-0.9	760
Adamawa	12.7	34.3	-1.3	5.2	14.5	1.9	-0.6	7.8	23.1	0.3	-1.2	645
Gombe	27.2	47.5	-1.8	5.9	14.2	3.3	-0.6	11.9	32.0	0.6	-1.4	473
Bauchi	30.9	50.8	-1.9	8.6	23.3	1.2	-0.9	15.9	40.6	0.2	-1.7	1,024
Kano	31.1	48.3	-1.9	25.1	39.7	2.5	-1.6	29.0	58.0	0.5	-2.2	2,372
Kaduna	41.7	56.6	-2.4	27.6	41.7	5.6	-1.4	36.9	57.6	0.4	-2.3	1,054
Kebbi	42.7	60.6	-2.5	9.4	18.1	11.6	-0.3	17.5	39.0	0.4	-1.6	889
Niger	16.9	34.2	-1.2	8.0	17.7	2.8	-0.8	10.6	26.0	1.4	-1.3	1,183
FCT-Abuja	9.0	20.6	-0.6	5.0	13.8	3.8	-0.4	3.4	12.6	2.3	-0.6	184
Nasarawa	19.9	34.5	-1.3	3.5	9.8	6.5	-0.2	5.7	20.9	1.4	-0.9	398
Plateau	18.5	35.8	-1.3	4.4	10.5	5.9	-0.2	5.5	19.9	1.8	-0.9	416
Taraba	23.8	43.4	-1.6	2.4	7.9	3.2	-0.2	6.8	24.5	1.1	-1.1	675
Benue	10.4	22.6	-0.8	1.4	7.8	2.7	-0.2	3.5	11.3	0.8	-0.6	838
Kogi	10.7	23.1	-0.8	2.8	9.5	1.6	-0.4	2.9	14.6	1.3	-0.8	362
Kwara	10.1	27.1	-1.2	1.4	6.5	4.2	-0.2	3.3	13.8	1.1	-0.9	383
Oyo	9.6	27.2	-1.2	1.9	10.1	0.9	-0.5	5.4	17.7	0.7	-1.0	1,059
Osun	7.9	20.5	-0.7	3.3	11.1	3.0	-0.4	2.2	11.5	3.2	-0.7	429
Ekiti	7.3	19.2	-0.8	2.3	8.3	1.3	-0.3	2.9	10.4	0.6	-0.6	188
Ondo	10.4	24.0	-1.1	1.7	6.6	2.3	-0.4	2.9	13.4	0.5	-0.9	523
Edo	6.8	15.8	-0.5	3.6	10.5	8.9	-0.2	3.1	7.6	3.3	-0.5	349
Anambra	9.2	18.4	-0.4	9.2	17.3	7.4	-0.4	4.0	14.1	0.9	-0.6	498
Enugu	2.5	11.7	-0.3	2.0	8.9	1.6	-0.4	1.1	7.1	1.9	-0.4	495
Ebonyi	6.1	16.2	-0.6	3.2	10.5	1.2	-0.5	3.0	12.4	0.7	-0.7	671
Cross River	8.5	21.7	-0.8	3.1	9.8	1.1	-0.5	3.9	14.8	0.6	-0.8	514
Akwa Ibom	10.9	22.4	-0.8	2.7	10.5	2.7	-0.5	4.5	15.1	0.9	-0.8	424
Abia	6.2	17.3	-0.6	4.8	11.0	1.2	-0.6	2.3	11.6	0.7	-0.7	299
Imo	4.7	16.9	-0.5	3.5	11.8	1.3	-0.6	2.0	11.6	0.2	-0.7	493
Rivers	6.8	16.1	-0.2	2.8	10.5	7.1	-0.4	2.4	11.4	6.3	-0.4	622
Bayelsa	8.8	20.5	-0.5	1.3	5.2	3.2	-0.2	1.4	10.0	1.4	-0.5	217
Delta	8.6	14.9	-0.4	7.2	17.0	3.8	-0.6	4.3	15.4	0.6	-0.7	493
Lagos	6.3	17.0	-0.4	3.8	11.3	1.7	-0.6	3.0	12.9	1.8	-0.6	1,141
Ogun	9.9	23.8	-1.0	4.6	10.0	1.3	-0.6	4.5	18.3	0.4	-1.0	677

Continued…

Table 11—*Continued*

Percentage of children under age 5 classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Nigeria 2013

	Height-for-age[1]			Weight-for-height				Weight-for-age				
Background characteristic	Percentage below -3 SD	Percentage below -2 SD[2]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-Score (SD)	Number of children
Mother's education												
No education	31.1	49.7	-1.9	11.9	22.7	5.0	-0.8	17.3	39.7	0.9	-1.6	11,537
Primary	17.1	33.1	-1.3	6.7	16.0	3.3	-0.6	9.4	24.4	1.0	-1.2	4,971
Secondary	10.1	22.6	-0.8	6.2	14.3	2.6	-0.6	5.8	17.7	1.2	-0.9	6,736
More than secondary	6.4	13.3	-0.3	4.6	11.0	4.0	-0.4	3.6	10.0	2.5	-0.5	1,515
Mother's interview status												
interviewed	21.1	36.8	-1.4	8.9	18.5	3.9	-0.7	11.8	28.9	1.1	-1.3	24,444
Not interviewed, but in household	21.4	34.7	-1.4	5.4	11.6	7.5	-0.3	9.6	24.2	1.6	-1.0	315
Not interviewed, not in household	21.7	38.1	-1.5	5.3	11.9	3.8	-0.4	9.8	26.7	1.3	-1.1	1,417
Total	21.1	36.8	-1.4	8.7	18.0	4.0	-0.7	11.6	28.7	1.1	-1.3	26,190

Note: Table is based on children who stayed in the household the night before the interview. Each of the indices is expressed in standard deviation units (SD) from the median of the WHO Child Growth Standards adopted in 2006. The indices in this table are NOT comparable to those based on the previously used 1977 NCHS/CDC/WHO Reference. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight. Total includes 14 cases for whom mother's interview status is not known.
[1] Recumbent length is measured for children under age 2; standing height is measured for all other children.
[2] Includes children who are below -3 standard deviations (SD) from the WHO Growth Standards population median.
[3] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.
[4] Includes children whose mothers are deceased.

In the 2013 NDHS survey, all children under age 6 listed in the household were eligible for height and weight measurement. The following analysis focuses on the 26,190 children age 0-59 months for whom complete and plausible anthropometric data were collected. Table 11 shows the percentage of children classified as malnourished according to height-for-age, weight-for-height, and weight-for-age indices, by age and selected background characteristics.

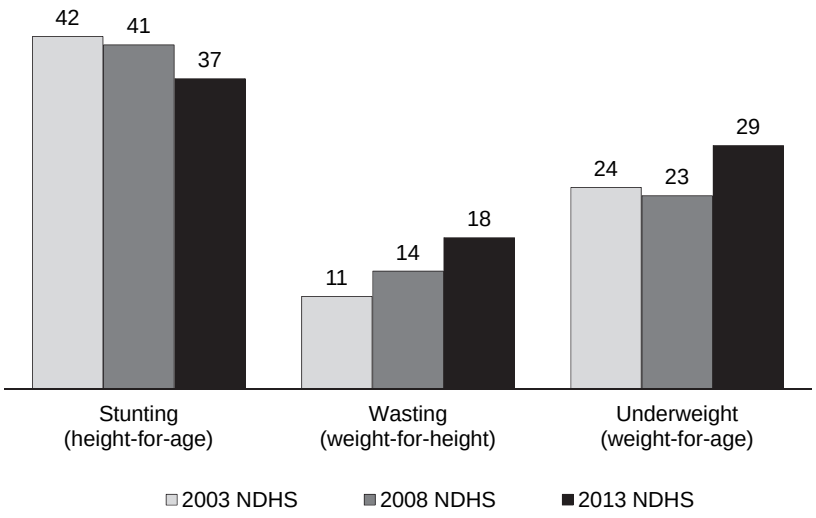
The data show that 37 percent of children under age 5 are considered to be short for their age or stunted, while 21 percent are severely stunted (below -3SD). The prevalence of stunting increases with age from 16 percent of children under 6 months to 46 percent of children 24-35 months and decreases to 37 percent among children 48-59 months. Rural children are more likely to be stunted than urban children (43 percent compared with 26 percent). Stunting is lowest in the South East (16 percent). In other zones, stunting varies from 18 percent in South South to 55 percent in the North West. Among the states, stunting is highest among children in Kebbi (61 percent). Children of mothers with no education are more than three times as likely to be stunted (50 percent) as children of mothers who have completed more than secondary education (13 percent).

Eighteen percent of children are considered wasted or too thin for their height and 9 percent are severely wasted. Wasting peaks at age 9-11 months (27 percent). Differentials in wasting by other background characteristics are similar to those for stunting; however, the differences are smaller. Wasting among children is worse in the North West (27 percent) and North East (20 percent) zone.

Twenty-nine percent of children are underweight (low weight-for-age), and 12 percent are severely underweight. The proportion of children underweight increases sharply at age 6-8 months (29 percent) and remains so up to age 36-47 months when it starts to decrease. Patterns of differentials by other background characteristics are similar to those for stunting and wasting. The impact of weaning and introduction of complementary foods can be seen in younger children: data on all three indices show that the nutritional status of children deteriorates after age 6 months.

The anthropometric data from the 2003 NDHS, 2008 NDHS, and 2013 NDHS surveys are presented in Figure 8, which is based on the WHO child growth standards adopted in 2006. It is evident that the proportion of children who are stunted has been decreasing over the years. However, the extent of wasting has worsened, indicating a more recent nutritional deficiency among children in the country.

Figure 8
Trends in nutritional status of children under 5, 2003-2013



Note: The data for all three surveys are based on the WHO Child Growth standards adopted in 2006.

3.9 Malaria

The 2013 NDHS captured information on various methods to prevent and treat malaria, such as utilization of insecticide-treated mosquito nets (ITNs), indoor residual spraying (IRS), use of intermittent preventive treatment (IPT) during pregnancies, and treatment of children under age 5 with malaria symptoms. Insecticide-treated mosquito nets can be common mosquito nets that were soaked and impregnated with insecticide after purchase, pretreated nets impregnated after manufacturing (ITNs), or long-lasting insecticidal nets (LLINs), whose threads were treated prior to the manufacturing of the net so that they do not require additional treatment.

Insecticide-treated nets are considered effective if they were obtained in the last 12 months or re-impregnated in the 12 months preceding the survey. Likewise, common mosquito nets soaked in insecticide after purchase are considered ITNs only if they were impregnated in the 12 months preceding the survey. The Household Questionnaire used in the NDHS included a number of questions to ascertain the nets' type and brand. Interviewers were instructed to observe the nets, if the respondent allowed. The observation and information offered by the respondent were used to classify the mosquito nets as treated or untreated.

3.9.1 *Ownership and use of mosquito nets*

Table 12 shows that 55 percent of households nationwide own at least one mosquito net (any type), and 50 percent of households own at least one insecticide-treated net (ITN). The percentage of households possessing at least one mosquito net and those possessing at least one ITN has increased drastically in the past five years (from 17 percent to 55 percent and 8 percent to 50 percent, respectively). More rural (61 percent) than urban (48 percent) households own a net. Similarly, rural households are more likely to possess at least one ITN than urban households (55 percent and 42 percent, respectively).

Small children are especially vulnerable to malaria, and pregnant women are prone to experiencing severe malaria symptoms. To assess the use of ITNs, the 2013 NDHS asked which household members slept under mosquito nets the night preceding the interview. Table 12 shows that overall, 17 percent of both children under age 5 and pregnant women slept under an ITN the night preceding the interview. Similarly, 29 percent of children under age 5 and 30 percent of pregnant women, living in the households with an ITN, slept under an ITN the night before the interview. Women and children in urban areas are more likely to sleep under an ITN.

3.9.2 *Indoor residual spraying*

Indoor residual spraying (IRS) consists of spraying the walls inside the dwellings to kill the female adult mosquitoes to interrupt the transmission cycle. The information on use of IRS was captured by asking respondents if their houses had been sprayed by specialized technicians during the 12 months preceding the survey. Table 12 shows that 2 percent of dwellings in urban areas and 1 percent in rural areas underwent indoor residual spraying (IRS). As a result of the combined effect of IRS and ITN use, 20 percent of children in urban areas and 17 percent of children in rural areas were to a large extent protected from malaria because they used ITNs or lived in houses sprayed to protect against mosquitoes. Among pregnant women, the proportion protected was 18 percent in urban areas and 17 percent in rural areas.

3.9.3 *Preventive malaria treatment during pregnancy*

Prophylactic treatment with sulfadoxine/pyrimethamine (SP) can significantly diminish the symptoms and the consequences of malaria among pregnant women who become infected. Information on the use of intermittent preventive treatment (IPT) was obtained by asking women who had given birth in the two years preceding the survey if they had taken preventive antimalarial medication during the last pregnancy. Women reported taking SP/Fansidar twice,

and those taking it at least once during an antenatal visit were considered to have received IPT. Table 12 shows that 19 percent of women in urban areas and 12 percent of women in rural areas received IPT, an increase in the last five years from 10 percent and 5 percent, respectively. Almost half of the women (49 percent) that gave birth in the past two years took preventive malarial medication, whether it was SP/Fansidar or other types of antimalarial drugs.

Table 12 Malaria indicators

Possession and use of mosquito nets, preventive malaria treatment during pregnancy, and treatment of children with fever using antimalarial drugs, by urban-rural residence, Nigeria 2013

	Residence					
	Urban		Rural			
Malaria indicators	Percentage	Number	Percentage	Number	Percentage	Number
Mosquito nets						
Percentage of households with at least one mosquito net (treated or untreated)	48.2	16,609	60.7	21,913	55.3	38,522
Percentage of households with at least one insecticide-treated net (ITN)	42.1	16,609	55.2	21,913	49.5	38,522
Percentage of children under age 5 who slept under a mosquito net (treated or untreated) last night	19.9	10,979	17.3	19,348	18.3	30,327
Percentage of children under age 5 who slept under an Insecticide treated net (ITN) last night[1]	18.2	10,979	15.7	19,348	16.6	30,327
Percentage of children under age 5 who slept under an Insecticide treated net (ITN) last night in households with an ITN[1]	35.0	5,699	25.5	11,965	28.5	17,664
Percentage of pregnant women age 15-49 who slept under a mosquito net (treated or untreated) last night	18.6	1,565	17.5	3,151	17.9	4,716
Percentage of pregnant women age 15-49 who slept under an Insecticide treated Net (ITN) last night[1]	17.2	1,565	16.1	3,151	16.5	4,716
Percentage of pregnant women age 15-49 who slept under an Insecticide treated net (ITN) last night in households with an ITN[1]	36.3	741	27.5	1,848	30.0	2,589
Indoor residual insecticide spraying (IRS)						
Percentage of households sprayed with a residual insecticide in the past 12 months	2.4	16,609	1.1	21,913	1.7	38,522
Percentage of children under age 5 who slept under an ITN last night or in a household sprayed with IRS in the past 12 months[1]	20.1	10,979	16.7	19,348	17.9	30,327
Percentage of pregnant women who slept under an ITN last night or in a household sprayed with IRS in the last 12 months[1]	18.2	1,565	16.9	3,151	17.3	4,716
Preventive malaria treatment during pregnancy						
Percentage of last births in the two years preceding the survey for which the mother took antimalarial drugs for prevention during the pregnancy	64.0	4,408	40.3	8,063	48.7	12,473
Percentage of last births in the two years preceding the survey for which the mother took 2+ doses of SP/Fansidar during pregnancy (IPTp) and received at least one dose during an antenatal visit[2]	19.2	4,408	12.1	8,063	14.6	12,473
Among children under age 5 with fever in the two weeks preceding the survey, percentage who took:						
Any antimalarial	39.7	1,268	29.0	2,362	32.7	3,632
SP/Fansidar	11.6	1,268	9.2	2,362	10.0	3,632
Chloroquine	10.0	1,268	10.2	2,362	10.1	3,632
Amodiaquine	1.6	1,268	2.2	2,362	2.0	3,632
Quinine	0.6	1,268	0.6	2,362	0.6	3,632
Combination with artemisinin	7.5	1,268	5.2	2,362	6.0	3,632
Other antimalarial	11.3	1,268	4.8	2,362	7.1	3,632
Among children under age 5 with fever in the two weeks preceding the survey, percentage who took on the same day/next day after developing fever:						
Any antimalarial	29.5	1,268	19.4	2,362	22.9	3,632
SP/Fansidar	9.5	1,268	6.7	2,362	7.7	3,632
Chloroquine	6.0	1,268	6.4	2,362	6.3	3,632
Amodiaquine	1.3	1,268	1.9	2,362	1.7	3,632
Quinine	0.6	1,268	0.2	2,362	0.3	3,632
Combination with artemisinin	5.9	1,268	3.4	2,362	4.2	3,632
Other anti-malarial	8.1	1,268	3.2	2,362	4.9	3,632

[1] An insecticide-treated net (ITN) is a permanent net that does not require any treatment, a pretreated net obtained within the past 12 months, or a net that has been soaked with insecticide within the past 12 months.
[2] IPTp: Intermittent preventive treatment during pregnancy is preventive treatment with two or more doses of SP/Fansidar.

3.9.4 *Malaria treatment for children with fever*

Fever is the main symptom of malaria among children under age 5, even though its occurrence may be related to other illnesses. Delays in treating children could have serious consequences, especially in cases of severe infection, so it is recommended that children be treated with antimalarial drugs within the first 24 hours of the onset of fever. Therapies that combine artemisinin with some other antimalarial drug—known as artemisinin combination therapy (ACT)are the preferred treatment for malaria because they are both effective and well tolerated in patients. One-third of the children who had fever in the two weeks preceding the survey received an antimalarial drug. Regarding the recommended ACT treatment of artemisinin in combination, 8 percent of children in urban areas and 5 percent of children in rural areas received this treatment, while 6 percent in urban areas and 3 percent in rural areas received this treatment the same day or the next day after the onset of fever, as recommended.

3.10 HIV/AIDS

3.10.1 *Knowledge of HIV/AIDS*

The 2013 NDHS included a series of questions that inquired about men's and women's knowledge of AIDS and their awareness of modes of transmission of the human immunodeficiency virus (HIV) that causes AIDS. Table 13 shows that 93 percent of women and 96 percent of men in Nigeria know about AIDS. There is hardly any variation by background characteristics of women and men, though knowledge is slightly less in rural areas and among those with no education. Among the states, women in Niger (64 percent) and Kebbi (76 percent) are least likely to know about AIDS compared with women in other states.

Table 13 Knowledge of AIDS

Percentage of women and men age 15-49 who have heard of AIDS, by background characteristics, Nigeria 2013

Background characteristic	Women		Men	
	Have heard of AIDS	Number of women	Have heard of AIDS	Number of men
Age				
15-24	91.4	14,576	92.1	6,511
15-19	89.5	7,820	89.3	3,619
20-24	93.5	6,757	95.5	2,892
25-29	92.6	7,145	97.3	2,757
30-39	94.2	10,185	97.5	4,589
40-49	92.8	7,042	97.7	3,501
Marital status				
Never married	94.3	9,326	93.7	8,378
Ever had sex	97.8	3,732	98.5	3,462
Never had sex	91.9	5,593	90.3	4,916
Married or living together	91.8	27,830	97.1	8,723
Divorced/separated/widowed	95.5	1,793	99.4	258
Residence				
Urban	97.3	16,414	98.3	7,611
Rural	89.2	22,534	93.3	9,748
Zone				
North Central	83.5	5,572	93.8	2,685
North East	88.1	5,766	94.1	2,515
North West	95.4	11,877	95.3	5,185
South East	99.0	4,476	98.7	1,686
South South	94.3	4,942	97.5	2,445
South West	93.6	6,314	95.1	2,843
State				
Sokoto	99.1	1,098	95.4	424
Zamfara	96.9	1,332	97.5	479
Katsina	99.7	1,525	99.6	596
Jigawa	93.5	1,353	97.2	510
Yobe	97.1	971	88.3	390
Borno	80.4	1,412	95.5	676
Adamawa	89.7	828	97.8	358
Gombe	79.4	550	93.9	255
Bauchi	87.2	1,161	94.9	512
Kano	99.7	3,189	96.0	1,592
Kaduna	95.8	2,136	97.5	1,033
Kebbi	75.9	1,244	80.2	551
Niger	64.0	1,462	90.0	701
FCT-Abuja	90.4	315	94.0	175
Nasarawa	82.5	594	86.6	282
Plateau	80.6	662	88.9	302
Taraba	95.6	844	93.2	325
Benue	99.7	1,240	100.0	616
Kogi	88.0	704	96.1	333
Kwara	92.5	596	99.2	274
Oyo	84.6	1,568	93.7	629
Osun	99.7	765	99.5	356
Ekiti	99.4	326	100.0	148
Ondo	88.1	808	88.2	404
Edo	96.1	742	99.6	365
Anambra	99.6	1,052	99.2	446
Enugu	99.5	951	98.7	320
Ebonyi	98.3	1,122	98.5	368
Cross River	96.5	703	97.5	310
Akwa Ibom	95.9	864	97.6	451
Abia	98.6	518	99.2	229
Imo	98.9	833	98.1	323
Rivers	93.6	1,276	93.9	658
Bayelsa	90.0	364	100.0	187
Delta	92.4	993	99.5	473
Lagos	98.1	1,964	98.2	948
Ogun	97.1	883	90.6	358
Education				
No education	85.7	14,729	88.6	3,685
Primary	93.1	6,734	94.9	2,907
Secondary	97.8	13,927	97.5	8,281
More than secondary	99.6	3,558	99.5	2,486
Total 15-49	92.6	38,948	95.5	17,359

3.10.2 *Awareness of ways to prevent HIV/AIDS*

Table 14 shows the percentages of women and men who demonstrated knowledge of several specific ways to avoid AIDS in response to prompted questions. Overall, the use of condoms as a way of avoiding HIV infection is more widely recognized by men than by women (74 percent compared with 58 percent). This is true for limiting sexual intercourse to one uninfected sexual partner, as recognized by 85 percent of men and 78 percent of women. Fifty-four percent of women and 70 percent of men are aware that using condoms *and* limiting sex to one uninfected partner reduce the risk of contracting AIDS.

Currently married women and those who are unmarried and have never had sex are least likely to know that using condoms and limiting sexual intercourse to one uninfected partner reduce the risk of HIV transmission (53 percent and 50 percent, respectively). Women who have never been married but have had sex are most likely to know that using condoms *and* limiting sexual intercourse to one uninfected partner reduce the risk of HIV transmission (71 percent).

Table 14 Knowledge of HIV prevention methods

Percentage of women and men age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting the AIDS virus by using condoms every time they have sexual intercourse, and by having one sex partner who is not infected and has no other partners, by background characteristics, Nigeria 2013

	Percentage of women who say HIV can be prevented by:				Percentage of men who say HIV can be prevented by:			
Background characteristic	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[1,2]	Number of women	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[1,2]	Number of men
Age								
15-24	55.8	75.4	52.2	14,576	70.0	79.0	65.7	6,511
15-19	51.6	71.4	47.7	7,820	63.9	73.2	59.1	3,619
20-24	60.6	80.0	57.3	6,757	77.5	86.1	74.1	2,892
25-29	60.2	79.5	56.8	7,145	76.4	87.9	72.6	2,757
30-39	61.2	81.1	58.1	10,185	77.4	88.3	74.0	4,589
40-49	54.9	77.1	51.6	7,042	74.7	88.1	72.0	3,501
Marital status								
Never married	62.8	78.6	58.7	9,326	74.0	82.2	69.8	8,378
Ever had sex	75.4	87.0	71.2	3,732	85.3	90.9	80.7	3,462
Never had sex	54.4	73.1	50.4	5,593	66.0	76.1	62.1	4,916
Married or living together	55.7	77.5	52.5	27,830	73.7	86.9	70.6	8,723
Divorced/separated/widowed	65.8	82.3	62.4	1,793	80.1	89.6	75.6	258
Residence								
Urban	67.9	85.2	64.1	16,414	81.2	89.1	77.2	7,611
Rural	50.5	72.7	47.4	22,534	68.2	81.3	64.8	9,748
Zone								
North Central	60.7	73.4	58.2	5,572	66.1	82.1	61.6	2,685
North East	48.6	71.8	45.8	5,766	71.5	83.8	68.8	2,515
North West	48.9	79.6	46.5	11,877	70.5	83.5	68.4	5,185
South East	61.2	82.7	56.4	4,476	79.4	90.3	75.7	1,686
South South	68.8	79.0	63.9	4,942	85.9	90.4	81.6	2,445
South West	69.6	80.4	65.2	6,314	76.0	81.9	70.2	2,843
State								
Sokoto	62.6	92.7	61.5	1,098	77.4	88.6	75.7	424
Zamfara	24.3	63.0	23.8	1,332	29.5	46.0	21.2	479
Katsina	56.2	91.6	53.2	1,525	69.8	89.5	68.3	596
Jigawa	47.1	77.7	44.4	1,353	63.7	79.2	59.7	510
Yobe	37.3	64.4	29.6	971	60.2	75.5	57.7	390
Borno	44.9	68.2	43.5	1,412	63.5	70.2	57.5	676
Adamawa	62.3	84.6	60.5	828	88.5	96.2	87.4	358
Gombe	43.7	66.3	40.1	550	56.3	83.7	52.1	255
Bauchi	37.5	69.8	35.7	1,161	77.0	94.6	77.0	512
Kano	48.2	82.4	44.5	3,189	89.7	93.7	88.8	1,592
Kaduna	66.5	88.4	64.8	2,136	83.5	91.6	82.3	1,033
Kebbi	28.1	50.9	25.1	1,244	27.9	64.9	26.5	551
Niger	42.1	54.6	40.9	1,462	52.0	76.0	49.8	701
FCT-Abuja	65.2	78.2	63.2	315	54.5	86.5	51.7	175
Nasarawa	52.0	63.7	49.0	594	70.7	78.5	66.4	282
Plateau	52.2	64.3	46.7	662	58.7	73.6	51.3	302
Taraba	72.8	80.2	71.2	844	86.6	91.0	85.2	325
Benue	81.1	92.6	78.1	1,240	74.3	88.3	68.2	616
Kogi	65.9	82.9	64.7	704	80.3	91.9	77.3	333
Kwara	73.5	85.7	71.0	596	77.6	81.9	71.0	274
Oyo	63.6	74.8	59.3	1,568	79.3	84.9	74.7	629
Osun	91.1	94.5	89.1	765	89.9	86.7	82.2	356
Ekiti	65.3	82.5	59.7	326	52.0	94.6	51.4	148
Ondo	39.7	59.2	33.2	808	53.3	59.2	39.8	404
Edo	73.0	81.3	67.2	742	86.0	89.2	79.2	365
Anambra	48.1	80.4	42.5	1,052	68.3	88.3	65.0	446
Enugu	77.3	93.3	74.1	951	91.3	95.0	88.5	320
Ebonyi	61.7	87.6	58.4	1,122	85.4	90.3	81.4	368
Cross River	77.1	88.9	74.5	703	77.5	90.2	75.1	310
Akwa Ibom	52.7	69.6	48.4	864	87.7	94.2	85.8	451
Abia	48.4	55.7	40.1	518	89.7	91.2	84.6	229
Imo	66.4	83.7	61.3	833	68.9	88.1	65.2	323
Rivers	78.4	88.4	76.4	1,276	86.4	82.3	79.0	658
Bayelsa	43.3	69.1	38.6	364	96.0	97.4	94.2	187
State								
Delta	70.7	70.2	60.8	993	84.9	96.4	82.3	473
Lagos	76.1	86.8	71.8	1,964	83.0	84.3	78.3	948
Ogun	76.3	82.6	71.4	883	73.7	85.6	70.8	358
Education								
No education	40.3	68.2	37.5	14,729	55.1	71.7	52.0	3,685
Primary	60.1	78.9	56.8	6,734	72.8	84.6	69.2	2,907
Secondary	69.7	84.5	65.4	13,927	78.9	87.6	74.7	8,281
More than secondary	80.2	91.3	76.9	3,558	86.5	94.2	83.8	2,486
Total 15-49	57.8	78.0	54.4	38,948	73.9	84.7	70.3	17,359

[1] Using condoms every time they have sexual intercourse.
[2] Partner who has no other partners.

Among men, those who are unmarried and have never had sex are least likely to be aware that using condoms and limiting sexual intercourse to one uninfected partner reduce the risk of HIV transmission (62 percent). On the other hand, men who have never been married but who have had sex are most likely to be aware of these prevention methods (81 percent).

As one would expect, respondents residing in urban areas and those with higher educational achievement have most knowledge of ways to prevent getting HIV. Thirty-eight percent of women and 52 percent of men with no education say that the risk of getting the HIV virus can be reduced by using condoms *and* limiting sex to one uninfected partner; this compares with 77 percent of women and 84 percent of men with more than secondary education. The knowledge on ways to prevent HIV is relatively low in Zamfara and Kebbi among both women and men.

3.10.3 *Multiple sexual partnerships and condom use*

As most HIV infections are contracted through heterosexual contact, information on sexual behaviour is important in designing and monitoring intervention programmes to control the spread of the infection. In the context of HIV/AIDS prevention, limiting the number of sexual partners and having protected sex are crucial to combating the epidemic. The 2013 NDHS included questions on respondents' sexual partners during the 12 months preceding the survey. Information on the use of condoms at the last sexual encounter was also collected. Finally, women and men who had initiated sexual activity were asked the total number of sexual partners they had in their lifetime. These questions are of course sensitive, and, in interpreting the results in this section, it is important to remember that respondents' answers are likely to be subject to some underreporting bias.

Table 15.1 shows that only 1 percent of women reported having had more than one sexual partner in the 12 months preceding the survey. Younger women age 15-24 who have had two or more partners in the past 12 months are more likely to use condoms during their last sexual contact than older women in their thirties or more. Never-married women reporting two or more sexual partners in the past 12 months are more like to use condoms during their last sexual intercourse (64 percent) than married women (4 percent). Education is positively associated with women using condoms during such an encounter. Urban women are more likely than rural women to have had two or more partners in the past 12 months and also more likely to have used condoms during the last sexual intercourse (44 percent and 15 percent, respectively).

Women in the North Central and South South zones are the most likely to have had two or more partners, and, among these, women in the South South are the most likely to have used condoms during the last sexual intercourse (39 percent). The mean number of partners reported for women is 1.5, with the highest mean number of partners being for women who are divorced/separated/widowed, women in the South South zone, and women with more than secondary education (2.0 in all cases).

Table 15.1 Multiple sexual partners in the past 12 months: Women

Among all women age 15-49, the percentage who had sexual intercourse with more than one sexual partner in the past 12 months; among those having more than one partner in the past 12 months, the percentage reporting that a condom was used at last intercourse; and the mean number of sexual partners during her lifetime for women who ever had sexual intercourse, by background characteristics, Nigeria 2013

	All women		Among women who had 2+ partners in the past 12 months:		Among women who ever had sexual intercourse:[1]	
Background characteristic	Percentage who had 2+ partners in the past 12 months	Number of women	Percentage who reported using a condom during last sexual intercourse	Number of women	Mean number of sexual partners in lifetime	Number of women
Age						
15-24	1.1	14,576	40.6	158	1.4	9,266
15-19	0.7	7,820	38.1	53	1.2	3,403
20-24	1.6	6,757	41.9	105	1.4	5,863
25-29	1.2	7,145	36.1	87	1.6	6,902
30-39	1.0	10,185	22.8	106	1.7	10,042
40-49	1.1	7,042	7.1	76	1.6	6,981
Marital status						
Never married	1.9	9,326	63.5	174	1.9	3,719
Married/living together	0.8	27,830	3.6	223	1.5	27,696
Divorced/separated/widowed	1.6	1,793	(21.8)	29	2.0	1,776
Residence						
Urban	1.3	16,414	43.7	210	1.7	13,122
Rural	1.0	22,534	15.3	217	1.4	20,069
Zone						
North Central	1.9	5,572	17.2	105	1.5	4,550
North East	0.7	5,766	(26.9)	40	1.4	5,076
North West	1.0	11,877	27.8	113	1.3	10,597
South East	1.0	4,476	(45.5)	45	1.7	3,527
South South	1.3	4,942	38.7	66	2.0	4,153
South West	0.9	6,314	32.5	58	1.8	5,288
State						
Sokoto	0.1	1,098	*	1	1.2	982
Zamfara	0.3	1,332	*	3	1.2	1,250
Katsina	0.2	1,525	*	3	1.2	1,433
Jigawa	1.5	1,353	*	20	1.3	1,294
Yobe	0.0	971	*	0	1.1	853
Borno	0.9	1,412	*	13	1.1	1,206
Adamawa	0.2	828	*	1	1.4	689
Gombe	0.5	550	*	3	1.2	493
Bauchi	1.5	1,161	*	18	1.4	1,074
Kano	1.3	3,189	(0.0)	42	1.1	2,632
Kaduna	2.1	2,136	(71.9)	44	1.6	1,895
Kebbi	0.1	1,244	*	1	1.1	1,112
Niger	0.6	1,462	*	8	1.1	1,223
FCT-Abuja	3.6	315	(52.8)	11	1.9	257
Nasarawa	0.9	594	*	5	1.4	508
Plateau	1.5	662	*	10	1.5	526
Taraba	0.5	844	*	5	2.0	760
Benue	5.6	1,240	(10.9)	70	2.2	1,041
Kogi	0.0	704	*	0	1.1	535
Kwara	0.1	596	*	1	1.5	460
Oyo	0.3	1,568	*	5	1.5	1,322
Osun	0.5	765	*	4	1.7	586
Ekiti	2.0	326	*	6	2.1	270
Ondo	1.1	808	*	9	1.7	693
Edo	0.6	742	*	4	1.7	575
Anambra	0.9	1,052	*	9	1.8	829
Enugu	0.7	951	*	7	1.5	704
Ebonyi	0.2	1,122	*	3	1.7	899
Cross River	0.2	703	*	1	1.7	625
Akwa Ibom	0.8	864	*	7	2.1	734
Abia	1.4	518	*	7	1.6	428
Imo	2.2	833	*	18	2.1	667
Rivers	2.3	1,276	*	30	2.3	1,096
Bayelsa	3.2	364	(37.9)	12	2.5	306
Delta	1.2	993	*	12	2.0	817
Lagos	1.3	1,964	*	26	2.1	1,645
Ogun	0.8	883	*	7	1.7	771
Education						
No education	0.7	14,729	8.6	101	1.3	14,045
Primary	1.2	6,734	9.0	80	1.6	6,150
Secondary	1.3	13,927	37.8	182	1.8	9,896
More than secondary	1.8	3,558	63.7	63	2.0	3,100
Total	1.1	38,948	29.3	427	1.5	33,191

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 cases.
[1] Means are calculated excluding respondents who gave non-numeric responses.

Reporting multiple sexual partners is more common among men, as 13 percent of men age 15-49 reported having had more than one sexual partner in the last 12 months (Table 15.2). The higher reporting of sexual partners by men may partially be attributed to the prevalence of polygamous unions and the greater social acceptance of men having more than one partner.

The percentage of men reporting more than one sexual partner increases with age, from 4 percent among men less than 25 years old, to 13 percent among men age 25-29, to 17 percent among men age 30-39, and to 23 percent among men age 40-49. The percentage of men reporting more than one sexual partner is highest in rural areas (14 percent) and among men with no education (18 percent).

To ascertain the occurrence of condom use, respondents that reported having had more than one sexual partner in the past 12 months were asked if they had used condoms during their last sexual intercourse. Overall, only 20 percent of men age 15-49 who reported multiple partners also reported using condoms. Condom use is much more frequent in urban areas than in rural areas (36 percent compared with 11 percent) and increases with education, from 2 percent among men with no education to 45 percent among men with more than secondary education.

The relatively low prevalence of condom use can be attributed to the fact that many of the multiple sexual partnerships among men occur within the context of multiple legitimate wives, and as a result there is a lack of perception of risk of infection. Overall, among men who had ever had sexual intercourse, the mean number of partners in a lifetime is 4.1. Men reporting a somewhat higher than average mean number of lifetime partners are older men (4.6), urban men (4.7), men with more than secondary education (5.2), and men in the South South (6.9).

Table 15.2 Multiple sexual partners in the past 12 months: Men

Among all men age 15-49, the percentage who had sexual intercourse with more than one sexual partner in the last 12 months; among those having more than one partner in the past 12 months, the percentage reporting that a condom was used at last intercourse; and the mean number of sexual partners during their lifetime for men who ever had sexual intercourse, by background characteristics, Nigeria 2013

	All men		Among men who had 2+ partners in the past 12 months:		Among men who ever had sexual intercourse:[1]	
Background characteristic	Percentage who had 2+ partners in the past 12 months	Number of men	Percentage who reported using a condom during last sexual intercourse	Number of men	Mean number of sexual partners in lifetime	Number of men
Age						
15-24	3.9	6,511	50.5	257	3.2	2,185
15-19	1.1	3,619	(46.1)	40	2.3	558
20-24	7.5	2,892	51.3	217	3.6	1,627
25-29	13.0	2,757	38.9	359	4.0	2,281
30-39	17.3	4,589	17.1	792	4.3	4,299
40-49	23.2	3,501	4.4	811	4.6	3,389
Marital status						
Never married	6.7	8,378	57.6	559	4.5	3,391
Married/living together	18.7	8,723	6.4	1,633	4.0	8,519
Divorced/separated/widowed	10.2	258	(53.4)	26	4.8	244
Type of union						
In polygynous union	80.8	1,469	1.5	1,186	3.8	1,457
Not in polygynous union	6.2	7,254	19.1	447	4.0	7,062
Not currently in union	6.8	8,636	57.4	586	4.5	3,635
Residence						
Urban	10.8	7,611	35.6	825	4.7	5,087
Rural	14.3	9,748	10.5	1,393	3.7	7,067
Zone						
North Central	10.3	2,685	24.6	275	4.2	2,083
North East	13.3	2,515	9.6	334	2.5	1,715
North West	13.5	5,185	3.2	698	2.0	3,080
South East	5.4	1,686	46.1	92	5.2	1,190
South South	14.6	2,445	29.7	356	6.9	1,957
South West	16.3	2,843	36.7	463	5.2	2,129
State						
Sokoto	8.9	424	(0.0)	38	1.5	249
Zamfara	23.5	479	1.0	113	1.7	320
Katsina	23.2	596	8.8	138	2.1	421
Jigawa	15.7	510	0.0	80	1.8	349
Yobe	11.5	390	(0.0)	45	1.3	236
Borno	12.8	676	22.7	86	2.5	461
Adamawa	5.2	358	*	19	2.7	251
Gombe	14.2	255	9.3	36	2.3	164
Bauchi	19.6	512	2.3	100	1.9	347
Kano	10.8	1,592	0.0	172	1.4	698
Kaduna	8.4	1,033	8.7	87	2.4	713
Kebbi	12.9	551	1.9	71	3.6	331
Niger	8.5	701	(15.9)	60	2.5	560
FCT-Abuja	13.8	175	55.5	24	2.9	128
Nasarawa	8.9	282	(29.7)	25	5.0	224
Plateau	12.1	302	(21.4)	36	4.6	225
Taraba	14.6	325	6.2	47	4.4	256
Benue	11.2	616	(18.2)	69	7.1	496
Kogi	6.5	333	(19.5)	22	2.8	239
Kwara	14.2	274	32.8	39	3.5	211
Oyo	19.3	629	26.0	121	4.4	475
Osun	15.5	356	52.5	55	5.1	262
Ekiti	13.5	148	54.6	20	5.3	112
Ondo	17.9	404	26.8	72	5.8	266
Edo	13.5	365	56.4	49	6.9	276
Anambra	2.1	446	*	10	5.3	297
Enugu	4.0	320	*	13	4.5	203
Ebonyi	6.6	368	*	24	4.2	269
Cross River	9.6	310	(31.8)	30	6.3	225
Akwa Ibom	9.9	451	54.7	45	4.4	369
Abia	11.1	229	(38.1)	25	5.1	171
Imo	6.2	323	*	20	6.8	250
Rivers	9.0	658	(20.8)	59	6.6	552
Bayelsa	18.4	187	31.4	35	10.4	152
Delta	29.4	473	15.2	139	8.9	382
Lagos	14.4	948	43.1	136	5.1	734
Ogun	16.3	358	(34.9)	58	6.3	281
Education						
No education	17.7	3,685	2.4	654	2.1	2,741
Primary	15.2	2,907	8.6	441	4.2	2,247
Secondary	9.7	8,281	30.1	804	4.8	5,087
More than secondary	12.9	2,486	45.2	320	5.2	2,079
Total 15-49	12.8	17,359	19.8	2,219	4.1	12,154

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 cases.
[1] Means are calculated excluding respondents who gave non-numeric responses.

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