NIGERIA

KANO STATE

Monitoring the Situation of Children and Women

MULTIPLE INDICATOR CLUSTER SURVEY

2016-2017

FINAL REPORT

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MICS

Nigeria: Kano State

Multiple Indicator Cluster Survey 2016-17

Final Report

May, 2018

The fifth round Multiple Indicator Cluster Survey (MICS5) was carried out in 2016/2017 by the National Bureau of Statistics (NBS) in collaboration with the National Primary Health Care Development Agency (NPHCDA) and National Agency for the Control of Aids (NACA), as part of the global MICS programme. Technical support was provided by the United Nations Children's Fund (UNICEF). World Health Organization (WHO), World Bank, Save One Million Live (SOML), Bill and Melinda Gates Foundation, United Nations Population Funds (UNFPA), United States Agency for International Development (USAID) and UNICEF provided financial support.

The global MICS programme was developed by UNICEF in the 1990s as an international household survey programme to support countries in the collection of internationally comparable data on a wide range of indicators on the situation of children and women. MICS surveys measure key indicators that allow countries to generate data for use in policies and programmes, and to monitor progress towards the Millennium Development Goals (MDGs) and other internationally agreed upon commitments. The Nigeria MICS5 provided opportunity for strengthening of national statistical capacity by providing technical guidance on data gathering, quality of survey information, statistical tracking and analysis. MICS5 will contributed to the improvement of data and monitoring systems in Nigeria and strengthened technical expertise in the design, implementation and analysis of such systems. In addition, MICS5 provided statistics to complement and assess the quality of data from recent national surveys such as Nigerian General Household Panel Survey (NGHPS) and National Demographic and Health Survey (NDHS) conducted by National Population Commission (NPopC).

As part of devolving the reporting domain to the lower level in Kano State, sample was taken at the Senatorial district level in order to disaggregate the data at both state and senatorial district. In the history of MICS Nigeria, this is the first time the reporting domain is taking to senatorial level.

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Table of Contents

List of Tables

List of Figures

List of Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
APP	Agricultural Promotion Policy
BCG	Bacillus Calmette-Guérin (Tuberculosis)
BMGF	Bill and Melinda Gates Foundation
BNPC	Budget and National Planning Commission
CAPI	Computer Assisted Personal Interviewing
CBN	Central Bank of Nigeria
CDC	Center for Disease Control and Prevention
CRC	Convention on the Rights of the Child
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
CSPro	Census and Survey Processing System
DFID	Department for International Development
DPT	Diphtheria Pertussis Tetanus
ECCD	Early Childhood Care and Development
ECDI	Early Child Development Index
EPI	Expanded Programme on Immunization
FGM/C	Female genital mutilation/cutting
GPI	Gender Parity Index
HIV	Human Immunodeficiency Virus
ICT	Information and Communications Technology
IDD	Iodine Deficiency Disorders
ITN	Insecticide Treated Net
IUD	Intrauterine Device
JMP	Joint Monitoring Programme
KANBUS	Kano State Bureau of Statistics
LAM	Lactational Amenorrhea Method
LLIN	Long-Lasting Insecticidal Net
MCV	Measles Containing Vaccine
MDAs	Ministries, Departments and Agencies
MDG	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MICS5	Fifth global round of Multiple Indicator Clusters Surveys programme
MoH	Ministry of Health
NACA	National Agency for the Control of AIDS
NAR	Net Attendance Rate
NBS	National Bureau of Statistics
NDHS	National Demographic and Health Survey
NGHIPS	Nigerian General Household Panel Survey
NISH	National Integrated Survey of Households
NPHCDA	National Primary Health Care Development Agency
NPoPC	National Population Commission
PNC	Post-natal Care
Ppm	Parts Per Million
ORT	Oral rehydration treatment
SDG	Sustainable Development Goals
SFR	Survey Finding Report
SOML	Save One Million Live
SPSS	Statistical Package for Social Sciences

TFR	Total Fertility Rate
UNAIDS	United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNGASS	United Nations General Assembly Special Session on HIV/AIDS
UNICEF	United Nations Children's Fund
UNIO	United Nations and International Organizations
VIP	Ventilated Improved Pit
WB	World Bank
WCARO	West and Central Africa Regional Office
WFFC	World Fit for Children
WHO	World Health Organization

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We are thankful to the United Nations and international organizations in Nigeria for their contributions in various stages of this project. Special thanks go to UNICEF Nigeria for spearheading the technical and financial support for Kano State MICS 2016-17. We are also grateful to United Nations Population Fund (UNFPA), Bill and Melinda Gates Foundation, the World Bank, United States Agency for International Development (USAID) and Save One Million Lives (SOML) for their financial contributions to the project. The immense contributions made by UNICEF West and Central Africa Regional Office (WCARO) and UNICEF Headquarters cannot be overemphasized.

Special thanks go to His Excellency the Executive Governor of Kano State, Dr. Abdullahi Umar Ganduje OFR (Khadimul Islam) and His Deputy Professor Hafizu Abubakar. Similarly, we recognize the untiring commitment of the Secretary to the State Government (SSG), the Head of Civil Service and the Permanent Secretary Ministry of Planning and Budget for overseeing the successful completion of the survey from inception to the point of publishing this survey findings report, and for their unflinching support and cooperation throughout the survey.

Also worth mention are contributions of Hon. Commissioner, Permanent Secretary and Accountant General - State Ministry of Finance for their support.

Special appreciation goes to the National Bureau of Statistics (NBS), National Steering and Technical committees, State Statistician General and the entire staff of Kano State Bureau of Statistics (KANBUS) for their hard work, dedication and contribution towards this endeavour. Those who actively participated in planning and preparation, training, monitoring, data collection, data processing, analysis, editing, interpretation and report writing processes were acknowledged. The state remains indebted to the outsourced personnel who were engaged to take part as independent monitors, supervisors and interviewers for the survey, I say a big well-done.

Finally, on behalf of the Kano State Government, I wish to acknowledge, with gratitude, the cooperation and support of the State Emirate Council, heads and members of the sampled households who were respondents during the survey. Their participation was very valuable to the success of the survey.

MICS 2016-17 Report for Kano State is a follow-up to MICS 2016-17 Kano State Survey Findings Report (SFR) published in October 2017. In this report, some of the important indicators were explained in simple prose format and charts to make it useful and friendly for policy makers. It also contains abridged tables from SFR. Hence, this report for Kano State should be used as complementary to the Kano State SFR.

Barrister Zubaida Damakka Abubakar
Honourable Commissioner
Kano State Ministry of Planning and Budget

EXECUTIVE SUMMARY

Introduction

This report is based on the Kano State Multiple Indicator Cluster Survey (MICS), conducted between September 2016 and January 2017 by the National Bureau of Statistics and Kano Bureau of Statistics, with technical and financial support from UNICEF, WHO, UNFPA, Bill and Melinda Gates Foundation, Save One Million Lives and NACA.The survey provides statistically sound and internationally comparable data essential for developing evidence-based policies and programmes, and for monitoring progress toward national goals and global commitments. Among these global commitments are those emanating from the World Fit for Children Declaration and Plan of Action, the goals of the United Nations General Assembly Special Session on HIV/AIDS, the Education for All Declaration and the Millennium/Sustainable Development Goals (MDGs/SDGs). The Nigeria Multiple Indicator Cluster Survey 2016-17 has been designed to measure achievements of MDGs and provide baseline for SDGs. More specifically, the report will assist Kano State Government in monitoring and evaluating her programmes and policies to improve the quality of lives of her people.

Survey Objectives

The objectives of Multiple Indicator Cluster Survey (MICS) 2016-17, Nigeria, Kano State are to: (1) provide up-to-date information for assessing the situation of children and women in Nigeria, (2) generate data for the critical assessment of the progress made in various programme areas, and to identify areas that require more attention, (3) contribute to the generation of baseline data for the SDG, (4) provide data needed for monitoring progress toward goals established in the post Millennium Declaration and other internationally agreed goals, as a basis for future action, (5) provide disaggregated data to identify disparities among various groups to enable evidence based actions aimed at social inclusion of the most vulnerable.

Sample and Survey Methodology

As part of Nigerian MICS 2016-17, the sample for the Kano State was designed to provide estimates for a large number of indicators on the situation of children and women at the state/district/local levels, for urban and rural areas, and for 3 senatorial districts namely Kano Central, Kano North and Kano South. The urban and rural areas within each district were identified as the main sampling strata and the sample was selected in two stages. The Senatorial Districts within the state were identified as the main sampling Strata while the Enumeration Areas (EAs) within each senatorial district were identified as the Primary Sampling Units (PSUs). The EAs for the survey were selected from the National Integrated Survey of Households round 2 (NISH2) master sample, based on a list of EAs prepared for the 2006 Population Census. Two stage sampling was conducted with the first stage being the selection of enumeration areas within each Senatorial district while the second stage was the selection of households within each enumeration area. Out of 1,920 households sampled, 1,876 were occupied and 1,867 were successfully interviewed, representing a household response rate of 99.5 percent. Of these, 2,500 women and 1,099 men age 15-49 years were successfully interviewed.

Questionnaires

Four sets of questionnaires were used in the survey; the household questionnaire, the individual women questionnaire, the individual men questionnaire and the under-five children questionnaire. These were the MICS5 standard questionnaires adapted to Nigeria situation.

Fieldwork and Data Processing

Training for the fieldwork was conducted for thirty-one (31) days in August 2016. The data were collected by 78 teams; each team comprised four interviewers, one driver, one measurer and a supervisor. Fieldwork began in September 2016 and concluded in January 2017. Using Computer Assisted Personal Interviewing (CAPI), the data were electronically captured from the field and transmitted to a central server, using CSPro CAPI application, Version 5.0. Data were analysed using the Statistical Package for Social Scientists (SPSS) software, Version 21. Model syntax and tabulation plans developed by UNICEF MICS team were customized and used for this purpose.

Characteristics of Households, Women, Men and Under five Children

The age structure of Kano shows a large proportion of its population are young. Fifty-one percent of the population is under the age of 15 years, thereby contributing significantly to the high dependency ratio of 122 per 100 persons aged 15 to 64 years.

Women: Majority of the woman are married, with 3 in 4 women age 15-49 years being currently married. About 59.9 percent of them had no education, 11.7 percent with primary education, while 27.9 had secondary education and above. Seventy-one percent of women resides in the rural areas.

Men: In contrast to the women, about half of eligible men were never married. Among the eligible men, 32.9 percent of them had no education, 13.1 percent with primary education, while 42 had secondary education and 12.1 percent had higher education. Similar to the women, more men, sixty-four percent, resides in the rural areas. Two out of 5 men had at least one child.

Children: There is a somewhat higher proportion of children in the rural areas, 76.5 percent, compared to the adult population. Likewise, a higher proportion of children under 5 years old were in the poor households, 21 percent, compared to 17.8 percent in the richest households.

Child Mortality

MICS 5 estimate of neonatal mortality rate is 69 per 1,000 live births, while Infant mortality rate is 112 per 1,000 live births. This implies that one out of 9 live births in Kano State die before their first birthday according to the MICS5 2016-17 survey. Also, under-five mortality rate is estimated to be 203 per 1,000 live births - one out of 5 live births die before their fifth birthday.

All the early childhood mortality rates, except neonatal mortality, are consistently highest in Kano North senatorial districts for the five years preceding MICS 2016-17. The chances of child surviving to fifth birthday are 64 percent and 27percent higher in Kano Central and Kano South respectively. To achieve SDG 3.2, there must be at least 70 percent reduction in early childhood mortality rates before 2030 across all groups in Kano State.

Nutrition

Two of out of 5 children under five years in Kano State have acute, chronic or both malnutrition. Three out of 10 children under five years are stunted while one out of 3 children under five years are severely stunted. One out of 10 children are wasted and three out of 100 are severely wasted.

Three out of 10 mothers in Kano State initiated early breastfeeding as recommended by WHO, however, 3 out of 4 mothers eventually initiated breastfeeding within 24 hour of birth delivery. Estimated 19 percent exclusive breastfeeding rate, is yet to meet the WHO Global nutrition target of 50 percent. One of 3 infants are predominantly breastfed, 40.7 percent of children age 6-23 months were fed the minimum number of times, and 32 percent received the minimum dietary diversity. Only 15 percent of children ages 6-23 months had a diet sufficient in both diversity and frequency.

Salt Iodization

Iodized salt containing 15 ppm or more are consumed in 44 percent of sampled household with higher prevalence in Kano Central senatorial districts.

Low Birth Weight

Only one out of 13 live births were weighed at birth, and nineteen percent of these births are classified as low weight because they are less than 2,500 grams at birth. Although more babies are weighed at birth in Kano Central, the proportion of low birth weights babies are less than 20 percent across all the senatorial districts in Kano State. This pattern is almost exact for all the social and demographic groups. However, greater proportions of babies born in urban areas, from mothers with at least secondary education, and from the richest wealth quintile households were weighed at birth than other groups.

Child health

Vaccination coverage is an important indicator of Immunization, one of the cost-effective means of ending preventable deaths of newborn and under 5 children. Only five percent of children age 12-23 months in Kano State received all recommended vaccination by their first birthday in the survey. Specific vaccine coverage: 32 percent for Tuberculosis; 15 percent coverage for polio, 17 percent coverage for pentavalent vaccine, 20 percent coverage for Measles and 18 percent coverage for yellow fever. Vaccination coverage reduces with time for multi-dose vaccines such as Polio, PCV, and pentavalent vaccine containing DPT, Hepatitis B and Haemophilus influenza type B. The Kano-Nigeria MICS 2016-17 survey also showed that 53.8 percent of women with a live birth in the last two years prior to the survey received antenatal tetanus toxoid, which protected them against neonatal tetanus.

Malaria prevention in pregnancy was adequate in 16.5 percent women age 15-49 years, who received three or more doses of SP/Fansidar during their last pregnancy that led to a live birth in the last 2 years. Reported illnesses in under-five children, two weeks preceding survey, are diarrhoea in 20.7 percent, ARI in 2.4 percent, and malaria fever in 35.4 percent of children under five.

Water and Sanitation

Access to safe and clean drinking water and sanitation is essential to human health. Fifty-eight percent of household members use improved sources of drinking water in Kano State. Only 0.7 percent of households using unimproved drinking water sources have appropriate water treatment method: 0.7 percent boil water, 0.7 percent add bleach or chlorine to water and 0.1 percent use water filter. One in two household use improved sanitation facility that are not shared. Overall, 34 percent of households

have both improved drinking water source and improved sanitation facility. One out of 6 households have a specific place for handwashing where water and soap or other cleansing agents are present.

E.Coli contaminated drinking water is high and of public health concern as 97 percent of household members in Kano State drink faecal contaminated water. Percentage of Household with improved drinking water sources accessible on the premises, available when needed, and free from faecal contamination is low at 0.2 percent.

Reproductive Health

Fertility is very high in the Kano population, as a woman according to the survey will have about 8 children over her childbearing years. Adolescent birth rate is 169 per 1,000 women in the 15-19 age group. Adolescent fertility differentials per 1,000 women age 15-19 are: : 62 in urban areas; 218 in rural areas; 45 in the richest quantile; 2,241 in the poorest quantile; 0 in women with higher education; 268 in women with non-formal education. Also, two out of 5 women age 20-24 have had a live birth before age 18**.**

One out of 16 women currently married or in union are using contraception (6.3 percent). Unmet need for family planning in Kano State is 30.8 percent. The most commonly used contraceptive method is injectable (2.2 percent). Contraceptive prevalence ranges from 11.5 percent in Kano Central to 3.0 percent in Kano South. About 15 percent of married women in urban areas and 4 percent in rural areas use a method of contraception. Adolescents are less likely to use contraception than older women in Kano State.

About 65 percent received antenatal care from a skilled provider and 44.7 percent of women with a live birth in the last two years had adequate antenatal visit (four or more antenatal visits). About one out of 5 births were delivered by skilled personnel - doctor, nurse, midwife or auxiliary midwife; 15.7 percent of women age 15-49 used health facility for their last delivery; 12.5 percent in public health facilities and 3.2 percent in private health facilities.

Early childhood development

About two out of 10 children attends organized early childhood education programme in Kano State, with more children in Kano Central than other senatorial districts. About 62.6 percent of the children have an adult household member engage them on four or more activities that promote learning and school readiness. Involvement of biological parents in activities that support early learning is low- 7.8 percent for fathers and 20.4 percent for mothers. Only 1.6 percent of the children live in households where there are at least 3 children's books accessible to the child. Three out of five children age 36-59 months are developmentally on track in at least three of the four early childhood development domains. One out of five children were left with inadequate care either by being left alone or in the care of another child.

Literacy and Education

The percentage of young people age 15-24 years who can read a short simple statement about everyday life or who attended secondary or higher education was used in the survey to estimate literacy rate. Literacy rate in Kano state is 46.1 percent for women and 72.5 percent for men age 15-24. School readiness is low as one out of 5 children in the first grade of primary school attended pre-school the previous year.

Net intake rate in primary education in Kano State is 35.4 percent. About one-third of children of school-entry age were enrolled in first grade of primary school. One out of two of primary school age children and two out of five secondary school age children are currently attending school. 94 percent of children reach final grade (primary 6) in government-owned primary school in Kano State.

Primary school completion rate is 57 percent. This implies that about three out of 5 children of primary completion age of 11 years are in the last grade of primary education. Transition rate to secondary school is 39.7 percent. Gender parity for primary school is 0.93 and 0.87 for primary and secondary school respectively.

Child protection

Thirty-five percent of children under age 5 have their birth registered under civil authority. About 54 percent of children are involved in child labour, while 44 percent are working under hazardous condition. In Kano State, about 83 percent of children age 1-14 years was subjected to at least one form of violent discipline.

The percentage of women who married before age 15 years in Nigeria is 30.8 percent. About 69.7 percent of women age 20-49 years married before age 18 years. Thirty-one percent of women had some form of female genital mutilation. Thirty-five percent women in Kano State feel that a husband/partner is justified in hitting or beating his wife in at least one of the five situations.

HIV/AIDS and Sexual Behaviour

Majority of young people in Kano State have heard of HIV/AIDS but few have correct and comprehensive knowledge of the disease. Sixteen percent of women and twenty-seven percent of men have knowledge of the two main ways of HIV prevention. About two of out of five women can identify the 3 ways of HIV transmission from mother to child. Stigma and discrimination is still high in Kano State because only about one out of ten persons have accepting attitude towards people living with HIV.

One out of two men and women age 15-49 know where to do HIV test. Although more men know where to go for test, more women actually do the test before or in the last 12 months to the survey.
Early sexual debut is higher among female age 15-24 who do not have formal education (32 percent), are never married (28 percent), live in poorest wealth quintile household (30 percent) and in rural area (20 percent). Although the proportion of young men who had sex before age 15 is very low, it occurred more in Kano Central, urban area, ever married, had secondary education and from richest wealth quintile households.

Other risk factors for HIV/AIDS are having multiple sexual partner and sex with a non-marital, non-cohabiting partner, as well as age-mixing among sexual partner; 0.6 percent of women age 15-49 had sex with more than one partner in the last 12 months. Percentage of men (3.2 percent) who were engaged in the same risky sexual behaviour is higher than female. Age mixing is very common in Kano State as 61 percent women age 15-24 reported that they had sex with a man 10 or more years older. Thirty-six percent of young men and 12 percent of young women who had sex with non-marital and non-cohabiting partners reported use of condom during the last sex in the last 12 months preceding the survey.

Access to Mass Media and Use of Information/Communication Technology

Exposure to specific media (newspapers/magazines, radio and television) at least once a week among young people is low in Kano State- 4 percent of young women and 20 percent of young men. Exposure to computer and the internet is also low- 11 percent and 27 percent of young women and men had ever used computer respectively. Also, 9 percent and 36 percent of young women and men had ever used internet respectively.

Subjective well-being

At least nine out of 10 young women and men age 15-24 years are very or somewhat happy. Young people who are happy are more than those who are satisfied with life, and those who are satisfied with life are more than those who perceived a better life. Kano Central has the highest percentage of young women and men who perceived a better life: 77.9 percent and 78.2 percent respectively.

Two third of women and three-quarter of men perceived that their lives improved during the last one year and expect that it will get better after one year.

Tobacco and Alcohol Use

Ever use of tobacco products is higher among men than women: 10.6 percent of men and 0.5 percent of women. Current use of tobacco product is higher among males in Kano South (7.4 percent) than Kano Central (3.0 percent) and Kano North (1.4 percent).

None of the women age 15-49 years had alcohol drink during the last one month or drank alcohol before the age of 15 years. Low proportion of men age 15-49 years had at least one drink of alcohol on one or more days during the last one month (0.4 percent) or drank alcohol before the age of 15 years (0.2 percent).

I. Introduction

Background

This report is based on the Kano State Multiple Indicator Cluster Survey (MICS), conducted between September 2016 and January 2017 by the National Bureau of Statistics and Kano Bureau of Statistics, with technical and financial support from UNICEF, WHO, UNFPA, Bill and Melinda Gates Foundation, Save One Million Lives and NACA.The survey provides statistically sound and internationally comparable data essential for developing evidence-based policies and programmes, and for monitoring progress toward national goals and global commitments. Among these global commitments are those emanating from the World Fit for Children Declaration and Plan of Action, the goals of the United Nations General Assembly Special Session on HIV/AIDS, the Education for All Declaration and the Sustainable Development Goals (SDGs).

The Federal Government of Nigeria has made several efforts to achieve the objectives and aspirations expressed in the Sustainable Development Goals (SDGs). The Government has also expressed strong commitment to, and declared as a matter of high priority, efforts to monitor and evaluate progress towards the attainment of the benchmarks established in the World Fit for Children goals, the UNICEF Country Programme, the Convention on the Rights of the Child (CRC) and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), among others.

In recent times, a number of development initiatives were launched to improve the economic and social life of the people. The Change agenda of the present Government and Vision 20:2020 are developed to create employment, increase and stabilise electricity power supply, improve social and economic infrastructure and provide enabling environment for local and foreign investments and to become one of the twenty leading economies in the world by the year 2020.

The National Bureau of Statistics (NBS), an agency of the Federal Government of Nigeria, with strong financial and technical support from International Development partners and donors like UNICEF, UNFPA and DFID among others has also been involved in effort to achieve the goals through provision of relevant data to monitor, evaluate and advise necessary adjustment in development programmes. The Nigeria Multiple Indicator Cluster Survey 2016-17 conducted by NBS has been designed to measure achievements of MDGs and provide a baseline for SDGs. More specifically, the report will assist Kano State Government in monitoring and evaluation of programmes and policies to improve the quality of lives of the people.

Survey Objectives

The objectives of Nigeria Multiple Indicator Cluster Survey (MICS) Nigeria 2016-17, Kano State are to:

- ✓ provide up-to-date information for assessing the situation of children and women in Kano;
- ✓ generate data for the critical assessment of the progress made in various programme areas, and to identify areas that require more attention;
- ✓ contribute to the generation of baseline data for the SDG;
- ✓ provide data needed for monitoring progress toward goals established in the post Millennium Declaration and other internationally agreed goals, as a basis for future action;

- ✓ provide disaggregated data to identify disparities among various groups to enable evidence based actions aimed at social inclusion of the most vulnerable.
- ✓ contribute to the generation of baseline data for the post-2015 agenda;
- ✓ validate data from other sources and the results of focused interventions.

II. Sample and Survey Methodology

Sample Design

As part of Nigerian MICS 2016-17, the sample for the Kano State was designed to provide estimates for a large number of indicators on the situation of children and women at the state/district/local levels, for urban and rural areas, and for 3 senatorial districts namely Kano Central, Kano North and Kano South**.** The urban and rural areas within each district were identified as the main sampling strata and the sample was selected in two stages.

Within each stratum, 120 enumeration areas were selected systematically with probability proportional to size. The larger sample size for Kano States was based on requests by the State governments to have sufficient sample to enable disaggregation of indicators at the senatorial district level. After a household listing was carried out within the selected EAs, a systematic sample of sixteen (16) households was drawn in each sample EA. The sample was stratified by district, urban and rural areas, and is not self-weighting. A more detailed description of the sample design can be found in Appendix A, Sample Design.

Questionnaires

Four sets of questionnaires were used in the MICS 2016-17:

1. Household questionnaire - used to collect basic demographic information on all the household members (usual residents) and household characteristics;

Household questionnaire modules	• Household Information Panel • List of Household Members • Education • Child Labour • Child Discipline • Household Characteristics • Insecticide Treated Nets • Water and Sanitation • Handwashing • Salt Iodization • Water Quality Test

2. Individual women questionnaire - administered in each household to all women age 15-49 years;

Individual women questionnaire modules	• Woman Information Panel • Woman's Background • Access to Mass Media and Use of Information/Communication Technology • Fertility/Birth History • Desire for Last Birth • Maternal and New-born Health • Post-natal Health Checks • Illness Symptoms • Use of Contraception • Unmet Need for Contraception • Female Genital Mutilation/Cutting • Attitudes Toward Domestic Violence • Marriage/Union • Sexual Behaviour • HIV/AIDS • Tobacco and Alcohol Use • Life Satisfaction

3. Individual men questionnaire - administered to all men age 15-49 years in every other (one in every two) households;

Individual men questionnaire modules	• Men Information Panel • Man's Background • Access to Mass Media and Use of Information/Communication Technology • Fertility • Attitudes Toward Domestic Violence • Marriage/Union • Sexual Behaviour • HIV/AIDS • Circumcision • Tobacco and Alcohol Use • Life Satisfaction

4. Under-5 children questionnaire - administered to mothers or caretakers of all children less than 5 years of age[1] living in sampled households.

[1]*The terms "children under 5", "children age 0-4 years", and "children age 0-59 months" are used interchangeably in this report.*

Under-5 children questionnaire modules	• Under Five Information Panel • Age • Birth Registration • Early Childhood Development • Breastfeeding and Dietary Intake • Immunization • Care of Illness • Anthropometry

The questionnaires are based on the MICS5 questionnaire.[2]From the MICS5 model English version, the questionnaires were pre-tested in the state in April, 2016.Based on the results of the pre-test, modifications were made to the wording of the questionnaires.

In addition to the administration of questionnaires, fieldwork teams; tested the salt used for cooking in the households for iodine content, conducted household water quality tests, observed hand washing places, and measured the weights and heights of children age under 5 years. Details and findings of these observations and measurements are provided in the respective sections of the report.

Training and Fieldwork

Training for the fieldwork was conducted for thirty-one (31) days in August 2016. Training included lectures on interviewing techniques and contents of the questionnaires. Mock interviews among trainees were also conducted to gain practice in asking questions. Towards the end of the training period, trainees spent 2 days in field practice in purposively selected residential areas in 2 communities in the state.

The data were collected by 4 teams; each team comprised of four interviewers, one driver, one measurer and a supervisor. Fieldwork began in September, 2016 and was concluded in January, 2017.

Data Processing

Using Computer Assisted Personal Interviewing (CAPI), the data were electronically captured from the field and transmitted to a central server, using CSPro CAPI application, version 5.0. Being the first time of using CAPI, the programme was pre-tested to know the effectiveness and efficiency of the device. Using CAPI to capture data helps in reducing errors associated with paper questionnaires such as omission and skipping errors.

Data were analyzed using the Statistical Package for Social Scientist (SPSS) software, version 21. Model syntax and tabulation plans developed by UNICEF MICS team were customized and used for this purpose.

[2]*The model MICS5 questionnaires can be found at* ***http://mics.unicef.org/tools#survey-design****.*

III. Sample Coverage and the Characteristics of Households and Respondents

Sample Coverage

Out of 1,920 households sampled, 1,876 were occupied and 1,867 were successfully interviewed, representing a household response rate of 99.5 percent. In the interviewed households, 2,576 women (age 15-49 years) were identified. Of these, 2,500 were successfully interviewed, yielding a response rate of 96.6 percent within the interviewed households.

The survey also sampled men (age 15-49), but only a subsample was required. A total of 1,201 men (age 15-49) were identified in 960 selected households for the men's questionnaire. The questionnaires were completed for 1,099 eligible men, which corresponds to a response rate of 91.5 percent within eligible interviewed households.

There were 2,574 children under age five listed in the household questionnaires. Questionnaires were completed for 2,559 of these children, which corresponds to a response rate of 99.4 percent within interviewed households. Overall response rates of 96.6, 91.1 and 98.9 percent were calculated for the individual interviews of women, men, and under-5s respectively. Household response rate in urban and rural areas were 99.3 and 99.6 percent respectively. However, there was no significant difference among the senatorial districts in the state.

Table 3.1 (HH.1): Results of household, women's, men's and under-5 interviews

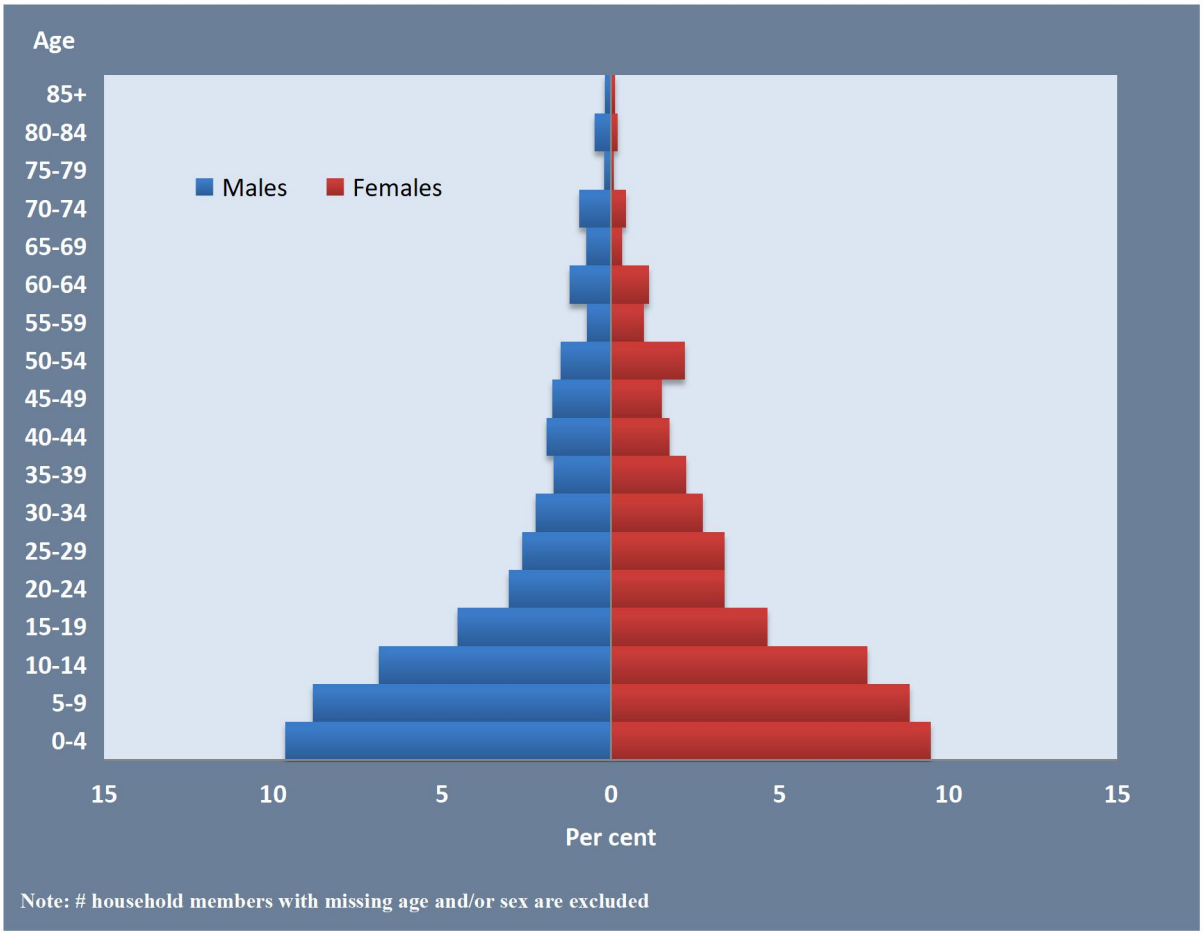
Number of households, women, men, and children under 5 by interview results, and household, women's, men's and under-5's response rates, Nigeria, 2016-17 Kano State

		Residence		Senatorial District		
	Total	Urban	Rural	Kano Central	Kano North	Kano South
Households						
Sampled	1920	448	1472	640	640	640
Actual coverage	1920	448	1472	640	640	640
Occupied	1876	434	1442	621	623	632
Interviewed	1867	431	1436	616	622	629
Household response rate	99.5	99.3	99.6	99.2	99.8	99.5
Women						
Eligible	2576	665	1911	905	739	932
Interviewed	2500	628	1872	864	711	925
Women's response rate	97.0	94.4	98.0	95.5	96.2	99.2
Women's overall response rate	96.6	93.8	97.6	94.7	96.1	98.8
Men						
Eligible	1201	359	842	464	297	440
Interviewed	1099	330	769	414	267	418
Men's response rate	91.5	91.9	91.3	89.2	89.9	95.0
Men's overall response rate	91.1	91.3	91.0	88.5	89.8	94.5
Children under 5						
Eligible	2574	522	2052	748	812	1014
Mothers/caretakers interviewed	2559	514	2045	741	806	1012
Under-5's response rate	99.4	98.5	99.7	99.1	99.3	99.8
Under-5's overall response rate	98.9	97.8	99.2	98.3	99.1	99.3

Characteristics of Households

The weighted age and sex distribution of the survey population are presented in a pyramid in Figure3.1. A weighted total of13,365 household members were listed: 6,567 were males, and 6,798 females. The population pyramid shown in figure 3.1 indicates that there is even distribution at the base up to the age group 20–24. The age structure of Kano shows a large proportion of its population is young. Fifty-one percent of the population is under the age of 15 years, thereby contributing significantly to the high dependency ratio of 122 per 100persons aged 15 to 64 years.

Figure 3.1: Age and sex distribution of household population, Nigeria, 2016-17 Kano State



Characteristics of female and male respondents 15-49 years of age and children under-5

Tables 3.2, 3.3, and 3.4 (HH.4, HH.4M and HH.5) provide information on the background characteristics of female and male respondents 15-49 years of age and of children under age 5. In all the three tables, the total numbers of weighted and unweighted observations are equal, since sample weights have been normalized (standardized). In addition to providing useful information on the background characteristics of women, men, and children under age five, the tables are also intended to show the numbers of

observations in each background category. These categories are used in the subsequent tabulations of this report.

Table 3.2 (HH.4) provides background characteristics of female respondents, age 15-49 years and includes information on senatorial district, area of residence, age, marital/union status, motherhood status, births in last two years, education[3], wealth index quintiles[4, 5] and ethnicity of the household head.

Seventy-one percent of the women reside in rural area while 29percent live in urban area of Kano State. About 3 in 4 (78.1 percent) women age 15-49 years are currently married, while 19.3 percent of them are yet to marry. About 59.9 percent had no formal or any type of education; 11.7 percent with primary education while 27.9 had secondary education and above. There is even distribution of wealth index quintiles among the women.

Table 3.3 (HH.4M) also shows background characteristics of male respondents who are between 15 and 49 years. The distribution is based on district, residence, age, marital status, fatherhood status, education, wealth index quintiles, and ethnicity of the household head. About 64 percent of the men reside in rural areas while 36 percent are in urban areas. Forty-three percent of the eligible men are currently married, while 56.4 percent have never married. Two out of 5 men had at least one child.

Among the eligible men, 32.9 percent of Kano respondents had no formal or any type of education, 13.1 percent had primary education, while 42.0 had secondary education and 12.1 percent had higher

[3] Throughout this report, unless otherwise stated, "education" refers to highest educational level ever attended by the respondent when it is used as a background variable.

[4] The wealth index is a composite indicator of wealth. To construct the wealth index, principal components analysis is performed by using information on the ownership of consumer goods, dwelling characteristics, water and sanitation, and other characteristics that are related to the household's wealth, to generate weights (factor scores) for each of the items used. First, initial factor scores are calculated for the total sample. Then, separate factor scores are calculated for households in urban and rural areas. Finally, the urban and rural factor scores are regressed on the initial factor scores to obtain the combined, final factor scores for the total sample. This is carried out to minimize the urban bias in the wealth index values.

Each household in the total sample is then assigned a wealth score based on the assets owned by that household and on the final factor scores obtained as described above. The survey household population is then ranked according to the wealth score of the household they are living in, and is finally divided into 5 equal parts (quintiles) from lowest (poorest) to highest (richest).

In Nigeria MICS 2016-17, the following assets were used in these calculations: Type of floor, roof, wall, fuel used by household for cooking, household assets, source and location of drinking water and sanitation facility.

The wealth index is assumed to capture the underlying long-term wealth through information on the household assets, and is intended to produce a ranking of households by wealth, from poorest to richest. The wealth index does not provide information on absolute poverty, current income or expenditure levels. The wealth scores calculated are applicable for only the particular data set they are based on.

Further information on the construction of the wealth index can be found in Filmer, D and Pritchett, L. 2001. *Estimating wealth effects without expenditure data – or tears: An application to educational enrolments in states of India*. Demography 38(1): 115-132; Rutstein, SO and Johnson, K. 2004. *The DHS Wealth Index*. DHS Comparative Reports No. 6; and Rutstein, SO. 2008. *The DHS Wealth Index: Approaches for Rural and Urban Areas.* DHS Working Papers No. 60.

[5]When describing survey results by wealth quintiles, appropriate terminology is used when referring to individual household members, such as for instance "women in the richest population quintile", which is used interchangeably with "women in the wealthiest survey population", "women living in households in the richest population wealth quintile", and similar.

education. The distribution of men across the wealth index quintiles shows slightly lower percentage among the poorest and second wealth quintile.

Table 3.2 (HH.4): Women's background characteristics

Percent and frequency distribution of women age 15-49 years by selected background characteristics, Nigeria, 2016-2017, Kano State

		Number of women	
	Weighted percent	Weighted	Unweighted
Total	**100.0**	**2500**	**2500**
Senatorial District			
Kano Central	43.7	1093	864
Kano North	24.1	603	711
Kano South	32.1	803	925
Residence			
Urban	29.2	731	628
Rural	70.8	1769	1872
Age(Years)			
15-19	23.4	586	563
20-24	17.2	431	442
25-29	17.3	432	430
30-34	14.2	354	367
35-39	11.4	286	281
40-44	8.9	222	225
45-49	7.6	190	192
Marital/Union status			
Currently married/in union	78.1	1949	1999
Widowed	0.9	23	18
Divorced	1.5	37	34
Separated	0.1	4	4
Never married/in union	19.3	482	441
Missing	0.1	1	1
Motherhood and recent births			
Never gave birth	23.6	589	555
Ever gave birth	76.3	1908	1943
Gave birth in last two years	43.5	1087	1119
No birth in last two years	32.9	824	827
Missing	0.1	3	2
Education			
None	16.7	419	411
Non-formal	43.2	1081	1161
Primary	11.7	294	286
Secondary	24.3	608	543
Higher	3.9	99	99
Wealth index quintile			
Poorest	17.9	447	509
Second	19.4	484	529
Middle	19.1	479	488
Fourth	21.2	530	480
Richest	22.4	560	494
Ethnicity of household head			
Hausa	97.2	2429	2429
Igbo	0.4	9	8
Yoruba	0.3	8	9
Other ethnic group	2.2	55	54

Table 3.3 (HH.4M): Men's background characteristics

Percent and frequency distribution of men age 15-49 years by selected background characteristics, Nigeria, 2016-2017, Kano State

		Number of men	
	Weighted percent	Weighted	Unweighted
Total	**100.0**	**1,099**	**1,099**
Senatorial District			
Kano Central	49.0	538	414
Kano North	20.7	228	267
Kano South	30.3	333	418
Residence			
Urban	35.8	394	330
Rural	64.2	705	769
Age			
15-19	26.4	290	287
20-24	17.5	193	188
25-29	14.8	163	164
30-34	11.6	128	129
35-39	8.8	97	100
40-44	11.8	130	127
45-49	9.0	99	104
Marital/Union status			
Currently married/in union	43.2	474	489
Widowed			
Divorced	0.3	3	4
Separated	0.1	1	1
Never married/in union	56.4	620	604
Fatherhood status			
Has at least one living child	40.6	446	459
Has no living children	59.2	651	638
Education			
None	3.0	33	34
Non-formal	29.9	329	363
Primary	13.1	144	155
Secondary	42.0	461	426
Higher	12.1	133	121
Wealth index quintile			
Poorest	15.7	172	214
Second	15.9	175	195
Middle	19.0	209	221
Fourth	21.9	241	216
Richest	27.5	303	253
Ethnicity of household head			
Hausa	97.5	1,072	1,071
Igbo	0.2	2	2
Yoruba	0.2	3	3
Other ethnic group	2.0	22	23

Total weighted and unweighted numbers of men should be equal when normalized sample weights are used.

Table 3.4 (HH. 5) presents background characteristic of children under-5 in the interviewed household based on the sex of the child, district and area, age in months, respondent type, mother's (or caretaker's) education, wealth, and ethnicity of the household head. There are more (76.5 percent) children in rural areas than urban areas (23.5 percent). The richest wealth quintile has the lowest proportion of children under-5 (17.8 percent).

Table 3.4 (HH.5): Under-5's background characteristics

Percent and frequency distribution of children under five years of age by selected characteristics, Nigeria, 2016-2017, Kano State

		Number of under-5 children	
	Weighted percent	Weighted	Unweighted
Total	**100.0**	**2,559**	**2,559**
Senatorial District			
Kano Central	37.6	962	741
Kano North	27.1	693	806
Kano South	35.3	904	1,012
Sex			
Male	50.5	1,293	1,281
Female	49.5	1,266	1,278
Residence			
Urban	23.5	603	514
Rural	76.5	1,956	2,045
Age (Months)			
0-5	10.6	271	275
6-11	9.5	243	251
12-23	21.0	538	530
24-35	18.9	485	483
36-47	20.4	522	524
48-59	19.5	500	496
Respondent to the under-5 questionnaire			
Mother	96.9	2,479	2,475
Other primary caretaker	3.1	80	84
Mother's education[a]			
None	17.7	452	432
Non-formal	50.7	1,298	1,373
Primary	13.8	352	335
Secondary	14.8	379	347
Higher	3.0	77	71
Wealth index quintile			
Poorest	20.7	530	588
Second	21.8	559	601
Middle	20.7	529	532
Fourth	19.0	487	452
Richest	17.8	455	386
Ethnicity of household head			
Hausa	98.2	2,514	2,503
Igbo	0.4	9	9
Yoruba	0.2	4	6
Other ethnic group	1.2	31	41

[a] In this table and throughout the report, mother's education refers to educational attainment of mothers as well as caretakers of children under 5, who are the respondents to the under-5 questionnaire if the mother is deceased or is living elsewhere.

Housing characteristics, asset ownership and wealth quintiles

Tables 3.5 (HH.6), Table 3.6 (HH.7) and Table 3.7 (HH.8) provide further details on household characteristics. Table 3.5 (HH.6) presents characteristics of housing in Kano which reflect a household's socioeconomic situation. It also includes information on the availability of electricity, the main materials of the flooring, roof, and exterior walls, as well as the number of rooms used for sleeping. This is disaggregated by senatorial districts and residence.

Table 3.5 (HH 6): Housing characteristics

Percent distribution of households by selected housing characteristics, according to area of residence and regions, Nigeria, 2016-2017, Kano State

		Residence		Senatorial District		
	Total	Urban	Rural	Kano Central	Kano North	Kano South
Electricity						
Yes	46.8	85.5	32.6	78.7	27.6	19.9
No	53.2	14.5	67.3	21.3	72.4	80.0
Missing/DK	0.0	0.0	0.1	0.0	0.0	0.2
Flooring						
Natural floor	47.3	16.2	58.6	30.0	56.6	62.9
Rudimentary floor	0.4	0.2	0.4	0.1	0.2	0.9
Finished floor	52.3	83.2	40.9	69.6	43.2	36.3
Other	0.1	0.4	0.0	0.2	0.0	0.0
Roof						
Natural roofing	11.4	1.6	15.1	2.2	20.7	15.8
Rudimentary roofing	6.8	7.1	6.7	4.8	11.8	5.0
Finished roofing	80.8	90.8	77.1	92.7	65.4	78.5
Other	0.9	0.4	1.1	0.4	2.1	0.6
Exterior walls						
Natural walls	17.7	1.6	23.6	6.9	15.4	35.4
Rudimentary walls	21.0	5.3	26.7	11.6	28.5	27.2
Finished walls	61.3	93.1	49.6	81.6	56.0	37.5
Other	0.0	0.0	0.0	0.0	0.1	0.0
Rooms used for sleeping						
1	19.4	17.6	20.1	15.4	22.9	21.7
2	36.4	33.1	37.7	35.4	40.8	33.6
3 or more	44.2	49.4	42.3	49.2	36.2	44.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of households	1867	500	1367	786	527	554
Mean number of persons per room used for sleeping	3.0	2.9	3.0	2.9	3.0	3.1

Access to Electricity: Forty-seven percent of households in Kano have access to electricity, (85.5 percent in urban and 32.6 percent in rural). Kano Central has more access to electricity than other senatorial districts.

Flooring material: Finished floor is the most common flooring material used in Kano households (52.3 percent), and more urban households use finished floor (83.2 percent) than rural households (40.9percent). About 47.3 percent of Kano households have natural floor, which is more common in rural areas (58.6 percent) than urban areas (16.2percent).

Roofing material: About 80 percent households in Kano used finished roofing. A higher proportion of urban households used finished roofing (90.8 percent) than rural households (77.6 percent). Only 1 out of 10 households (11.4 percent) used natural roofing, and it is more common in rural areas (15.1 percent), Kano North (20.7 percent) and Kano South (15.8 percent).

*Wall material***:** In Kano, 61.3 percent of households used finished wall while 21.0 used rudimentary wall. The proportion of households in Kano Central (81.6 percent) with finished wall is higher than other senatorial districts. Nine out of 10 households (93.1 percent) in urban areas have finished walls.

Sleeping room: The number of rooms used for sleeping in relation to the number of household members is an indication of the extent of crowding, which in turn increases the risk of contracting communicable diseases. Nineteen percent of households use one room for sleeping in Kano State, while 44.2 percent use three rooms.

Asset ownership

Table 3.6 (HH.7) shows percentage distribution of ownership of assets by households and by individual household members, as well as ownership of dwellings. The possession and use of household durable goods have multiple effects and implications. For instance, a radio or a television can bring household members information and new ideas, a refrigerator prolongs the wholesomeness of foods, and a means of transport can increase access to many services that are beyond walking distance.

About 65 percent of households in Kano have radios, 55.6 percent have mobile telephones, 25.6 percent have televisions, 4.4 percent have non-mobile telephones, and about 12 percent have refrigerators. In both urban and rural areas, only a small percentage of households possess a means of transport. More households in rural areas own a motorcycle or scooter (41.5 percent) or a bicycle (36.8percent) than urban areas. Only 8.2 percent of households in Kano own a car or truck. One in three of all households owns agricultural land (65.3 percent), while 57.1 percent have farm animals/livestock. Overall, about 23 percent of households have a bank account, with 46.8 percent and14.1 percent in urban and rural households respectively. Four in five of households in Kano owned a dwelling (88.1 percent); 95.2 percent in ruraland68.8 percent in urban areas.

The percentages of households that own a television, mobile telephone, car and bank account are higher in Kano Central than other districts. However, Kano South and Kano North have higher percentages of household that own agricultural land, as well as, animal and livestock than Kano Central.

Agricultural land and farm animal ownership are prominently in the rural areas, therefore, senatorial districts with predominantly rural areas have higher percentages.

Table 3.6 (HH.7): Household and personal assets

Percentage of households by ownership of selected household and personal assets, and percent distribution by ownership of dwelling, according to area of residence and senatorial districts, Nigeria, 2016-2017, Kano State

		Residence		Senatorial District		
	Total	Urban	Rural	Kano Central	Kano North	Kano South
Percentage of households that own a						
Radio	64.7	81.1	58.6	74.5	52.6	62.2
Television	25.6	60.0	13.0	45.9	10.2	11.3
Non-mobile telephone	4.4	6.3	3.7	6.2	4.7	1.6
Refrigerator	12.0	33.7	4.1	24.3	4.0	2.3
Percentage of households that own						
Agricultural land	65.3	19.1	82.2	38.0	85.5	84.9
Farm animals/Livestock	57.1	24.4	69.0	33.0	74.7	74.5
Percentage of households where at least one member owns or has a						
Watch	47.0	65.2	40.4	59.3	25.4	50.1
Mobile telephone	55.6	79.8	46.8	69.1	38.3	53.0
Bicycle	35.9	33.4	36.8	31.8	37.4	40.3
Motorcycle or scooter	39.4	33.9	41.5	37.5	31.4	49.8
Animal-drawn cart	6.9	2.7	8.5	4.2	11.9	6.2
Car or truck	8.2	18.4	4.4	13.9	4.2	3.8
Boat with a motor	1.5	2.1	1.3	1.7	1.2	1.6
Tricycle (Keke Napep)	2.4	5.0	1.4	4.6	0.8	0.8
Bank account	22.9	46.8	14.1	35.8	13.0	14.0
Ownership of dwelling						
Owned by a household member	88.1	68.8	95.2	76.2	95.9	97.6
Not owned	11.9	31.2	4.8	23.8	4.1	2.4
Rented	10.6	29.2	3.8	22.0	3.2	1.6
Other	1.2	2.0	1.0	1.8	0.9	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of households	1,867	500	1,367	786	527	554

Wealth quintiles

Table 3.7 (HH.8) presents wealth quintiles by residence and senatorial district of Kano State. In urban areas, about 60 percent of the population is in the richest wealth quintile, in sharp contrast to rural areas, where only 4.4 percent of the population are in the richest wealth quintile. Among senatorial districts, the wealth quintile distribution varies; forty-three percent of the population in the Kano Central are in the richest quintile, while less than 3 percent in Kano North (2.8 percent) and Kano South (1.9 percent) are in the richest quintile. In contrast, a significant proportion of households in the Kano North and Kano South (32.3 percent and 29.9 percent, respectively) are in the poorest quintile.

Table 3.7 (HH.8): Wealth quintiles

Percent distribution of the household population by wealth index quintile, according to area of residence and regions, Nigeria, 2016-2017, Kano State

	Wealth index quintile					Total	Number of household members
	Poorest	Second	Middle	Fourth	Richest		
Total	20.0	20.0	20.1	19.9	20.0	100.0	13,365
Residence							
Urban	2.9	3.0	6.1	27.9	60.1	100.0	3,748
Rural	26.7	26.6	25.5	16.8	4.4	100.0	9,617
Senatorial District							
Kano Central	5.5	9.5	14.5	27.1	43.3	100.0	5,772
Kano North	32.3	28.1	24.2	12.6	2.8	100.0	3,431
Kano South	29.9	27.7	24.4	16.0	1.9	100.0	4,162

IV. Child Mortality

One of the overarching goals of the Sustainable Development Goals (SDGs) is to ensure healthy lives and promote well-being for all at all ages. A key target of this goal is to end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births by 2030. It is important to monitor the progress of this target in Nigeria where under-five mortality, though reduced, is still relatively high.

Mortality rates presented in this chapter are calculated from information collected in the birth histories of the Women's Questionnaires. All interviewed women who had ever given birth were asked to report the number of sons and daughters who live with them, the number who live elsewhere, the number who have died and a detailed retrospective birth history in chronological order starting with the firstborn. In Nigeria 2016-17, Kano, an indirect method, known as the Brass method[6], was used. Robust estimates of the early childhood mortality rates are produced by this indirect method, and are comparable with those obtained by applying direct methods. The data used by the indirect methods are: the mean number of children ever born of women age 15 to 49 years, and the proportion of these children who are dead. The technique converts the proportions dead among children of women in each 10-14 group into probabilities of dying by taking into account the approximate length of exposure of children to the risk of dying, assuming a particular model age pattern of mortality. Based on previous information on mortality in Kano, the model life table was selected as most appropriate.

Childhood mortality rates are expressed by conventional age categories and are defined as follows:

- Neonatal mortality (NN): the probability of dying within the first month of life

- Post-neonatal mortality (PNN): the difference between infant and neonatal mortality rates

KEY FINDINGS

In Kano state:

Neonatal mortality rate is 69 per 1,000 live births.

Infant mortality rate is 112 per 1,000 live births.

Under-five mortality rate is 203 per 1,000 live births.

One out of 9 livebirths in Kano die before their first birthday.

One out of 5 live births die before their fifth birthday.

One out of 6 children who lives in the poorest household in Kano die before their fifth birthday.

All the mortality rates are consistently highest in Kano North for the five years preceding MICS 2016-17.

The chances of child surviving to fifth birthday are 64 percent and 27 percent higher in Kano Centraland Kano South respectively than Kano North.

To achieve SDG 3.2, there must be at least 70% reduction in early childhood mortality rates before 2030 across all groups.

[6]United Nations. 1983. *Manual X: Indirect Techniques for Demographic Estimation*. United Nations publication, Sales No. E.83.XIII.2; United Nations. 1990. *QFIVE, United Nations Program for Child Mortality Estimation*. United Nations Population Division; United Nations. 1990. *Step-by-step Guide to the Estimation of Child Mortality*; and International Union for the Scientific Study of Population. 2013. *Tools for Demographic Estimation*. United Nations Population Fund.

- Infant mortality ($_1q_0$): the probability of dying between birth and the first birthday
- Child mortality ($_4q_1$): the probability of dying between the first and the fifth birthdays
- Under-five mortality ($_5q_0$): the probability of dying between birth and the fifth birthday

Rates are expressed as deaths per 1,000 live births, except in the case of child mortality, which is expressed as deaths per 1,000 children surviving to age one, and post-neonatal mortality, which is the difference between infant and neonatal mortality rates.

Childhood mortality in Kano State

Table 4.1 (CM.1) presents neonatal, post-neonatal, infant, child, and under-five mortality rates for a five-year period before the survey in Kano State. Neonatal mortality is estimated at 69 per 1,000 live births, while post-neonatal mortality rate is 44 per 1,000 live births. Infant mortality rate, often used as an indicator of health status of a country, is 112 per 1,000 live births, while under-five mortality rate is 203 per 1,000 live births. This implies that in five years preceding the survey, about one out of nine live births in Kano die before their first birthday, while one out of five live births dies before their fifth birthday. Child mortality in Kano State is 103 per 1,000 children surviving to age 12 months.

Table4.1 (CM.1): Early childhood mortality rates in Kano State

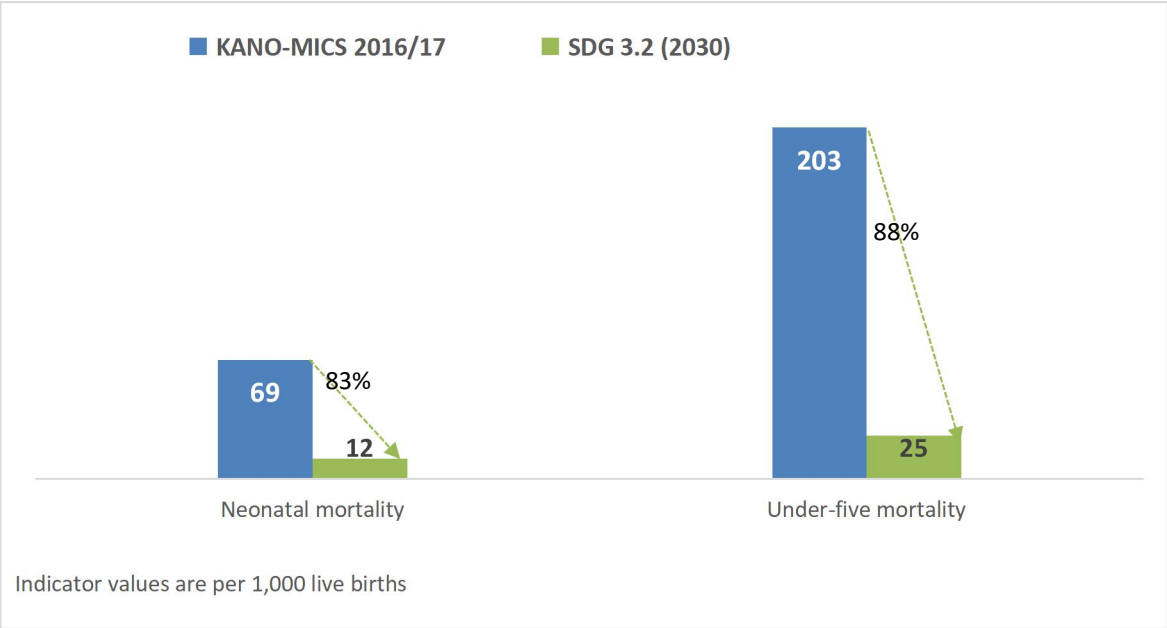
Neonatal, post-neonatal, Infant, child and under-five mortality rates for five-year period preceding the survey, Nigeria, 2016-17, Kano State

Years preceding the survey	Period	Neonatal mortality rate[1]	Post-neonatal mortality rate[2, a]	Infant mortality rate[3]	Child mortality rate[4]	Under-five mortality rate[5]
0-4	2016-17	69	44	112	103	203

[1] MICS indicator 1.1 - Neonatal mortality rate[2] MICS indicator 1.3 - Post-neonatal mortality rate
[3] MICS indicator 1.2; SDG indicator 3.2 - Infant mortality rate[4] MICS indicator 1.4 - Child mortality rate
[5] MICS indicator 1.5; MDG indicator 4.1 - Under-five mortality rate
[a]Post-neonatal mortality rates are computed as the difference between the infant and neonatal mortality rates

Figure 4.2 presents the required percentage reduction projected from Kano-MICS 2016-17, in neonatal and under-5 mortality rates to achieve SDG 3.2 target by 2030. Kano State requires 83 percent reduction from her current neonatal mortality rates to achieve the SDG 3.2 target of 12 per 1,000 live births within a period of 13 years. Likewise, she requires 88 percent reduction in current under-five mortality to meet the SDG target of 25 per 1,000 live births.

Figure 4.2: Projected reduction in early childhood mortality rates in Kano State to meet SDG 3.2 by 2030



Early childhood mortality rates by socioeconomic characteristics in Kano State

Estimates of early childhood mortality by socioeconomic characteristics in Kano State are presented in Tables 4.2 (CM.2) and 4.3. The socio-economic variations on early childhood mortality were computed for senatorial districts, residence, maternal education and wealth quintile. The mortality rates, except for neonatal mortality, were lower in Kano Central than other senatorial districts. All the mortality rates are consistently highest in Kano North for the five years preceding MICS 2016-17. The chances of a child surviving to the fifth birthday are 64 percent and 27 percent higher in Kano Central and Kano South respectively than in Kano North. Urban-rural mortality differential is also pronounced across early childhood age groups. As expected, mortality rates in urban areas are lower than rural areas in Kano. Infant mortality rate is 122 per 1,000 live births in the rural areas, which is 54 percent higher than infant mortality rate of 79 per 1,000 live births in urban areas.

Also, children survival to the fifth birthday is 110 percent higher in urban than rural areas. Maternal education is expected to have an inverse relationship with early childhood mortality. The Nigeria 2016-17, Kano result follows this pattern as neonatal, post-neonatal, infant, child and under-five mortality rates decreases with the higher level of maternal education in the state. This is more evident on child mortality rate, where women with non-formal education have a rate of 121 per 1,000 live births, while those with higher education have 32 per 1,000 live births. Early childhood mortality rates decrease as household wealth index increases. Infant mortality among the poorest households is higher (105 per 1,000 live births) than in the richest (65 per 1,000 live births) households. One out of 4 children under-five years, who lives in the poorest household in Kano will die before their fifth birthday, compared to one out of 12 in the richest quintile households.

Table 4.2 (CM.2): Early childhood mortality rates by socioeconomic characteristics

Neonatal, post-neonatal, Infant, child and under-five mortality rates for the five-year period preceding the survey, by socioeconomic characteristics, Nigeria, 2016-17 Kano State

	Neonatal mortality rate[1]	Post-neonatal mortality rate[2, a]	Infant mortality rate[3]	Child mortality rate[4]	Under-five mortality rate[5]
Total	**69**	**44**	**112**	**103**	**203**
Senatorial District					
Kano Central	66	31	97	69	159
Kano North	81	62	143	137	260
Kano South	62	42	104	113	205
Residence					
Urban	54	25	79	34	110
Rural	73	49	122	124	231
Mother's education					
None	(95)	56	151	109	243
Non-formal	56	51	107	121	215
Primary	(93)	40	133	108	227
Secondary	(67)	14	80	32	110
Higher	(*)	(*)	(*)	(*)	(*)
Wealth index quintile					
Poorest	53	52	105	141	231
Second	80	46	127	137	246
Middle	78	58	136	123	242
Fourth	72	46	119	72	182
Richest	(57)	(8)	65	22	86

[1] MICS indicator 1.1 - Neonatal mortality rate[2] MICS indicator 1.3 - Post-neonatal mortality rate
[3] MICS indicator 1.2; SDG indicator 3.2 - Infant mortality rate[4] MICS indicator 1.4 - Child mortality rate
[5] MICS indicator 1.5; MDG indicator 4.1 - Under-five mortality rate
[a]Post-neonatal mortality rates are computed as the difference between the infant and neonatal mortality rates
( ) Total number of live births (exposure) are based on 250-499 unweighted cases(*) The result did not pass reliability test

Table 4.3 shows a projected percentage increase or reduction in under-5 mortality rate that Kano State will need to achieve the specific SDG 3.2 target across different socio-economic groups.

Table 4.3: Projected analysis of under-five mortality rates by socio-economic characteristics for Kano State

Under-five mortality rate[5]by socio-economic characteristics, Nigeria, MICS2016-17 and SDG3.2 Kano State

		Senatorial Districts			Residence		Mother's education				Wealth Index quintiles				
	Total	Kano Central	Kano North	Kano South	Urban	Rural	None	Non formal	Primary	Secondary	Poorest	Second	Middle	Fourth	Richest
MICS 2016-17	**203**	159	260	205	110	231	243	215	227	110	231	246	242	182	86
Projected decline	88%	84%	90%	88%	77%	89%	90%	88%	89%	77%	89%	90%	90%	86%	71%
SDG3.2 (2030)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

To achieve SDG 3.2, the percentage reduction in the current under-five mortality rate must be more than 70 percent across all groups. Specifically, among the senatorial districts, there must be at least 90 percent reduction in Kano North, 88 percent in Kano South and 84 percent in Kano Central. Also, there

must be more than 85 percent reduction in rural areas, among the non-educated mothers with primary education or less, and in households lower than the richest wealth quintile.

Early childhood mortality rates by demographic characteristics

Estimates of early childhood mortality in Kano by demographic characteristics of mother and child are presented in Tables 4.4 (CM. 3). The demographic differentials were computed for sex of the child, mother's age at first birth, birth order and previous birth interval. Neonatal, post-neonatal, infant and under-five mortality rates were lower for female than male newborn within five years preceding Nigeria 2016-17, Kano.

Children whose mothers are between ages 20 and 24 at birth, survive infancy and childhood more than other age groups in Kano State. Infants of the second and third birth order had the lowest mortality rates in all the indices except neonatal mortality; infant mortality rate of 169 per 1000 live births for first birth order and 128 per 1000 live births for seventh birth order, are higher than 90 per 1000 live births for birth order 2 and 3. The pattern is similar for under-five mortality and birth order.

Birth interval is an important factor in predicting birth outcome for both mother and child. There is an inverse relationship between birth intervals in years and child's death, as it is expected that births spacing less than 2 years have higher mortality outcome than longer years of birth spacing. The shorter birth spacing has higher mortality across all early age groups.

Table 4.4 (CM.3): Early childhood mortality rates by demographic characteristics in Kano State

Neonatal, post-neonatal, Infant, child and under-five mortality rates for the five-year period preceding the survey, by demographic characteristics, Nigeria, 2016-17, Kano State

	Neonatal mortality rate[1]	Post-neonatal mortality rate[2,a]	Infant mortality rate[3]	Child mortality rate[4]	Under-five mortality rate[5]
Total	**69**	**44**	**112**	**103**	**203**
Sex of child					
Male	83	47	130	100	217
Female	53	40	93	105	188
Mother's age at birth					
Less than 20	99	44	143	103	232
20-34	60	42	102	98	190
35-49	68	50	118	121	225
Birth order					
1	(119)	50	169	95	248
2-3	54	36	90	96	178
4-6	45	49	94	110	194
7+	87	41	128	104	218
Previous birth interval[b]					
< 2 years	92	60	152	135	267
2 years	57	42	99	90	180
3 years	36	40	76	104	173
4+ years	(34)	12	45	57	100

[1] MICS indicator 1.1 - Neonatal mortality rate[2] MICS indicator 1.3 - Post-neonatal mortality rate

[3] MICS indicator 1.2; MDG indicator 4.2 - Infant mortality rate[4] MICS indicator 1.4 - Child mortality rate

[5] MICS indicator 1.5; MDG indicator 4.1 - Under-five mortality rate

[a] *Post-neonatal mortality rates are computed as the difference between the infant and neonatal mortality rates*[b] Excludes first order births

V. Nutrition

Nutritional Status

The nutritional status of children under the age of 5 years is a reflection of their overall health. Children are considered well-nourished when they have access to adequate food supply, are not exposed to repeated illness, and are well cared for, to allow them reach their growth potential. Under nutrition is associated with more than half of all child deaths worldwide. Undernourished children are more likely to die from common childhood ailments, and for those who survive, have recurring sicknesses and faltering growth. Three-quarters of children who die from causes related to malnutrition were only mildly or moderately malnourished, showing no outward sign of their vulnerability.

In a well-nourished population, there is a reference distribution of height and weight for children under age five. Under-nourishment in a population can be gauged by comparing children to a reference population. The reference population used in this report is based on the WHO growth standards.[7] Each of the three nutritional status indicators – weight-for-age, height-for-age, and weight-for-height - can be expressed in standard deviation units (z-scores) from the median of the reference population.

Weight-for-age is a measure of both acute and chronic malnutrition. Children whose weight-for-age is more than two standard deviations below the median of the reference population are considered *moderately and severely underweight,* while those whose weight-for-age is more than three standard deviations below the median are classified as *severely underweight.*

Height-for-age is a measure of linear growth. Children whose height-for-age is more than two standard deviations below the median of the reference population are considered short for their age and are classified as

KEY FINDINGS

Kano Prevalence- Public health significance:
40% Underweight - very high
58% Stunting - very high
11% Wasting - serious
2% Overweight

Two out of 5 children under five years in Kano have acute, chronic or both malnutrition

Three out of 5 children under five years in Kano are stunted; 1 out of 3 are severely stunted.

Prevalence rate of wasting in Kano is 10.8 percent and is of serious public health concern; 2.8 percent severe wasting is also high.

Percentage of overweight children is 1.7
Kano North is 3.0 percent
Kano Central 1.2 percent
Kano South 1.3 percent

Three out of 10 mothers in Kano initiated breastfeeding early as recommended by WHO; three out of 4 initiated breastfeeding within 24 hour of birth delivery

19 percent exclusive breastfeeding rate in Kano is yet to meet the WHO Global nutrition target of 50 percent

One of three infants are predominantly breastfed.

Two of five children age 6-23 months (40.7 percent) were fed the minimum number of times, and only 32.0 percent of them received the minimum dietary diversity

Iodized salt containing 15 ppm or more are consumed in 44% of sampled household.

One out of 13 babies were weighed at birth. 19 percent of these babies are classified as

[7] **http://www.who.int/childgrowth/standards/technical_report**

moderately and severely stunted. Those whose height-for-age is more than three standard deviations below the median are classified as *severely stunted.* Stunting is a reflection of chronic malnutrition as a result of failure to receive adequate nutrition over a long period and recurrent or chronic illness.

Weight-for-height can be used to assess wasting and overweight status. Children whose *weight-for-height* is more than two standard deviations below the median of the reference population are classified as *moderately and severely wasted,* while those who fall more than three standard deviations below the median are classified as *severely wasted*. Wasting is usually the result of a recent nutritional deficiency. The indicator of wasting may exhibit significant seasonal shifts associated with changes in the availability of food or disease prevalence. Children whose weight-for-height is more than two standard deviations above the median reference population are classified as overweight or obese.

In MICS, weights and heights of all children under 5 years of age were measured using the anthropometric equipment recommended by UNICEF.[8] Findings in this section are based on the results of these measurements. Table 5.1 (NU.2) present the prevalence of malnutrition in terms of under nutrition (underweight, stunting and wasting) and overweight in Kano State. The result also shows the pattern of malnutrition among different social groups based on the anthropometric measurements that were taken during fieldwork. Additionally, Figure 5.1 presents nutritional status of children under five years of age. The result will also be interpreted based on World Health Organisation standard prevalence cut-off values for public health significance[9] as follows:

Underweight	*Stunting*	*Wasting*
< 10%: Low prevalence	<20%: Low prevalence	<5%: Acceptable
10-19%: Medium prevalence	20-29%: Medium prevalence	5-9%: Poor
20-29%: High prevalence	30-39%: High prevalence	10-14%: Serious
≥ 30%: Very high prevalence	≥ 40%: Very high prevalence	≥ 15%: Critical

Weight for age (underweight)

About forty percent of under-5 children are moderately and severely underweight, while 16.1 percent are severely underweight. This implies that at least two of out of 5 children under five years in Kano have acute, chronic or both malnutrition and this prevalence is very high.

The prevalence of this malnutrition is low for children whose mothers have higher education and wealth index in Kano State. Specifically, children with the following characteristics are very high above the state average of 40 percent prevalence rate: Kano North, male children, rural residence, age 12-35 months, mothers with none or non-formal education, and poor and middle wealth quintile household. This pattern is the same among social and demographic groups in Kano State for cases of severe underweight, which is chronic malnutrition with its consequence mortality risk.

Height for age

Prevalence of stunting is very high, as three out of 5 children under five years in Kano State are stunted, while one out of 3 is severely stunted. The percentage of children who suffered growth retardation from long term nutritional deprivation, stunting, is 58. More than half of this proportion is severely stunted

[8] See MICS Supply Procurement Instructions: **http://www.childinfo.org/mics5_planning.html**
[9] http://www.who.int/childgrowth/publications/physical_status/en/

(32.8 percent). The prevalence is specifically high among children: age 18-59 months, male children, rural residence, Kano North and Kano South, mothers with no education and primary education, and poor and middle wealth quintile households. This variation in prevalence of severe stunting among different social and demographic groups has the same pattern as that of stunting in Kano State. Severe stunting prevalence rate is however highest among children age 24 - 35 months.

Table 5.1 (NU.2): Nutritional status of children

Percentage of children under age 5 by nutritional status according to three anthropometric indices: weight for age, height for age, and weight for height, Nigeria, 2016-17 Kano State

	Weight for age		Height for age		Weight for height		Overweight
	Underweight		Stunted		Wasted		
	Percent below		Percent below		Percent below		Percent above
	- 2 SD[1]	- 3 SD[2]	- 2 SD[3]	- 3 SD[4]	+ 2 SD[7]	- 3 SD[6]	+ 2 SD[7]
Total	**40.3**	**16.1**	**58.0**	**32.8**	**10.8**	**2.8**	**1.7**
Senatorial districts							
Kano Central	35.5	12.1	47.8	25.5	12.2	3.6	1.2
Kano North	49.3	23.8	68.2	42.6	9.6	2.0	3.0
Kano South	38.7	14.6	61.2	33.3	10.1	2.6	1.3
Sex							
Male	42.2	18.0	60.8	35.7	12.6	3.8	1.7
Female	38.4	14.2	55.1	29.9	8.9	1.8	1.8
Residence							
Urban	31.5	10.1	41.7	21.6	12.2	2.8	1.3
Rural	43.1	18.0	63.0	36.3	10.3	2.8	1.9
Age (months)							
0-5	27.4	6.8	26.4	8.8	11.0	3.6	3.9
6-11	39.0	12.7	40.9	14.6	17.9	4.7	0.7
12-17	45.0	21.8	54.4	31.5	19.6	3.9	0.3
18-23	50.9	26.8	67.9	41.4	20.1	5.5	0.4
24-35	48.8	21.8	72.5	44.8	7.6	1.7	0.9
36-47	39.3	15.3	67.2	41.8	5.9	2.8	2.9
48-59	33.2	9.8	58.2	31.3	5.6	.6	2.2
Mother's education*							
None	49.3	21.5	64.1	40.6	14.4	3.8	1.8
Non-formal	42.5	16.9	63.7	35.4	10.3	3.0	1.9
Primary	39.8	16.1	59.4	34.2	8.9	2.1	1.8
Secondary	28.6	9.3	38.9	18.9	9.3	1.7	1.3
Higher	10.2	5.6	12.6	5.2	14.1	1.3	0.9
Wealth index quintile							
Poorest	47.8	21.0	70.7	43.8	9.9	3.3	2.1
Second	47.2	20.7	65.1	40.1	12.8	3.9	2.2
Middle	41.8	18.5	63.3	34.5	9.2	2.1	1.8
Fourth	36.2	11.3	53.8	27.4	10.9	1.9	1.6
Richest	25.9	7.3	33.2	15.5	10.9	2.7	0.8

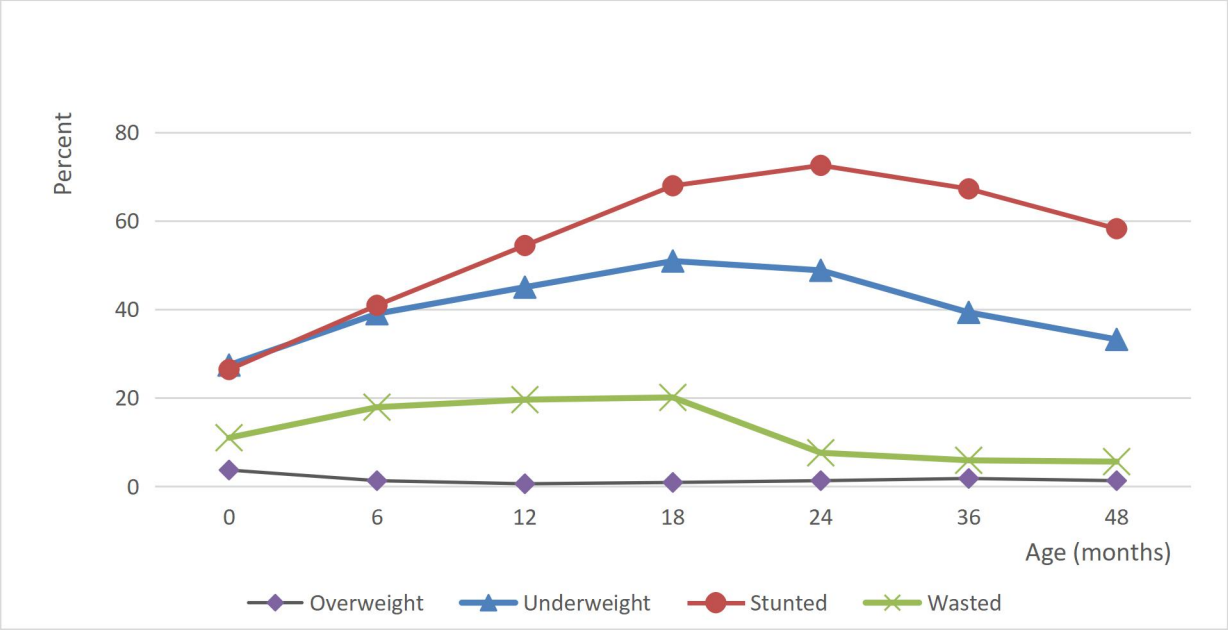
[1] MICS indicator 2.1a - Underweight prevalence (moderate and severe)[2] MICS indicator 2.1b - Underweight prevalence (severe)
[3] MICS indicator 2.2a - Stunting prevalence (moderate and severe)[4] MICS indicator 2.2b - Stunting prevalence (severe)
[5] MICS indicator 2.3a - Wasting prevalence (moderate and severe)[6] MICS indicator 2.3b - Wasting prevalence (severe)
[7] MICS indicator 2.4 - Overweight prevalence

Weight for height (wasting)

A prevalence rate of 10.8 percent in Kano State is of serious public health concern, as wasting increases children susceptibility to infectious diseases and risk of mortality. Likewise, a 2.8 percent prevalence of severe wasting or being too thin for height among under-five children in Kano is high. The prevalence of wasting is particularly critical for children age 6-35 months with a range of values from 18 percent to 20

percent. Wasting is also higher among male children, urban residence, Kano Central and Kano South, children of mothers with none and non-formal education.

Figure 5.1 (NU.2): Underweight, stunted, wasted and overweight children under age 5 (moderate and severe), Nigeria, 2016-17 Kano State



Overweight

The prevalence of overweight among under-five children is 1.7 percent. Infants age 0 - 5 months have a higher percentage of overweight children than other age categories. The proportion of overweight children in Kano North (3.0) is twice that of Kano Central (1.2) and Kano South (1.3). Overweight percentage reduces with higher wealth quintile and higher education in Kano State. There are slightly more overweight children in rural than urban areas.

Breastfeeding and Infant and Young Child Feeding

Proper feeding of infants and young children can increase their chances of survival and promote optimal growth and development, especially in the critical window of birth to 2 years of age. Breastfeeding for the first few years of life protects children from infection, provides an ideal source of nutrients, and is economical and safe. However, many mothers do not initiate breastfeeding early enough, do not breastfeed exclusively for the recommended 6 months or stop breastfeeding too soon. There are often pressures to switch to infant formula, which can contribute to growth faltering and micronutrient malnutrition and unsafe if hygienic conditions, including safe drinking water, are not readily available.

Studies have shown that, in addition to continued breastfeeding, consumption of appropriate, adequate and safe solid, semi-solid and soft foods from the age of 6 months onwards leads to better health and growth outcomes, with the potential to reduce stunting during the first two years of life.[10]

UNICEF and WHO recommend that infants be breastfed within one hour of birth, breastfed exclusively for the first six months of life and continue to be breastfed up to 2 years of age and beyond.[11] Starting at 6 months, breastfeeding should be combined with safe, age-appropriate feeding of solid, semi-solid and soft foods.[12]A summary of key guiding principles[13, 14] for feeding of 6-23 month old is provided in the table below along with proximate measures for these guidelines collected in this survey.

The guiding principles for which proximate measures and indicators exist are:

(i) continued breastfeeding;
(ii) appropriate frequency of meals (but not energy density); and
(iii) the appropriate nutrient content of food.

Feeding frequency is used as a proxy for energy intake, requiring children to receive a minimum number of meals/snacks (and milk feeds for non-breastfed children) for their age, while dietary diversity is used to ascertain the adequacy of the nutrient content of the food (not including iron) consumed. For dietary diversity, seven food groups were created for which a child consuming at least four of these is considered to have a better quality diet. In most populations, consumption of at least four food groups means that the child has a high likelihood of consuming at least one animal-source food and at least one fruit or vegetable, in addition to a staple food (grain, root or tuber).[15]

These three dimensions of child feeding are combined into an assessment of the children who received appropriate feeding, using the indicator of "minimum acceptable diet". To have a minimum acceptable diet in the previous day, a child must have received:

(i) the appropriate number of meals/snacks/milk feeds;
(ii) food items from at least 4 food groups; and
(iii) breast milk or at least 2 milk feeds (for non-breastfed children).

Initiation of breastfeeding

Table 5.2 (NU.3) show mothers' reports of whether their last-born child, born in the last two years preceding the survey, were ever breastfed, breastfed within one hour and one day of birth or received a prelacteal feed in Kano State.

[10]Bhuta, Z. et al. 2013. *Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost?* The Lancet June 6, 2013.
[11]WHO. 2003. *Implementing the Global Strategy for Infant and Young Child Feeding*. Meeting Report Geneva, 3-5 February, 2003.
[12]WHO. 2003. *Global Strategy for Infant and Young Child Feeding*.
[13] PAHO. 2003.*Guiding principles for complementary feeding of the breastfed child*.
[14]WHO. 2005.*Guiding principles for feeding non-breastfed children 6-24 months of age*.
[15]WHO. 2008. ***Indicators for assessing infant and young child feeding practices.*** *Part 1: Definitions*.

The practice of breastfeeding is high in Kano with 90 percent of children ever breastfed. However, only 30.8 percent of babies were breastfed within one hour of birth despite the fact that this is a very important step in the management of lactation and establishment of a physical and emotional relationship between the baby and the mother. This implies that only three out of 10 mothers (30.8 percent) initiated breastfeeding early as recommended by WHO, while three out of 4(75.4 percent) initiated breastfeeding within one day of birth. Fifty-one percent of live last-born within two years preceding the survey had received prelacteal feed, which is any food given to newborn before initiating breastmilk.

Table 5.2 (NU.3): Initiation of breastfeeding

Percentage of last live-born children in the last two years who were ever breastfed, breastfed within one hour of birth, and within one day of birth, and percentage who received a prelacteal feed, Nigeria, 2016-17 Kano State

	Percentage who were ever breastfed[1]	Percentage who were first breastfed:		Percentage who received a prelacteal feed	Number of last live-born children in the last two years
		Within one hour of birth[2]	Within one day of birth		
Total	**90.2**	**30.8**	**75.4**	**51.3**	**1087**
Senatorial District					
Kano Central	91.7	35.6	81.7	48.1	393
Kano North	88.6	20.1	71.6	62.6	314
Kano South	89.9	34.7	72.1	45.1	380
Residence					
Urban	92.0	36.2	82.8	53.1	239
Rural	89.6	29.3	73.3	50.8	847
Months since last birth					
0-11 months	91.2	32.6	75.9	52.8	527
12-23 months	89.3	29.1	74.9	49.8	560
Assistance at delivery					
Skilled attendant	90.7	33.7	82.5	51.6	215
Traditional birth attendant	94.4	21.3	75.7	63.0	255
Other	84.7	35.1	67.8	45.9	367
Place of delivery					
Home	89.7	29.5	73.8	50.9	913
Health facility	93.2	38.2	85.5	52.7	170
Public	92.5	40.3	86.3	52.0	136
Private	95.9	30.1	82.4	55.5	34
Mother's education					
None	92.1	28.0	76.0	56.5	196
Non-formal	89.7	30.4	71.6	48.1	533
Primary	85.9	30.0	76.3	55.6	165
Secondary	94.3	35.4	84.8	51.0	162
Higher	(87.3)	(36.5)	(84.1)	(50.6)	30
Wealth index quintile					
Poorest	92.4	31.3	69.5	47.7	234
Second	86.6	27.6	70.3	52.2	228
Middle	88.6	24.7	73.6	54.2	237
Fourth	90.8	34.5	81.4	51.5	218
Richest	93.4	38.3	85.4	50.5	169

[1] MICS indicator 2.5 - Children ever breastfed

[2] MICS indicator 2.6 - Early initiation of breastfeeding

The onset of breastfeeding varied with place of delivery and the person who assisted the delivery. A higher proportion of children delivered in public health facilities (40.3 percent) were breastfed within the hour or one day of birth than those delivered in a private sector health facility (30.1 percent). Similarly, a higher proportion of babies delivered by a skilled birth attendant were breastfed within one

day (82.5 percent) compared to those delivered by a traditional birth attendant (75.7 percent). The practice of prelacteal feeding is high in Kano North, among home birth deliveries, among mothers with no education and household of middle wealth quintile.

Kano Central has the highest proportion of newborn who were breastfed within one hour of birth (35.6 percent), as well as, within a day of birth (81.7 percent). While the Kano North senatorial district rank lowest on percentage of newborn who were breastfed within one hour of delivery (20.1 percent) and within one day of birth (71.6 percent). Although urban areas perform better in the initiation of breastfeeding than rural areas, it has more cases of prelacteal feeding

Exclusive Breastfeeding

Table 5.3 (NU.4) presents percentage of children exclusively and predominantly breastfed and continued breastfeeding at 1 and 2 years of age. Kano-Nigeria MICS 2016-17 estimate of 18.6 percent exclusive breastfeeding is yet to meet the WHO Global nutrition target of 50 percent by 2025. Exclusive breastfeeding is when infants age less than 6 months are fed on breast milk only, allowing for vitamins, mineral supplements and medicine to be administered as prescribed.

Table 5.3 (NU.4): Breastfeeding

Percentage of living children according to breastfeeding status at selected age groups, Nigeria, 2016-17 Kano State

	Children age 0-5 months			Children age 12-15 months		Children age 20-23 months	
	Percent exclusively breastfed[1]	Percent predominantly breastfed[2]	Number of children	Percent breastfed (Continued breastfeeding at 1 year)[3]	Number of children	Percent breastfed (Continued breastfeeding at 2 years)[4]	Number of children
Total	**18.6**	**65.1**	**271**	**94.9**	**219**	**47.0**	**131**
Senatorial District							
Kano Central	20.9	63.2	101	95.8	83	(43.3)	55
Kano North	6.2	58.5	78	95.8	53	(56.2)	39
Kano South	26.6	72.7	93	93.5	84	(42.6)	36
Sex							
Male	19.7	68.8	135	97.0	107	52.0	70
Female	17.6	61.5	137	92.9	112	41.3	61
Residence							
Urban	16.7	45.8	64	(95.4)	47	(32.6)	37
Rural	19.3	71.1	207	94.8	173	52.6	94
Mother's education							
None	(29.1)	(70.8)	45	(96.1)	39	(*)	18
Non-formal	17.1	68.4	126	93.7	107	52.0	56
Primary	(13.6)	(63.1)	46	(93.1)	31	(*)	24
Secondary	(19.4)	(61.5)	44	(97.7)	37	(*)	24
Higher	(*)	(*)	10	(*)	5	(*)	9
Wealth index quintile							
Poorest	31.7	75.3	55	96.3	48	(*)	23
Second	11.0	67.2	61	(95.7)	44	(*)	25
Middle	12.1	68.2	57	(88.9)	49	(51.6)	24
Fourth	15.4	57.3	54	(95.8)	51	(*)	23
Richest	(25.1)	(54.9)	45	(100.0)	28	(25.0)	36

[1] MICS indicator 2.7 - Exclusive breastfeeding under 6 months[2] MICS indicator 2.8 - Predominant breastfeeding under 6 month
[3] MICS indicator 2.9 - Continued breastfeeding at 1 year[4] MICS indicator 2.10 - Continued breastfeeding at 2 years
( ) Sample data are based on 25-49 unweighted cases *(*) Sample data are fewer than 25 unweighted cases*

The rate of exclusive breastfeeding is highest for Kano South (26.6 percent), followed by Kano Central (20.9 percent) and lowest in Kano North (6.2 percent). Also, variations on exclusive breastfeeding exist among different groups: mothers who live in rural areas, with no education and who are in the poorest wealth quintile household, perform better than others.

Predominant Breastfeeding

Predominant breastfeeding is when infants age less than 6 months are given plain water and non-milk liquids in addition to breast milk. Percentage of predominantly breastfed infants age less than 6 months is about three times that of exclusively breastfed infants in Kano State. About one of three infants (65.1 percent) are predominantly breastfed, while just one out of 5 (18.6 percent) are exclusively breastfed. In comparison with other groups, the practice of predominant breastfeeding is higher in Kano South, rural areas, mothers with no education and households in the poorest wealth quintile.

Age-appropriate breastfeeding

Table 5.4 (NU.6) presents information on age appropriate breastfeeding in Kano State. For infants age 0-5 months, exclusive breastfeeding was considered as age-appropriate feeding while children age 6-23 months were considered to be appropriately fed if they were receiving breast milk and solid, semi-solid or soft food. About three of five children (62.8 percent) age 0-23 months were appropriately breastfed for age in Kano State. Children who are from Kano South, poor household, rural areas and have mothers with no formal education were more appropriately breastfed than other groups in Kano State.

Table 5.4 (NU.6): Age-appropriate breastfeeding

Percentage of children age 0-23 months who were appropriately breastfed during the previous day, Nigeria, 2016-17
Kano State

	Children age 0-5 months	Children age 6-23 months	Children age 0-23 months
	Percent exclusively breastfed[1]	Percent currently breastfeeding and receiving solid, semi-solid or soft foods	Percent appropriately breastfed[2]
Total	**18.6**	**78.1**	**62.8**
Senatorial districts			
Kano Central	20.9	77.1	62.5
Kano North	6.2	78.2	59.2
Kano South	26.6	79.0	65.9
Sex			
Male	19.7	77.3	62.5
Female	17.6	78.9	63.0
Residence			
Urban	16.7	74.0	58.8
Rural	19.3	79.3	64.0
Mother's education			
None	(29.1)	83.2	71.0
Non-formal	17.1	78.4	63.0
Primary	(13.6)	78.5	59.7
Secondary	(19.4)	74.6	59.6
Higher	(*)	(*)	(39.7)
Wealth index quintile			
Poorest	31.7	79.3	67.6
Second	11.0	80.7	62.1
Middle	12.1	78.7	61.9
Fourth	15.4	81.7	64.4
Richest	(25.1)	67.7	56.5

[1] MICS indicator 2.7 - Exclusive breastfeeding under 6 months
[2] MICS indicator 2.12 - Age-appropriate breastfeeding

( ) Sample data are based on 25-49 unweighted cases (*) Sample data are fewer than 25 unweighted cases

Infant and Young Child Feeding

Estimates of Infant and Young Child Feeding (IYCF) indicators in Table 5.5 (NU.8) are based on the mother's report of consumption of food and fluids prior to being interviewed. Data are subject to a number of limitations: respondent's inability to provide a full report on the child's liquid and food intake due to recall errors as well as lack of knowledge in cases where the child was fed by other individuals.

The critical "window of opportunity" that exists between conception and the child's second year of life paves way for a strong, healthy and productive future. Optimal nutrition (exclusive breastfeeding and minimum acceptable diet) from 0-23 months has a lasting impact on a child's growth, development and future productivity. Absence of proper nutrition during this critical period exposes the child to frequent and severe childhood illnesses, stunted growth, developmental delays and death.

Overall, about two in five children ages 6-23 months (40.7 percent) were fed the minimum number of times, and only 32.0 percent of them received the minimum dietary diversity, that is, foods from at least 4 food groups. Although Kano South has the highest proportion of children that achieved minimum meal frequency, Kano Central has the highest estimate for minimum dietary diversity. Assessment using the indicator of minimum acceptable diet shows that only 15.0 percent of children ages 6-23 months were benefitting from a diet sufficient in both diversity and frequency. By senatorial districts, diet sufficiency in both diversity and frequency was highest in Kano South (17.6 percent) and lowest in Kano North (13.3 percent). It also increased with mother's education and wealth quintile.

Table 5.5 (NU.8): Infant and young child feeding (IYCF) practices

Percentage of children age 6-23 months who received appropriate liquids and solid, semi-solid, or soft foods the minimum number of times or more during the previous day, by breastfeeding status, Nigeria, 2016-17 Kano State

	Currently breastfeeding				Currently not breastfeeding					All			
	Percent of children who received:				Percent of children who received:					Percent of children who received:			
	Minimum dietary diversity[a]	Minimum meal frequency[b]	Minimum acceptable diet[1, c]	Number of children age 6-23 months	Minimum dietary diversity[a]	Minimum meal frequency[b]	Minimum acceptable diet[2, c]	At least 2 milk feeds[3]	Number of children age 6-23 months	Minimum dietary diversity[4, a]	Minimum meal frequency[5, b]	Minimum acceptable diet[c]	Number of children age 6-23 months
Total	**30.3**	**40.5**	**14.6**	**664**	**39.2**	**42.3**	**17.1**	**34.2**	**94**	**32.0**	**40.7**	**15.0**	**781**
Senatorial District													
Kano Central	34.4	35.8	11.0	234	(49.1)	(57.9)	(27.7)	(49.8)	45	36.7	39.4	13.7	286
Kano North	28.5	35.8	13.8	190	(37.4)	(33.6)	(9.4)	(24.8)	22	29.6	35.6	13.3	218
Kano South	27.7	48.8	18.9	240	(23.8)	(23.0)	(5.6)	(15.5)	27	28.9	46.3	17.6	276
Sex													
Male	30.4	36.0	15.1	331	(35.6)	(39.3)	(14.2)	(32.9)	49	31.1	36.5	15.0	389
Female	30.1	45.0	14.2	333	(43.0)	(45.4)	(20.2)	(35.6)	46	32.8	45.0	14.9	391
Age (Months)													
6-8	15.6	50.9	9.0	114	(*)	(*)	(*)	(*)	3	16.4	49.8	8.8	119
9-11	32.0	29.1	10.6	122	0.0	0.0	0.0	0.0	0	32.0	29.1	10.6	124
12-17	31.6	42.5	16.6	304	(*)	(*)	(*)	(*)	19	32.3	42.3	16.4	329
18-23	38.7	37.2	19.1	124	40.9	44.7	18.6	37.9	73	40.2	40.0	18.9	209
Residence													
Urban	38.8	33.6	12.4	140	(66.1)	(70.2)	(41.3)	(66.1)	32	43.6	40.4	17.7	178
Rural	28.0	42.4	15.3	525	25.4	28.1	4.8	17.9	63	28.5	40.8	14.1	603
Mother's education													
None	37.9	33.9	13.7	132	(*)	(*)	(*)	(*)	17	40.3	34.3	13.9	152
Non-formal	23.8	43.6	14.0	333	(17.2)	(18.0)	(6.3)	(15.9)	34	23.4	41.3	13.3	376
Primary	24.5	46.3	13.2	94	(*)	(*)	(*)	(*)	12	27.7	42.8	11.7	114
Secondary	47.0	34.9	19.4	92	(*)	(*)	(*)	(*)	24	48.2	43.9	20.3	118
Higher	(*)	(*)	(*)	13	(*)	(*)	(*)	(*)	8	(*)	(*)	(*)	21
Wealth index quintile													
Poorest	25.4	40.8	16.0	149	(*)	(*)	(*)	(*)	17	26.6	39.4	14.9	169
Second	29.5	41.1	11.6	152	(*)	(*)	(*)	(*)	12	29.9	40.1	11.3	167
Middle	18.2	42.9	11.5	145	(*)	(*)	(*)	(*)	14	20.5	40.9	10.8	168
Fourth	38.6	46.0	22.3	128	(*)	(*)	(*)	(*)	17	38.5	44.9	21.7	151
Richest	47.3	27.3	11.6	89	(58.2)	(67.0)	(32.5)	(64.4)	34	49.3	38.2	17.3	125

[1] MICS indicator 2.17a - Minimum acceptable diet (breastfed)[2] MICS indicator 2.17b - Minimum acceptable diet (non-breastfed)

[3] MICS indicator 2.14 - Milk feeding frequency for non-breastfed children[4] MICS indicator 2.16 - Minimum dietary diversity

[5] MICS indicator 2.15 - Minimum meal frequency

[a] Minimum dietary diversity is defined as receiving foods from at least 4 of 7 food groups: 1) Grains, roots and tubers, 2) legumes and nuts, 3) dairy products (milk, yogurt, cheese), 4) flesh foods (meat, fish, poultry and liver/organ meats), 5) eggs, 6) vitamin-A rich fruits and vegetables, and 7) other fruits and vegetables.

[b] Minimum meal frequency among currently breastfeeding children is defined as children who also received solid, semi-solid, or soft foods 2 times or more daily for children age 6-8 months and 3 times or more daily for children age 9-23 months. For non-breastfeeding children age 6-23 months it is defined as receiving solid, semi-solid or soft foods, or milk feeds, at least 4 times.

[c] The minimum acceptable diet for breastfed children age 6-23 months is defined as receiving the minimum dietary diversity and the minimum meal frequency, while it for non-breastfed children further requires at least 2 milk feedings and that the minimum dietary diversity is achieved without counting milk feeds.

Salt Iodization

Iodine Deficiency Disorders (IDD) is the world's leading cause of preventable mental retardation and impaired psychomotor development in young children. In its most extreme form, iodine deficiency causes cretinism. It also increases the risks of stillbirth and miscarriage in pregnant women. IDD takes its greatest toll in impaired mental growth and development, contributing in turn to poor school performance, reduced intellectual ability, and impaired work performance. The indicator is the percentage of households consuming iodized salt (> 0 parts per million). Salt is adequately iodized when it contains at least 15 ppm for household use. MBI rapid salt test kit was used to test for iodine in salt used by households for cooking.

Table 6 (NU.10) shows percent distribution of households by consumption of iodized salt in Kano State. Salt containing 15 ppm or more of iodine was found in about four out of 10 households. Percentage of households using adequately iodized salt in Kano Central is 47.2 percent, Kano South is 44.9 percent and Kano North is 37.4 percent. There was slight variation in households using adequately iodized salt in urban (48.3 percent) and rural areas (42.1 percent). Richer households consume adequately iodized salt more than others in lower wealth quintile.

Table5.6 (NU.10): Iodized salt consumption

Percent distribution of households by consumption of iodized salt, Nigeria, 2016-2017 Kano state

			Percent of households with:					
				Salt test result				
	Percentage of households in which salt was tested	Number of households	No salt	Not iodized 0 PPM	>0 and <15 PPM	15+ PPM[1]	Total	Number of households in which salt was tested or with no salt
Total	**91.8**	**1867**	**8.0**	**11.6**	**36.6**	**43.7**	**100.0**	**1863**
Senatorial District								
Kano Central	91.5	786	8.4	10.2	34.2	47.2	100.0	785
Kano North	89.9	527	9.8	10.0	42.8	37.4	100.0	525
Kano South	93.9	554	5.8	15.2	34.1	44.9	100.0	553
Residence								
Urban	92.6	500	7.1	8.2	36.4	48.3	100.0	498
Rural	91.5	1367	8.3	12.9	36.7	42.1	100.0	1364
Wealth index quintile								
Poorest	91.9	382	7.7	20.2	35.3	36.8	100.0	380
Second	90.6	376	9.2	12.1	36.2	42.4	100.0	375
Middle	91.4	385	8.6	8.6	42.2	40.5	100.0	385
Fourth	93.2	365	6.6	9.9	37.9	45.6	100.0	364
Richest	92.0	360	7.8	6.9	31.3	54.0	100.0	359

[1] MICS indicator 2.19 - Iodized salt consumption

Low Birth Weight

Weight at birth is a good indicator of the newborn's chances for survival, growth, long-term health and psychosocial development. It also reflects the mother's health and nutritional status. Low birth weight (defined as less than 2,500 grams) can lead to severe health risks for children. Babies who were undernourished in the womb have increased the risk of dying during their early days, months and years. Those who survive may have impaired immune function and increased risk of disease. They are likely to remain undernourished with reduced muscle strength throughout their lives and suffer a higher incidence of diabetes and heart disease in later life. Children born with low birth weight also risk a lower IQ and cognitive disabilities, affecting their performance in school and their job opportunities as adults.

In low and middle-income countries, low birth weight is primarily from the mother's poor health and nutrition. Inadequate weight gain during pregnancy is particularly important since it accounts for a large proportion of foetal growth retardation. The mother's poor nutritional status before conception, poor nutrition during pregnancy, and short stature (due mostly to under nutrition and infections during her childhood) have the most impact. In addition, diseases such as diarrhoea and malaria can significantly impair foetal growth if the mother becomes infected while pregnant. Also, teenagers who give birth when their own bodies have yet to finish growing run a higher risk of bearing low birth weight babies.

One of the major challenges in measuring the incidence of low birth weight is that more than half of infants in the low and middle-income countries are not weighed at birth. In the past, most estimates of low birth weight for these countries were based on data compiled from health facilities. However, these estimates are biased because the majority of births are not delivered in health facilities, and therefore not weighed at birth. Those who are weighed, represent only a selected sample of all births. For this reason, the percentage of births weighing below 2500 grams is estimated from two items in the questionnaire: the mother's assessment of the child's size at birth (i.e., very small, smaller than average, average, larger than average, very large) and the mother's recall of the child's weight or the weight as recorded on a health card if the child was weighed at birth.[16]

Table 5.7 (NU.1) presents percentage of most recent live birth in the last 2 years preceding the study who were weighed, and those weighing below 2,500 grams across different social and demographic groups in Kano State. About one out of 13 live births were weighed at birth in Kano State. Nineteen percent of these births are classified as low weight because they are less than 2,500 grams at birth.

Proportion of infants weighed at birth is highest in Kano Central (16.7) compared to 2.8 percent in Kano North and Kano South. Although more babies are weighed at birth in Kano Central, the proportion of low birth weights babies are less than 20 percent across all the senatorial districts in Kano State. This pattern is almost exact for all the social and demographic groups. However, greater proportions of babies born in urban areas, from mothers with at least secondary education, and from the richest wealth quintile households were weighed at birth than other groups.

[16]For a detailed description of the methodology, see Boerma, JT et al.1996. *Data on Birth Weight in Developing Countries: Can Surveys Help?* Bulletin of the World Health Organization 74(2): 209-16.

Table 5.7 (NU.1): Low birth weight infants

Percentage of last live-born children in the last two years that are estimated to have weighed below 2,500 grams at birth and percentage of live births weighed at birth, Nigeria, 2016-17Kano State

	Percentage of live births:	
	Below 2,500 grams[1]	Weighed at birth[2]
Total	**19.4**	**7.8**
Senatorial District		
Kano Central	19.3	16.7
Kano North	19.9	2.8
Kano South	19.2	2.8
Mother's age at birth (years)		
Less than 20	17.1	2.1
20-34	19.4	9.1
35-49	21.6	8.8
Birth order		
1	16.1	6.6
2-3	19.3	9.3
4-5	18.1	8.2
6+	21.7	7.0
Residence		
Urban	20.7	24.7
Rural	19.1	3.1
Mother's education		
None	21.5	1.8
Non-formal	18.9	2.1
Primary	21.4	8.3
Secondary	18.3	23.4
Higher	(10.6)	(62.3)
Wealth index quintile		
Poorest	18.9	1.0
Second	21.3	2.0
Middle	16.9	2.5
Fourth	19.3	5.3
Richest	21.3	35.8

[1] MICS indicator 2.20 - Low-birthweight infants[2] MICS indicator 2.21 - Infants weighed at birth

VI. Child Health

The Sustainable Development Goal 3 seeks, among other targets, to end preventable deaths of newborns and children under 5 years of age and reduce by one-third premature mortality from non-communicable diseases through prevention and treatment. Immunization and care of illness have been shown to be the most cost-effective in achieving these targets especially among children under five who are most vulnerable. This chapter presents result from MICS5 and NICS on vaccination coverage and care of illness among children in Kano-Nigeria.

Vaccination Coverage

Nigeria is one of the 194 Member States of the World Health Assembly that endorsed the Global Vaccine Action Plan (GVAP) in May 2012. This is to achieve the Decade of Vaccine vision to prevent millions of deaths by 2020 through universal and equitable access to immunization. The World Health Organization Recommended Routine Immunizations is that children[17] should be vaccinated against tuberculosis, diphtheria, pertussis, tetanus, polio, measles, hepatitis B, haemophilus influenza type b, pneumonia/meningitis, rotavirus, and rubella. The vaccination schedule followed by the National Immunization Programme (NIP) provides birth doses of BCG, Polio, and Hepatitis B vaccines (within 24 hours of birth), three doses of the Pentavalent vaccine containing DPT, Hepatitis B, and Haemophilus influenza type b (Hib) antigens, three doses of Polio vaccine, two/three doses of Pneumococcal (conjugate) vaccine, two or three doses of rotavirus vaccine, two doses of the MMR vaccine containing measles, mumps, and rubella antigens, and, in addition, one dose of vaccine against yellow fever. All vaccinations should be received during the first year of life except the doses of MMR at 12 and 18 months and yellow fever at 12 months.

The main objectives were to provide reliable estimates for coverage in vaccination antigens for children between the

KEY FINDINGS

Approximately 5% of children age 12-23 months received all recommended vaccination by their first birthday

Specific vaccine coverage:
Tuberculosis- 32%
Polio – 15%
Pentavalent- 17%
Measles- 20%
Yellow fever- 18%

Vaccination coverage reduces with time for multi-dose vaccines: Polio, PENTA/DPT and PCV.

Reported illnesses two weeks preceding survey for under-five children:
Diarrhoea- 20.7%
ARI symptom- 2.4%
Malaria fever- 35.4%

53.8% of women in Kano state with a live birth in the last two years prior to MICS 2016/17 survey were protected against neonatal tetanus

16.5% of women age 15-49 years received three or more doses of SP/Fansidar during their last pregnancy that led to a live birth in thelast 2 years

[17] **http://www.who.int/immunization/policy/Immunization_routine_table2.pdf** .Table 2 includes recommendations for all children and additional antigens recommended only for children residing in certain regions of the world or living in certain high-risk population groups.

ages of 12 – 23 months at the state level. The estimates for full immunization coverage from the Nigeria 2016-17, Kano are based on children age 12-23 months because of the NIP vaccination schedule. Table6.1 (CH 1) presents the percentage of children age 12-23 months who received vaccination at any time before the survey by the source of information, and those vaccinated by 12 months of age in Kano State.

Table 6.1 (CH.1): Vaccinations by source of information, and vaccination by 12 months of age

Percentage of children age 12-23 months who received vaccination at any time before the survey by source of information, and vaccination by 12 months of age, Nigeria, 2016-17 Kano State

Antigens		Vaccinated at any time before the survey according to:			Vaccinated by 12 months of age
		Vaccination card	Mother's report	Either	
BCG[1]		18.5	15.3	33.8	**32.2**
Polio	At birth	14.2	15.4	29.5	**29.5**
	1	15.4	13.3	28.8	**27.5**
	2	10.7	9.8	20.4	**20.1**
	3[2]	9.5	6.4	15.9	**15.0**
PENTA/ DPT	1	16.0	13.1	29.1	**27.9**
	2	12.6	9.2	21.8	**21.2**
	3[3,4,5]	10.9	6.4	17.3	**16.5**
PCV	1	6.9	10.8	17.7	**15.7**
	2	5.8	7.1	12.9	**12.5**
	3	4.9	3.9	8.7	**7.3**
HepB at birth		6.4	5.2	11.6	**11.6**
Inactivated Polio Vaccine		8.6	13.3	21.9	**19.9**
Yellow fever[6]		11.2	11.3	22.5	**18.1**
Measles[7]		11.8	12.6	24.4	**19.7**
Fully vaccinated[8, b]		7.1	1.4	8.5	**4.6**
No vaccinations		1.0	5.6	6.6	**6.6**
Number of children		538	538	538	**538**

[1] MICS indicator 3.1 - Tuberculosis immunization coverage
[2] MICS indicator 3.2 - Polio immunization coverage
[3] MICS indicator 3.3 - Diphtheria, pertussis and tetanus (DPT) immunization coverage
[4] MICS indicator 3.5 - Hepatitis B immunization coverage
[5] MICS indicator 3.6 - Haemophilus influenzae type B (Hib) immunization coverage
[6] MICS indicator 3.7 - Yellow fever immunization coverage
[7] MICS indicator 3.4; MDG indicator 4.3 - Measles immunization coverage
[8] MICS indicator 3.8 - Full immunization coverage
[a] All MICS indicators refer to results in this column
[b] Includes: BCG, Polio3, PENTA3/DPT3, Measles and Yellow fever as per the vaccination schedule in Nigeria

Information on vaccination coverage was collected in two ways: from vaccination cards or verbal recall. All mothers or caretakers were asked to provide vaccination cards. If the vaccination card for a child was available, interviewers copied vaccination information from the cards onto the MICS questionnaire. If no vaccination card was available for the child, the interviewer proceeded to ask the mother to recall whether or not the child had received each of the vaccinations, and for Polio, DPT and Hepatitis B at birth, how many doses were received. The final vaccination coverage estimates are based on information obtained from the vaccination card and the mother's report. In the first three columns of

the table, the numerator includes all children who were vaccinated at any time before the survey according to the vaccination card or the mother's report. In the last column, only those children who were vaccinated before their first birthday, as recommended, are included. For children without vaccination cards, the proportion of vaccinations given before the first birthday is assumed to be the same as for children with vaccination cards.

Although, it is expected that all vaccination should have been received during the first year of life, only 4.6 percent of children age 12-23 months in Kano State received all recommended vaccination in the national immunization schedule by their first birthday. Six percent of eligible children did not receive any vaccination. In Kano, BCG had the highest coverage of 32 percent, while PCV 3 had the lowest coverage of 7.3 percent. Measles coverage is 19.7 percent, Yellow fever is 18.1 percent and Hepatitis B at birth is 11.6 percent among children ages 12-23 months before their first birthday. Vaccination coverage reduces with time for vaccines that are multi-dose: Polio, PENTA/DPT and PCV.

Vaccination Coverage by background characteristics

Table6.2 (CH.2) presents the percentage of children age 12-23 months in Kano State with any evidence of vaccination by background characteristics: senatorial district, residence, sex, mother's education and wealth index. Across all the groups, BCG vaccination coverage is the highest, while Hepatitis B at birth is the lowest vaccine covered in Kano. Percentage of children with full vaccination and specific vaccine coverage was higher in Kano Central with about one out of 8 children fully vaccinated than other senatorial districts. Kano South senatorial district had the lowest estimate of one out of 25 children vaccinated at any time before the survey.

While full vaccination coverage is low in Kano State, an estimate of 7 percent in the rural areas as at 2016-17 after many years of the campaign for vaccination, is alarming. Vaccination coverage by sex of the child shows very low (6.4) percentage for female children fully vaccinated compared with male children (15.1 percent). Full vaccination and specific vaccine coverage increases as maternal education increases. Three out of five children (67.8 percent) of mothers with secondary education received BCG vaccine while one out five children (20.4 percent) of mothers with no education received BCG. This pattern is similar across all specific vaccines. Full vaccination coverage is 18 percent for mothers who had secondary education and 3.5 percent for those with no education.

Despite subsidized vaccination fee in Nigeria, the poor households in Kano State have low vaccination coverage for specific and all basic vaccines. The ratio of full vaccination coverage for richest and poorest wealth index quintile is 7:1. This implies that for every 7 children age 12-23 months in households in the richest wealth quintile that have full vaccination coverage, only 1 child in the poorest wealth quintile households will do the same in Kano State.

Table 6.2 (CH.2): Percentage of children 12-23 months with any evidence of vaccination

Percentage of children age 12-23 months currently vaccinated against vaccine preventable childhood diseases, Nigeria 2016-17Kano State

	Percentage of children who received:												Card seen	Children age 12-23 months
	BCG	HepB at Birth	Polio				Pentavalent			Yellow fever	Measles (MCV1)	Full[a]		
			At birth	1	2	3	1	2	3					
Total	**33.8**	**11.6**	**29.5**	**28.8**	**20.4**	**15.9**	**29.1**	**21.8**	**17.3**	**22.5**	**24.4**	**8.5**	**20.6**	**538**
Senatorial District														
Kano Central	46.0	16.9	40.0	38.9	29.8	21.9	41.5	32.9	27.1	30.1	31.6	12.9	31.2	200
Kano North	30.0	10.7	25.2	26.3	16.5	14.1	24.0	17.7	15.1	17.8	19.3	8.0	15.0	152
Kano South	24.0	6.8	21.9	20.0	13.5	11.0	19.9	13.2	8.7	18.2	20.8	4.2	13.9	186
Residence														
Urban	36.9	12.4	29.6	30.8	21.9	18.2	31.4	23.3	17.3	24.6	27.0	10.0	20.9	269
Rural	30.8	10.9	29.5	26.8	18.9	13.7	26.8	20.3	17.4	20.5	21.7	7.0	20.4	269
Sex														
Male	57.9	18.9	50.3	49.9	37.1	26.4	52.9	41.1	34.1	41.1	42.6	15.1	37.2	129
Female	26.2	9.4	23.0	22.1	15.1	12.6	21.6	15.7	12.0	16.7	18.6	6.4	15.4	409
Mother's Education														
None	23.8	6.7	21.4	15.6	10.8	7.7	18.4	11.9	7.0	13.0	15.4	3.5	13.3	100
Non-formal	20.4	8.8	16.7	18.8	14.1	11.0	17.6	14.1	11.4	14.7	16.1	6.1	11.9	253
Primary	39.7	12.9	36.2	34.1	25.4	20.0	31.1	22.0	18.2	22.8	25.4	6.9	18.2	78
Secondary	67.8	16.4	59.6	61.3	38.7	32.5	61.2	47.3	37.7	45.6	47.3	18.0	50.9	90
Higher	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	17
Wealth index quintile														
Poorest	17.7	4.2	10.8	15.9	9.8	7.7	12.9	9.5	5.1	11.2	13.8	3.2	8.1	110
Second	20.2	8.1	19.8	17.6	13.2	9.1	19.0	12.6	10.3	10.9	14.0	3.4	10.6	117
Middle	29.2	8.5	25.3	24.4	17.0	13.1	23.3	17.8	14.6	17.9	19.8	7.5	14.9	113
Fourth	39.5	14.3	38.5	33.1	23.5	19.4	35.1	26.1	16.9	28.0	29.6	8.5	25.5	107
Richest	70.0	26.2	59.5	59.2	43.2	34.1	61.9	48.4	45.1	50.8	50.1	22.8	50.1	91

[a] Includes: BCG, Polio3, DPT3, HepB3, Hib3, and Measles(*) Sample data are fewer than 25 unweighted cases

Neonatal Tetanus Protection

The strategy for preventing maternal and neonatal tetanus is to ensure that all pregnant women receive at least two doses of tetanus toxoid vaccine. A woman (and her newborn) was also considered protected if she has not received at least two doses of tetanus toxoid during a particular pregnancy but she had:

- Received at least two doses of tetanus toxoid vaccine, the last within the previous 3 years;
- Received at least 3 doses, the last within the previous 5 years;
- Received at least 4 doses, the last within the previous 10 years;
- Received 5 or more doses anytime during her life.

To assess the status of tetanus vaccination coverage, women who had a live birth during the two years before the survey were asked if they had received tetanus toxoid injections during the pregnancy for their most recent birth, and if so, how many. Women who did not receive two or more tetanus toxoid vaccinations during this recent pregnancy were then asked about tetanus toxoid vaccinations they may have previously received. Interviewers also asked women to present their vaccination card to note the date recorded for tetanus toxoid vaccination and referred to information from the cards when available.

Figure 6.1 shows percentage of women age 15-49 years with a live birth in the last 2 years protected against neonatal tetanus in Kano-Nigeria MICS 2016- 17. Fifty-four percent of women with a live birth in the last two years prior to MICS 2016- 17 survey are protected against tetanus and 43 percent of women received at least 2 doses of tetanus toxoid during their last pregnancy.

Figure 6.1: Percentage of women age 15-49 years with a live birth in the last 2 years protected against neonatal tetanus, Nigeria 2016-17 Kano state

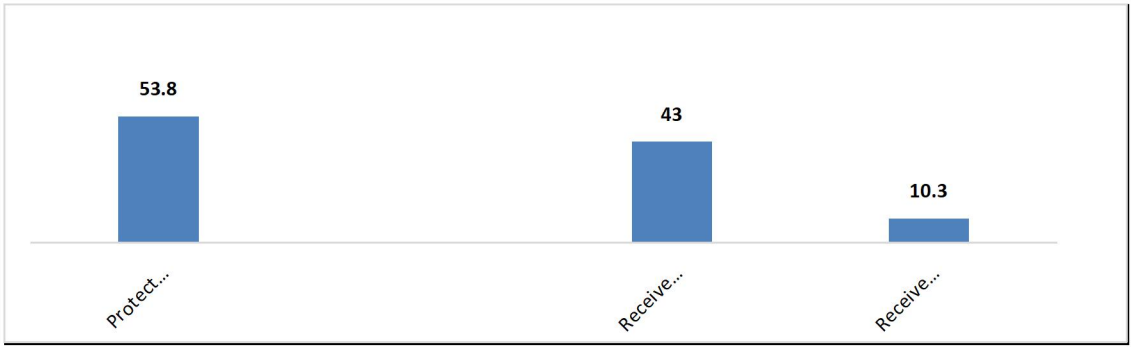


Table 6.3 (CH.4) shows the percentage of women of reproductive age group protected against neonatal tetanus by background characteristics in Kano State. The characteristics are senatorial districts, residence, sex, mother's education, mother's age, and wealth index. Kano Central has the highest percentage of women protected against neonatal tetanus while Kano North had the lowest percentage. Kano rural-urban difference on neonatal tetanus protection among this group of women is high, with urban areas having 67.8 percent and rural areas 49.9 percent coverage.

Neonatal tetanus protection increases with higher level of maternal education in Nigeria. This is more evident as only 47.2 of women with non-formal education have neonatal tetanus protection, while those with higher education have 88 percent coverage. This pattern is similar for wealth index quintile.

Table 6.3 (CH.3): Neonatal tetanus protection by background characteristics

Percentage of women age 15-49 years with a live birth in the last 2 years protected against neonatal tetanus, Nigeria, 2016-17 Kano State

	Percentage of women who received at least 2 doses during last pregnancy	Percentage of women who did not receive two or more doses during last pregnancy but received:				Protected against tetanus[1]	Number of women with a live birth in the last 2 years
		2 doses, the last within prior 3 years	3 doses, the last within prior 5 years	4 doses, the last within prior 10 years	5 or more doses during lifetime		
Total	**43.0**	**10.3**	**0.4**	**0.1**	**0.0**	**53.8**	**1,087**
Senatorial districts							
Kano Central	47.9	14.1	0.4	0.0	0.0	62.3	393
Kano North	38.4	7.6	0.5	0.0	0.0	46.6	314
Kano South	41.7	8.7	0.4	0.2	0.0	51.0	380
Residence							
Urban	55.0	11.9	0.9	0.0	0.0	67.8	239
Rural	39.6	9.9	0.3	0.1	0.0	49.9	847
Mother's Education							
None	34.3	8.1	0.0	0.0	0.0	42.4	196
Non-formal	36.6	9.9	0.6	0.0	0.0	47.2	533
Primary	51.4	11.7	0.0	0.0	0.0	63.0	165
Secondary	60.4	12.1	0.9	0.4	0.0	73.8	162
Higher	(73.5)	(15.1)	(0.0)	(0.0)	(0.0)	(88.5)	30
Wealth index quintile							
Poorest	30.0	6.6	0.0	0.0	0.0	36.6	234
Second	36.7	7.6	0.4	0.0	0.0	44.6	228
Middle	43.9	10.5	0.3	0.0	0.0	54.7	237
Fourth	49.7	15.6	0.8	0.0	0.0	66.1	218
Richest	59.7	12.1	0.8	0.4	0.0	73.0	169

[1] MICS indicator 3.9 - Neonatal tetanus protection ( ) Sample data are based on 25-49 unweighted cases

Care of Illness

A key strategy for accelerating progress toward SDG 3 is prevention and prompt management of diseases that leads to childhood mortality. Diarrhoea, pneumonia and malaria are three of such preventable childhood morbidity that causes under-five deaths. According to a UNICEF report[18] in 2016, pneumonia and diarrhoea are easily preventable illnesses but in many parts of the world, a child dies every 35 seconds of pneumonia and every 60 seconds of diarrhoea. Estimates of mortality from severe malaria among children are also high, especially in infants who are yet to fully develop immunity in high endemic area, and are prone to severe anaemia, hypoglycaemia and cerebral malaria.[19]

[18]https://www.unicef.org/lac/20161111_UNICEF-one-is-too-many-report.pdf
[19]http://www.who.int/malaria/areas/high_risk_groups/children/en/

Several interventions and recommendations have been put in place to reduce the prevalence of these morbidities. One of such is the Global Action Plan for the Prevention and Control of Pneumonia and Diarrhoea (GAPPD). This aims to end preventable pneumonia and diarrhoea death by reducing mortality from pneumonia to 3 deaths per 1,000 live births and mortality from diarrhoea to 1 death per 1,000 live births by 2025. Also, WHO recommends Seasonal Malaria Chemoprevention (SMC)[20] which is an intermittent administration of full treatment courses of antimalarial medicine to children in areas of highly seasonal transmission during the malaria season.

The definition of a case of diarrhoea or fever, in this survey, was the mother's (or caretaker's) report that the child had such symptoms over the specified period; no other evidence was sought beside the opinion of the mother. Pneumonia is the most serious outcome of acute respiratory infection (ARI). A child was considered to have had an episode of ARI if the mother or caretaker reported that the child had, over the specified period, an illness with a cough, with rapid or difficult breathing, and whose symptoms were perceived to be due to a problem in the chest, or both a problem in the chest and a blocked nose. While this approach is reasonable in the context of a MICS, these simple case definitions must be kept in mind when interpreting the results, as well as the potential for reporting and recall biases.

Further, diarrhoea, fever and ARI are not only seasonal but are also characterized by the often-rapid spread of localized outbreaks from one area to another at different points in time. The timing of the survey and the location of the teams might therefore considerably affect the results, which must consequently be interpreted with caution. For these reasons, although the period-prevalence over a two-week time window is reported, these data should not be used to assess the epidemiological characteristics of these diseases but rather to obtain denominators for the indicators related to use of health services and treatment.

Diarrhoea

In the MICS, mothers or caretakers were asked whether their child under age five years had any episode of diarrhoea in the two weeks prior to the survey. In cases where mothers reported that the child had diarrhoea, a series of questions were asked about the treatment of the illness, including what the child had been given to drink and eat during the episode and whether this was more or less than what was usually given to the child. Figure 6.2 presents the percentage of children who had diarrhoea within two weeks preceding the survey in Kano State. About one out of five (20.7 percent) children age 0-59 months had at least one episode of diarrhoea in the two-week period before MICS survey. The pattern of diarrhoea episode across different social and demographic groups shows that diarrhoea was most common amongst children in Kano South; male children; children in rural areas; children age 12-23; children of mothers with no education and children from poorest wealth index quintile households.

[20]http://www.who.int/malaria/areas/preventive_therapies/children/en/

Figure 6.2: Percentage of children age 0-59 months for whom the mother/caretaker reported an episode of diarrhoea, Nigeria, 2016-17 Kano state

Kano state

Senatorial districts

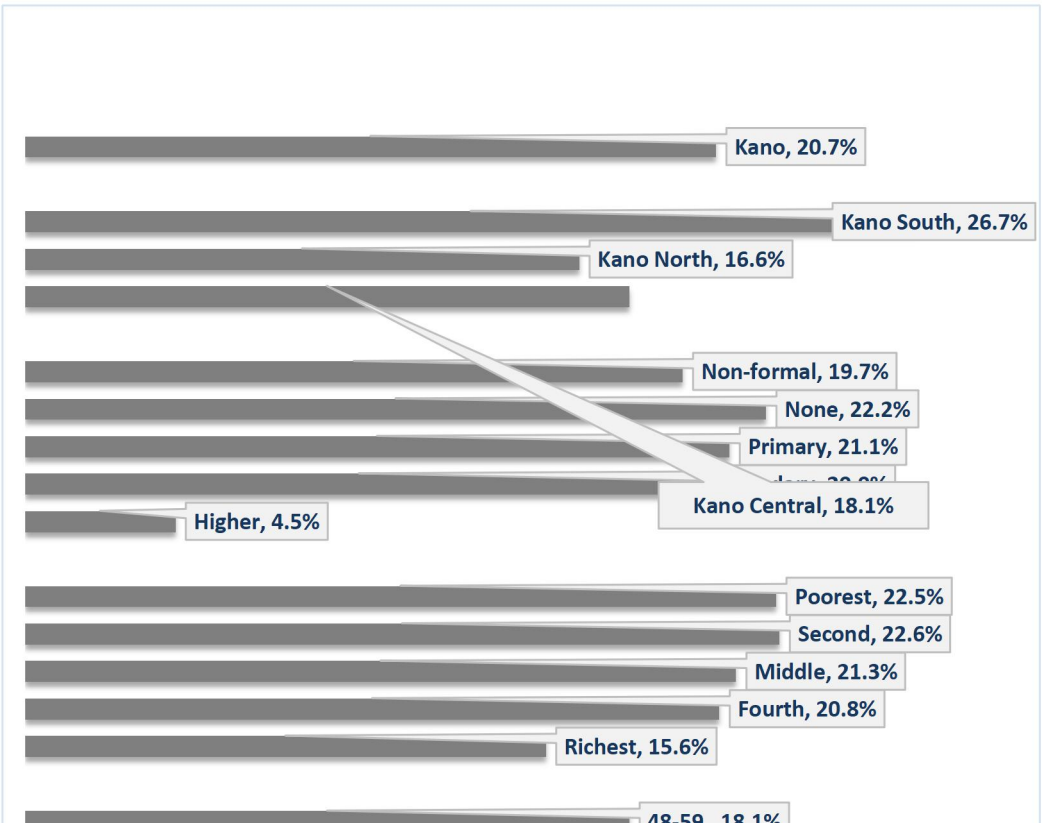
Mother's education

Wealth Index quintile

Age in months

Residence

Sex of child



Treatment of diarrhoea

Diarrhoea is a leading cause of death among children under five worldwide. Most diarrhoea-related deaths in children are due to dehydration from loss of large quantities of water and electrolytes from the body in liquid stools. Management of diarrhoea – either through oral rehydration salts (ORS) or a recommended home fluid (RHF) – can prevent many of these deaths. In addition, provision of zinc supplements has been shown to reduce the duration and severity of the illness as well as the risk of future episodes within the next two or three months. Preventing dehydration and malnutrition by increasing fluid intake and continuing to feed the child are also important strategies for managing diarrhoea. Table 6.4 (CH.4, CH.5, CH.7 & CH.8) shows the pattern of care seeking and treatment of diarrhoea for children age 0-59 who had at least an episode in the two-week period preceding the survey.

Table 6.4 (CH.4, CH.5, CH.7 & CH.8): Care seeking for Diarrhoea in the last two weeks preceding the survey

Percentage of children age 0-59 months with diarrhoea in the last two weeks, and care seeking for diarrhea Nigeria, 2016-17, Kano State

			Care seeking and treatment of Diarrhoea				
	Percent of episode of diarrhoea	Number of children age 0-59 months	**Advice or treatment sought from health facility or provider[1, a]**	**ORS or any recommended homemade fluid**	**ORS and zinc[2]**	**ORT with continued feeding[3]**	Number of children age 0-59 months with diarrhoea in the last two weeks
Total	**20.7**	**2,559**	**21.3**	**50.1**	**22.2**	**35.0**	**531**
Senatorial Districts							
Kano Central	18.1	962	33.5	58.1	24.9	37.1	174
Kano North	16.6	693	19.1	44.6	18.7	36.8	115
Kano South	26.7	904	13.4	47.0	21.9	32.6	242
Sex							
Male	23.0	1293	21.3	52.6	23.4	37.9	298
Female	18.4	1266	21.2	46.9	20.5	31.2	233
Residence							
Urban	18.6	603	34.8	63.0	28.0	37.2	112
Rural	21.4	1956	17.6	46.7	20.6	34.4	419
Age (months)							
0-11	23.1	514	27.0	45.9	21.8	27.1	119
12-23	25.6	538	22.0	52.5	22.1	34.9	137
24-35	20.6	485	19.1	48.3	26.5	40.6	100
36-47	16.0	522	17.5	56.5	22.5	40.7	84
48-59	18.1	500	18.3	48.2	17.7	33.9	91
Mother's education							
None	19.7	452	13.9	41.6	9.6	30.8	89
Non-formal	22.2	1298	19.4	50.0	21.4	34.1	288
Primary	21.1	352	20.7	49.8	30.1	35.7	74
Secondary	20.0	379	35.6	60.0	31.6	42.7	76
Higher	4.5	77	(*)	(*)	(*)	(*)	3
Wealth index quintile							
Poorest	22.5	530	21.4	43.5	13.7	26.9	119
Second	22.6	559	15.9	49.8	22.3	38.4	126
Middle	21.3	529	12.5	44.1	19.3	29.6	113
Fourth	20.8	487	23.6	59.2	26.2	47.6	101
Richest	15.6	455	41.2	58.4	34.8	33.0	71

[1] MICS indicator 3.10 - Care-seeking for diarrhea
[2] *MICS indicator 3.11 - Diarrhoea treatment with oral rehydration salts (ORS) and zinc*
[3] *MICS indicator 3.12 - Diarrhoea treatment with oral rehydration therapy (ORT) and continued feeding*
[a] Includes all public and private health facilities and providers, but excludes private pharmacy
(*) Sample data are fewer than 25 unweighted cases

Only one out of 5 cases of diarrhoea sought advice or treatment from health facilities or providers. Although differences across social and demographic groups in seeking help from health facilities or providers for diarrhoeal episode are low in Kano, the percentages are specifically lower, in rural areas (17.6 percent), Kano South (13.4 percent) senatorial district, children in the 36-47 months age group (17.5 percent), mothers with no education (13.9 percent) and middle wealth index quintile households (12.5 percent).

Management of diarrhoea either through oral rehydration salts (ORS: packets or pre-packaged ORS fluids) or a recommended home fluid (RHF: salt-sugar solution, coconut water and rice water) can prevent mortality among children under five years. Among reported cases of diarrhoea, 50 percent used ORS or RHF for treatment. This type of diarrhoea management is higher in urban areas (63.0 percent), among mothers with secondary education (60.0) and the fourth wealth quintile households (59.2 percent). Combining ORS with Zinc has proven to be more effective in the treatment of diarrhea. Only 22.2 percent managed diarrhoea illness with ORS and Zinc while 35.0 percent managed it with ORS and continued feeding. Although with a lower percentage, the pattern of combined use of ORS and Zinc is almost the same as the combined use of ORS or RHF with continued feeding across different social and demographic groups.

Acute Respiratory Infection (ARI)

Information on symptoms of ARI was collected during the Nigeria, 2016-17 MICS to estimate the incidence of pneumonia disease which is the leading cause of death in children under five. Once diagnosed, pneumonia is treated effectively with antibiotics. Studies have shown a limitation in the survey approach of measuring pneumonia because many of the suspected cases identified through surveys are in fact, not true pneumonia.[21] While this limitation does not affect the level and patterns of care-seeking for suspected pneumonia, it limits the validity of the level of treatment of pneumonia with antibiotics, as reported through household surveys. The treatment indicator described in this report must therefore be taken with caution, keeping in mind that the accurate level is likely higher. Figure 6 .3 presents percentage of children who had symptoms of acute respiratory infection within two weeks preceding the survey in Kano State.

About 2.4 percent of children age 0-59 months had symptoms of ARI in the two-week period before MICS survey. The pattern of period-prevalence of ARI symptoms across different social and demographic groups shows that: the symptoms of ARI have higher period-prevalence among male children, Kano South, rural areas, younger children age 12-23, children of mothers who do not have formal education and live in the second wealth index quintile (poor) household.

Figure 6 .4 presents the percentage of children with symptoms of ARI in the two weeks preceding the survey for whom care was sought in a health facility and who received antibiotics. While 14 percent of children age 0-59 months with ARI symptoms did not seek for help, 21 percent were taken to a qualified provider. The percentage of mothers or caregivers who sought advice or treatment of ARI from a public health facility (21 percent) is higher than private health facility (18 percent) in Kano. Thirteen percent of these children were given antibiotics to treat ARI.

Figure 6.3: Percentage of children age 0-59 months for whom the mother/caretaker reported symptoms of acute respiratory infection (ARI), Nigeria 2016-17, Kano state

[21]Campbell, H. et al. 2013.*Measuring Coverage in MNCH: Challenges in Monitoring the Proportion of Young Children with Pneumonia Who Receive Antibiotic Treatment*. PLoS Med 10(5): e1001421. doi:10.1371/journal.pmed.1001421

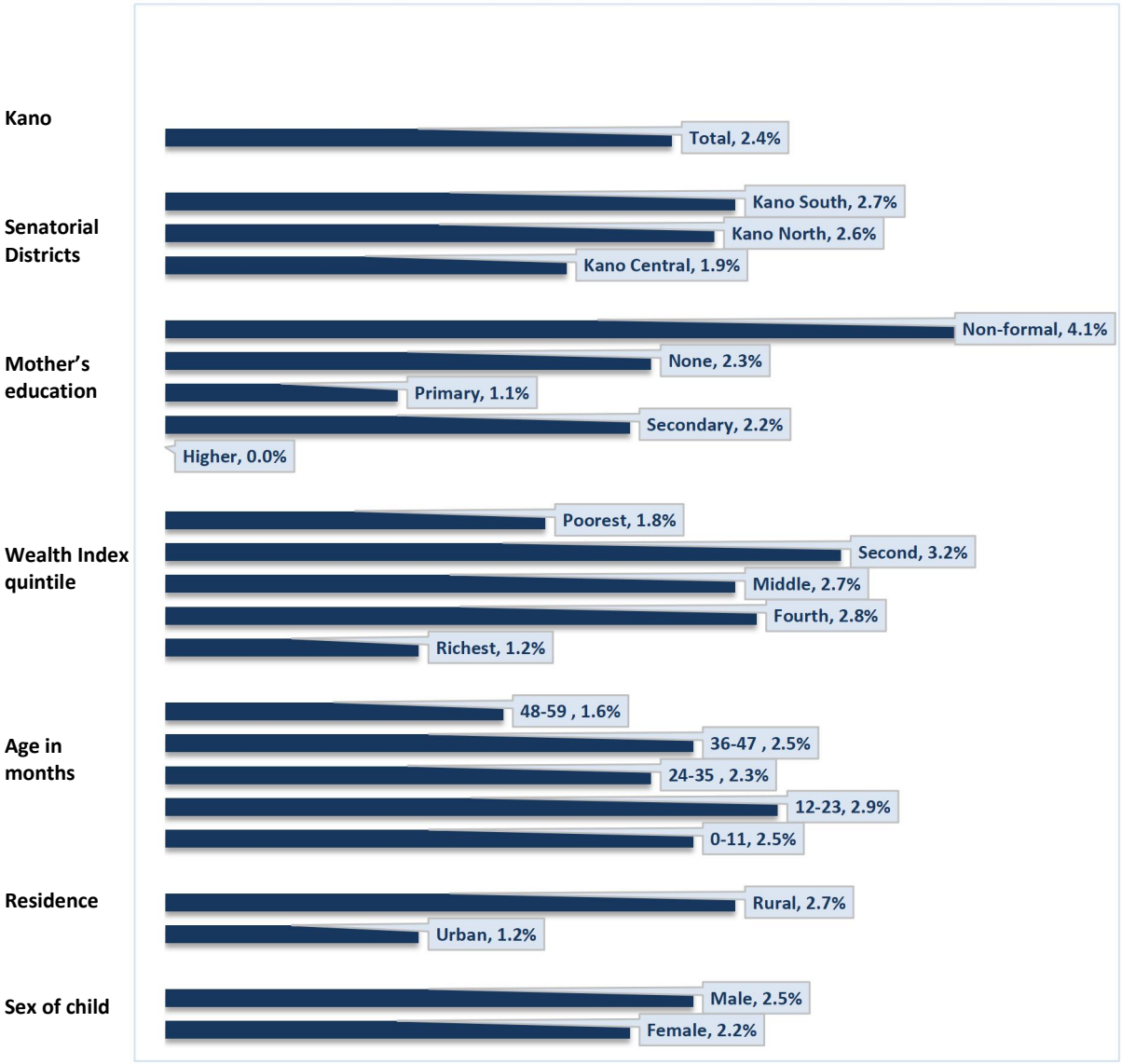
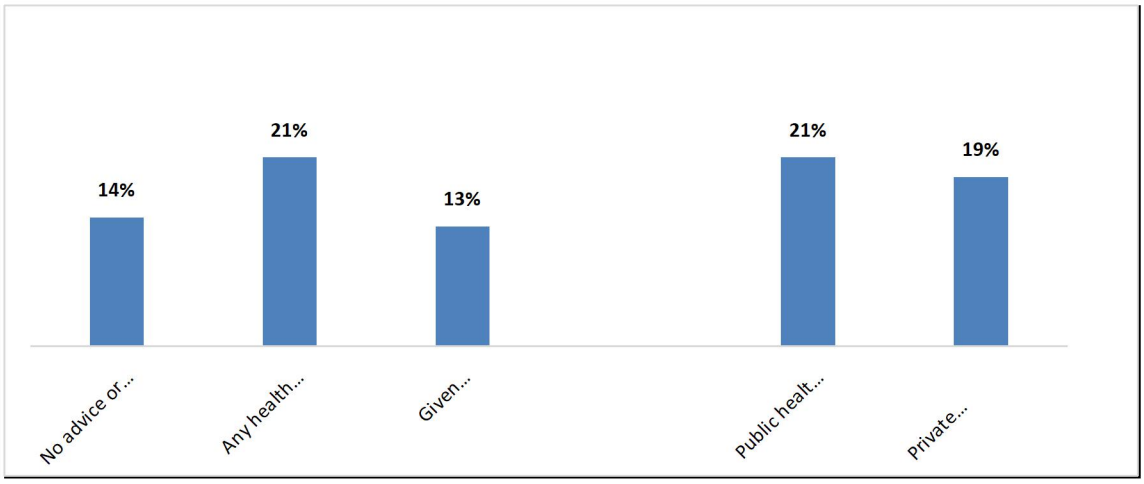

Kano
Total, 2.4%
Senatorial Districts
Kano South, 2.7%
Kano North, 2.6%
Kano Central, 1.9%
Mother's education
Non-formal, 4.1%
None, 2.3%
Primary, 1.1%
Secondary, 2.2%
Higher, 0.0%
Wealth Index quintile
Poorest, 1.8%
Second, 3.2%
Middle, 2.7%
Fourth, 2.8%
Richest, 1.2%
Age in months
48-59 , 1.6%
36-47 , 2.5%
24-35 , 2.3%
12-23, 2.9%
0-11, 2.5%
Residence
Rural, 2.7%
Urban, 1.2%
Sex of child
Male, 2.5%
Female, 2.2%

Figure 6.4: Percentage of children 0-59 months with symptoms of ARI who sought treatment. Nigeria 2016-17, Kano state



Solid Fuel Use

More than 3 billion people around the world rely on solid fuels for their basic energy needs, including cooking and heating. Solid fuels include biomass fuels, such as wood, charcoal, crops or other agricultural waste, dung, shrubs and straw, and coal. Cooking and heating with solid fuels lead to high levels of indoor smoke which contains a complex mix of health-damaging pollutants. The main problem with the use of solid fuels is their incomplete combustion, which produces toxic elements such as carbon monoxide, polyaromatic hydrocarbons, and sulphur dioxide (SO_2), among others.

Use of solid fuels increases the risks of acute respiratory infection such as pneumonia, chronic obstructive lung disease, cancer, or asthma. It may also contribute to low birth weight of babies born to pregnant women exposed to smoke. The primary indicator for monitoring use of solid fuels is the proportion of the population using solid fuels as the primary source of domestic energy for cooking, shown in Table 6.5 (CH.12 & CH.13).

Table 6.5 (CH.12 & CH.13): Solid fuel use by place of cooking

Percent distribution of household members in households using solid fuels by place of cooking, Nigeria, 2016-17 Kano State

	Solid fuels for cooking[1]	Number of household members	Place of cooking:					Number of household members in households using solid fuels for cooking
			In the house					
			In a separate room used as kitchen	Elsewhere in the house	In a separate building	Outdoors	Other place	
Total	**89.7**	**13365**	**31.2**	**33.7**	**3.8**	**31.2**	**0.0**	**11990**
Senatorial Districts								
Kano Central	78.7	5772	39.5	30.8	2.6	27.1	0.0	4542
Kano North	98.0	3431	27.7	48.4	1.2	22.7	0.0	3363
Kano South	98.2	4162	24.9	24.8	7.3	42.8	0.1	4086
Residence								
Urban	69.6	3748	54.1	26.1	2.0	17.9	0.0	2607
Rural	97.6	9617	24.9	35.8	4.3	34.9	0.0	9383
Education of HH head								
None	92.1	1262	28.4	33.1	4.6	33.5	0.3	1163
Non-formal	97.6	6747	25.7	34.2	3.8	36.2	0.0	6582
Primary	92.7	1562	32.3	37.9	4.5	25.4	0.0	1448
Secondary	80.3	2282	40.2	35.4	2.3	22.0	0.0	1831
Higher	61.7	1427	55.5	18.6	4.7	21.2	0.0	881
Wealth index quintile								
Poorest	99.2	2672	9.8	37.8	2.6	49.7	0.1	2650
Second	99.5	2668	23.7	33.7	2.3	40.2	0.0	2655
Middle	98.7	2682	28.2	45.2	2.9	23.6	0.0	2647
Fourth	95.0	2665	51.4	23.4	7.6	17.7	0.0	2532
Richest	56.3	2678	53.7	23.5	3.9	18.9	0.0	1507

[1] MICS indicator 3.15 - Use of solid fuels for cooking

Overall, 89.7 percent of household members in Kano use solid fuels for cooking. Use of solid fuels is higher in the rural areas (97.6 percent) than the urban areas (69.6 percent). The use of solid fuels ranges from 78.7 percent in Kano Central to 98 percent in Kano North and Kano South senatorial districts. While there are wealth and educational differentials, the percentages are highest with household heads with no formal education and poorest wealth quintile households. The extent of indoor pollution is dependent on the cooking practice, places used for cooking and the type of fuel used. In Kano, one out of three members of households that cooks with solid fuels used a separate room as kitchen. The proportion that uses solid fuel to cook food in separate rooms within the dwelling unit is higher in urban areas than rural areas, while cooking elsewhere within the dwelling unit is higher in the rural areas. The few educated and richer member of households in Kano State that cooks with solid fuel used a separate building or outdoor.

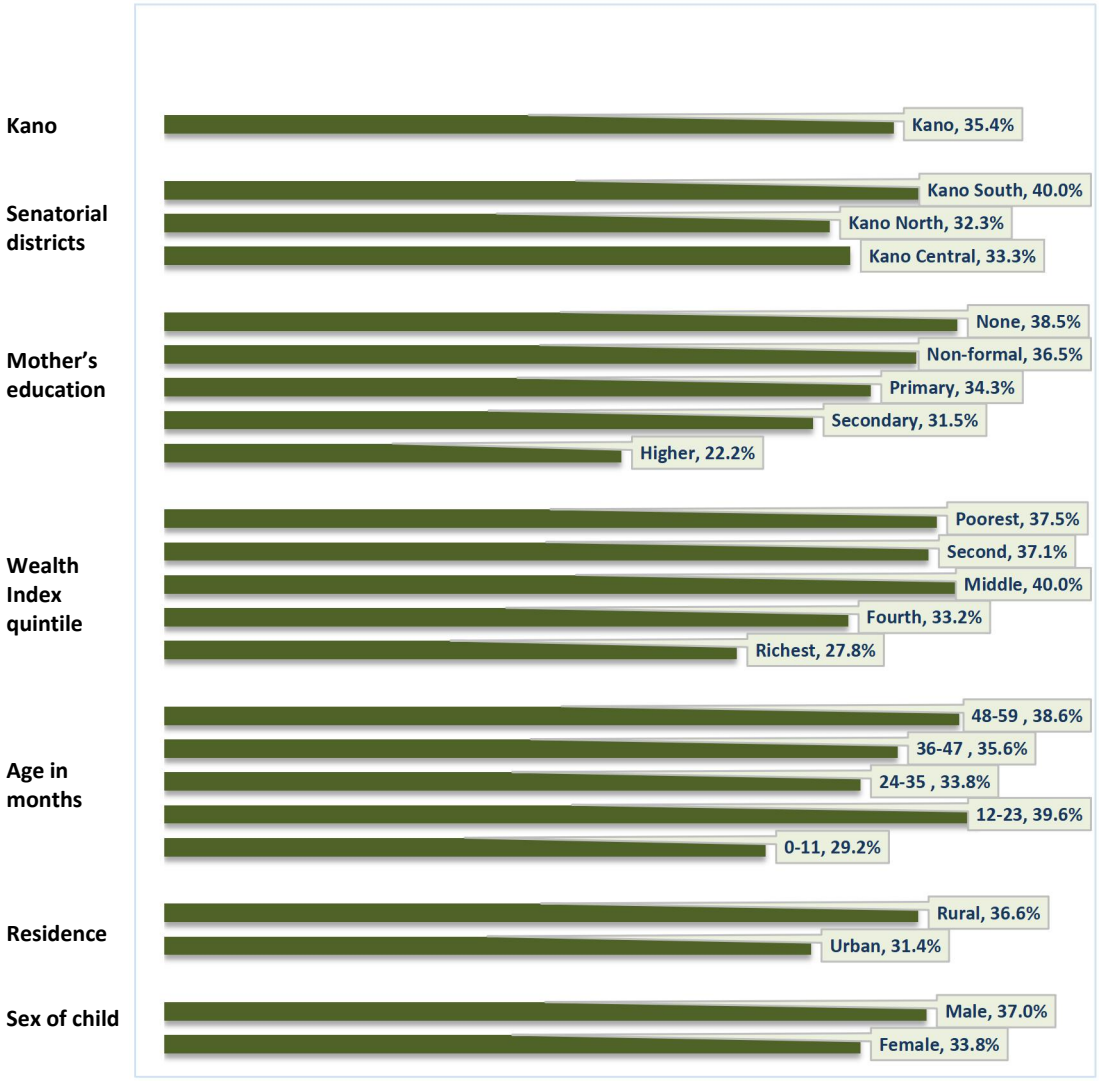
Malaria/Fever

In Nigeria, malaria is the commonest cause of hospital attendance for all age group and a major cause of death of children under age five[22]. A case of fever, as presented in Figure 6 .5, in this survey was the mother's or caretaker's report that the child had fever symptom two weeks preceding the survey. One out of 3 children (35.4 percent) under five in Kano State was reported to have had fever

[22]http://apps.who.int/medicinedocs/documents/s18401en/s18401en.pdf

two weeks before MICS 5. Reported cases of fever were highest in the Kano South, children whose mothers had no education, middle wealth quintile households, children older than 12 months and those residing in rural areas.

Figure 6.5: Percentage of children age 0-59 months for whom the mother/caretaker reported fever, Nigeria, 2016-17 Kano state



Care Seeking: Malaria preventive measures and treatment for under-five children

Preventive measures and treatment with an effective antimalarial can reduce malaria mortality rates among children and pregnant women. In areas where malaria is common, WHO recommends indoor residual spraying (IRS), use of insecticide treated bed nets (ITNs) and prompt treatment of cases with recommended anti-malarial drugs. Insecticide-treated mosquito nets(ITN), if used properly, are very effective in offering protection against mosquitos and other insects.

The use of ITNs is one of the main health interventions implemented to reduce malaria transmission in Nigeria. WHO also recommends seasonal malaria chemoprevention (SMC)[23] which is an intermittent administration of full treatment courses of an antimalarial medicine to children in areas of highly seasonal transmission during the malaria season. The questionnaire incorporates questions

[23]http://www.who.int/malaria/areas/preventive_therapies/children/en/

on the availability and use of bed nets, both at household level and among children under five years of age and pregnant women. Table 6.6 (CH.14 & CH.19) shows household availability and use of ITN in Kano State.

Table 6.6 (CH.14 & CH.19): Household availability and use of insecticide treated nets

Percentage of households with at least one insecticide treated net (ITN), at least ITN per two people, and household members who slept under an ITN the previous night, Nigeria, 2016-17 Kano State

	Percentage of households with			Percentage of household members who slept under an ITN the previous night[3]	Number of household members who spent the previous night in the interviewed households
	At least one ITN[1]	At least one ITN for every two people[2]	Number of households		
Total	**80.8**	**32.1**	**1867**	**54.8**	**12982**
Senatorial Districts					
Kano Central	80.8	32.0	786	52.9	5592
Kano North	79.3	34.3	527	55.1	3322
Kano South	82.2	30.2	554	57.0	4068
Residence					
Urban	78.7	29.5	500	49.0	3632
Rural	81.5	33.1	1367	57.0	9349
Education of household head					
None	76.7	37.0	196	53.2	1215
Non-formal	78.2	30.2	915	52.1	6560
Primary	91.6	36.8	222	66.1	1522
Secondary	81.8	29.8	325	56.1	2217
Higher	82.7	34.2	194	54.3	1388
Wealth index quintile					
Poorest	77.6	35.1	382	50.9	2611
Second	79.4	27.9	376	57.1	2599
Middle	82.2	30.8	385	59.0	2589
Fourth	83.0	34.8	365	55.4	2585
Richest	81.8	32.0	360	51.4	2597

[1] MICS indicator 3.16a - Household availability of insecticide-treated nets (ITNs) - One+
[2] MICS indicator 3.16b - Household availability of insecticide-treated nets (ITNs) - One+ per 2 people
[3] *MICS indicator 3.19 - Population that slept under an ITN*

Approximately eight out of 10 households in Kano have at least one insecticide - treated net. About 3 out of ten households, have at least one ITN for every two household members. Kano South has the highest proportion of households who owned ITN than other senatorial districts. Variation exists in the ownership of ITN across other social groups: higher percentage of rural households owned ITN than urban households; higher proportion of households in the middle and rich wealth quintile reported ownership of ITN than household in the poor wealth quintiles; and higher proportions of households with heads with primary education owned ITN than others.

The use of ITN was examined among members who spent the previous night in the interviewed households in Kano. About 54.8 percent reported having slept under an ITN in the previous night. About one out of two household members slept in an insecticide - treated net in all social groups in Kano State.

Malaria preventive measures and treatment for children

Children under-five years are most vulnerable and have on the average of 2-4 attacks of malaria every year in Nigeria[24]. Table 6.7 (CH.18, CH.20 & CH.22) presents preventive measures in terms of use of ITN the previous night before the survey visit, care seeking for fever, malaria diagnostic usage and anti-malarial treatment of under-five in Kano State. Percent distribution of preventive measures and treatment based on background characteristics were also presented in Table 6.7.

Only 61.8 percent of children under the age of five years, who spent the previous night in the interviewed household, slept under insecticide -treated net. There was no substantial gender difference. Variations exists among senatorial district on use of ITN for children under five, highest in in Kano South (64.6percent) and lowest in Kano North (56.1 percent). The usage of ITN for under-five children is more, in comparison, among the following categories: rural areas, poor wealth quintile households and mothers who non-formal education.

In 2010 the World Health Organization issued a recommendation for universal use of diagnostic testing to confirm malaria infection and apply appropriate treatment based on the results. According to the guidelines, treatment solely on the basis of clinical suspicion should only be considered when a parasitological diagnosis is not accessible. This recommendation was based on studies that showed a substantial reduction in the proportion of fever that is associated with malaria to a low level.[25] This recommendation implies that the indicator on the proportion of children with a fever that received antimalarial treatment is no longer an acceptable indicator of the level of treatment of malaria in the population of children under age five. However, for purposes of comparisons, as well as an assessment of patterns across socio-demographic characteristics, the indicator remains a standard MICS indicator.

For MICS indicators of care seeking and treatment for malaria among under-five children in Kano State, 62.2 percent sought for advice or care in a health facility or provider, 11.3 percent had blood taken from a finger or heel for testing, 39.0 percent had taken antimalarial medication.

Mothers were asked to report all the medicines given to a child to treat the fever, including those given at home and those given or prescribed at a health facility. Artemisinin-based Combination therapy (ACT) is the first line antimalarial recommended by the World Health Organization and 23.4 percent among those who received antimalarial treatment use Artemisinin-based Combination Therapy (ACT). A higher percentage (51.3 percent) of under-five children in Kano North received ACT as a treatment for malaria than other senatorial districts. The use of ACT is very low among children who received anti-malaria treatment in Kano South (9.2percent). Children under-five in urban areas, age 36-47 months, children of mothers with higher education and from the richest households used ACT than other social groups.

[24] **http://apps.who.int/medicinedocs/documents/s18401en/s18401en.pdf**: National Antimalarial Treatment Policy

[25] D'Acremont, V et al. 2010. *Reduction in the proportion of fevers associated with Plasmodium falciparum parasitaemia in Africa: a systematic review*. Malaria Journal 9(240).

Table 6.7 (CH.18, CH.20 & CH.22): Prevention and care seeking for malaria among under-five children

Percentage of children age 0-59 months who slept under a mosquito net last night, by type of net, Nigeria, 2016-17 Kano State

	Preventive measure using ITN		Care seeking for malaria fever				
	Percentage of children under age five who slept under ITN in the previous night[1]	Number of children age 0-59 months who spent last night in the interviewed households	Sought for advice or care in a health facility or provider[2, a]	Had blood taken from a finger or heel for testing[3]	Any antimalarial drugs[4]	Treatment with Artemisinin-based Combination Therapy (ACT) among children who received anti-malarial treatment[5]	Number of children with fever in last two weeks
Total	**61.8**	**2543**	**62.2**	**11.3**	**39.0**	**23.4**	**353**
Senatorial Districts							
Kano Central	63.2	960	65.2	12.8	44.1	21.9	141
Kano North	56.1	690	59.4	15.0	34.3	51.3	77
Kano South	64.6	893	61.4	7.7	37.4	9.2	135
Sex							
Male	59.6	1285	62.3	12.5	39.4	20.9	188
Female	64.0	1258	62.2	10.0	38.6	26.2	165
Residence							
Urban	56.6	601	64.7	11.7	46.7	29.8	88
Rural	63.4	1942	61.6	11.2	37.0	21.3	265
Age (months)							
0-11	66.6	510	68.5	10.2	33.3	10.7	50
12-23	63.7	533	58.3	9.9	31.1	15.7	66
24-35	60.8	483	58.6	14.7	44.0	20.6	72
36-47	58.2	519	63.9	11.7	44.8	34.4	83
48-59	59.5	497	63.3	10.6	42.2	28.7	82
Mother's education							
None	57.3	451	53.1	7.6	25.8	(10.7)	45
Non-formal	62.8	1287	65.5	10.0	43.1	22.1	204
Primary	68.3	352	48.7	14.9	36.8	(27.7)	45
Secondary	59.6	375	71.8	17.6	39.2	(27.2)	47
Wealth index quintile							
Poorest	56.2	522	59.8	8.4	34.8	17.6	69
Second	63.0	554	57.5	13.4	33.9	21.9	70
Middle	65.0	527	58.9	9.1	39.5	16.7	84
Fourth	65.3	484	71.6	11.2	46.0	30.1	74
Richest	59.1	455	67.5	16.4	44.1	33.7	56

[1] MICS indicator 3.18; MDG indicator 6.7 - Children under age 5 sleeping under insecticide-treated nets (ITNs)[2] MICS indicator 3.20 - Care-seeking for fever

[3] MICS indicator 3.21 - Malaria diagnostics usage[4] MICS indicator 3.22; MDG indicator 6.8 - Anti-malarial treatment of children under age 5

[5]MICS indicator 3.23 - Treatment with Artemisinin-based Combination Therapy (ACT) among children who received anti-malarial treatment

[a]Includes all public and private health facilities and providers as well as shops

Care Seeking: Malaria preventive measures and treatment for pregnant women

Pregnant women living in malaria endemic environment are highly vulnerable to malaria. Once infected, pregnant women risk anaemia, premature delivery, and stillbirth. Their babies have increased the risk of low birth weight and infant death.[26] For this reason, intermittent preventive treatment (IPT) was introduced to protect pregnant women from malaria by giving drugs that prevent malaria infection during antenatal check-ups. In addition to IPT, there is distribution of

[26]Shulman, CE and Dorman, EK. 2003. *Importance and prevention of malaria in pregnancy*. Trans R Soc Trop Med Hyg 97(1): 30–55.

insecticide-treated mosquito nets during antenatal check-ups. WHO recommends that in areas of moderate-to-high malaria transmission, all pregnant women be provided with an intermittent preventive treatment with sulfadoxine-Pyrimethamine (SP) at every scheduled antenatal care visit. Table 6.8 (CH.24 & CH.25) presents the proportion of pregnant women who slept under a mosquito net during the previous night and received IPT for malaria.

Table 6.8 (CH.24 & CH.25): Intermittent preventive treatment for malaria

Percentage of women age 15-49 years who had a live birth during the two years preceding the survey and who received intermittent preventive treatment (IPT) for malaria during pregnancy at any antenatal care visit, Nigeria, 2016-17 Kano State

	Percentage of pregnant women age 15-49 years who slept under ITN in the previous night[1]	Number of pregnant women who spent last night in the interviewed households	Percentage of pregnant women		Number of women with a live birth in the last two years and who received antenatal care
			Who took any medicine to prevent malaria at any ANC visit during pregnancy	Who took SP/FansidarThree or more times[2]	
Total	**51.1**	**328**	**80.3**	**16.5**	**626**
Senatorial Districts					
Kano Central	56.5	109	85.6	15.9	303
Kano North	44.1	88	72.8	19.1	147
Kano South	51.4	131	77.4	15.4	177
Residence					
Urban	58.2	74	84.8	16.8	194
Rural	49.0	254	78.2	16.4	433
Education					
None	48.2	69	78.2	16.1	94
Non-formal	50.0	157	79.8	17.0	260
Primary	(60.0)	52	78.6	16.2	109
Secondary	(49.4)	45	83.0	16.3	136
Higher	(*)	5	(84.9)	(15.6)	28
Wealth index quintile					
Poorest	43.7	81	73.2	23.2	80
Second	48.0	63	72.3	13.2	110
Middle	47.3	71	84.4	21.1	126
Fourth	62.2	60	80.6	11.5	164
Richest	(58.6)	53	86.3	17.0	147

[1] MICS indicator 3.24 - Pregnant women who slept under an insecticide treated net (ITN)

[2] *MICS indicator 3.25 - Intermittent preventive treatment for malaria*

Percentage of pregnant women age 15-49 years who slept under ITN in the previous night is 51.1 percent. This implies that about one out of 2 pregnant women within two years preceding the survey slept under an ITN as recommended in Kano State. A lower proportion of pregnant women in Kano North practices this malaria preventive measure. Also, a higher percentage of pregnant women in urban areas, with education, and from rich households slept under an ITN than other social groups.

In the 2016-17 MICS, women were asked about the medicines they had received to prevent malaria in their last pregnancy during the 2 years preceding the survey. Women are considered to have intermittent preventive therapy if they have received at least 3 doses of SP/Fansidar during the pregnancy, at least one of which was taken during antenatal care. Although 80.3 percent of women took medicine to prevent malaria at ANC visit during pregnancy, only 16.5 percent took 3 or more doses of SP/Fansidar as recommended by WHO. While adherence to IPT is low for Kano State, it is specifically very low for Kano Central and Kano South senatorial districts, rural areas, and in women with higher education

VII. Water and Sanitation

The Sustainable Development Goal 6 is to ensure availability and sustainable management of water and sanitation for all by 2030: Access to safe clean water and sanitation for all and sound management of freshwater ecosystems are essential to human health and environmental sustainability and economic prosperity.[27]Drinking water can be polluted with physical, chemical, trace elements (heavy metals) and organic contaminants with aesthetic and harmful effects on public health. Unsafe drinking water can be a significant determinant of diseases such as cholera, typhoid, and schistosomiasis. In addition to preventing disease, improved access to drinking water may be particularly important for women and children, especially in rural areas, who bear the primary responsibility for carrying water, often for long distances.[28] Also, inadequate disposal of human excreta and personal hygiene are associated with a range of diseases including diarrhoeal diseases and polio and are important determinants of stunting. Improved sanitation can reduce diarrhoeal disease by more than a third[29], and can substantially lessen the adverse health impacts of other disorders among millions of children in many countries.

Use of Improved Water Sources

Safe drinking water is a basic necessity for good health. Sustainable Development goal 6, target 1 is to achieve universal and equitable access to safe and affordable drinking water for all by 2030, and increased proportion of population using safely managed drinking water services[30]. In Kano State, households main source of drinking water which is classified into improved and unimproved is presented in Figure WS 1.

KEY FINDINGS

58% of household members use improved sources of drinking water in Kano state

0.7 percent of households using unimproved drinking water sources have appropriate water treatment method:

- **0.7% boil water,**
- **0.7% add bleach or chlorine**
- **0.1% use water filter.**

One out of 2 household members use improved sanitation facilities that are not shared

34% households have improved drinking water source and improved sanitation facility. There are differentials across social groups in Kano state

One out of 6 households in Kano state has a specific place for handwashing where water and soap or other cleansing agents are present.

***E.Coli* contaminated drinking water is high and of public health concern as 97.0 percent of household members in Kano state drink faecal contaminated water**

Percentage of household in Kano state with improved drinking water sources accessible on the premises, available when needed, and free from faecal contamination is remarkably low 0.2 percent.

[27]For more details on water and sanitation and to access some reference documents, please visit **https://www.washdata.org**or the website of the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation

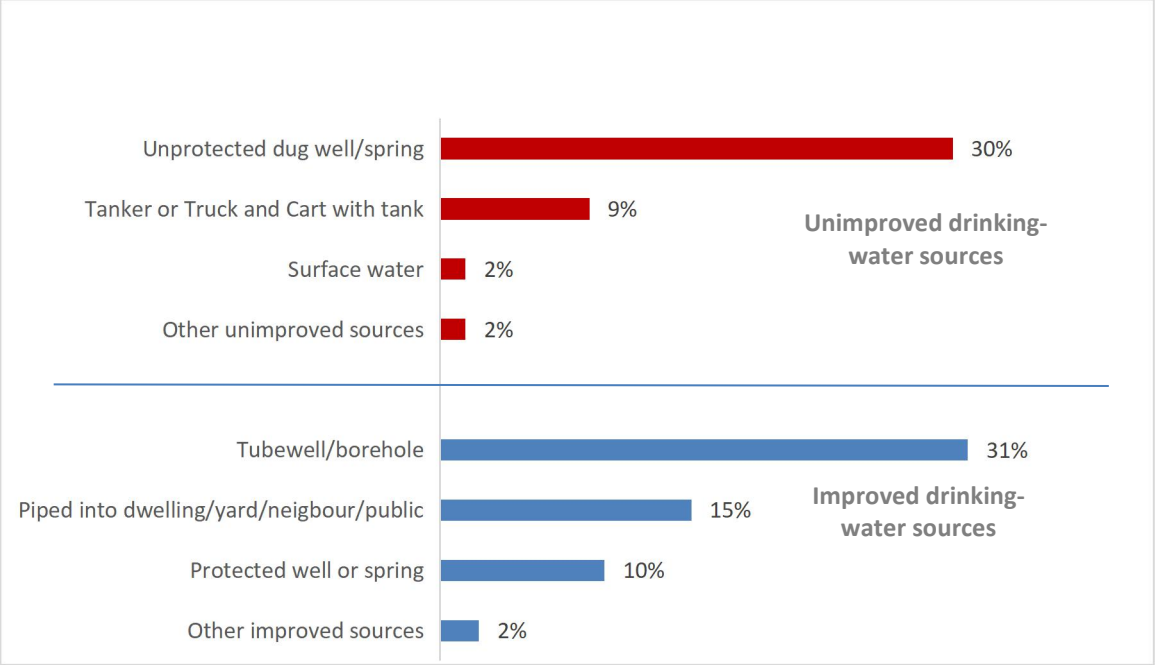
[28]WHO/UNICEF. 2012. *Progress on Drinking water and Sanitation: 2012 update*.

[29]Cairncross, S et al. 2010. *Water, sanitation and hygiene for the prevention of diarrhoea*. International Journal of Epidemiology 39: i193-i205.

[30] https://sustainabledevelopment.un.org/sdg6

An “improved drinking-water source" is one that by the nature of its construction adequately protects the source from outside contamination, in particular from faecal matter[31]. Improved drinking-water sources are: piped water (into dwelling, compound, yard or plot, to neighbour, public tap/standpipe), tube well/borehole, protected well, protected spring, and rainwater collection. Bottled water is considered as an improved water source only if the household is using an improved water source for hand washing and cooking. Fifty-eight percent of household use improved sources of drinking water. One out of 3of households (31 percent) used tube-well or borehole as source of improved drinking water. About 42 percent of households in Kano State still drink water from unimproved sources (mostly from unprotected well/spring) as at the time of Multiple Indicator Cluster survey 2016-17.

Figure 7.1: Percentage of household members by main source of drinking water. Nigeria 2016-17 Kano state

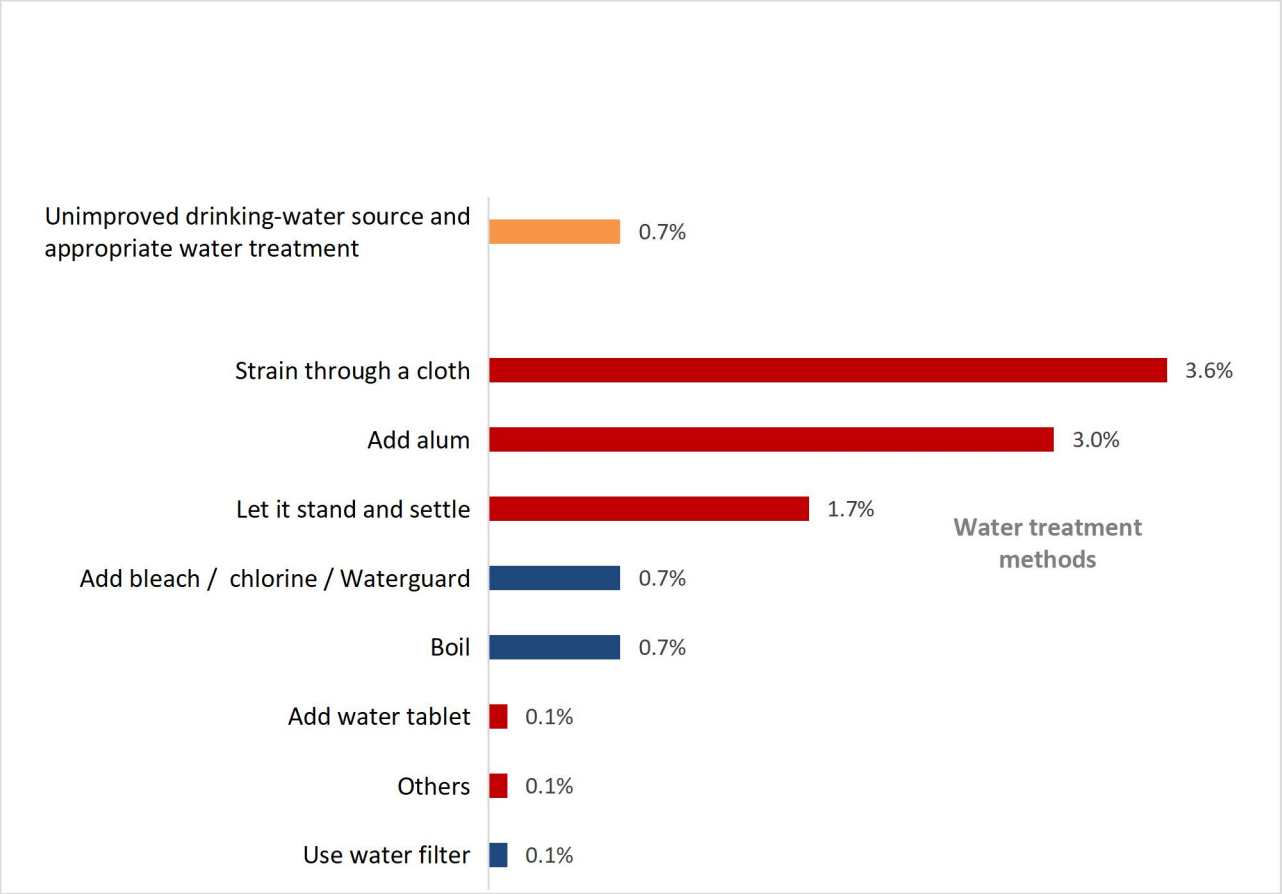


Use of household water treatment

Respondents in Kano were asked about ways of treating water at home to make it safer to drink. Boiling water, adding bleach or chlorine, using a water filter, and using solar disinfection are considered as effective treatment of drinking water. Use of household water treatment in Kano State is presented in Figure 7 .2. It shows water treatment by all households and the percentage of those living in households with unimproved water sources but using appropriate water treatment methods as well. In Kano, 0.7 percent of households are using unimproved drinking water sources and appropriate water treatment method. This implies that only 7 out of 1,000 households with unimproved drinking water source use appropriate water treatment method. The commonest water treatment method used in Kano households is straining the water through a cloth (3.6 percent). Very few households are use effective water treatment: boiling water (0.7 percent), adding bleach or chlorine (0.7 percent) and use of water filter (0.1 percent).

[31] http://www.who.int/water_sanitation_health/monitoring/coverage/jmp_fast_facts/en/

Figure 7.2: Percentage of household member using water treatment and those using unimproved water sources but appropriate water treatment methods, Nigeria, 2016-17 Kano state



Use and sharing of improved sanitation facilities

The 2017 thematic report on safely managed sanitation and hygiene considers the implications of target 6.2 “by 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations”, and outlines Joint Monitoring Programme (JMP) plans for enhanced global monitoring of sanitation and hygiene in the 2030 Agenda for Sustainable Development. An improved sanitation facility is defined as one that hygienically separates human excreta from human contact. Improved sanitation facilities for excreta disposal include flush or pour - flush to a piped sewer system, septic tank, or pit latrine; ventilated improved pit latrine, pit latrine with slab, and use of a composting toilet. Percent distribution of household population according to types of toilet facility used by the household in Kano State is presented in Figure 7 .3.

About 63 percent of household population used improved sanitation facility in Kano State, and the most common is pit latrine with slabs. The most commonly used unimproved sanitation facilities are pit latrine without a slab or open pit (30.9 percent)

The SDG 6.2 and the WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation, classify otherwise acceptable sanitation facilities which are public or shared between two or more households as unimproved. Therefore, “improved sanitation” is used both in the context of this report and as an SDG indicator to refer to improved sanitation facilities, which are not public or shared. As shown in Figure 7 .4, 55.1 percent of the household population use improved sanitation facilities that are not shared,7.5 percent of households use improved sanitation facilities that are shared with other households and 0.8 percent uses shared public facility.

Figure 7.3: Distribution of household population according to types of toilet facility used by the household, Nigeria, 2016-17 Kano state

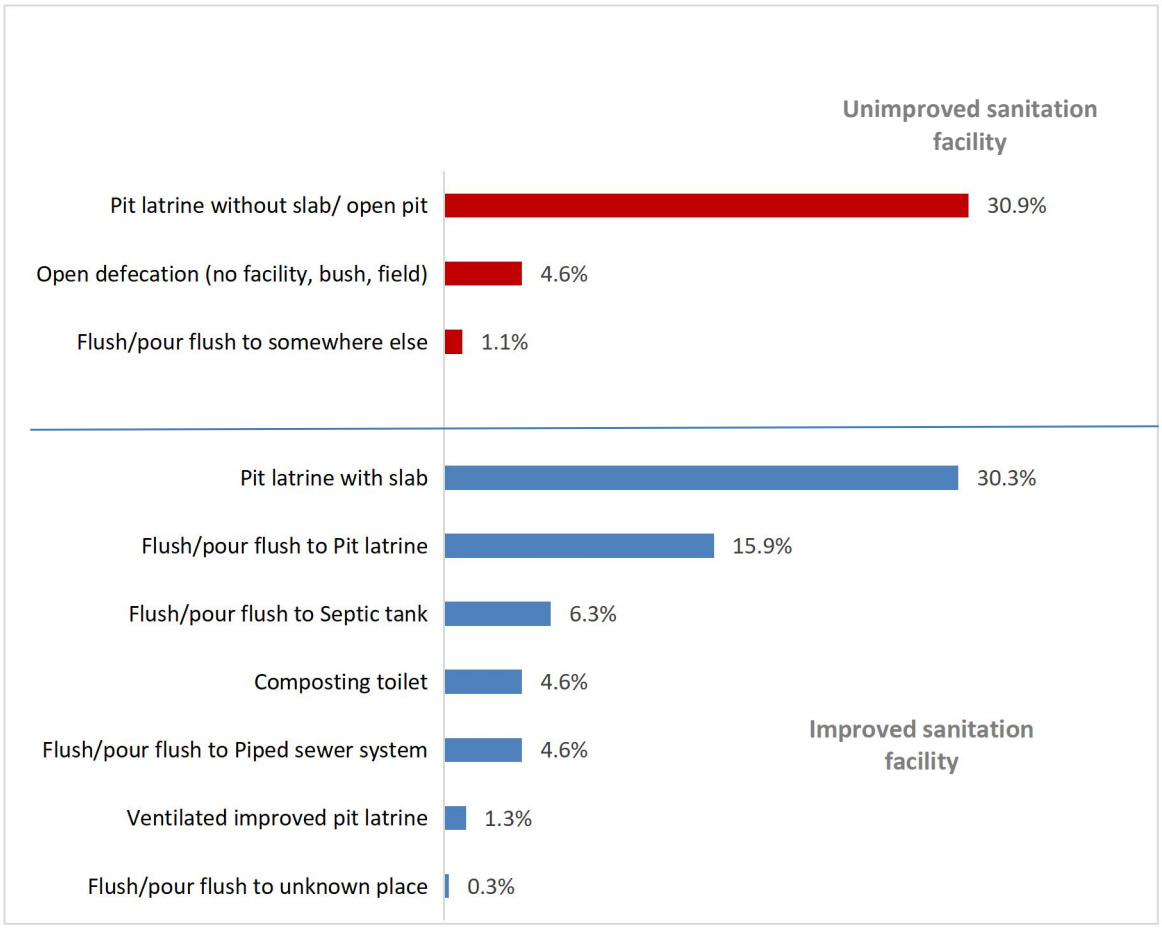
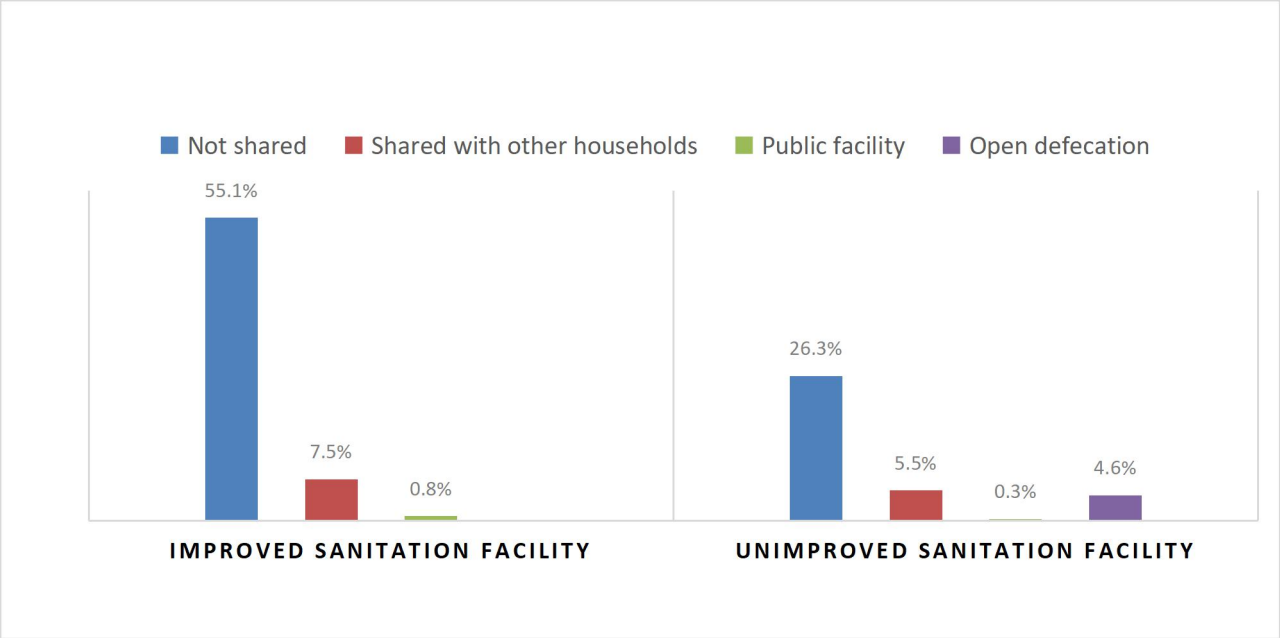


Figure 7.4: Distribution of household members by use and sharing of sanitation facilities, Nigeria, 2016-17 Kano state



Drinking water and Sanitation ladder

Having access to both improved drinking water source and improved sanitation facility brings the largest public health benefits to a household.[32]In its 2008 report[33], the JMP developed a new way of presenting the access figures, by disaggregating and refining the data on drinking-water and sanitation and reflecting them in "ladder" format. This ladder allows a disaggregated analysis of trends in a three- rung ladder for drinking-water and a four-rung ladder for sanitation as presented in Table 7.1 (WS.7). The percentage of households with access to both improved sources of drinking water[34] and improved sanitation facilities is 33.8 percent. This implies that one out of 3 households have improved drinking water source and improved sanitation facility. There are differentials across social groups in Nigeria.

[32]Wolf, J et al. 2014. *Systematic review: Assessing the impact of drinking water and sanitation on diarrhoeal disease in low- and middle-income settings: systematic review and meta-regression*. Tropical Medicine and International Health 2014.
DfID. 2013. *Water, Sanitation and Hygiene: Evidence Paper*. DfID:
http://r4d.dfid.gov.uk/pdf/outputs/sanitation/WASH-evidence-paper-april2013.pdf
[33]WHO/UNICEF JMP. 2008. *MDG assessment report*.*http://www.wssinfo.org/fileadmin/user_upload/resources/1251794333-JMP_08_en.pdf*
[34]Those indicating bottled water as the main source of drinking water are distributed according to the water source used for other purposes such as cooking and handwashing.

Table 7.1 (WS.7): Drinking water and sanitation ladders

Percentage of household population by drinking water and sanitation ladders, Nigeria, 2016-17 Kano State

	Percentage of household population using:								
	Improved drinking water[1, a]		Unimproved drinking water	Improved sanitation[2]	Shared improved sanitation facilities	Unimproved sanitation		Improved drinking water sources and improved sanitation	Number of household members
	Piped into dwelling, plot or yard	Other improved				Unimproved facilities	Open defecation		
Total	**7.8**	**50.1**	**42.1**	**55.1**	**8.2**	**32.0**	**4.6**	**33.8**	**13365**
Senatorial districts									
Kano Central	13.2	49.6	37.2	73.0	9.1	17.4	0.5	46.1	5772
Kano North	7.8	56.3	35.9	50.8	8.0	32.2	9.0	35.0	3431
Kano South	0.2	45.7	54.0	33.8	7.1	52.2	6.9	15.6	4162
Residence									
Urban	14.5	48.9	36.6	80.4	9.0	10.6	0.0	52.8	3748
Rural	5.2	50.6	44.2	45.2	7.9	40.4	6.5	26.3	9617
Education of household head									
None	7.3	49.5	43.1	37.5	8.1	47.1	7.3	24.4	1262
Non-formal	5.1	47.9	47.0	46.8	8.5	37.9	6.8	24.7	6747
Primary	6.0	56.2	37.8	55.1	7.0	35.8	2.1	35.4	1562
Secondary	8.6	53.1	38.3	71.7	10.7	16.3	1.3	46.7	2282
Higher	22.2	48.6	29.2	84.2	3.8	11.9	0.0	62.5	1427
Wealth index quintile									
Poorest	1.0	41.8	57.2	26.6	6.6	50.5	16.3	10.1	2672
Second	5.0	45.7	49.3	40.4	8.0	46.3	5.3	21.2	2668
Middle	5.7	57.5	36.7	51.3	8.9	38.6	1.2	33.8	2682
Fourth	5.4	57.0	37.6	70.3	11.1	18.2	0.4	41.4	2665
Richest	21.8	48.6	29.6	86.8	6.6	6.6	0.0	62.3	2678

[1] MICS indicator 4.1; MDG indicator 7.8 - Use of improved drinking water sources

[2] MICS indicator 4.3; MDG indicator 7.9 - Use of improved sanitation

[a] Those indicating bottled water as the main source of drinking water are distributed according to the water source used for other purposes such as cooking and handwashing.

Across senatorial districts, Kano Central has the highest percentage (46.1) of households that have access to both improved drinking water source and improved sanitation; Kano North has 35.0 percent and Kano South has the lowest estimate of 15.6 percent. Access to improved drinking water sources is higher in urban areas (14.5 percent), than rural areas (5.2 percent). Also, the use of improved sanitation is higher in the urban (80.4 percent) than rural areas (45.2 percent). Proportion of households that have access to improved drinking water and improved sanitation is 52.8 percent for urban areas and 26.3 percent for rural areas. The higher the education of household head and wealth index, the higher the proportion of household with drinking water and sanitation.

Disposal of child's faeces

Safe disposal of a child's faeces is disposing of the stool, by the child using a toilet or by rinsing the stool into a toilet or latrine. Putting disposable diapers with solid waste, a very common practice throughout the world has thus far been classified as an inadequate means of disposal of child faeces for concerns about poor disposal of solid waste itself. Disposal of faeces of children 0-2 years of age is presented in Table 7.2 (WS.8). In Kano State, 83.3 percent of children had their last stools disposed of safely by using toilet /latrine or rinsing it into toilet/latrine.

Table7.2 (WS.8): Disposal of child's faeces

Percent distribution of children age 0-2 years according to place of disposal of child's faeces, and the percentage of children age 0-2 years whose stools were disposed of safely the last time the child passed stools, Nigeria, 2016-17 Kano State

	Place of disposal of child's faeces									Percentage of children whose last stools were disposed of safely[1]	Number of children age 0-2 years
	Child used toilet/latrine	Put/rinsed into toilet or latrine	Put/rinsed into drain or ditch	Thrown into garbage	Buried	Left in the open	Other	Don't know	Missing		
Total	**27.8**	**55.4**	**6.2**	**7.1**	**1.7**	**0.7**	**0.7**	**0.3**	**0.1**	**83.3**	**1537**
Sanitation facility used by household members											
Improved	30.2	55.4	6.2	5.4	0.8	0.4	1.0	0.4	0.1	85.6	940
Unimproved	25.3	59.5	6.7	7.6	0.5	0.3	0.2	0.0	0.0	84.8	524
Open defecation	15.8	26.5	2.0	26.5	21.2	6.9	1.1	0.0	0.0	42.3	73
Senatorial district											
Kano Central	32.5	54.1	5.9	4.1	0.8	0.4	1.4	0.7	0.2	86.5	570
Kano North	23.0	51.5	4.5	15.0	3.5	1.7	0.8	0.0	0.0	74.5	435
Kano South	26.9	60.1	7.8	4.0	1.1	0.2	0.0	0.0	0.0	86.9	533
Residence											
Urban	32.1	52.4	6.9	4.3	0.4	0.2	2.2	1.1	0.3	84.5	351
Rural	26.6	56.3	6.0	8.0	2.0	0.8	0.3	0.0	0.0	82.9	1186
Mother's education											
None	26.1	46.1	9.2	10.3	4.2	1.4	1.5	1.1	0.0	72.3	264
Non-formal	26.0	58.2	6.4	6.3	1.5	0.9	0.7	0.0	0.0	84.2	764
Primary	36.0	54.2	3.1	5.7	1.1	0.0	0.0	0.0	0.0	90.2	229
Secondary	28.6	57.3	6.1	6.6	0.0	0.0	0.9	0.5	0.0	85.9	240
Higher	(24.1)	(58.7)	(0.0)	(14.7)	(0.0)	(0.0)	(0.0)	(0.0)	(2.6)	(82.7)	40
Wealth index quintile											
Poorest	25.3	49.6	4.9	12.7	4.3	2.6	0.6	0.0	0.0	74.9	307
Second	25.6	56.5	7.5	6.8	2.3	0.8	0.5	0.0	0.0	82.1	329
Middle	28.6	57.1	6.5	7.8	0.0	0.0	0.0	0.0	0.0	85.6	328
Fourth	26.6	57.7	7.1	4.4	1.5	0.0	1.8	0.9	0.0	84.3	306
Richest	34.0	56.2	4.6	3.5	0.0	0.0	0.9	0.4	0.4	90.2	268

[1] MICS indicator 4.4 - Safe disposal of child's faeces

( ) Sample data are based on 25-49 unweighted cases

Although within social group differential is not pronounced, safe disposal of child's faeces occurred more in households where members used improved sanitation facility (85.6 percent), Kano South (86.9 percent), urban areas (84.5 percent), mothers with primary education (90.2) and richest wealth index quintile household (70.7 percent).

Handwashing

Handwashing with water and soap is the most cost - effective health intervention to reduce both the incidence of diarrhoea and pneumonia in children under five[35]. It is most effective when done using water and soap after visiting a toilet or cleaning a child, before eating or handling food and, before feeding a child. Monitoring correct handwashing behaviour at these critical times is challenging.

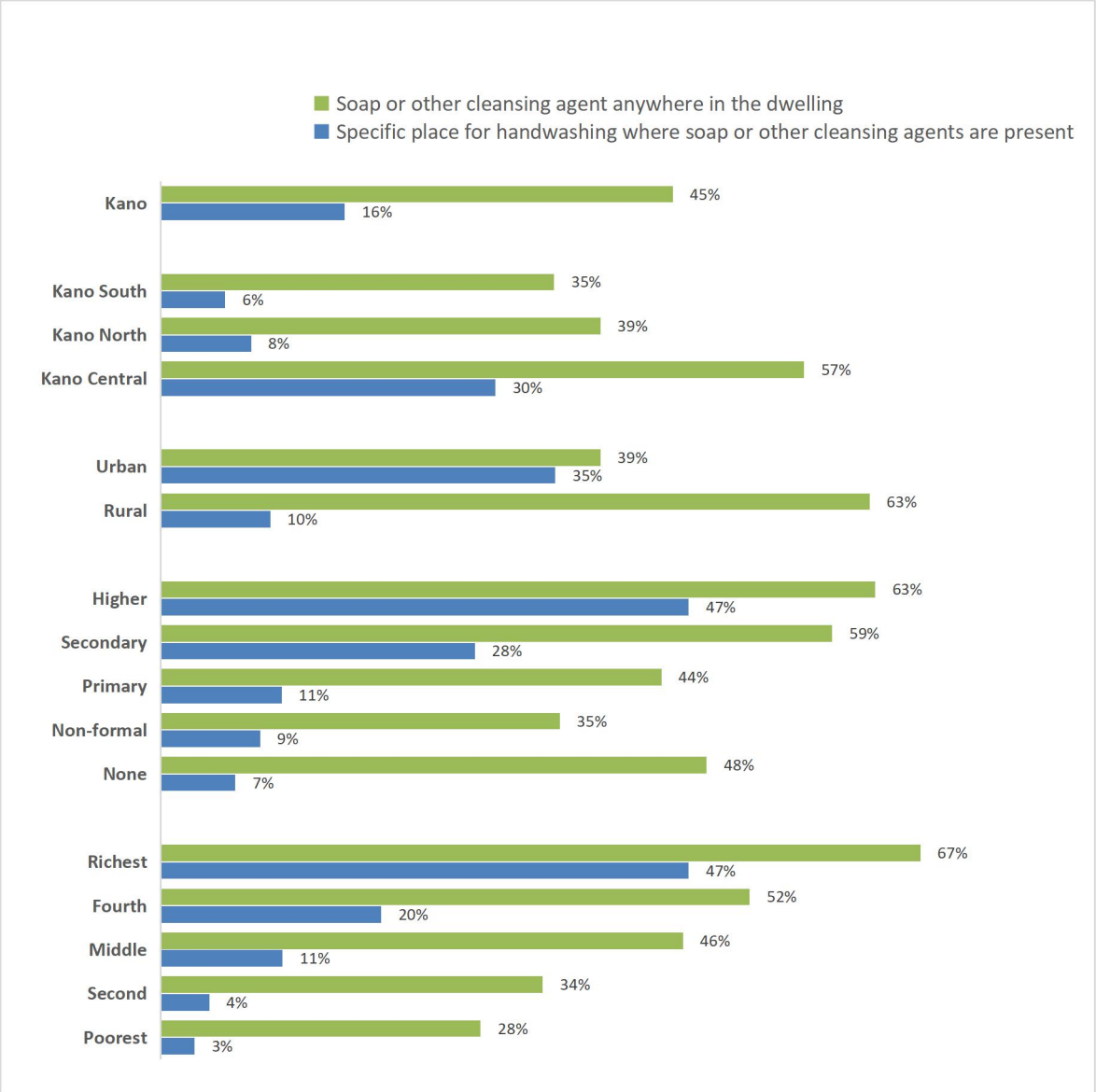
A reliable alternative to observations or self-reported behaviour is assessing the likelihood that correct handwashing behaviour takes place by asking if a household has a specific place where people wash their hands and, if yes, observing whether water and soap (or other local cleansing materials) are available at a specific place for handwashing. Figure 7.5 shows the percentage of households with a specific place for handwashing, where water and soap or other cleansing agent are present in Kano State.

Only 16 percent of households have a specific place for handwashing where water and soap or other cleansing agents are present. However, the proportion of household with soap or other cleansing agents anywhere in the dwelling is 45 percent. This implies that while about four out of 10 households have soap or other cleansing agents anywhere in the dwelling, one out of 6 have a specific place for handwashing where there are water and soap.

Although having an appropriate handwashing place is generally low in Kano, Kano Central senatorial district (30 percent) and urban areas (35 percent) have the highest proportion of household with a specific place for handwashing with water and soap. Also, the higher the education of household head and wealth index, the higher the proportion of household with an appropriate place for handwashing.

[35]Cairncross, S and Valdmanis, V. 2006. *Water supply, sanitation and hygiene promotion* Chapter 41 in *Disease Control Priorities in Developing Countries*. 2nd Edition, Edt. Jameson et al. The World Bank.

Figure 7.5: Percentage of households with a specific place for handwashing where water and soap or other cleansing agent are present. Nigeria, 2016-17 Kano state



Water Quality

The global indicator for tracking progress towards the SDG drinking water target (SDG 6.1) is the use of 'safely managed drinking water services', defined as an improved drinking water source that is accessible on premises, available when needed and free from contamination[36]. The Nigeria MICS 2016-17 recorded whether households used sources located on premises, whether water sources provided water every day in the last two weeks and also included direct measurement of microbiological quality of drinking water at both the source and the household level.

Microbiological characteristics of drinking water are used to describe the presence or absence of microbiological organisms and water - borne pathogens. E.coli is a member of the faecal coliform group and is a more specific indicator of faecal pollution than other faecal coliform and often used to measure the degree of pollution and sanitary integrity of drinking water. The presence of E.coli in water has adverse health effects on infants, the elderly and those with compromised immune systems. In extreme cases some pathogens may infect the lungs, skins, eyes, nervous system, kidney or liver and the effects may be more severe, chronic, or even fatal including stunting among children. Aside disease-causing pathogens there are also physical, chemical, trace elements (heavy metals) and organic contaminants that its presence in drinking water may have profound aesthetic and harmful effects on public health.

Achieving water quality standard that meets Nigerian Standard for Drinking Water Quality: NIS-544-2007, revised 2015, is a mandatory prerequisite for water destined for human consumption. Also, Sustainable Development Goal 6 isaccess to safe clean water and sanitation for all and sound management of freshwater ecosystems are essential to human health and environmental sustainability and economic prosperity.

The bacteria species *Escherichia coli (E. coli)* is the most commonly recommended faecal indicator, and many countries including Nigeria have set a standard that no *E. coli* should be found in a 100 mL sample of drinking water.*E. coli* was measured in the field by MICS teams by filtering 100 mL of the sample through a 0.45 micron filter (Millipore Microfil®) which was then placed onto Compact Dry EC growth media plates (Nissui, Japan). A 1 mL sample was also tested from the same source directly onto a second media plate. Incubation was done using ambient temperature and incubation belts were worn at night to keep the samples near body temperature. After 24-48 hours, the number of blue colonies, signifying the presence of *E. coli* colony forming units (CFU), was recorded and classified into the following risk categories: low risk (<1 per 100 mL), medium risk (1-10 per 100 mL), high risk (11-100 per 100 mL) and very high risk (>100 per 100 mL)[37]. Laboratory staff identified by the Federal Ministry of Water Resources trained field teams and conducted field visits as part of the quality assurance for the water quality module.

Tables 7 .3 (WQ1,WQ2 & WQ3) report the levels of contamination of drinking water from a glass within the home and from a water sample obtained from the water source. It also combines information on the quality, availability and location of drinking water sources to provide estimates of safely managed drinking water services for Nigeria.

[36] WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (2017), Progress on Drinking Water, Sanitation and Hygiene: 2017 Update and SDG baseline.

[37] Adapted from WHO drinking water quality guidelines, 4th Ed. (2011), E. coli coliform counts are divided into risk categories based on probability of infection of diarrheal disease. Note, this classification does not take account of the sanitary inspection.

Quality of household drinking water and source of drinking water

In Kano state, 97 percent of household members drink water contaminated by *E.Coli*. This is of public health concern as almost everybody in Kano drinks faecal contaminated water which has an adverse health effect. The source of water can also determine the level of contamination in household drinking water. E-coli contamination is lowest in a household where they drink sachet and bottled water (78.7 percent) and highest among those who fetched drinking water from well and springs (100 percent). Although there is a marginal difference in all social group in Kano State, faecal contamination of household drinking water is 100 percent in Kano North, well and spring source of drinking water (protected and unprotected), where household head is not educated, and poorest to middle wealth index quintiles.

In about four out of 5 households, drinking water is contaminated by *E-coli* at the source. This occurred more if they drink water from sources such as well and spring (protected or unprotected), rainwater collection and tanker-truck with cart. E-coli contamination at the source of drinking water is also high in the urban areas, where household head is not educated and poorer wealth index quintile households.

Safely Managed Drinking Water Sources

Percentage of household in Kano State with improved drinking water sources accessible on the premises, available when needed, and free from faecal contamination is remarkably low (0.2 percent). Safely managed drinking water source is highest in a household where the main drinking water source is from sachet and bottled water, and lowest from households where drinking water source is unprotected well and spring. Also, improved drinking water source located on premises, free of *E-coli* and available when needed is scarce in the rural area, a household where the head is not educated and poor households.

Table 7.3 (WQ.1, WQ.2 & WQ.3): Quality of household drinking water and source of drinking water, and use of safely managed drinking water sources, Nigeria 2016-17 Kano State

Percent distribution of household population according to faecal contamination risk as assessed by levels of E. coli in household drinking water, and percent of household population with E. coli in drinking water Nigeria, 2016-17 Kano State

	Percentage drinking water contaminated by E. Coli in the household drinking water[1]	Percentage drinking water contaminated by E. Coli at the source of drinking water[2]	Percentage with an improved drinking water source located on premises, free of E. coli and available when needed[2]	Number of household members with information on water quality
Total	97	88	**0.2**	**639**
Senatorial district				
Kano Central	98.3	93.8	0.6	284
Kano North	100	82.6	0	131
Kano South	93.6	83.8	0	224
Residence				
Urban	97.2	96.5	0.9	176
Rural	96.9	84.8	0	463
Main source of drinking water				
Piped water	95.8	95.3	0	101
Tubewell/borehole	94.8	74.1	0	272
Protected wells and springs	100	100	0	32
Unprotected wells and springs	100	100	0	227
Sachet and bottled water	78.7	0	100	2
Other	100	100	0	6
Education of household head				
None	100	100	0	19
Non-formal	100	89.5	0	410
Primary	71.5	100	0	56
Secondary	98.7	70.6	1.6	99
Higher	92.6	91.6	0	56
Wealth index quintile				
Poorest	100	88.2	0	124
Second	100	83.2	0	113
Middle	100	89.5	0	90
Fourth	93.1	86.4	0	202
Richest	95.2	94.3	1.4	110

[1] MIC Indicator 4.51: Quality of drinking water at the household
[2] MIC Indicator 4.52: Quality at the source of household drinking water
[3] MIC indicator 4.53, SDG 6.1.1: Use of safely managed drinking water sources

VIII. Reproductive Health

Fertility

Fertility is a component of population dynamics that determine the size, structure and composition of the population. Measures of current fertility are presented in Table 8.1 (RH.1) for the three-year period preceding the survey. A three-year period was chosen for calculating these rates to provide the most current information while also allowing the rates to be calculated for a sufficient number of cases so as not to compromise the statistical precision of the estimates.

Age-specific fertility rates (ASFRs), expressed as the number of births per 1,000 women in a specified age group, shows the age pattern of fertility. Numerators for ASFRs are calculated by identifying live births that occurred in the three-year period preceding the survey classified according to the age of the mother (in five-year age groups) at the time of the child's birth. The denominators of the rates represent the number of woman-years lived by the survey respondents in each of the five-year age groups during the specified period.

The total fertility rate (TFR) is a synthetic measure that denotes the number of live births a woman would have if she were subject to the current age-specific fertility rates throughout her reproductive years (15-49 years). The general fertility rate (GFR) is the number of live births occurring during the specified period per 1,000 women age 15-49. The crude birth rate (CBR) is the number of live births per 1,000 population during the specified period.

Table 1 (RH.1) and Figure 8.1 show current fertility rates in Kano State and by urban-rural area. Crude Birth Rate for Kano is 45 per 1,000 population. General fertility rate, more refined measures of fertility based on the number of live births divided by the number of women in their childbearing years for a given period is 237 per 1,000 women age 15-49 years.

KEY FINDINGS

A woman in Kano state will have about 8 children over her childbearing years.

Adolescent birth rate is 169 per 1,000 women in Kano state

Adolescent fertility differentials per 1,000 women age 15-19 year:
Urban, 62: Rural, 218
Richest, 45: Poorest, 241
Higher Education, 0:
Non-formal education, 268,

Two out of 5 women age 20-24 in Kano state have had a live birth before age 18

One out of 16 women currently married or in union are using contraception (6.3 percent)

Unmet need for family planning in Kano is 30.8 percent

65.1 percent received antenatal care from a skilled provider.

44.7 percent of women with a live birth in the last two years had four or more antenatal visits.

19.8 percent of births were delivered by skilled personnel- doctor, nurse, midwife or auxiliary midwife

15.7 percent of women age 15-49 used health facility for their last delivery.
12.5 percent in public health facilities 3.2 percent in private

The Total Fertility Rate for the three years preceding MICS 2016-17 in Kano State is 7.7 births per woman. This implies that a woman in Kano population will have about 8 births over her childbearing years. The overall age pattern of fertility, as reflected in the ASFRs (Figure 8.1.1) indicates that childbearing begins early at adolescents, increases to a peak in women age 25-29 at303 births per 1,000, and declines thereafter.

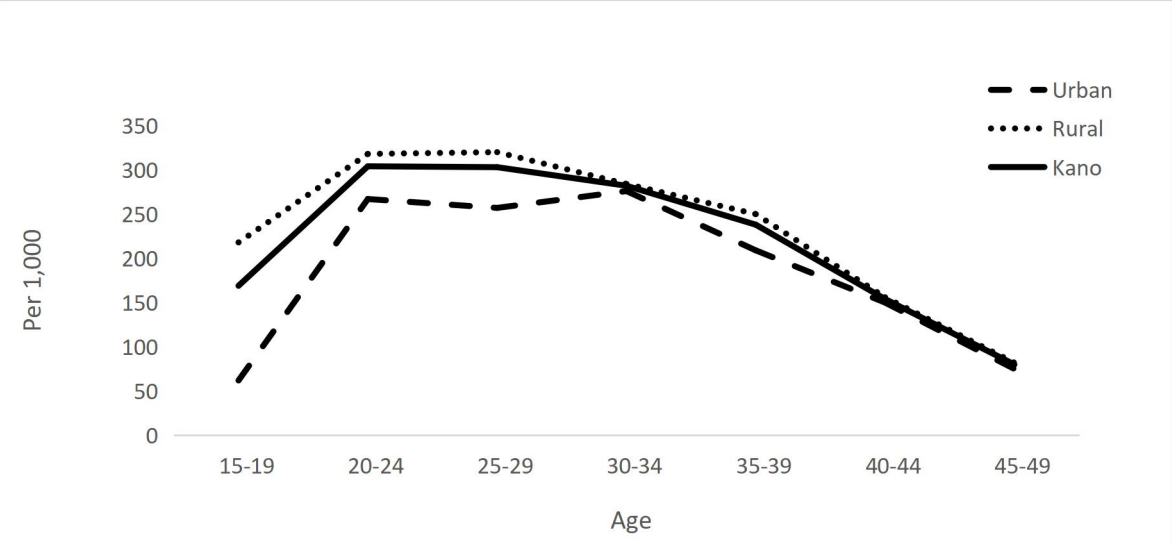
Table8.1(RH.1): Fertility rates

Total fertility rate, age-specific fertility rate, general fertility rate and crude birth rate for the three-year period preceding the survey, by area, Nigeria, 2016-17Kano State

	Urban	Rural	Total
Age (Years)			
15-19[1]	62	218	**169**
20-24	267	318	**304**
25-29	257	320	**303**
30-34	276	284	**282**
35-39	209	250	**238**
40-44	150	156	**154**
45-49	75	82	**80**
TFR[a]	**6.5**	**8.1**	**7.7**
GFR[b]	**184.6**	**258.2**	**237.3**
CBR[c]	**36.0**	**47.9**	**45.1**

[1] MICS indicator 5.1; MDG indicator 5.4 - Adolescent birth rate
[a] TFR: Total fertility rate expressed per woman age 15-49 years
[b] GFR: General fertility rate expressed per 1,000 women age 15-49 years
[c] CBR: Crude birth rate expressed per 1,000 population

Figure 8.1: Age-specific fertility rates by area, Nigeria, 2016-17 Kano state



Rates refer to the three-year period preceding the survey

Table 8.2 (RH.2) further presents the pattern of adolescent birth rates and total fertility rates among different social and demographic groups in Kano. The adolescent birth rate (age-specific fertility rate for women age 15-19) is defined as the number of births to women age 15-19 years during the three-year period preceding the survey, divided by the average number of women age 15-19

(number of women-years lived between ages 15 through 19, inclusive) during the same period, expressed per 1,000 women. The adolescent birth rate is 169 per 1000 women age 15-19 years.

Table 8.2 (RH.2): Adolescent birth rate and total fertility rate

Adolescent birth rates and total fertility rates for the three-year period preceding the survey, Nigeria, 2016-17 Kano State

	Adolescent birth rate[1] (Age-specific fertility rate for women age 15-19 years)	Total fertility rate
Total	**169**	**7.7**
Senatorial District		
Kano Central	78	6.8
Kano North	244	8.2
Kano South	241	8.3
Residence		
Urban	62	6.5
Rural	218	8.1
Education		
None	268	7.6
Non-formal	255	8.3
Primary	252	9.4
Secondary	67	6.7
Higher	0	3.7
Wealth index quintile		
Poorest	241	8.0
Second	224	8.0
Middle	244	8.6
Fourth	147	8.3
Richest	45	5.7

[1] *MICS indicator 5.1; MDG indicator 5.4 - Adolescent birth rate*

Residence fertility differentials*:* Fertility is higher in rural areas than in urban areas across all the measures in Kano State; TFR is 25 percent higher, CBR is 33 percent higher and GFR is 40 percent higher. The same pattern is observed for ASFRs, which are higher in Kano rural areas than urban areas for all age groups as shown in Figure 8.1. The urban-rural difference in fertility is most pronounced for women in the 15-19 age group (adolescent): 62 births per 1,000 women in urban areas versus 218 births per 1,000 women in rural areas.

Education fertility differentials*:* Maternal education is expected to have an inverse relationship with fertility rates. This fertility pattern is observed in Kano State as adolescent birth rate and total fertility rate decreases with higher level of maternal education. This is more evident on adolescent birth rate (ASFR 15-19), with birth rates of 268 per 1,000 women with no education compared to birth rates of 0 per 1,000 women with higher education. The total fertility rate for women with higher education and women with no education is in the ratio 1:2 in Kano.

Wealth Index fertility differentials: The adolescent birth rate among the poorest household is higher (241 per 1,000 women) than the richest (45 per 1,000 women). Also, a woman age 15-49 year who is in the poorest wealth index quintile will have 8 children in her lifetime compared to 6 for women in the richest wealth index quintile.

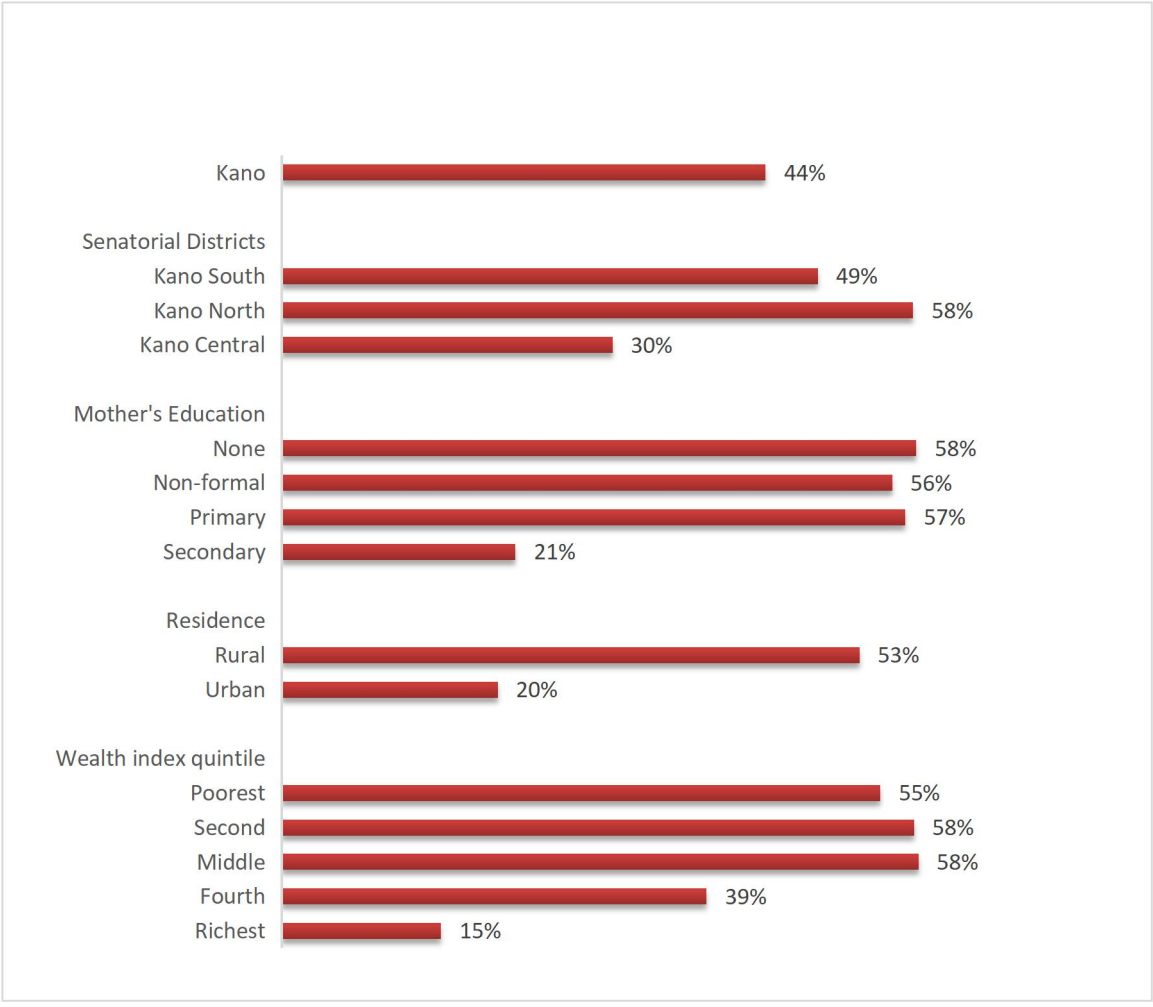
Senatorial districts differential: While Kano TFR high at 7.7, Kano North and Kano South senatorial districts have higher value of 8.2 and 8.3 respectively. Kano Central TFR is lowest at 6.2 births. The adolescent fertility rate is about three times lower in Kano Central (78 per 1,000) than Kano North (244 per 1,000) and Kano South (241 per 1,000).

Early Childbearing

Early child bearing is unsafe for mother and child. Although very early childbearing before age 15 has reduced, births among older adolescent -before age 18 is still high in all regions with Nigeria having the highest rate in Sub-Saharan Africa.[38] MICS 2016-17 indicator of early childbearing is the percentage of women age 20-24 years who had at least one live birth before age 18. Early childbearing in Kano State is presented in Figure 8.3.

In Kano State, four out of 10 women age 20-24 have had a live birth before age 18. Across different socio-economic groups, early childbearing is more prevalent in Kano North (58 percent) and Kano South (49 percent). There is wide disparity in early childbearing between women with secondary education (21 percent) and those with no education (58 percent). Early childbearing also occurred more in rural area (53 percent) and poorer wealth index quintile (55-58 percent) than other groups.

Figure 8.3: Percentage of women age 20-24 years who had at least one live birth before age 18, Nigeria 2016-17, Kano State



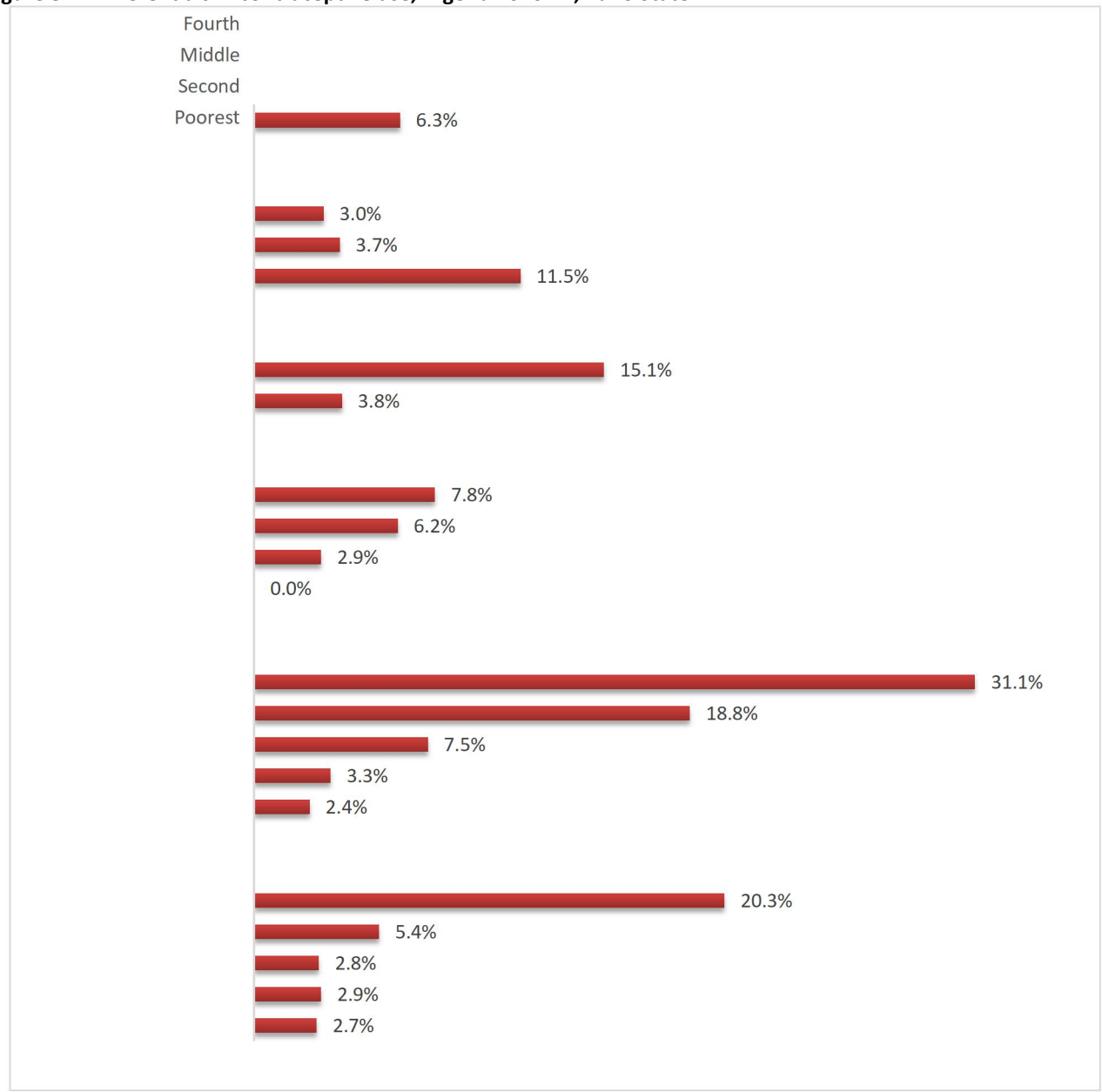
[38]https://data.unicef.org/topic/maternal-health/adolescent-health/#

Contraception

Family planning is conscious effort to limit or space the number of children by a couple through the use of contraceptive methods. Appropriate family planning is important to the health of women and children by 1) preventing pregnancies that are too early or too late 2) extending the period between births and 3) limiting the total number of children. Access by all couples to information and services to prevent pregnancies that are too early, too closely spaced, too late or too many is critical.

Figure 8.4 and Table 3 (RH.5) show the pattern of contraceptive use in women age 15-49 who are currently married or in a union in Kano State. One out of 16 women who are currently married or in a union[39]is using contraception (6.3 percent).

Figure 8.4: Differentials in contraceptive use, Nigeria 2016-17, Kano State



[39] All references to "married women" in this chapter include women in marital union as well.

Table 8.3 (RH.5): Use of contraception

Percentage of women age 15-49 years currently married or in union who are using (or whose partner is using) a contraceptive method, Nigeria, 2016-17 Kano State

	Percentage of women currently married or in union who are using (or whose partner is using):																	
	No method	Female sterilization	Male sterilization	IUD	Injectables	Implants	Pill	Male condom	Female condom	Diaphragm /Foam/Jelly	LAM	Periodic abstinence	Withdrawal	Other	Any modern method	Any traditional method	Any method[1] women age 15-49 years currently married or in union	
Total	**93.7**	**0.0**	**0.0**	**0.4**	**2.2**	**0.7**	**2.2**	**0.0**	**0.0**	**0.1**	**0.2**	**0.2**	**0.0**	**0.4**	**5.7**	**0.6**	**6.3**	**1949**
Senatorial District																		
Kano Central	88.5	0.0	0.0	0.9	4.7	2.0	3.0	0.0	0.0	0.2	0.3	0.5	0.0	0.1	10.9	0.6	11.5	723
Kano North	96.3	0.0	0.0	0.2	0.2	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.6	1.1	3.7	538
Kano South	97.0	0.0	0.0	0.1	1.0	0.0	1.4	0.0	0.0	0.0	0.2	0.0	0.0	0.3	2.7	0.3	3.0	688
Residence																		
Urban	84.9	0.0	0.0	1.4	6.9	2.9	3.1	0.0	0.0	0.0	0.4	0.2	0.0	0.2	14.8	0.4	15.1	437
Rural	96.2	0.0	0.0	0.1	0.8	0.1	2.0	0.0	0.0	0.1	0.1	0.2	0.0	0.5	3.1	0.7	3.8	1512
Age (Years)																		
15-19	97.6	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.4	0.0	0.0	1.1	1.3	1.1	2.4	180
20-24	95.8	0.0	0.0	0.0	2.0	1.0	1.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	4.2	0.0	4.2	364
25-29	94.6	0.0	0.0	0.8	1.9	0.8	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	5.2	0.2	5.4	410
30-34	89.9	0.0	0.0	0.6	3.9	1.0	2.8	0.0	0.0	0.3	0.6	0.7	0.0	0.2	9.2	0.9	10.1	336
35-39	92.8	0.0	0.0	0.2	2.9	0.0	2.7	0.0	0.0	0.0	0.0	0.4	0.0	0.9	5.8	1.4	7.2	277
40-44	88.8	0.0	0.0	1.0	2.3	1.8	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.8	10.3	0.8	11.2	212
45-49	97.4	0.0	0.0	0.0	0.6	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.2	0.4	2.6	170
Number of living children																		
0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	152
1	97.1	0.0	0.0	0.0	0.6	0.5	0.9	0.0	0.0	0.0	0.3	0.0	0.0	0.8	2.2	0.8	2.9	261
2	93.6	0.0	0.0	0.7	1.4	1.2	2.5	0.0	0.0	0.0	0.2	0.0	0.0	0.3	6.1	0.3	6.4	288
3	92.2	0.0	0.0	0.6	2.5	1.7	2.2	0.0	0.0	0.4	0.0	0.3	0.0	0.0	7.4	0.3	7.8	288
4+	92.2	0.0	0.0	0.4	3.0	0.5	2.8	0.0	0.0	0.0	0.2	0.3	0.0	0.6	7.0	0.8	7.8	961
Education																		
None	96.7	0.0	0.0	0.0	0.9	0.4	1.3	0.0	0.0	0.0	0.2	0.0	0.0	0.5	2.9	0.5	3.3	392
Non-formal	97.6	0.0	0.0	0.0	0.8	0.0	1.0	0.0	0.0	0.0	0.1	0.1	0.0	0.4	1.9	0.5	2.4	985
Primary	92.5	0.0	0.0	0.0	2.6	0.0	3.5	0.0	0.0	0.0	0.7	0.5	0.0	0.3	6.8	0.7	7.5	252
Secondary	81.2	0.0	0.0	1.6	7.8	3.7	4.8	0.0	0.0	0.4	0.0	0.0	0.0	0.5	18.3	0.5	18.8	260
Higher	68.9	0.0	0.0	6.5	5.5	4.8	11.5	0.0	0.0	0.0	0.0	1.6	0.0	1.2	28.3	2.8	31.1	60
Wealth index quintile																		
Poorest	97.3	0.0	0.0	0.0	0.5	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.0	0.7	2.7	412
Second	97.1	0.0	0.0	0.0	0.2	0.0	1.9	0.0	0.0	0.0	0.2	0.3	0.0	0.4	2.3	0.7	2.9	421
Middle	97.2	0.0	0.0	0.0	1.0	0.0	1.4	0.0	0.0	0.0	0.2	0.0	0.0	0.2	2.6	0.2	2.8	406
Fourth	94.6	0.0	0.0	0.0	2.4	0.4	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.6	4.7	0.6	5.4	371
Richest	79.7	0.0	0.0	2.3	7.7	3.7	4.9	0.0	0.0	0.3	0.6	0.6	0.0	0.2	19.5	0.9	20.3	340

[1] MICS indicator 5.3; MDG indicator 5.3 - Contraceptive prevalence rate

The most commonly used contraceptive methods are injectable (2.2% percent) and pills (2.2 percent). Other methods used in Kano are: implants (0.7 percent), IUD (0.4 percent),Lactational amenorrhea method –LAM (0.2 percent), periodic abstinence (0.2 percent) and vaginal methods - diaphragm/foam/jelly (0.1 percent).

Contraceptive use prevalence is 3.0 percent in Kano South, 3.7 percent in Kano North and 11.5 percent in Kano Central. About 15 percent of married women in urban area and 3.8 percent in rural area use at least a method of contraception. Adolescents and women age 45-49 are far less likely to use contraception than other age groups. Also, the higher the number of living children, the higher the prevalence of contraceptives in Kano State.

Women's level of education is associated with contraceptive use. The percentage of married women using any method of contraception increases from 3.3 percent among those with non-formal education to 7.5 percent among those with primary education, and to 18.8 percent and 31.1 percent among those with secondary and higher education respectively. In addition to differences in overall prevalence, the pattern of use by specific methods also varies with the level of education. The most common contraceptive method for married women who had primary or lower education is pills (3.5 and 1.3 percent respectively).Injectables are commonest among women with secondary education (7.8 percent) and pill is most common among women with higher education (13.1 percent).

Unmet Need

Unmet need for contraception refers to fecund women who are married or in a union and are not using any method of contraception, but wish to postpone the next birth (spacing) or wish to stop childbearing altogether (limiting). Unmet need is identified in MICS5 by using a set of questions eliciting current behaviours and preferences pertaining to contraceptive use, fecundity, and fertility preferences. This indicator is also known as unmet need for family planning and is one of the indicators used to track progress toward the Sustainable Development Goal 5 of improving maternal health.

Unmet need for spacing is defined as the percentage of women who are married or in a union and are not using a method of contraception AND

- are not pregnant, and not postpartum amenorrhoeic[40], and are fecund[41], and say they want to wait two or more years for their next birth OR

[40]A woman is postpartum amenorrhoeic if she had a birth in last two years and is not currently pregnant, and her menstrual period has not returned since the birth of the last child

[41]A woman is considered infecund if she is neither pregnant nor postpartum amenorrhoeic, and
(1a) has not had menstruation for at least six months, or (1b) never menstruated, or (1c) her last menstruation occurred before her last birth, or (1d) in menopause/has had hysterectomy OR
(2) She declares that she has had hysterectomy, or that she has never menstruated, or that she is menopausal, or that she has been trying to get pregnant for 2 or more years without result in response to questions on why she thinks she is not physically able to get pregnant at the time of survey OR
(3) She declares she cannot get pregnant when asked about desire for future birth OR
(4) She has not had a birth in the preceding 5 years, is currently not using contraception and is currently married and was continuously married during the last 5 years preceding the survey.

- are not pregnant, and not postpartum amenorrhoeic, and are fecund, and unsure whether they want another child OR
- are pregnant, and say that pregnancy was mistimed: would have wanted to wait OR
- are postpartum amenorrhoeic and say that the birth was mistimed: would have wanted to wait.

Unmet need for limiting is defined as percentage of women who are married or in union and are not using a method of contraception AND

- are not pregnant, and not postpartum amenorrhoeic, and are fecund, and say they do not want any more children OR
- are pregnant, and say they did not want to have a child OR
- are postpartum amenorrhoeic and say that they did not want the birth.

Total unmet need for contraception is the sum of unmet need for spacing and unmet need for limiting. Met need for limiting includes women married or in a union who are using (or whose partner is using) a contraceptive method[42], and who want no more children, who are using male or female sterilization, or declare themselves as infecund. Met need for spacing includes women who are using (or whose partner is using) a contraceptive method, and who want to have another child, or are undecided whether to have another child. The total of met need for spacing and limiting equals to the total met need for contraception. Table 8.4 (RH.6) shows the levels of met need and unmet need for contraception, and the demand for contraception satisfied in Kano State.

The percentage of women age 15-49 years currently married or in union with an unmet need for family planning in Kano State is 30.8 percent in MICS 2016-17. The unmet need for contraception for spacing is 25 percent and for limiting is 5.8 percent. There is a notable difference in the unmet need for contraception in urban (39.2 percent) and rural areas (28.3 percent). The unmet need for contraception is highest in Kano Central (36.7 percent) followed by Kano South (30 percent) and lowest in Kano North (23.8 percent).

Met need for contraception is highest in Kano Central (11.5 percent) and lowest in Kano South (3.0 percent). The met need for contraception is higher in urban (15.1 percent) than in rural areas (3.8 percent). Women's education level and wealth index quintile are strongly associated with the met need for contraception. The percentage of women with met need for contraception increased from 3.3 percent among those with non-formal education to 31.1 percent among women with higher education. Women in the poorest wealth index quintile have a met need of 2.7 percent while the richest have 20.3 percent.

The percentage of demand satisfied is defined as the proportion of women currently married or in a union who are currently using contraception, over the total demand for contraception. The total demand for contraception includes women who currently have an unmet need (for spacing or limiting), plus those who are currently using contraception. In Kano State, the demand for contraception satisfied is 17.1 percent. Twenty-seven percent of women in the urban areas have their demand for contraception satisfied while eleven percent were satisfied in the rural areas.

[42] In this chapter, whenever reference is made to the use of a contraceptive by a woman, this may refer to her partner using a contraceptive method (such as male condom).

Table 8.4 (RH.6): Unmet need for contraception

Percentage of women age 15-49 years currently married or in union with an unmet need for family planning and percentage of demand for contraception satisfied, Nigeria, 2016-17 Kano State

	Met need for contraception			Unmet need for contraception			Number of women currently married or in union	Percentage of demand for contraception satisfied	Number of women currently married or in union with need for contraception
	For spacing	For limiting	Total	For spacing	For limiting	Total[1]			
Total	**5.0**	**1.3**	**6.3**	**25.0**	**5.8**	**30.8**	**1,949**	**17.1**	**724**
Senatorial District									
Kano Central	9.0	2.5	11.5	28.4	8.3	36.7	723	23.8	348
Kano North	2.9	0.8	3.7	19.5	4.3	23.8	538	13.5	148
Kano South	2.5	0.5	3.0	25.7	4.3	30.0	688	9.1	227
Residence									
Urban	11.3	3.8	15.1	28.7	10.5	39.2	437	27.9	238
Rural	3.2	0.6	3.8	23.9	4.4	28.3	1,512	11.8	486
Age (Years)									
15-19	2.4	0.0	2.4	19.1	1.5	20.5	180	(10.3)	41
20-24	4.2	0.0	4.2	31.0	.8	31.9	364	11.7	131
25-29	4.9	0.5	5.4	27.8	2.0	29.8	410	15.4	144
30-34	8.8	1.3	10.1	28.2	4.6	32.7	336	23.6	144
35-39	4.0	3.2	7.2	26.2	13.5	39.6	277	15.3	130
40-44	6.7	4.4	11.2	16.5	11.5	28.0	212	28.5	83
45-49	1.9	0.7	2.6	14.2	12.7	26.9	170	8.7	50
Education									
None	3.3	0.0	3.3	23.5	9.0	32.5	392	9.3	141
Non-formal	1.7	0.7	2.4	24.0	4.5	28.5	985	7.9	305
Primary	4.5	3.1	7.5	24.6	4.6	29.2	252	20.5	93
Secondary	16.4	2.4	18.8	33.0	6.2	39.2	260	32.4	151
Higher	23.4	7.7	31.1	17.4	9.5	26.8	60	(53.7)	35
Wealth index quintile									
Poorest	2.2	0.5	2.7	25.2	4.8	30.0	412	8.3	134
Second	2.7	0.2	2.9	21.8	5.1	26.9	421	9.7	126
Middle	2.1	0.7	2.8	26.7	3.7	30.4	406	8.3	134
Fourth	4.2	1.1	5.4	25.3	5.5	30.8	371	14.9	134
Richest	15.7	4.6	20.3	26.4	10.6	37.0	340	35.4	195

[1] MICS indicator 5.4; MDG indicator 5.6 - Unmet need *( ) Sample data are based on 25-49 unweighted cases*

Antenatal Care

The antenatal period presents important opportunities for reaching pregnant women with a number of interventions that may be vital to their health and well-being and that of their infants. A better understanding of foetal growth and development and its relationship to the mother's health has resulted in increased attention to the potential of antenatal care as an intervention to improve both maternal and new-born health. For example, antenatal care can be used to inform women and families about risks and symptoms in pregnancy and about the risks of labour and delivery, and therefore it may provide the route for ensuring that pregnant women do, in practice, deliver with the assistance of a skilled health care provider.

Antenatal visits also provide an opportunity to supply information on birth spacing, which is recognized as an important factor in improving infant survival. Tetanus immunization during pregnancy can be life-saving for both the mother and the infant. The prevention and treatment of malaria among pregnant women, management of anaemia during pregnancy and treatment of sexually transmitted infections (STIs) can significantly improve foetal outcomes and improve maternal health. Adverse outcomes such as low birth weight can be reduced through a combination of interventions to improve women's nutritional status and prevent infections (e.g., malaria and STIs) during pregnancy. More recently, the potential of the antenatal care as an entry point for HIV prevention and care, in particular for the prevention of HIV transmission from mother to child, has led to renewed interest in access to and use of antenatal services.

WHO recommends a minimum of four antenatal visits based on a review of the effectiveness of different models of antenatal care. WHO guidelines are specific on the content on antenatal care visits, which include:

- Blood pressure measurement
- Urine testing for bacteriuria and proteinuria
- Blood testing to detect syphilis and severe anaemia
- Weight/height measurement (optional).

It is crucial for pregnant women to start attending antenatal care visits as early in pregnancy as possible. This is to prevent and detect pregnancy complications that could affect both the woman and her baby. Antenatal care should continue throughout the entire pregnancy. To improve maternal health, antenatal care coverage indicators should be at least one visit with a skilled provider and 4 or more visits with any providers.

Table 8.5 (RH.7) present percentage distribution of women age 15-49 years who gave birth in the two years preceding the survey on their antenatal care coverage in Kano State. Sixty-five percent received antenatal care from a skilled provider, 82.9 percent in urban and 60.1 in rural areas. In Kano State, most of the antenatal care is provided by nurses/midwives (40 percent) while very few-(less than 1 percent)-received care from traditional birth attendant.

The proportion of women who received antenatal care from any skilled provider is associated with, residence, education, age and wealth status. Kano Central senatorial district has the highest proportion (79.1 percent) of women who received antenatal care by a skilled provider while Kano South has the lowest (56.1 percent). The percentage is lowest among women in poorest wealth index quintile households (42.6 percent) and highest among women with higher education (92.5 percent).

In Kano, 44.7 percent of women with a live birth in the last two years had four or more antenatal visits. Kano Central has the highest proportion (50.1 percent) while Kano North has the lowest (36.4 percent). Slightly more women had four or more antenatal visits in urban (54.7 percent) than in rural areas (41.9 percent). Mothers from the poorest households and those with primary or no education have a lower proportion of those who received antenatal care four or more times, than wealthier and more educational advantaged mothers. One out of three of women living in poorest households had four or more antenatal care visits compared to two out of three among those living in richest households.

Table 8.5 (RH.7): Antenatal care coverage

Percent distribution of women age 15-49 years with a live birth in the last two years by antenatal care provider during the pregnancy for the last birth, Nigeria, 2016-17Kano State

	Provider of antenatal care[a]									
	Medical doctor	Nurse/ Midwife	Auxiliary midwife	Traditional birth attendant	Community health worker	Other	No antenatal care	Any skilled provider[1,b]	4 or more visits[2]	Number of women with a live birth in the last two years
Total	**17.6**	**40.0**	**7.5**	**0.3**	**4.6**	**0.1**	**29.9**	**65.1**	**44.7**	**1087**
Senatorial District										
Kano Central	31.0	46.0	2.1	0.0	3.3	0.0	17.6	79.1	50.1	393
Kano North	11.6	35.2	11.7	0.2	0.6	0.0	40.7	58.5	36.4	314
Kano South	8.8	37.7	9.6	0.6	9.3	0.2	33.9	56.1	45.9	380
Residence										
Urban	42.4	38.5	2.1	0.0	2.1	0.0	15.0	82.9	54.7	239
Rural	10.7	40.4	9.0	0.3	5.3	0.1	34.2	60.1	41.9	847
Mother's age at birth										
Less than 20	15.7	39.6	11.4	0.6	4.8	0.0	28.0	66.7	47.5	190
20-34	18.3	39.7	7.8	0.2	4.8	0.1	29.3	65.7	44.2	695
Missing	17.3	41.4	2.8	0.3	3.9	0.0	34.2	61.6	43.8	202
Education										
None	9.1	38.6	8.3	0.3	4.9	0.0	38.6	56.1	35.4	196
Non-formal	10.5	38.1	7.7	0.4	4.3	0.1	38.9	56.3	36.1	533
Primary	21.8	44.3	9.7	0.0	6.5	0.0	17.6	75.8	57.2	165
Secondary	35.7	48.2	5.0	0.0	3.7	0.0	7.5	88.9	67.3	162
Higher	79.8	12.7	0.0	0.0	3.7	0.0	3.7	(92.5)	(66.3)	30
Wealth index quintile										
Poorest	7.6	26.6	8.5	1.2	4.1	0.0	52.1	42.6	32.8	234
Second	7.3	40.7	7.8	0.0	4.7	0.0	39.4	55.9	39.9	228
Middle	12.7	40.5	10.4	0.0	7.5	0.3	28.7	63.6	41.7	237
Fourth	25.9	49.3	7.0	0.0	2.8	0.0	15.0	82.2	50.2	218
Richest	41.8	44.8	2.1	0.0	3.7	0.0	7.7	88.7	64.8	169

[1] MICS indicator 5.5a; MDG indicator 5.5 - Antenatal care coverage

[2] MICS indicator 5.5b; MDG indicator 5.5 - Antenatal care coverage

[a] Only the most qualified provider is considered in cases where more than one provider was reported.

[b] Skilled providers include Medical doctor and Nurse/Midwife.

Content of antenatal care

The coverage of key services that pregnant women are expected to receive during antenatal care are shown in Table 8.6 (RH.9). Among those women who had a live birth during the two years preceding the survey in Kano State, 58.7 percent reported that their blood pressure was measured during antenatal care visits, 55.9 percent reported that urine specimen was taken, and 56.4 percent reported that blood sample was taken.

The percentage of women who had blood pressure measured, urine and blood sample taken during the pregnancy of their last birth is 49.3 percent in Kano State. The relative disparity in the proportion of pregnant women that had blood pressure measured, urine sample taken, and blood sample taken respectively remains substantially similar across background characteristics: higher in Kano Central, urban residence and with increasing education. These components of antenatal care were reported in 73.6 percent of pregnant women in urban areas, while 42.4 percent received same in the rural areas.

Table 8.6 (RH.9): Content of antenatal care

Percentage of women age 15-49 years with a live birth in the last two years who, at least once, had their blood pressure measured, urine sample taken, and blood sample taken as part of antenatal care, during the pregnancy for the last birth, Nigeria, 2016-17Kano State

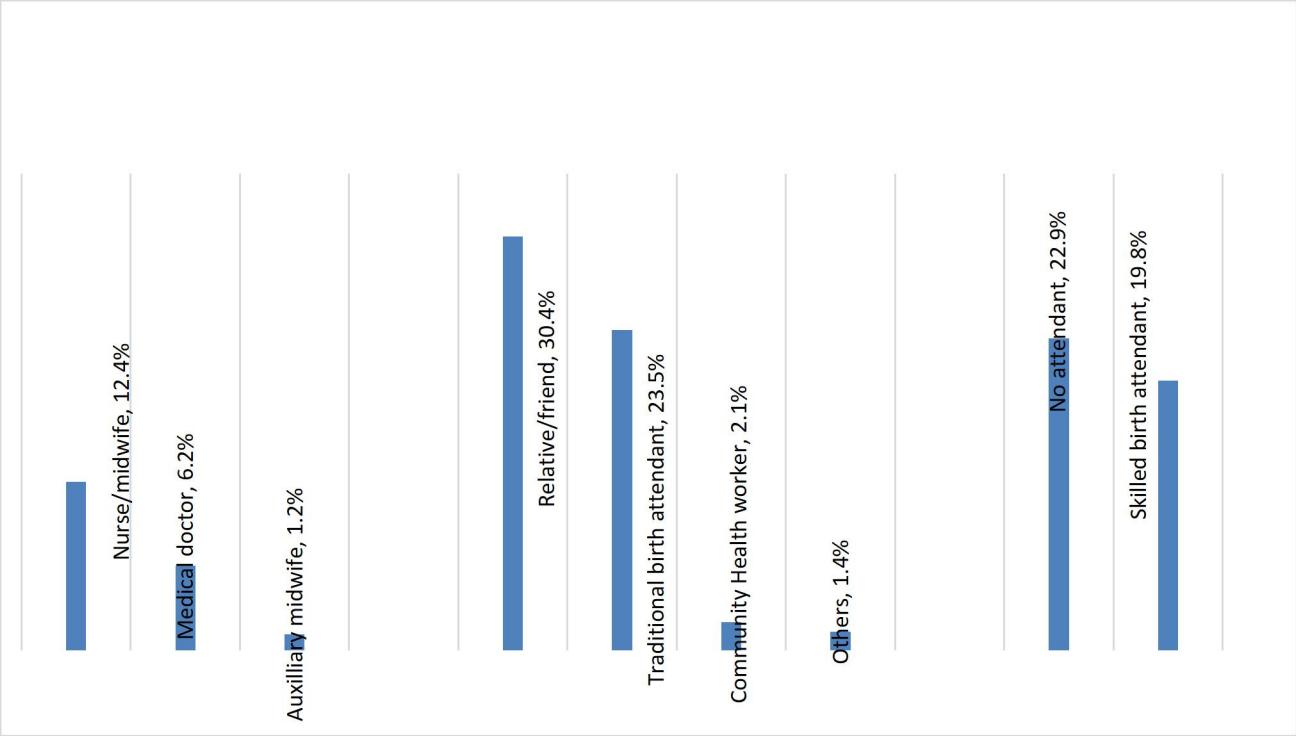
	Percentage of women who, during the pregnancy of their last birth, had:				
	Blood pressure measured	Urine sample taken	Blood sample taken	Blood pressure measured, urine and blood sample taken[1]	Number of women with a live birth in the last two years
Total	**58.7**	**55.9**	**56.4**	**49.3**	**1087**
Senatorial District					
Kano Central	74.3	75.6	76.4	70.4	393
Kano North	44.2	38.6	38.6	32.0	314
Kano South	54.6	49.7	50.5	41.8	380
Residence					
Urban	76.2	78.0	78.7	73.6	239
Rural	53.8	49.6	50.1	42.4	847
Mother's age at birth					
Less than 20	53.9	51.0	53.6	41.6	190
20-34	60.7	57.8	58.0	51.9	695
Missing	56.2	53.9	53.7	47.7	202
Education					
None	50.4	43.6	46.4	38.3	196
Non-formal	51.6	48.1	48.9	43.0	533
Primary	63.4	60.2	59.7	48.6	165
Secondary	80.6	84.5	82.6	75.5	162
Higher	(96.3)	(96.3)	(96.3)	(96.3)	30
Wealth index quintile					
Poorest	35.8	31.5	31.4	26.0	234
Second	49.3	43.2	44.4	38.2	228
Middle	57.9	51.5	53.2	44.4	237
Fourth	74.1	75.7	76.1	66.1	218
Richest	84.3	87.2	86.4	81.8	169

[1] MICS indicator 5.6 - Content of antenatal care( ) Sample data are based on 25-49 unweighted cases

Assistance at Delivery

About three quarters of all maternal deaths occur due to direct obstetric causes.[43] The single most critical intervention for safe motherhood is to ensure that a competent health worker with midwifery skills is present at every birth, and in case of emergency, that transport is available to a referral facility for obstetric care. The two indicators of assistance at delivery are the proportion of births with a skilled attendant and proportion of institutional deliveries. The MICS included a number of questions to assess the proportion of births attended by a skilled attendant. *A skilled attendant* includes a doctor, nurse, midwife or auxiliary midwife. Figure 8.5 and Table 8.7 present pattern of assistance at delivery.

Figure 8.5: Person assisting at delivery, Nigeria, 2016-17, Kano state



About one in five births that occurred in the two years preceding the survey in Kano State were assisted at delivery by skilled personnel: doctor, nurse, midwife or auxiliary midwife. Most women were assisted by nurses/midwives and relatives/friends at delivery, while 11.8 percent of women had no attendant assisting them during delivery. About one in eight births (12.4 percent) in the two years preceding the survey were delivered with the assistance of a nurse/midwife. Doctors assisted with the delivery of 6.2 percent of births and auxiliary midwives assisted with 1.2 percent of births. More than one in five (23.5 percent) of deliveries were assisted by traditional birth attendants in Kano State.

[43] Say, L et al. 2014. ***Global causes of maternal death: a WHO systematic analysis.****The Lancet Global Health*2(6): e323-33. DOI: 10.1016/S2214-109X(14)70227-X

The proportion of those assisted by a skilled birth attendant is as low as 10.2 percent in Kano South to as high as 34.7 percent in Kano Central. As expected, more educated mothers were assisted by skilled attendant than non-educated mothers. Also, the percentage of deliveries assisted by skilled personnel is higher in urban areas (50.7 percent) than in rural areas (11.0 percent). Older women were assisted in deliveries by skilled personnel than younger mothers. As expected for a place of delivery, almost all who delivered in public or private health facilities were assisted by a doctor, nurse, midwife or auxiliary midwife.

Table 8.7 (RH.10): Assistance during delivery and caesarian section

Percent distribution of women age 15-49 years with a live birth in the last two years by person providing assistance at delivery, and percentage of births delivered by C-section, Nigeria, 2016-17Kano State

	Person assisting at delivery					Percent delivered by C-section			
	Medical doctor	Nurse/ Midwife	Auxiliary midwife	No attendant	Percent delivery assisted by any skilled attendant[1,a]	Decided before onset of labour pains	Decided after onset of labour pains	Percent delivered by caesarean section Total[2]	Number of women who had a live birth in the last two years
Total	**6.2**	**12.4**	**1.2**	**22.9**	**19.8**	**0.5**	**0.5**	**1.0**	**1087**
Senatorial District									
Kano Central	11.6	22.6	0.5	20.6	34.7	1.3	0.9	2.2	393
Kano North	4.5	6.0	2.1	22.1	12.6	0.0	0.3	0.3	314
Kano South	2.0	7.2	1.1	25.8	10.2	0.0	0.4	0.4	380
Residence									
Urban	16.5	33.5	0.7	16.7	50.7	1.5	1.4	3.0	239
Rural	3.3	6.4	1.3	24.6	11.0	0.2	0.3	0.4	847
Mother's age at birth (Years)									
Less than 20	4.6	9.8	2.3	14.0	16.7	0.0	0.7	0.7	190
20-34	6.9	11.6	0.9	21.4	19.3	0.8	0.4	1.2	695
35-49	5.3	17.7	1.0	36.2	24.1	0.0	0.6	0.6	202
Place of delivery									
Home	1.7	3.5	0.7	26.9	6.0	0.0	0.0	0.0	913
Health facility	30.2	60.2	3.7	1.4	94.1	3.1	3.3	6.4	170
Public	29.8	59.7	4.7	0.9	94.2	3.9	3.5	7.4	136
Private	31.9	62.2	0.0	(3.3)	(94.1)	(0.0)	(2.6)	(2.6)	34
Other/DK/Missing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3
Education									
None	1.6	5.9	0.0	22.1	22.4	0.0	0.0	0.0	196
Non-formal	1.8	6.5	1.2	25.8	16.5	0.0	0.2	0.2	533
Primary	6.7	13.7	1.0	29.3	44.1	0.6	0.5	1.1	165
Secondary	18.7	33.5	2.9	11.1	70.9	1.7	2.5	4.2	162
Higher	44.3	39.6	0.0	(3.1)	92.7	(4.7)	(0.0)	(4.7)	30
Wealth index quintile									
Poorest	0.7	4.2	1.2	22.1	12.8	0.0	0.4	0.4	234
Second	1.9	4.7	1.6	24.2	24.3	0.0	0.0	0.0	228
Middle	2.1	5.9	0.7	30.4	42.1	0.0	0.0	0.0	237
Fourth	10.7	12.7	1.2	24.8	63.5	0.7	0.6	1.3	218
Richest	19.5	42.7	1.1	9.3	84.9	2.2	2.0	4.2	169

[1] MICS indicator 5.7; MDG indicator 5.2 - Skilled attendant at delivery

[2] MICS indicator 5.9 - Caesarean section

[a] Skilled attendants include Medical doctor and Nurse/Midwife.

( ) Sample data are based on 25-49 unweighted cases (*) Sample data are fewer than 25 unweighted cases

Table 8.7 (RH.10) also shows information on women who delivered by caesarean section (C-section) and provides additional information on the timing of the decision to conduct a C-section (before labour pains began or after) to determine the basis for the C-section: medical or non–medical reasons.

Overall, 1.0 percent of women in Kano State who delivered in the last two years had a C-section. This implies that just ten out of a thousand women who delivered within that period had a C-section; 5 out of a thousand of these women made the decision for C-section before the onset of labour pains while the remaining 5 out of a thousand made the decision for C-section after the onset of labour. Kano Central senatorial district had most of the C-section deliveries (2.2 percent) and the percentage of deliveries by C-section is higher in urban areas (3.0 percent) than in rural areas (0.4 percent). Women with a higher level of education have more deliveries by C-section (4.7 percent) than those with no education (0.9 percent).

Place of Delivery

Increasing the proportion of births that are delivered in health facilities is an important factor in reducing the health risks and improving good health and well-being of both the mother and the baby. Proper medical attention and hygienic conditions during delivery can reduce the risks of complications and infection that can cause morbidity and mortality to either the mother or the baby. Table 8.8 (RH.11) presents the percentage distribution of women age 15-49 who had a live birth in the two years preceding the survey by place of delivery, and the percentage of institutional deliveries, according to background characteristics.

In Kano state, 15.7 percent of women age 15-49 who had a live birth in the two years preceding the survey used a health facility for their last delivery. Out of this estimate, 12.5 percent of deliveries took place in public health facilities and 3.2 percent in private health facilities. Four in 5 births (84.0 percent) were delivered at home. A higher percentage of those who used a health facility for child delivery are women age 35-39. Women in urban areas are more than five times likely to deliver in a health facility than their rural counterparts (42.8 percent compared with 8.0 percent).

The proportion of deliveries in health facilities varies from 29.2 percent in Kano Central to 7.3 percent in Kano South. Women with higher level of educational attainment deliver in health facility more than those with no formal education. The proportion of births occurring in a health facility increases steadily with wealth, from 3.8 percent in the lowest wealth quintile to 78.4 percent in the highest. Most of the women who received no antenatal care services delivered at home (55.1 percent). More women deliver at home in rural areas (91.6 percent) than in their urban counterpart (57.2 percent) in Kano State.

Table 8.8 (RH.11): Place of delivery

Percent distribution of women age 15-49 years with a live birth in the last two years by place of delivery of their last birth, Nigeria, 2016-17Kano State

	Place of delivery				Delivered in health facility[1]	Number of women with a live birth in the last two years
	Health facility					
	Public sector	Private sector	Home	Others		
Total	**12.5**	**3.2**	**84.0**	**0.2**	**15.7**	**1087**
Senatorial District						
Kano Central	21.7	7.5	70.3	0.5	29.2	393
Kano North	7.6	1.3	91.0	0.0	8.9	314
Kano South	7.1	0.2	92.5	0.0	7.3	380
Residence						
Urban	30.5	12.3	57.2	0.0	42.8	239
Rural	7.4	0.6	91.6	0.2	8.0	847
Mother's age at birth (years)						
Less than 20	10.6	1.4	88.0	0.0	12.0	190
20-34	12.4	3.1	84.0	0.3	15.5	695
35-39	14.5	5.0	80.4	0.0	19.6	202
Number of antenatal care visits						
None	1.2	0.8	97.0	0.6	2.0	325
1-3 visits	10.3	2.4	87.3	0.0	12.7	271
4+ visits	21.1	4.9	73.9	0.0	26.1	486
Missing/Don't know	23.4	27.8	48.9	0.0	51.1	5
Education						
None	4.3	1.6	94.1	0.0	5.9	196
Non-formal	6.0	0.6	92.8	0.4	6.6	533
Primary	12.7	4.7	82.5	0.0	17.5	165
Secondary	34.7	7.6	57.7	0.0	42.3	162
Higher	(60.5)	(27.1)	(12.3)	(0.0)	(87.7)	30
Wealth index quintile						
Poorest	2.8	1.0	96.2	0.0	3.8	234
Second	4.8	0.0	94.9	0.0	4.8	228
Middle	5.9	0.7	92.3	0.9	6.6	237
Fourth	17.5	1.5	81.0	0.0	19.0	218
Richest	39.0	16.1	44.9	0.0	55.1	169

[1] MICS indicator 5.8 - Institutional deliveries

Post-natal Health Checks

The time of birth and immediately after is a critical window of opportunity for lifesaving interventions for both the mother and newborn. Across the world, approximately 3 million newborns die annually in the first month of life[44] and the majority of these deaths occur within a day or two of birth[45], which is also the time when the majority of maternal deaths occur[46].

Despite the importance of the first few days following birth, large-scale, nationally representative household survey programmes have not systematically included questions on the post-natal period and care for the mother and newborn. In 2008, the Countdown to 2015 initiative, which monitors progress

[44] UN Interagency Group for Child Mortality Estimation. 2013. *Levels and Trends in Child Mortality: Report 2013*

[45] Lawn, JE et al. 2005.*4 million neonatal deaths: When? Where? Why?* Lancet 2005; 365:891–900.

[46] WHO, UNICEF, UNFPA, The World Bank. 2012.*Trends in Maternal Mortality: 1990-2010*. World Health Organization.

on maternal, newborn and child health interventions, highlighted this data gap, and called not only for post-natal care (PNC) programmes to be strengthened, but also for better data availability and quality[47].

Following the establishment and discussions of an Inter-Agency Group on PNC and drawing on lessons learned from earlier attempts of collecting PNC data, a new questionnaire module for MICS was developed and validated. Named the Post-natal Health Checks (PNHC) module, the objective is to collect information on newborns' and mothers' contact with a provider, not the content of care. The rationale for this is that as PNC programmes scale up, it is important to measure the coverage of that scale up and ensure that the platform for providing essential services is in place. Content is considered more difficult to measure, particularly because the respondent is asked to recall services delivered up to two years preceding the interview. Table 8.9 (RH.12, RH.13 & RH.15) presents the percentage distribution of women aged 15-49 who gave birth in a health facility in the two years preceding the survey by duration of stay in the facility following the delivery and post-natal check for newborn and mother according to background characteristics in Kano State.

Post-partum Stay in health facility

One out of four women who gave birth in an institutionalised health facility stayed 12 hours or more after delivery in Kano State. Across the senatorial districts, estimate varies from 19 percent in Kano South to 28.3 percent in Kano Central and Kano North. The percentage of women who used public health facilities for birth delivery and stayed 12 hours or more (27.6 percent) is slightly higher than those who used private facilities (23.4 percent) in Kano State.

Slightly more women who live in urban areas stay for more than 12 hours after delivery than those in rural areas in Kano State. A similar pattern exists with regards to woman's age at delivery and her level of education; the older a woman is or the higher her level of education, the more she stays back for more hours in the hospital.

Postnatal care for newborn and mother

Safe motherhood programmes have recently increased emphasis on the importance of post-natal care, recommending that all women and newborns receive a health check within two days of delivery. To assess the extent of post-natal care utilization, women were asked whether they and their newborn received a health check after the delivery, the timing of the first check, and the type of health provider for the woman's last birth in the two years preceding the survey. Table RH.9also shows the percentage of newborns in the last two years preceding the survey in Kano State who received health checks after birth. The indicator *Post-natal health checks* include any health check after birth received while in the health facility and at home, regardless of timing, as well as post-natal care visits within two days of delivery.

About one out of 6 of newborns (17.5 percent) receive a health check following birth while in a facility or at home in Kano State. Percentage of post-natal health check for newborns is 26.3 percent in Kano Central, 13.4 percent in Kano North and 11.7 percent in Kano South. Higher percentage of newborns in

[47]HMN, UNICEF, WHO. 2008. *Countdown to 2015: Tracking Progress in Maternal, Newborn & Child Survival, The 2008 Report*. UNICEF.

urban areas, whose mothers have higher education and in richest wealth quintile household, receive post-natal health check than those in other groups. Post-natal health checks for newborns occurred more in private health facility (81.0 percent) than public health facility (61.5 percent)

Table 8.9 (RH.12, RH.13 & RH.15): Post-partum stay in health facility and Postnatal health check for newborn and mother

Percent distribution of women age 15-49 years with a live birth in the last two years who had their last birth delivered in a health facility by duration of stay in health facility, Nigeria, 2016-17 Kano State

	Duration of stay in health facility: 12 hours or more[1]	Number of women who had their last birth delivered in a health facility in the last 2 years	Post-natal health check for the newborn[2, b]	Number of last live births in the last two years	Post-natal health check for the mother[3, b]	Number of women with a live birth in the last two years
Total	**26.7**	**170**	**17.5**	**1087**	**17.3**	**1087**
Senatorial District						
Kano Central	28.3	115	26.3	393	29.6	393
Kano North	(28.3)	28	13.4	314	9.8	314
Kano South	(19.0)	28	11.7	380	11.0	380
Residence						
Urban	27.5	102	34.7	239	42.5	239
Rural	25.6	68	12.6	847	10.2	847
Mother's age at birth (years)						
Less than 20	(20.8)	23	12.3	190	12.8	190
20-34	30.5	108	18.4	695	18.0	695
35-49			18.9	202	19.3	202
Type of health facility						
Public	27.6	136	61.5	136	69.9	136
Private	(23.4)	34	(80.7)	34	(87.4)	34
Education						
None	(*)	12	10.7	196	8.4	196
Non-formal	(25.7)	35	10.8	533	8.6	533
Primary	(19.9)	29	19.5	165	16.3	165
Secondary	30.0	69	33.6	162	46.2	162
Higher	(35.5)	26	(81.4)	30	(81.3)	30
Wealth index quintile						
Poorest	(*)	250	8.4	234	7.1	234
Second	(*)	506	12.4	228	8.2	228
Middle	(*)	792	10.2	237	6.8	237
Fourth	(24.5)	1,195	16.8	218	18.5	218
Richest	30.4	1,591	47.7	169	57.0	169

[1] MICS indicator 5.10 - Post-partum stay in health facility

[2] MICS indicator 5.11 - Post-natal check for the newborn

[3] MICS indicator 5.12 - Post-natal check for the mothers

[a] Health checks by any health provider following facility births (before discharge from facility) or following home births (before departure of provider from home).

[b] Post-natal health checks include any health check performed while in the health facility or at home following birth (see note [a] above), as well as PNC visits (see note [b] above) within two days of delivery.

Post-natal check for mothers has a pattern comparable to post-natal check for newborns. Overall, 17.3 percent of mothers received health check following birth in a facility or at home. This percentage varies from 9.8 percent in Kano North to 29.6 percent in Kano Central. Higher proportion of mothers in urban areas received a health check, both following birth (42.5 percent) than mothers in rural areas (10.2 percent). Higher percentage of mothers with higher education and in richest wealth quintile household receive post-natal health check than other groups.

IX. Early Childhood Development

Early Childhood Care and Education

Readiness of children for primary school can be improved through attendance of early childhood education programmes or through pre-school attendance. Early childhood education includes programmes for children that have organised learning components as opposed to baby-sitting and day-care for ages 36-59 months. Figure 9.1 presents the percentage of children age 36-59 months who are attending an organized early childhood education program in Kano State. The social and demographic differentials are also presented.

One out of 6 children (18 percent) attends organized early childhood education programme in Kano State. Kano Central (26 percent) had more children that attended early childhood education programme than Kano North (15 percent) and Kano South (12 percent). There is urban-rural differential with 30 percent in urban areas, compared to 14 percent in rural areas.

While there is no notable gender differential, there exist variations in other social and demographic groups: 39 and 11 percent of children living in the richest and poorest wealth index quintiles respectively; 65 and 12 percent among mothers who had higher and no education respectively.

KEY FINDINGS

18 percent of children age 36-59 months attend organized early childhood education programme in Kano.

- 26 percent in Kano Central
- 15 percent in Kano North
- 12 percent in Kano South

About two-thirds (62.6 percent) of the children have an adult household member engaged with them on four or more activities that promote learning and school readiness

Involvement of biological father and mother in activities that support early learning is as low as 7.8 percent and 20.4 percent respectively

Only 1.6 percent of children live in households where there are at least 3 children's books accessible to the child in Kano state

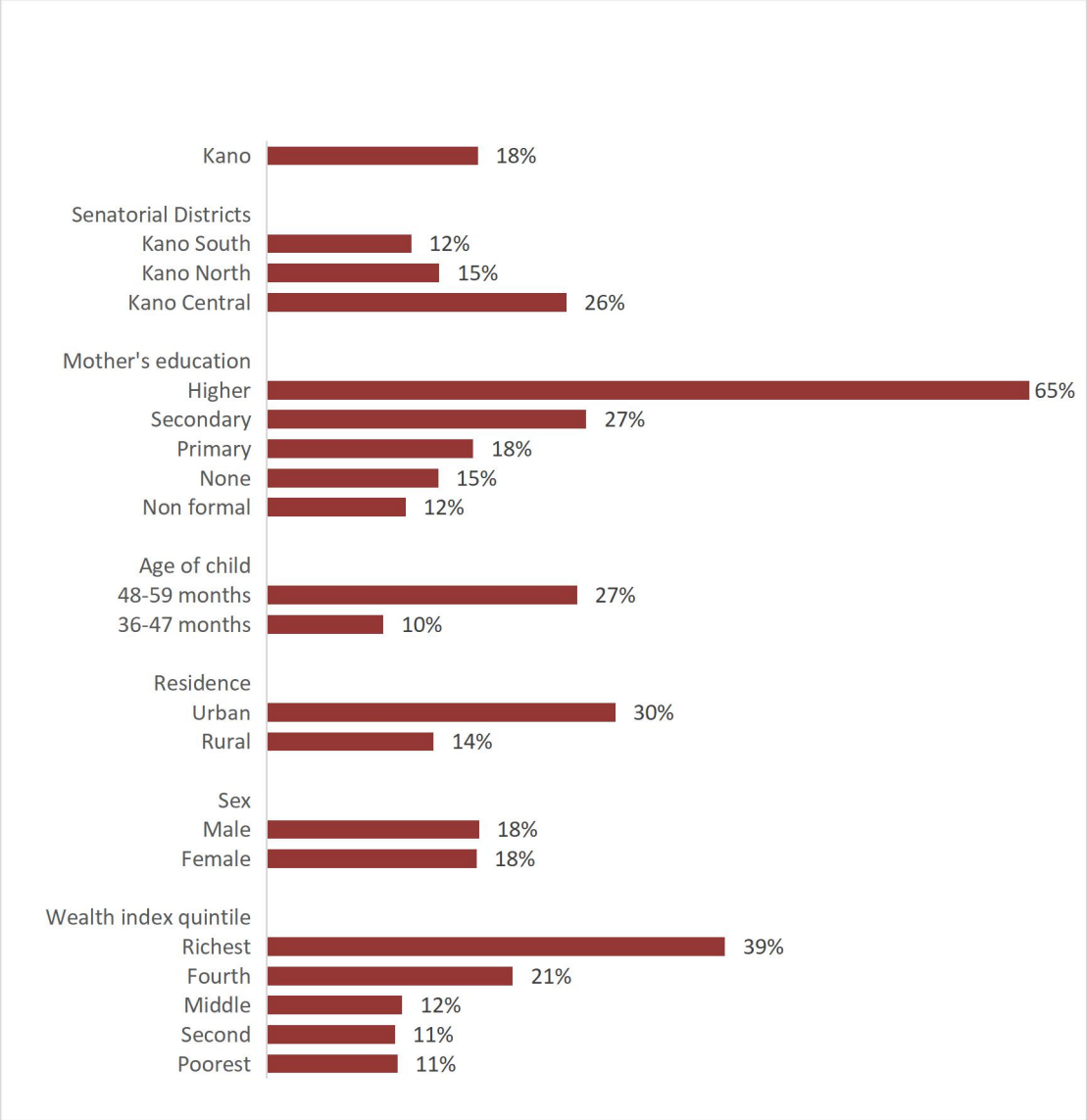
3 out five of children age 36-59 months are developmentally on track in at least three of the four domains

One out of five of children were left with inadequate care either by being left alone or in the care of another child

Support for learning

The quality of home care is a major determinant of child's development in the first 3-4 years of life when rapid brain development occurs[48]. As set out by *A World Fit for Children*, "children should be physically healthy, mentally alert, emotionally secure, socially competent and ready to learn."[49]This will require the engagement of adults in early learning support activities with children, presence of books in the home for the child, and the conditions of care as part of overall quality of home care.

Figure 9.1: Percentage of children age 36-59 months who are attending an organized early childhood education program, Nigeria 2016-17, Kano state



[48] Grantham-McGregor, S et al. 2007.*Developmental Potential in the First 5 Years for Children in Developing Countries*. The Lancet 369: 60–70
Belsky, J et al. 2006.*Socioeconomic Risk, Parenting During the Preschool Years and Child Health Age 6 Years*. European Journal of Public Health 17(5): 511–2.
[49]UNICEF. 2002.*A World Fit For Children* adopted by the UN General Assembly at the 27th Special Session, 10 May 2002: 2.

Table 9.1 (CD.2) presents thepercentage of children age 36-59 months with whom adult household members engaged in activities that promote learning and school readiness during the last three days, and engagement in such activities by biological fathers and mothers.

Table9.1 (CD.2): Support for learning

Percentage of children age 36-59 months with whom adult household members engaged in activities that promote learning and school readiness during the last three days, and engagement in such activities by biological fathers and mothers, Nigeria, 2016-17 Kano State

	Percentage of children with whom adult household members have engaged in four or more activities[1]	Percentage of children living with their:		Number of children age 36-59 months	Percentage of children with whom biological fathers have engaged in four or more activities[2]	Percentage of children with whom biological mothers have engaged in four or more activities[3]
		Biological father	Biological mother			
Total	**62.6**	**92.6**	**95.0**	**1023**	**7.8**	**20.4**
Senatorial District						
Kano Central	70.9	91.3	96.2	392	7.1	22.7
Kano North	54.4	96.6	96.5	259	11.2	18.9
Kano South	59.6	91.3	92.8	371	6.2	18.9
Sex						
Male	61.7	93.5	95.0	511	8.3	16.9
Female	63.5	91.7	95.1	512	7.3	23.8
Residence						
Urban	73.2	92.6	96.9	251	6.2	29.4
Rural	59.2	92.6	94.4	771	8.3	17.4
Age (months)						
36-47	64.1	92.8	95.5	522	8.5	20.8
48-59	61.1	92.4	94.5	500	7.1	19.9
Mother's education						
None	48.3	92.3	94.3	188	5.2	21.4
Non-formal	62.0	92.0	94.1	535	7.9	15.6
Primary	60.3	94.7	97.0	123	3.3	18.0
Secondary	78.3	91.7	97.5	139	10.6	30.2
Higher	(94.2)	(100.0)	(97.0)	37	(25.2)	(54.2)
Father's education						
None	45.3	100.0	99.4	76	4.8	17.6
Non-formal	59.3	100.0	97.7	457	6.5	18.7
Primary	56.3	100.0	100.0	131	6.4	26.9
Secondary	66.8	100.0	97.4	161	12.5	18.9
Higher	84.8	100.0	96.9	117	13.1	29.8
	75.1	100.0	100.0	5	0.0	23.8
Wealth index quintile						
Poorest	48.4	93.2	93.3	223	6.0	15.1
Second	55.0	89.9	96.4	230	6.4	14.7
Middle	60.9	90.7	93.8	201	5.9	14.6
Fourth	67.3	96.9	96.2	182	9.0	23.3
Richest	86.3	93.1	95.8	187	12.7	37.1

[1] MICS indicator 6.2 - Support for learning

[2] MICS Indicator 6.3 - Father's support for learning

[3] MICS Indicator 6.4 - Mother's support for learning

[a] The background characteristic "Mother's education" refers to the education level of the respondent to the Questionnaire for Children Under Five, and covers both mothers and primary caretakers, who are interviewed when the mother is not listed in the same household. Since indicator 6.4 reports on the biological mother's support for learning, this background characteristic refers to only the educational levels of biological mothers when calculated for the indicator in question.

Information on a number of activities that support early learning was collected among children age 36-59 months. These included the involvement of adults with children in the following activities: reading books or looking at picture books, telling stories, singing songs, taking children outside the home, compound or yard, playing with children, and spending time with children naming, counting, or drawing things.

In Kano, about two-thirds (62.6 percent) of children have an adult household member engage them in four or more activities that promote learning and school readiness during the 3 days preceding the survey. Although more than 92 percent of the children age 36-59 months lives with their biological parents, the involvement of biological father and mother in activities that support early learning is as low as 7.8 percent and 20.4 percent respectively.

Involvement of adult household member and biological mother in supportive learning in Kano Central is higher than other senatorial districts. However, biological father's support for learning is highest in Kano North and lowest in Kano South. Estimate from MICS 2016-17 shows that the sex of a child does not affect adult support for learning, as there is no notable difference in the proportion of male and female children for all the three indicators. In Kano State, biological parents and adult household members in urban areas, with higher education and wealthier households are more supportive towards learning activities than other groups.

Learning Materials

Exposure to books in early years not only provides the child with a greater understanding of the nature of print, but may also give the child opportunities to see others reading, such as older siblings doing school work. Presence of books is important for later school performance. The mothers/caretakers of all children under-5 (0-59 months) were asked about the number of children's books or picture books they have for the child, and the types of playthings that are available at home. The percentage distribution of children on the availability of books and playthings at home is presented in Table 9.2 (CD.3 & CD.5).

Only 1.6 percent of the children live in households where there are at least 3 children's books accessible to the child. More children in Kano Central have learning material in their homes than other senatorial districts. While no gender difference was observed, a higher percentage of urban children have access to children's books at home than those in rural areas. The proportion of under-5 children who have 3 or more children's books is 5.9 percent in urban areas, compared to 0.3 percent in rural areas. Higher percent of children age 48-59 months (2.6 percent) have access to 3 or more children's books compare with children age 36-47 months (0.3 percent).

In Kano State, 52.7 percent of children age 0-59 months had 2 or more types of play things in their homes. The types of playthings included in the questionnaires are homemade toys (such as dolls and cars, or other toys made at home), toys that came from a store, and household objects (such as pots and bowls) or objects and materials found outside the home (such as sticks, rocks, animal shells, or leaves). A higher proportion of children in Kano Central have at least 2 types of playthings in their homes than Kano North and Kano South.

The proportion of children who have 2 or more types of play things at home is 53.4 percent among male children and 52.0 percent among female children. The urban-rural differential is observed with 53.4 percent in urban and 52 percent in rural areas. There are variations in availability of learning materials based on mother's education and wealth index; a higher percentage of mothers with higher education and richest wealth index quintile households have 2 or more types of play things at home than other groups.

Table 9.2 (CD.3 & CD.5): Learning materials and Early child development index

Percentage of children on availability of learning materials and playthings at home Nigeria, 2016-17Kano State

	3 or more children's books[1]	Two or more types of playthings[2]	Early child development index score[3]
	0-59 months	0-59 months	36-59 months
Total	**1.6**	**52.7**	**61.0**
Senatorial District			
Kano Central	3.9	58.3	68.6
Kano North	0.4	52.2	51.3
Kano South	0.3	47.1	59.9
Sex			
Male	1.6	53.4	60.0
Female	1.7	52.0	62.0
Residence			
Urban	5.9	58.5	75.2
Rural	0.3	50.9	56.4
Age (months)			
36-47	0.3	32.2	58.0
48-59	2.6	67.0	64.2
Mother's education			
None	0.0	45.5	51.7
Non-formal	0.4	52.9	56.5
Primary	1.3	48.9	70.5
Secondary	5.9	61.4	76.5
Higher	13.1	65.8	(83.9)
Wealth index quintile			
Poorest	0.0	41.6	45.8
Second	0.2	49.4	53.7
Middle	0.4	54.1	67.5
Fourth	0.7	56.5	65.9
Richest	7.8	63.9	76.5

[1] MICS indicator 6.5 - Availability of children's books [2] MICS indicator 6.6 - Availability of playthings

[3] MICS indicator 6.8 - Early child development index

Developmental Status of Children

Early childhood development is defined as an orderly, predictable process along a continuous path, in which a child learns to handle more complicated levels of moving, thinking, speaking, feeling and relating to others. Physical growth, literacy and numeracy skills, socio-emotional development and readiness to learn are vital domains of a child's overall development, and the basis for human development.[50]A 10-item module was used to calculate the Early Child Development Index (ECDI). The primary purpose of the ECDI is to inform public policy regarding the developmental status of children in Nigeria. The index is based on selected milestones that children are expected to achieve by ages 3 and 4. The 10 items are used to determine if children are developmentally on track in four domains:

- Literacy-numeracy: Children are identified as being developmentally on track based on whether they can identify/name at least ten letters of the alphabet, whether they can read at least four simple, popular words, and whether they know the name and recognize the symbols of all numbers from 1 to 10. If at least two of these are true, then the child is considered developmentally on track.
- Physical: If the child can pick up a small object with two fingers, like a stick or a rock from the ground and/or the mother/caretaker does not indicate that the child is sometimes too sick to play, then the child is regarded as being developmentally on track in the physical domain.
- Social-emotional: Children are considered to be developmentally on track if two of the following are true: If the child gets along well with other children, if the child does not kick, bite, or hit other children and if the child does not get distracted easily.
- Learning: If the child follows simple directions on how to do something correctly and/or when given something to do, is able to do it independently, then the child is considered to be developmentally on track in this domain.

Early Child Development Index (ECDI) is then calculated as the percentage of children who are developmentally on track in at least three of these four domains as also shown in Table 9.2 (CD.3 & CD.5). In Kano State, three out of five children age 36-59 months are developmentally on track in at least three of the four domains. Although more than half of children are on track, it is higher in Kano Central (69 percent) than Kano South (61 percent) and Kano North (51 percent).

Percentage of girls (62.2 percent) who are on track is slightly higher than boys (60.2 percent). There are more children in the older age group48-59 months (64 percent) who are on track compared to those of age 36-47 months, since children acquire more skills with increasing age. Children living in the richest wealth index quintile households are more on track than other quintiles. This is the same pattern with mother's education: the higher the level of education, the more the proportion of children on track in Kano State.

[50]Shonkoff, J and Phillips, D (eds). 2000.*From neurons to neighborhoods: the science of early childhood development*. Committee on Integratingthe Science of Early Childhood Development, National Research Council, 2000.

Inadequate Care

Leaving children alone or in the presence of other young children is known to increase the risk of injuries.[51] In MICS, two questions were asked to find out whether children age 0-59 months were left alone during the week preceding the interview, and whether children were left in the care of other children under 10 years of age.

Table 9.3 (CD.4) shows that 19.1 percent of the children were left alone during the week preceding the interview, while 16.9 percent of them were left in the care of other children younger than 10 years old in Kano State. Combining the two care indicators, it is calculated that a total of 21.9 percent of children were left with inadequate care during the past week, either by being left alone or in the care of another child. Slight differences were observed by an estimate based on the sex of the child and residence. On the other hand, inadequate care was more prevalent among children whose mothers had primary education. Children age 24-59 months was left with inadequate care more (30.4 percent) often than those who were age 0-23 months (9.7 percent).

Table 9.3 (CD.4): Inadequate care

Percentage of children under age 5 left alone or left in the care of another child younger than 10 years of age for more than one hour at least once during the past week, Nigeria, 2016-17 Kano State

	Percentage of children under age 5:			
	Left alone in the past week	Left in the care of another child younger than 10 years of age in the past week	Left with inadequate care in the past week[1]	Number of children under age 5
Total	**19.1**	**16.9**	**21.9**	**2559**
Senatorial District				
Kano Central	21.4	18.0	24.1	962
Kano North	15.5	14.9	17.8	693
Kano South	19.5	17.3	22.7	904
Sex				
Male	20.4	18.1	23.4	1293
Female	17.8	15.6	20.3	1266
Residence				
Urban	19.5	14.4	20.6	603
Rural	19.0	17.7	22.3	1956
Age (Months)				
0-23	8.3	7.8	9.7	1052
24-59	26.7	23.3	30.4	1507
Mother's education				
None	22.0	18.8	24.5	452
Non-formal	19.4	18.7	23.1	1298
Primary	14.6	10.2	15.3	352
Secondary	18.5	14.2	20.4	379
Higher	21.4	19.9	23.6	77
Wealth index quintile				
Poorest	19.2	16.4	21.6	530
Second	17.4	18.6	21.3	559
Middle	15.7	15.1	19.0	529
Fourth	20.3	16.3	23.3	487
Richest	23.9	18.1	24.9	455

[1] MICS indicator 6.7 - Inadequate care

[51] Grossman, DC. 2000. *The History of Injury Control and the Epidemiology of Child and Adolescent Injuries.* The Future of Children, 10(1): 23-52.

X. Literacy and Education

Literacy among young women and men

The Youth Literacy Rate reflects the outcomes of primary education over the previous 10 years or so. While the rate is a measure of the effectiveness of the primary education system, it is also often used as a proxy measure of social progress and economic achievement. In Nigeria, sex-specific questionnaires were administered to females and males age 15-24 years respectively. Literacy is assessed by the ability of the respondent to read a short simple statement or based on school attendance.

The percentage of young people age 15-24 years who are able to read a short simple statement about everyday life or who attended secondary or higher education is presented in Table 10.1 (ED.1& ED.1M). Among young people in Kano, 46.1 percent of women and 72.5 percent of men are literate. This implies that about 4 out of 10 young women and 7 out of 10 young men are literate in Kano State.

The pattern of literacy rate among different social and demographic group is identical for both sexes. Literacy rate for young women and men is lowest in Kano South and remarkably highest in Kano Central senatorial district. Also, percentage of those who are literate is lower in rural area than urban. There is wide residence disparity among women in Kano State; literacy rate for young women in rural area is 25.4 percent while the rate for urban area is 89.7 percent. Although, the percentage of literate young men is high across all social groups, the rate for urban is 93 and rural is 57.2 percent.

Among young people with primary school education, just 14.7 and 13.9 percent of women and men respectively were able to read the simple statement shown to them.

Younger women age 15-19 years are more literate

KEY FINDINGS

Literacy rate among young people age 15-24 in Kano state:
- **46.1 percent of women**
- **72.5 percent of men**

Literacy rate is very low among
- **Young men and women in Kano North and Kano South senatorial districts**

School readiness is still low as one out of 5 children in the first grade of primary school attended pre-school the previous year

Net intake rate in primary education is 35.4 percent. One third of children of school-entry age were enrolled in first grade of primary school

About one out of two of primary school age children and two out of five secondary school age children are currently attending school

94 percent of children reach final grade (primary 6) in government-owned primary school in Kano state.

Primary school completion rate is 57 percent. This implies that three out of five children of primary completion age 11 years are in the last grade of primary education

Transition rate to secondary school is 39.7 percent

Gender parity index is 0.93 and 0.87 for primary and secondary school respectively.

than older age group (20-24 years). This differs for men where older men age 20-24 are more literate than younger men. The rate of literacy of young women in the poorest households (3.4 percent) is lower than that of the richest households (95.4 percent).

Table 10.1 (ED.1& ED.1M): Literacy (young women and men) by background characteristics

	Women		Men	
	Percentage literate[1]	Number of women age 15-24 years	Percentage literate[1]	Number of men age 15-24 years
Kano	46.1	1017	72.5	**483**
Senatorial District				
Kano Central	72.3	465	87.4	267
Kano North	26.1	229	69.4	88
Kano South	22.6	323	43.7	128
Residence				
Urban	89.7	328	93.3	205
Rural	25.4	689	57.2	278
Education of household head				
None	0.0	116	(*)	3
Non-formal	0.3	336	4.6	85
Primary	14.7	114	13.9	57
Secondary	100.0	421	100.0	302
Higher	(100.0)	31	(100.0)	37
Age (years)				
15-19	55.3	586	68.0	290
20-24	33.7	431	79.4	193
Wealth index quintile				
Poorest	3.4	143	30.7	1,106
Second	11.4	158	58.6	1,132
Middle	22.4	212	61.5	1,226
Fourth	63.8	257	87.3	1,219
Richest	95.4	245	93.8	1,203

[1] MICS indicator 7.1; MDG indicator 2.3 - Literacy rate among young women and men

School Readiness

Pre-school education in an organised learning is important for the readiness of children to school. Table10.2(ED.2) shows the proportion of children in the first grade of primary school (regardless of age) who attended pre-school the previous year[52]. Overall, 23.8 percent of children who are currently in the first grade of primary school attended pre-school the previous year in Kano State. One third of the children in the first grade in urban areas (36.1 percent) had attended pre-school the previous year compared to 19.4 percent of children living in rural areas.

There is differential across senatorial districts as pre-school attendance in the Kano Central is higher (27.8 percent) than Kano South (23.3 percent) and Kano North (17.5 percent). Socioeconomic status is also an important consideration in school readiness, as school readiness increases with wealth quintile – 18.4 percent among children in the poorest wealth quintile households and 35.2 percent in the richest wealth quintile households. This is the same pattern observed for mother's education; higher proportion of children whose mother are educated attended pre-school than those whose mothers had no education.

Table 10.2 (ED.2): School readiness

Percentage of children attending first grade of primary school who attended pre-school the previous year, Nigeria, 2016-17Kano State

	Percentage of children attending first grade who attended preschool in previous year[1]	Number of children attending first grade of primary school
Total	**23.8**	**320**
Senatorial District		
Kano Central	27.8	144
Kano North	17.5	86
Kano South	23.3	91
Sex		
Male	23.9	160
Female	23.6	160
Residence		
Urban	36.1	84
Rural	19.4	237
Mother's education		
None	(5.3)	46
Non-formal	27.0	172
Primary	24.7	50
Secondary	(26.9)	45
Higher	(*)	7
Wealth index quintile		
Poorest	(18.4)	43
Second	12.2	58
Middle	30.3	74
Fourth	19.8	80
Richest	35.2	65

[1] MICS indicator 7.2 - School readiness

Primary School Entry

[52] The computation of the indicator does not exclude repeaters, and therefore is inclusive of both children who are attending primary school for the first time, as well as those who were in the first grade of primary school the previous school year and are repeating. Children repeating may have attended pre-school prior to the school year during which they attended the first grade of primary school for the first time; these children are not captured in the numerator of the indicator

Education is a vital prerequisite for combating poverty, empowering women, protecting children from hazardous and exploitative labour and sexual exploitation, promoting human rights and democracy, protecting the environment, and influencing population growth. In Nigeria, there are 6 grades in primary school and 6 grades in secondary school. In primary school, grades are referred to as primary 1 to primary 6, while for secondary school; grades are referred to as JSS 1 to JSS 3 and SSS 1 to SSS 3. The school year typically runs from September of one year to July of the following year, and children are enrolled in primary school at age 6 and secondary school at age 12.

Thirty-five percent of children age 6 years are currently in the first grade of primary school. There are differences in the estimate of this indicator by gender, senatorial districts and residence. Percentage of children of primary school entry age enrolled in grade 1 is highest in Kano Central (45.4 percent) and lowest in Kano North (29.1 percent). There is slightly more primary school entry age children who are enrolled in grade 1 in rural than urban areas. Enrolment in first grade at age 6, as expected, increases with mother's education and wealth status.

Table 10.3 (ED.3): Primary school entry

Percentage of children of primary school entry age entering grade 1 (net intake rate), Nigeria, 2016-17 Kano State

	Percentage of children of primary school entry age entering grade 1[1]	Number of children of primary school entry age
Total	**35.4**	**543**
Senatorial District		
Kano Central	45.4	207
Kano North	29.1	156
Kano South	29.3	180
Sex		
Male	34.3	275
Female	36.5	268
Residence		
Urban	34.3	275
Rural	36.5	268
Mother's education		
None	26.8	98
Non-formal	31.7	293
Primary	39.7	77
Secondary	54.4	61
Higher	(*)	13
Wealth index quintile		
Poorest	14.0	116
Second	31.7	131
Middle	36.9	110
Fourth	44.9	97
Richest	56.3	89

[1] MICS indicator 7.3 - Net intake rate in primary education

Primary and Secondary School net attendance ratio

Net attendance ratio (NAR) is expressed as a percentage of children of primary school age currently attending primary or secondary school. Table 10.4 (ED.4 & ED.5) shows the percentage of children of

primary school age 6 to 11 years who currently are attending primary or secondary school[53]. One out of two of children (54.8 percent) of primary school age and two out of five children (42.3 percent) of secondary school age are currently attending school in Kano State. Primary school attendance is highest in Kano Central and lowest in Kano South. Secondary net attendance has the same pattern as primary NAR in the senatorial districts but with lower estimates.

Table 10.4 (ED.4& ED.5): Primary and secondary school attendance and out of school children

Percentage of children of primary and secondary school age currently attending primary or secondary school (adjusted net attendance ratio), Nigeria, 2016-17, Kano State

	Primary School		Secondary School	
	Net attendance ratio (adjusted)[1]	Number of children	Net attendance ratio (adjusted)[1]	Number of children
Total	54.8	2687	42.3	1922
Senatorial District				
Kano Central	67.9	1075	56.2	947
Kano North	48.8	749	30.0	429
Kano South	43.7	862	27.7	546
Residence				
Urban	72.9	671	67.0	666
Rural	48.8	2015	29.1	1256
Age at beginning of school year				
6 or 12	36.5	543	24.9	428
7 or 13	47.1	503	36.1	354
8 or 14	62.2	460	46.8	336
9 or 15	66.9	391	47.1	333
10 or 6	58.4	503	56.7	228
11 or 17	68.6	288	55.5	241
Mother's education				
None	42.2	551	33.3	335
Non-formal	50.2	1450	35.2	884
Primary	68.9	350	55.4	224
Secondary	80.6	284	75.8	183
Higher	83.1	49	73.9	57
Wealth index quintile				
Poorest	25.4	577	9.4	341
Second	46.9	587	20.6	338
Middle	56.8	552	36.9	354
Fourth	69.8	501	53.8	426
Richest	82.7	469	75.8	463

[1] MICS indicator 7.5 - Secondary school net attendance ratio (adjusted)

A higher proportion of urban children are currently attending school compared to the rural children. In both primary and secondary school, adjusted NAR for children who are older at the beginning of the school year is higher than others. Also, school attendance varies with the mother's educational level and wealth index, with higher attendance with increasing mother's education and wealth index. The net attendance ratio for primary and secondary school attendance is 83.1 percent and 73.9 percent respectively among children whose mothers had a higher education while a lower value of 42.2 percent and 33.3 percent were calculated for children whose mothers had no education. Four out of 5 children (82.7 percent) in the richest wealth index quintile households are currently attending primary school

[53] Ratios presented in this table are "adjusted" since they include not only primary school attendance, but also secondary school attendance in the numerator.

compared to one out of 4 of children (25.4 percent) in the poorest households. Also, about 3 out of four children (75.8 percent) in the richest wealth index quintile households are currently attending secondary school compared to one out of 11 children in the poorest households in Kano State.

Children reaching the last grade of primary

The percentage of children reaching last grade of primary school, primary school completion and transition to secondary schoolin Kano State is presented in Table 10.5 (ED.6 & ED.7). The Nigeria 2016-17 included only questions on school attendance in the current and previous year. Therefore, the indicator is calculated synthetically by computing the cumulative probability of survival from the first to the last grade of primary school, as opposed to calculating the indicator for a real cohort which would need to be followed from the time a cohort of children entered primary school, up to the time they reached the last grade of primary school.

Repeaters are excluded from the calculation of the indicator because it is not known whether they will eventually graduate. As an example, the probability that a child will move from the first grade to the second grade is computed by dividing the number of children who moved from the first grade to the second grade (during the two consecutive school years covered by the survey) by the number of children who have moved from the first to the second grade plus the number of children who were in the first grade the previous school year, but dropped out. Both the numerator and denominator exclude children who repeated during the two school years under consideration.

The final grade in government-owned primary school in Nigeria, which most children attend, is primary 6 and the majority of children in Kano State (93.6 percent) reach this last grade. This number includes children that repeated grades and that eventually moved up to reach the last grade. Male-female, rural-urban and wealth quintile differentials are not pronounced as at least eight out of 10 pupils reached grade 6.

The primary school completion rate is the ratio of the total number of students, regardless of age, entering the last grade of primary school for the first time, to the number of children of the primary graduation age at the beginning of the current (or most recent) school year. The primary school completion rate, which indicates the proportion of children of primary completion age 11 years, attending the last grade of primary education is 56.9 percent and the transition rate to secondary school is 39.7 percent in Kano State. "Effective" transition rate of 57.4 percent takes account of the presence of repeaters in the final grade of primary school. This indicator better reflects situations in which pupils repeat the last grade of primary education but eventually make the transition to the secondary level. The simple transition rate tends to underestimate pupils' progression to secondary school as it assumes that the repeaters never reach secondary school.
Some gender differential exists in the primary school completion rate, a higher estimate for male children (66.5 percent) compared to female children (49.7 percent). Across the senatorial districts, primary school completion rates range between 42 percent in Kano South to 67.7 percent in Kano North.

Table 10.5 (ED.6 & ED.7): Children reaching last grade of primary school, primary school completion and transition to secondary school

	Percent who reach grade 6 of those who enter grade 1[1]	Primary school completion rate[2]	Transition rate to secondary school[3]	Effective transition rate to secondary school
Total	**93.6**	**56.9**	**39.7**	**57.4**
Senatorial District				
Kano Central	94.9	60.1	39.0	51.3
Kano North	90.7	67.7	44.5	(78.6)
Kano South	93.7	42.1	(36.5)	(*)
Sex				
Male	96.0	66.5	39.3	56.7
Female	91.0	49.7	40.2	58.1
Residence				
Urban	90.6	57.5	37.5	48.9
Rural	95.1	56.6	41.7	66.4
Mother's education				
None	88.0	36.6	(*)	(*)
Non-formal	98.7	59.0	48.7	65.7
Primary	83.2	(50.3)	(29.0)	(*)
Secondary	97.0	(67.7)	(*)	(*)
Higher	100.0	(*)	(*)	(*)
Wealth index quintile				
Poorest	84.0	(30.7)	(*)	(*)
Second	95.6	52.9	(30.1)	(*)
Middle	91.3	59.0	(46.0)	(61.9)
Fourth	92.4	76.2	39.3	(59.4)
Richest	100.0	57.8	44.3	(56.6)

[1] MICS indicator 7.6; MDG indicator 2.2 - Children reaching last grade of primary

[2]MICS indicator 7.7 - Primary completion rate

[3]MICS indicator 7.8 - Transition rate to secondary school

( ) Sample data are based on 25-49 unweighted cases *(*) Sample data are fewer than 25 unweighted cases*

Education Gender Parity Index

Table10.6 (ED.8) shows the ratio of girls to boys attending primary and secondary education in Kano State. These ratios are better known as the Gender Parity Index (GPI). The ratios included here are obtained from net attendance ratios rather than gross attendance ratios. The latter provides an erroneous description of the GPI mainly because, in most cases, the majority of over-age children attending primary education tend to be boys. An estimate of 1.0 indicates parity between girls and boys. If the value is less than 1, the disparity is in favour of boys and vice versa if the value is greater than 1.

In Kano State, gender parity for primary school is 0.93, indicating higher school attendance rate for boys than girls in primary school. The indicator drops to 0.87 for secondary education, showing that girl child is further disadvantaged in school attendance at secondary level than boys. For primary school, the parity index is higher in urban areas and shows that more girls are attending school than boys (1.09), while in rural areas, an estimate of 0.87 indicate more boys are attending school than girls. The gender parity index in Kano Central (1.03) indicates that more girls are attending school than boys, which is different from other senatorial districts.

Mothers' educational attainment is also an important factor in gender parity for both primary and secondary schools. Among children of mothers with no education, the index is 0.75, while it is 1.17

among children of mothers with primary education. A striking feature of gender parity index in respect of primary school attendance ratio is that the figure is consistently less than 1 over the major divisions of the population of the children; this implies that the girls are on the aggregate disadvantaged.

Table 10.6 (ED.8): Education gender parity

Ratio of adjusted net attendance ratios of girls to boys, in primary and secondary school, Nigeria, 2016-17, Kano State

	Primary school			Secondary school		
	Primary school adjusted net attendance ratio (NAR), girls	Primary school adjusted net attendance ratio (NAR), boys	Gender parity index (GPI) for primary school adjusted NAR[1]	Secondary school adjusted net attendance ratio (NAR), girls	Secondary school adjusted net attendance ratio (NAR), boys	Gender parity index (GPI) for secondary school adjusted NAR[2]
Total	**53.0**	**56.7**	**0.93**	**39.3**	**45.3**	**0.87**
Senatorial District						
Kano Central	68.8	67.1	1.03	56.5	55.9	1.01
Kano North	44.3	53.3	0.83	20.2	39.5	0.51
Kano South	40.9	46.7	0.87	22.9	32.4	0.70
Residence						
Urban	76.1	69.6	1.09	69.2	64.7	1.07
Rural	45.4	52.4	0.87	23.1	35.1	0.66
Mother's education						
None	36.2	47.9	0.75	34.1	32.7	1.04
Non-formal	48.0	52.6	0.91	32.0	38.0	0.84
Primary	70.0	67.7	1.03	56.4	54.5	1.04
Secondary	84.0	77.3	1.09	76.6	75.0	1.02
Higher	89.1	76.4	1.17	56.1	87.8	0.64
Wealth index quintile						
Poorest	22.0	29.0	0.76	2.6	15.3	0.17
Second	43.2	50.9	0.85	11.3	30.4	0.37
Middle	52.0	61.4	0.85	29.7	43.3	0.68
Fourth	68.4	71.2	0.96	53.4	54.2	0.99
Richest	89.3	75.7	1.18	75.3	76.4	0.98

[1] MICS indicator 7.9; MDG indicator 3.1 - Gender parity index (primary school)
[2] MICS indicator 7.10; MDG indicator 3.1 - Gender parity index (secondary school)

XI. Child Protection

Birth Registration

A name and nationality is every child's right, enshrined in the Convention on the Rights of the Child (CRC) and other international treaties. Yet the births of one in four children under the age of five worldwide have never been recorded.[54] This lack of formal recognition by the State usually means that a child is unable to obtain a birth certificate. As a result, he or she may be denied health care or education. Later in life, the lack of official identification documents can mean that a child may enter into marriage or the labour market, or be conscripted into the armed forces, before the legal age. In adulthood, birth certificates may be required to obtain social assistance or a job in the formal sector, to buy or prove the right to inherit property, to vote and to obtain a passport. Registering children at birth is the first step in securing their recognition before the law, safeguarding their rights, and ensuring that any violation of these rights does not go unnoticed.[55]

National Population Commission (NPopC) is the organisation in charge of birth registration in Nigeria and every child is registered at or shortly after birth in any of the health care offices and as well as the NPopC offices across the 774 LGAs in Nigeria. Provide information on the procedure/system of birth registration in the country.

KEY FINDINGS

35 percent of children under age 5 have their birth registered under civil authority

54 percent of children are involved in child labour
44 percent of children are working under hazardous condition

83 percent of children age 1-14 years was subjected to at least one form of violent discipline
- **86.9 percent in Kano South,**
- **81.1 percent in Kano North**
- **80 percent in Kano Central**

30.8 percent ofwomen married before 15 years
69.7 percent of women married before 18 years.

30.9 percent of women had some form of female genital mutilation.

34.7 percent of women in Kano state feel that a husband/partner is justified in hitting or beating his wife in at least one of the five situations.

Table 11.1 (CP.1) shows the percentage of children under age 5 with registered birth and unregistered birth from parents of caretakers who know how to register a birth in Kano State. About 35 percent of children under age 5 have their birth registered under civil authority. There is slight difference on birth registration based on the sex of children; 37.1 and 33.4 percent respectively for female and male children. Urban-rural differential exists, with higher birth registration in the urban areas (66.3 percent) than rural (25.7 percent).

[54]UNICEF. 2014.*The State of the World's Children 2015*. UNICEF.
[55]UNICEF. 2013.*Every Child's Birth Right: Inequities and trends in birth registration*. UNICEF.

Table 11.1 (CP.1): Birth registration

Percentage of children under age 5 by whether birth is registered and percentage of children not registered whose mothers/caregivers know how to register birth, Nigeria, 2016-17 Kano State

	Children under age 5 whose birth is registered with civil authorities				Number of children under age 5	Children under age 5 whose birth is not registered	
	Has birth certificate						
	Seen	Not seen	No birth certificate	Total registered [1]		Percent of children whose mother /caretaker knows how to register birth	Number of children under age 5 without birth registration
Total	**19.2**	**12.4**	**3.7**	**35.3**	**2559**	**22.0**	**1656**
Senatorial District							
Kano Central	30.9	17.7	6.4	55.1	962	30.9	432
Kano North	11.6	10.7	2.0	24.3	693	22.3	525
Kano South	12.6	8.2	2.0	22.7	904	16.3	699
Sex							
Male	19.6	14.2	3.4	37.1	1293	21.7	813
Female	18.8	10.7	4.0	33.4	1266	22.4	842
Residence							
Urban	36.1	22.4	7.8	66.3	603	38.9	203
Rural	14.0	9.4	2.4	25.7	1956	19.7	1453
Age (Months)							
0-11	13.6	10.3	5.3	29.1	514	23.3	364
12-23	18.4	14.2	3.7	36.3	538	22.3	342
24-35	25.5	11.2	2.6	39.2	485	22.4	295
36-47	18.6	13.6	3.0	35.2	522	20.2	339
48-59	20.5	12.8	3.7	36.9	500	22.0	316
Mother's education							
None	7.5	11.3	3.7	22.4	452	20.7	351
Non-formal	12.6	9.5	1.5	23.6	1298	19.7	991
Primary	26.0	11.7	6.2	43.8	352	24.4	198
Secondary	40.4	23.3	7.9	71.6	379	40.8	107
Higher	63.8	18.3	7.4	89.5	77	(*)	8
Wealth index quintile							
Poorest	3.5	6.3	1.0	10.8	530	12.8	472
Second	9.0	6.8	1.9	17.8	559	20.1	460
Middle	12.6	11.4	3.8	27.8	529	22.3	382
Fourth	30.7	14.9	4.2	49.8	487	33.1	244
Richest	45.3	25.0	8.2	78.6	455	47.6	97

[1] MICS indicator 8.1 - Birth registration

In Kano State, there is difference in birth registration across senatorial districts; higher proportions of birth registration occurred in Kano Central (55.1 percent) compared with Kano North (24.3 percent) and Kano South (22.7 percent). There is an increase in the proportion of birth registration with increasing mother's education and wealth quintile. Inadequate knowledge of how to register a child could be an obstacle to the fulfilment of a child's right to identity. Twenty-seven percent of mothers of unregistered children are aware of the registration process, but did not register their children.

Child Labour

Children who are involved in one form of paid and unpaid work are classified as child labourers when they are either too young to work or are involved in hazardous activities that may compromise their physical, mental, social or educational development. Article 32 (1) of the Convention on the Rights of the Child states: "States Parties recognize the right of the child to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral or social development".

The child labour module was administered for children age 5-17 and includes questions on the type of work a child does and the number of hours he or she is engaged in it. Data are collected on both economic activities (paid or unpaid work for someone who is not a member of the household, work for a family farm or business) and domestic work (household chores such as cooking, cleaning or caring for children, as well as collecting firewood or fetching water). The module also collects information on hazardous working conditions.[56, 57]

The methodology of the MICS Indicator on Child Labour uses three age-specific thresholds for the number of hours a child can perform economic activity without it being classified as in child labour. A child that performed economic activities during the last week for more than the age-specific number of hours is classified as in child labour:

i. age 5-11: 1 hour or more
ii. age 12-14: 14 hours or more
iii. age 15-17: 43 hours or more

Similarly, children's involvement in household chores was surveyed. As for economic activity above, the methodology also uses age-specific thresholds for the number of hours a child can perform household chores without it being classified as child labour. A child that performed household chores during the last week for more than the age-specific number of hours is classified as in child labour:

i. age 5-11 and age 12-14: 28 hours or more
ii. age 15-17: 43 hours or more

Table 11.2 (CP.4) shows the combined percentage of children age 5-17 years involved in child labour (from economic activities and household chores) and children working under hazardous conditions in Kano State. The percentage of children in child labour and children working under hazardous condition is 53.6 percent and 44.4 percent respectively. This implies that about half of the children are involved in economic or household activities classified as child labour in Kano State.

[56]UNICEF. 2012. *How Sensitive Are Estimates of Child Labour to Definitions?* MICS Methodological Paper No. 1. UNICEF.

[57] The Child Labour module and the Child Discipline module were administered using random selection of a single child in all households with one or more children age 1-17 (See Appendix F: Questionnaires). The Child Labour module was administered if the selected child was age 5-17 and the Child Discipline module if the child was age 1-14 years old. To account for the random selection, the household sample weight is multiplied by the total number of children age 1-17 in each household.

The proportion of children engaged in child labour by type of activities labour varies with age. For economic activities, 45.2 percent of children age 5-11 years, 12.2 percent of children age 12-14 years, and 0.6 percent of children age 15-17 years. However, the proportion of children involved in household chores classified as child labour varies by age group is5.5 percent of children age 5-11 years, 3.8 percent of children age 12-14 years, and 1.9 percent of children age 15-17 years.

A higher proportion of children in child labour are in Kano South, Kano North and rural areas. There is also a reduction in participation of children in economic and household activities classified as child labours with increasing mother's education and wealth quintile. The highest proportion of children working under hazardous condition is in Kano South.

Table 11.2 (CP.4): Child labour

Percentage of children age 5-17 years by involvement in economic activities or household chores during the last week, percentage working under hazardous conditions during the last week, and percentage engaged in child labour during the last week, Nigeria, 2016-17Kano State

	Children involved in economic activities for a total number of hours during last week:		Children involved in household chores for a total number of hours during last week:		Children working under hazardous conditions	Total child labour[1]	Number of children age 5-17 years
	Below the age specific threshold	At or above the age specific threshold	Below the age specific threshold	At or above the age specific threshold			
Total	**37.5**	**31.3**	**81.8**	**4.6**	**44.4**	**53.6**	**5248**
Senatorial District							
Kano Central	35.8	21.0	80.5	2.2	29.5	38.2	2355
Kano North	35.1	36.3	80.0	5.0	48.6	57.3	1295
Kano South	41.9	42.3	85.3	7.8	62.8	73.3	1598
Sex							
Male	37.4	32.8	82.1	3.7	48.8	57.2	2522
Female	37.5	29.8	81.6	5.4	40.3	50.3	2726
Residence							
Urban	37.0	11.9	79.5	1.8	19.4	26.2	1539
Rural	37.6	39.3	82.8	5.7	54.7	65.0	3709
Age (years)							
5-11	21.7	45.2	81.5	5.5	44.2	57.5	3318
12-14	59.5	12.2	81.6	3.8	42.8	46.5	1115
15-17	71.4	0.6	83.5	1.9	47.0	47.8	815
School attendance							
Yes	36.9	33.2	81.8	5.3	44.6	54.4	4127
No	39.4	24.2	82.2	2.1	43.4	50.9	1121
Mother's education							
None	50.4	32.7	84.8	4.6	59.8	70.7	950
Non-formal	34.9	36.9	81.1	5.3	48.1	57.9	2782
Primary	32.2	38.9	85.7	6.9	44.7	54.3	592
Secondary	31.5	9.5	77.8	0.3	11.6	18.6	597
Higher	24.8	8.6	63.9	0.0	11.1	13.7	140
Wealth index quintile							
Poorest	42.2	40.8	77.7	6.6	59.8	70.1	1038
Second	36.1	45.9	84.0	6.8	57.5	71.0	977
Middle	42.1	37.6	87.0	4.4	62.1	68.6	1067
Fourth	37.8	24.9	85.1	4.0	33.5	44.1	1074
Richest	29.4	9.1	75.6	1.4	11.3	17.2	1092

[1] MICS indicator 8.2 - Child labour

[a] Children age 15 or higher at the time of the interview whose mothers were not living in the household

Child Discipline

Teaching children self-control and acceptable behaviour is an integral part of child discipline in all cultures. Positive parenting practices involve providing guidance on how to handle emotions or conflicts in manners that encourage judgment and responsibility and preserve children's self-esteem, physical and psychological integrity and dignity. However, children are raised through the use of punitive methods that rely on the use of physical force or verbal intimidation to obtain desired behaviour. Studies[58] have found that exposing children to violent discipline have harmful consequences, which range from immediate impacts to long-term harm that children carry forward into adult life. Violence hampers children's development, learning abilities and school performance; it inhibits positive relationships, provokes low self-esteem, emotional distress and depression; and, at times, it leads to risk taking.

Table 11.3 (CP. 3) presents discipline methods of children age 1-14 years during the last one month. In Kano, 82.5 percent of children age 1-14 years were subjected to at least one form of violent discipline method (psychological aggression or physical punishment) by household members during the past month. For the most part, households employ a combination of violent disciplinary practices, reflecting caregivers' motivation to control children's behaviour by any means possible. While 74.1 percent of children experienced psychological aggression, 67.7 percent experienced physical punishment. The most severe forms of physical punishment (hitting the child on the head, ears or face or hitting the child hard and repeatedly) are reported in about 26.2 percent of children. Male children were subjected to physical discipline (69.6 percent) more than female children (65.6 percent). There is slight difference in the violent method of child discipline across the senatorial district; 86.9 percent in Kano South, 81.1 percent in Kano North and 80 percent in Kano Central. Also, there is slight variation by area of residence, age, education of household head and household wealth index.

[58]Straus, MA and Paschall MJ.2009. *Corporal Punishment by Mothers and Development of Children's Cognitive Ability: A longitudinal study of two nationally representative age cohorts*. Journal of Aggression, Maltreatment & Trauma18(5): 459-83.
Erickson, MF and Egeland, B. 1987.*A Developmental View of the Psychological Consequences of Maltreatment*. School Psychology Review16: 156-68.
Schneider, MW et al. 2005. *Do Allegations of Emotional Maltreatment Predict Developmental Outcomes Beyond that of Other Forms of Maltreatment?*. Child Abuse & Neglect29(5): 513–32.

Table 11.3 (CP.3): Child discipline

Percentage of children age 1-14 years by child disciplining methods experienced during the last one month, Nigeria, 2016-17, Kano State

	Percentage of children age 1-14 years who experienced:					
	Only non-violent discipline	Psychological aggression	Physical punishment		Any violent discipline method[1]	Number of children age 1-14 years
			Any	Severe		
Total	**11.2**	**74.1**	**67.7**	**26.2**	**82.5**	**6269**
Senatorial District						
Kano Central	13.7	68.6	68.2	23.8	80.0	2566
Kano North	11.5	75.6	64.7	26.1	81.1	1682
Kano South	7.8	79.7	69.5	29.2	86.9	2021
Sex						
Male	11.3	73.9	69.9	27.7	83.7	3085
Female	11.2	74.2	65.6	24.6	81.4	3185
Residence						
Urban	17.0	60.9	60.2	15.8	74.4	1614
Rural	9.2	78.7	70.3	29.8	85.4	4655
Age (years)						
1-2	14.7	64.6	48.9	14.2	70.6	890
3-4	9.6	79.8	71.9	26.4	86.3	946
5-9	12.0	74.6	70.1	29.4	83.8	2523
10-14	9.5	75.0	71.1	27.3	84.5	1910
Education of household head						
None	21.1	65.3	59.7	23.5	71.8	536
Non-formal	8.3	77.9	72.4	29.1	86.3	3109
Primary	12.1	73.9	61.4	24.7	80.7	785
Secondary	13.6	68.6	67.6	24.4	78.3	1089
Higher	12.3	71.9	61.2	20.1	82.1	711
Wealth index quintile						
Poorest	10.0	77.6	68.1	29.6	82.5	1308
Second	7.3	79.3	70.8	32.1	85.8	1284
Middle	10.0	78.7	71.2	31.4	86.0	1261
Fourth	15.7	67.4	62.0	20.3	78.1	1233
Richest	13.5	66.5	66.2	16.4	79.9	1183

[1] MICS indicator 8.3 - Violent discipline

Early Marriage and Polygyny

Marriage[59] before the age of 18 is a reality for many young girls. In many parts of the world parents encourage the marriage of their daughters while they are still children in hopes that the marriage will benefit them both financially and socially, while also relieving financial burdens on the family. In actual fact, child marriage is a violation of human rights, compromising the development of girls and often resulting in early pregnancy and social isolation, with little education and poor vocational training reinforcing the gendered nature of poverty.[60]

The right to 'free and full' consent to a marriage is recognized in the Universal Declaration of Human Rights - with the recognition that consent cannot be 'free and full' when one of the parties involved is not sufficiently mature to make an informed decision about a life partner. Closely related to the issue of child marriage is the age at which girls become sexually active.

Women who are married before the age of 18 tend to have more children than those who marry later in life. Pregnancy related deaths are known to be a leading cause of mortality for both married and unmarried girls between the ages of 15 and 19, particularly among the youngest of this cohort. There is evidence to suggest that girls who marry at young ages are more likely to marry older men which puts them at increased risk of HIV infection. The demand for these young wives to have children, and the power imbalance resulting from the age differential, lead to very low condom use among such couples.[61]

Table 11.4 (CP.7 & CP.7M) shows the percentage of men and women at different age groups years who were married before ages 15 and 18, currently married and in a polygynous marriage. The percentage of women who married before age 15 years in Kano State is 30.5 percent. About 70 percent of women age 20-49 years married before age 18 years. Kano North has the highest proportion of women who married before age 15 years (43.9 percent), who married before age 18 years (77.8 percent), who are currently married (53 percent) and who are in a polygynous union (56 percent). Also, estimates for early marriage and polygyny indicators steadily reduce with increasing education and wealth quintile.

[59] All references to marriage in this chapter include marital union as well.

[60] Bajracharya, A ND Amin, S. 2010.*Poverty, marriage timing, and transitions to adulthood in Nepal: A longitudinal analysis using the Nepal living standards survey.* Poverty, Gender, and Youth Working Paper No. 19. Population Council.
Godha, D et al. 2011. *The influence of child marriage on fertility, fertility-control, and maternal health care utilization.* MEASURE/Evaluation PRH Project Working paper 11-124.

[61]Clark, S et al. 2006. *Protecting young women from HIV/AIDS: the case againstchild and adolescentmarriage. International Family Planning Perspectives* 32(2): 79-88.
Raj, A et al. 2009. *Prevalence of child marriage and its effect on fertility and fertility-control outcomes of young women in India: a cross-sectional, observational study*. The Lancet373(9678): 1883–9.

Table 11.4 (CP.7 & CP.7M): Early marriage and polygyny

Percentage of women and men age 15-49 years who first married or entered a marital union before their 15th birthday, percentages age 20-49 years who first married or entered a marital union before their 15th and 18th birthdays, percentage age 15-19 years currently married or in union, and the percentage of women who are in a polygynous marriage or union, Nigeria, 2016-17 Kano State

	Percentage of women				Percentage of men			
	age 15-49 married before age 15[1]	age 20-49 married before age 18[2]	age 15-19 currently married/in union[3]	age 15-49 in polygynous marriage/ union[4]	age 15-49 married before age 15[1]	age 20-49 married before age 18[2]	age 15-19 currently married/in union[3]	age 15-49 in polygynous marriage/ union[4]
Total	30.8	69.7	30.8	48.2	1.9	**4.1**	**0.0**	**34.7**
Senatorial District								
Kano Central	20.7	59.3	12.3	39.4	1.1	2.3	0.0	0.0
Kano North	43.9	77.8	53.0	56.0	5.2	9.2	0.0	0.0
Kano South	34.6	76.6	48.2	51.5	1.0	3.1	0.0	0.0
Residence								
Urban	16.2	52.4	5.3	37.7	2.1	2.5	0.0	0.0
Rural	36.8	76.1	45.6	51.3	1.9	4.9	0.0	0.0
Age (Years)								
15-19	14.1	na	30.8	37.2	0.4	na	0.0	(*)
20-24	27.6	69.0	na	38.5	0.5	0.9	na	(*)
25-29	35.4	75.1	na	43.0	3.1	4.2	na	2.8
30-34	41.7	73.3	na	53.8	3.8	8.0	na	25.1
35-39	39.7	69.3	na	54.7	3.4	5.9	na	32.9
40-44	37.1	60.0	na	58.1	3.7	4.4	na	44.1
45-49	37.7	64.6	na	59.6	1.2	2.9	na	56.2
Education								
None	46.6	79.3	(80.3)	56.6	(7.4)	(9.8)	(*)	(28.0)
Non-formal	39.6	76.5	56.3	53.2	2.7	5.3	0.0	37.8
Primary	32.1	78.1	51.4	44.4	2.4	6.2	(.0)	41.5
Secondary	8.1	47.9	6.0	26.1	1.0	2.2	0.0	26.0
Higher	2.2	13.0	(*)	24.1	1.5	2.4	(*)	(33.1)
Wealth index quintile								
Poorest	45.8	78.3	56.1	55.1	1.6	5.5	0.0	39.7
Second	39.4	77.7	44.3	53.8	3.4	6.2	(0.0)	40.2
Middle	34.3	76.4	50.1	49.7	3.4	8.6	0.0	42.5
Fourth	26.5	74.1	21.5	45.2	0.9	0.6	0.0	25.6
Richest	12.4	43.6	7.3	34.5	1.1	1.5	0.0	25.5

[1] MICS indicator 8.4 - Marriage before age 15 [2] MICS indicator 8.5 - Marriage before age 18

[3] MICS indicator 8.6 - Young men age 15-19 years currently married or in union [4] MICS indicator 8.7 - Polygyny

The percentage of men age 15-49 who married before age 15 years in Kano State is 1.9 percent, while 4.1 percent of men married before age 18 years. For men, the proportion of marriages before ages 15 and 18 years are also higher in Kano North and rural areas than others. Likewise, these indicators reduce with increasing education and wealth quintile. None of the young men age 15-19 years is currently married. The proportion of those in polygynous marriage or union is higher among women (48.2 percent) than men (34.7 percent) in Kano State.

Spousal age difference

Spousal age difference measures the percentage of young women who are married or in a union and whose spouse is 10 or more years older. Table 11.5 (CP.9) presents the results of the age difference between women age 15-24 years who are currently married and their husbands in Kano State. About 57 percent of currently married/in union women age 15-24 years have husbands older by ten years or more.

While Kano North has the highest estimate of women age 20-24 who are at least ten years younger than their husband, Kano South has the highest estimate of this indicator among women age 15-19 years. More women age 20-24 in the urban areas (60.3 percent) are married to men who are older by ten years or more compare to rural (56.4 percent). Although about half of women age 15-24 in Kano State have husband that is at least 10 years older, the higher the wealth index, the more the proportion of women who have husband that is 10 years older or more.

Table 11.5 (CP.9): Spousal age difference

Percent distribution of women currently married/in union age 15-19 and 20-24 years according to the age difference with their husband or partner, Nigeria, 2016-17Kano State

	Percentage of currently married/in union women age 15-19 years whose husband or partner is:	Percentage of currently married/in union women age 20-24 years whose husband or partner is:
	10+ years older[1]	10+ years older[2]
Total	**56.8**	**57.1**
Senatorial District		
Kano Central	(57.6)	56.9
Kano North	52.3	61.6
Kano South	59.6	53.7
Residence		
Urban	(*)	60.3
Rural	56.2	56.4
Education		
None	(63.4)	67.2
Non-formal	51.2	50.5
Primary	(64.0)	(54.1)
Secondary	(*)	65.1
Higher	0.0	(*)
Wealth index quintile		
Poorest	(50.8)	54.5
Second	(51.1)	54.7
Middle	59.8	56.9
Fourth	57.9	58.4
Richest	(*)	62.2

[1] MICS indicator 8.8a - Spousal age difference (among women age 15-19)
[2] MICS indicator 8.8b - Spousal age difference (among women age 20-24)
na: not applicable *( ) Sample data are based on 25-49 unweighted cases (*) Sample data are fewer than 25 unweighted cases*

Female Genital Mutilation/Cutting

Female genital mutilation/cutting (FGM/C) is the partial or total removal of the female external genitalia or other injury to the female genital organs. FGM/C is always traumatic with immediate complications including excruciating pain, shock, urine retention, ulceration of the genitals and injury to adjacent tissue. Other complications include septicaemia, infertility, obstructed labour, and even death.

FGM/C is also known as female circumcision, is practiced in many societies in Nigeria. In many cultures, FGM/Cis a recognised and accepted practice that is considered important for the socialisation of women, curbing their sexual appetites and preparing them for marriage. This practice is considered part of a ritual initiation into womanhood that includes a period of seclusion and education about the rights and duties of a wife. The procedure is generally carried out on girls between the ages of 4 and 14; it is also done to infants, women who are about to be married and, sometimes, to women who are pregnant with their first child or who have just given birth. It is often performed by traditional practitioners, including midwives and barbers, without anaesthesia, using scissors, razor blades, or broken glass.

FGM/C is a fundamental violation of human rights. It subjects girls and women to health risks and has life-threatening consequences. Although no international human rights instruments specifically addressed the practice, Article 25 of the Universal Declaration of Human Rights states that “everyone has the right to a standard of living adequate for health and well-being” and has been used to argue that FGM/C violates the right to health and bodily integrity. Furthermore, it could be argued that girl child, cannot be said to give informed consent to such a potentially damaging practice as FGM/C.

Table 11.6 (CP.10, CP.11 & CP.12) presents the percentage of women who approve FGM/C, the prevalence of FGM/C among women age 15-49 years and prevalence of FGM/C among girls. About 30.9 percent of women had some form of female genital mutilation. It is more prevalent in the rural areas than urban areas. FGM/C is least prevalent among women in Kano North where 22.9 percent of the women experienced the practice. The prevalence of FGM/C is associated with age, education and wealth status. It is presented as a problem of the old, the non-educated and the poor.

Table 11.6 also shows the prevalence and extent of FGM/C performed on all daughters, age 0-14 years, of the respondents. It is important to note that prevalence data for girls’ age 0-14 years reflect their current – not final – FGM/C status, since many of them may not have reached the customary age for cutting at the time of the survey. They are reported as being uncut but are still at risk of undergoing the procedure. Overall, 71 percent of girls have undergone FGM/C. Daughters whose mothers have no education (86.7 percent), non-formal (78.5 percent) and primary education (76.9 percent) are more likely to be exposed to the practice of FGM/C compared to daughters whose mother had a secondary education (40.1 percent) and higher education (4.1 percent). FGM/C is common among daughters age 0-9 (72 percent) compared to 66.6 percent among daughters age 10-14.

As to whether the practice should be continued or discontinued, about 59.0 percent of women thought it should be continued. More women in Kano South (72.5 percent) support the continuation of the practice of FGM/C than women in other senatorial districts. Also, support for FGM/C practices is higher in rural areas (73 percent) compared with urban areas (26 percent). Seven out of 10 women with no education support FGM/C, while only 4 out of 100 women with higher education support the practice. The higher the wealth index, the lower the percentage of women who support FGM/C in Kano State.

Table 11.6 (CP.10, CP.11 & CP.12): Female genital mutilation/cutting (FGM/C) among women

Percentage of women age 15-49 years by FGM/C status and percent distribution of women who had FGM/C by type of FGM/C, Nigeria, 2016-17, Kano State

	Percentage of women who state that FGM/C should continue[1]	Percentage of women who had any form of FGM/C[2]	Percentage of daughters who had any form of FGM/C[3]
Total	**59.0**	**30.9**	**71.0**
Senatorial District			
Kano Central	44.5	26.6	57.0
Kano North	71.5	22.9	84.9
Kano South	72.0	42.9	79.6
Residence			
Urban	26.4	17.5	37.0
Rural	73.1	36.5	82.7
Age of daughter (Years)			
0-4	na	na	72.4
5-9	na	na	72.5
10-14	na	na	66.6
Mother's Age (years)			
15-19	52.1	27.9	na
20-24	60.5	30.3	na
25-29	64.5	32.3	na
30-34	62.8	33.1	na
35-39	61.7	29.5	na
40-44	49.8	29.6	na
45-49	61.3	38.2	na
Education			
None	74.0	27.9	86.7
Non-formal	74.3	39.7	78.5
Primary	54.2	29.8	76.9
Secondary	36.1	21.6	40.1
Higher	4.3	8.1	4.1
Mother's FGM/C experience			
No FGM/C	21.8	na	31.9
Had FGM/C	80.0	na	90.8
Wealth index quintile			
Poorest	73.6	38.1	82.6
Second	80.2	40.5	85.3
Middle	75.3	36.1	87.8
Fourth	50.1	25.6	67.5
Richest	27.0	17.5	33.1

[1] MICS indicator 8.9 - Approval for FGM/C
[2] MICS indicator 8.10 - Prevalence of FGM/C among women
[3] MICS indicator 8.11 - Prevalence of FGM/C among girls

Attitudes toward Domestic Violence

Nigeria, 2016-17 assessed the attitudes of women and men age 15-49 years towards wife/partner beating by asking the respondents whether they think that husbands/partners are justified to hit or beat their wives/partners in a variety of situations. The purpose of these questions is to capture the social justification of violence (in contexts where women have a lower status in society) as a disciplinary action

when a woman does not comply with certain expected gender roles. The responses to these questions can be found in Table 11.7 (CP.13 & CP.13M) for women and men in Kano State.

Overall, one third of women in Kano State feel that a husband/partner is justified in hitting or beating his wife in at least one of the five situations. About two out of 5 women in the poorest wealth index quintile feel that their husband/partner is justified to hit or beat them for at least one of a variety of reasons compared to one out of 5women in the richest wealth index quintile. More women in Kano Central, rural areas, age 30-34, non-formal education and poorest wealth index quintile feel that their husband/partner is justified to hit or beat them for at least one of a variety of reasons than other groups. In Kano State, men are less likely to justify violence than women. Overall, 22 percent of men justifies wife-beating for any of the five reasons, as compared to 34.7percent of women. A higher proportion of men in Kano South, urban area, younger age group 15-24 and never married men agreed that a husband/partner is justified to hit or beat wife with one of the reasons than other social groups.

Table 11.7 (CP.13 & CP.13M): Attitudes toward domestic violence

Percentage of people age 15-49 years who believe a husband is justified in beating his wife in various circumstances, Nigeria, 2016-17Kano State

	For any of five reasons[1]	Number of women age 15-49 years	For any of five reasons[1]	Number of men age 15-49 years
Total	**34.7**	**2500**	**22.0**	**1099**
Senatorial District				
Kano Central	29.6	1093	22.2	538
Kano North	52.6	603	9.4	228
Kano South	28.2	803	30.3	333
Residence				
Urban	26.9	731	22.8	394
Rural	37.9	1769	21.5	705
Age (years)				
15-19	27.9	586	29.7	290
20-24	37.4	431	27.7	193
25-29	36.5	432	21.2	163
30-34	39.6	354	13.9	128
35-39	35.2	286	19.5	97
40-44	34.5	222	12.4	130
45-49	35.6	190	15.0	99
Marital/Union status				
Currently married/in union	37.0	1949	13.8	474
Formerly married/in union	39.1	65	(*)	4
Never married/in union	25.1	482	28.4	620
Education				
None	35.8	419	(14.2)	33
Non-formal	40.0	1081	21.9	329
Primary	34.0	294	22.6	144
Secondary	26.7	608	22.6	461
Higher	23.0	99	21.5	133
Wealth index quintile				
Poorest	43.8	447	22.0	172
Second	37.6	484	25.7	175
Middle	42.5	479	18.8	209
Fourth	30.4	530	25.3	241
Richest	22.2	560	19.5	303

[1] MICS indicator 8.12 - Attitudes towards domestic violence

Children's Living Arrangements

The CRC recognizes that "the child, for the full and harmonious development of his or her personality, should grow up in a family environment, in an atmosphere of happiness, love and understanding". Millions of children around the world grow up with without the care of their parents for several reasons, including due to the premature death of the parents or their migration for work. In most cases, these children are cared for by members of their extended families, while in others, children may be living in households other than their own, as live-in domestic workers for instance. Understanding the children's living arrangements, including the composition of the households where they live and the relationships with their primary caregivers, is key to design targeted interventions aimed at promoting child's care and wellbeing.

Table 11.8 (CP.14 & CP.15) presents information on the living arrangements and orphanhood status of children under 18 years in Kano State. About 6 percent of children live with neither of their biological parents while both of them are alive. Also, very few children (6.4 percent) have lost one or both parents. Higher percentages of older children lived with neither parents and have lost one or both parents. Percentage of children who are not living with a biological parent is highest in Kano Central, among female children, in urban areas, among the poorest wealth index quintile. In Kano State, there is difference between urban (8.9 percent) and rural(5.4 percent) areas in terms of orphanhood. It is higher in Kano Central (8.0 percent) than Kano North (6.3 percent) and Kano South (4.3 percent). Orphanhood is also highest among older children age 15-17 years.

Table 11.8 (CP.14 & CP.15): Children's living arrangements and orphanhood

Percent distribution of children age 0-17 years according to living arrangements and orphanhood Nigeria, 2016-17Kano State

	Percentage of children age 0-17 years			Number of children age 0-17 years
	Living with neither biological parent[1]	Living with one or both biological parents dead [2]	With at least one parent living abroad[3]	
Total	**6.0**	**6.4**	**0.1**	**7660**
Senatorial District				
Kano Central	6.3	8.0	0.1	3196
Kano North	5.6	6.3	0.0	2022
Kano South	5.8	4.3	0.2	2441
Sex				
Male	4.0	6.0	0.1	3803
Female	7.9	6.8	0.1	3857
Residence				
Urban	7.3	8.9	0.2	2077
Rural	5.5	5.4	0.1	5582
Age (years)				
0-4	2.1	2.2	0.0	2555
5-9	4.9	5.3	0.0	2357
10-14	7.2	9.2	0.2	1930
15-17	18.1	15.9	0.7	818
Wealth index quintile				
Poorest	5.3	4.2	0.0	1544
Second	6.0	6.0	0.3	1581
Middle	5.9	6.3	0.0	1539
Fourth	6.2	8.2	0.0	1508
Richest	6.3	7.2	0.3	1487

[1] MICS indicator 8.13 - Children's living arrangements
[2] MICS indicator 8.14 - Prevalence of children with one or both parents dead
[1] MICS indicator 8.15 - Children with at least one parent living abroad

The Nigeria MICS 2016-17 included a simple measure of one particular aspect of migration related to what is termed children left behind, i.e. for whom one or both parents have moved abroad. While the amount of literature is growing, the long-term effects of the benefits of remittances versus the potential adverse psycho-social effects are not yet conclusive, as there is somewhat conflicting evidence available as to the effects on children. Besides presenting simple prevalence rates, the result presented in Table 11.8 (CP.14 & CP.15) will also fill the data gap on the topic of migration.

As expected, only 0.1 percent of children age 0-17 have one or both parents living abroad. In Kano State, some children do not have any of their parents living abroad: Kano North, children age 0-9 years, poorest, middle and fourth wealth index quintiles.

XII. HIV/AIDS and Sexual Behaviour

Knowledge about HIV Transmission and Misconceptions about HIV

The third Sustainable Development Goal (SDG) is to ensure healthy lives and promote well-being for all at all ages. To achieve this SDG goal, a global target to end AIDS by 2030 was adopted. At the 2016 United Nations General Assembly, countries were called to report on several political commitments that accelerate the end of AIDS, such as ensuring that 90% of young people have the skills, knowledge, capacity to protect themselves from HIV and have access to sexual and reproductive health services by 2020.

The Global AIDS monitoring indicators track progress in knowledge of HIV prevention and behaviour change to prevent further spread of the disease. One indicator in the Global AIDS Monitoring (formerly Global AIDS Response Progress Reporting GARPR or UNGASS) is the percentage of young people who have comprehensive knowledge of HIV prevention and transmission. This is defined as 1) knowing that consistent use of a condom during sexual intercourse, and having just one uninfected faithful partner can reduce the chance of getting HIV, 2) knowing that a healthy-looking person can have HIV, and 3) rejecting the two most common misconceptions about transmission of HIV.

In Nigeria, the number of new HIV infections among young people (15-24years) has been on the increase. According to the 2016 UNAIDS Prevention Gap report[62], two-thirds of young people do not have correct and comprehensive knowledge of HIV, which is partly responsible for the increase in new HIV infections. Knowledge of behavioural risk reduction, consistent condom use, sexually transmitted infections, and HIV status will provide adolescents and young people with the tools to protect themselves against HIV transmission and acquisition.

KEY FINDINGS

In Kano state, majority of young people have heard of HIV/AIDS but few have correct and comprehensive knowledge of the disease

Comprehensive knowledge of HIV transmission
- **15.7 percent of women**
- **27.4 percent of men**

Two out of five women can identify the 3 ways of HIV transmission from mother to child

Stigmatization and discrimination of PLWHA is still high in Kano
7 percent of women have accepting attitude
21 percent of men have accepting attitude

One out of two men and women age 15-49 know where to do an HIV test.

Very few people have been tested and know the result of the test in the last 12 months.
- **7 percent of women**
- **6 percent of men**

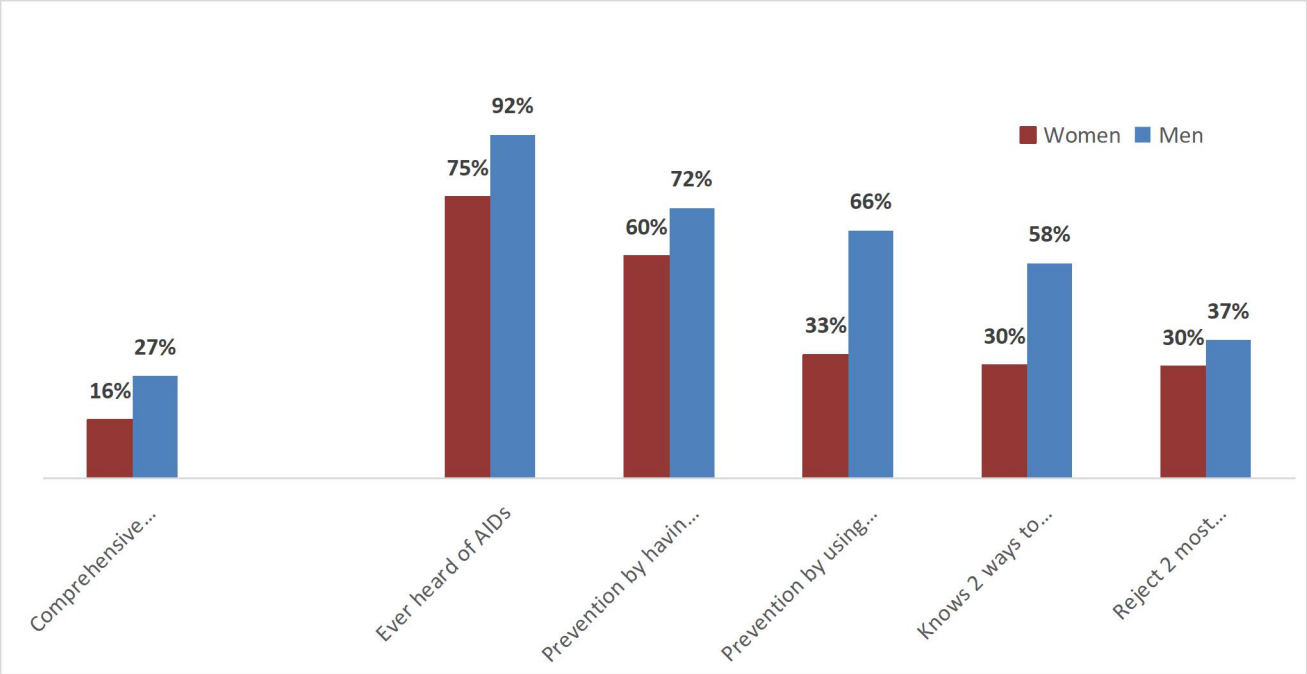
More men know where to be go for test, but more women actually do the test

[62]http://www.unaids.org/sites/default/files/media_asset/2016PreventionGapReportsummary_en.pdf

Knowledge about HIV Prevention among young people age 15-24

Figure 12.1 present the percentage of young men and women aged 15-24 years who have comprehensive knowledge of HIV transmission in Kano State. People who have comprehensive knowledge about HIV prevention include those who know of the two main ways of HIV prevention (having only one faithful uninfected partner and using a condom every time), who know that a healthy-looking person can be HIV-positive, and who reject the two most common misconceptions. Comprehensive knowledge of HIV prevention methods and transmission is fairly low although there are differences by area. It also shows the percentage of young people who correctly identify ways of preventing sexual transmission of HIV and rejects major HIV misconceptions which are based on two most common misconceptions in Nigeria: that HIV can be transmitted by sharing food with someone with HIV and the misconception that a healthy looking person cannot be HIV positive.

Figure 12.1: Percentage of young men and women aged 15-24 years who have comprehensive knowledge of HIV transmission, Nigeria 2016-17 Kano state



Lack of knowledge on HIV transmission and prevention methods pose a threat to current prevention measures such as testing for HIV and promoting care seeking behaviour. As expected majority of young people have heard of HIV/AIDS but few have correct and comprehensive knowledge of the disease. For young men, 92 percent have heard of AIDS, 72 percent agreed that HIV transmission can be prevented by having only one uninfected partner, and 66 percent said that using a condom every time prevents HIV transmission. Also, 58 percent of the young men know at least 2 ways to prevent HIV, and only 37 percent reject the two most common misconception on HIV/AIDS. Twenty-seven percent of young men in Kano State have comprehensive knowledge of HIV/AIDS

A lower proportion of young women than men have heard of AIDS (75 percent), knows 2 ways to prevent transmission of HIV (30 percent), rejected misconceptions of AIDS (30 percent). Sixteen percent of women age 15-24 in Kano State have correct and comprehensive knowledge of HIV/AIDS.

Knowledge about HIV Prevention among people age 15-49

Table 12.1 (HA.1, HA.1M, HA.2 & HA.2M) presents the percentage of men and women age 15-49 years who have comprehensive knowledge about HIV transmission in Kano State. About sixteen percent of women and twenty-seven percent of men have knowledge of the two main ways of HIV prevention (having only one faithful uninfected partner and using a condom every time), know that a healthy-looking person can be HIV-positive, and reject the two most common misconceptions. Women age 15-49 in Kano Central are more knowledgeable on prevention of HIV than those in other senatorial districts. However, men of the same age group from Kano North are more knowledgeable than others.

Men and women who live in urban areas have more comprehensive knowledge on HIV prevention than those in rural areas of Kano State. Percentage of those with comprehensive and correct knowledge is higher among women: who are between ages 15-19, who were never married, who have higher education and from the richest wealth index households. A similar pattern is observed among men on correct and comprehensive knowledge of HIV/AIDS except that knowledge is higher among men age 30-39 and those who are married.

Table 12.1 (HA.1, HA.1M, HA.2 & HA.2M): Knowledge about HIV transmission and comprehensive knowledge about HIV transmission

Percentage of men and women age 15-49 years who have comprehensive knowledge about HIV transmission, have heard of AIDS and know HIV can be transmitted from mother to child by all three means Nigeria, 2016-17Kano State

	Have comprehensive knowledge[1]		Have heard of AIDS and know HIV can be transmitted from mother to child by all three means[2]		Number of women age 15-49	Number of men age 15-49
	Women	Men	Women	Men		
Total	**15.7**	**27.4**	**42.5**	**34.2**	**2500**	**1099**
Senatorial District						
Kano Central	26.3	27.9	53.5	41.3	1093	538
Kano North	6.4	35.1	20.8	29.2	603	228
Kano South	8.2	21.3	43.7	26.1	803	333
Residence						
Urban	29.3	33.8	52.8	38.7	731	394
Rural	10.0	23.9	38.2	31.6	1769	705
Age (years)						
15-24[1]	15.5	23.3	39.6	33.1	1017	483
15-19	16.4	18.7	39.5	35.1	586	290
20-24	14.4	30.4	39.7	30.0	431	193
25-29	16.2	28.0	46.5	31.5	432	163
30-39	15.7	33.6	43.9	32.6	640	225
40-49	15.4	29.5	43.0	39.8	412	229
Marital status						
Ever married/in union	14.5	30.8	42.2	35.8	2014	478
Never married/in union	20.6	24.8	43.4	33.0	482	620
Education						
None	9.6	(31.4)	27.2	(29.6)	419	33
Non-formal	9.9	14.1	42.8	34.8	1081	329
Primary	15.1	31.7	39.7	30.1	294	144
Secondary	26.1	31.1	50.9	35.8	608	461
Higher	42.0	41.8	60.1	32.5	99	133
Wealth index quintile						
Poorest	3.7	16.8	27.7	29.4	447	172
Second	8.1	21.1	37.3	31.0	484	175
Middle	7.9	30.3	37.4	35.8	479	209
Fourth	19.6	28.4	48.3	31.9	530	241
Richest	34.6	34.4	57.4	39.3	560	303

[1]MICS indicator 9.1; MDG indicator 6.3 - Knowledge about HIV prevention

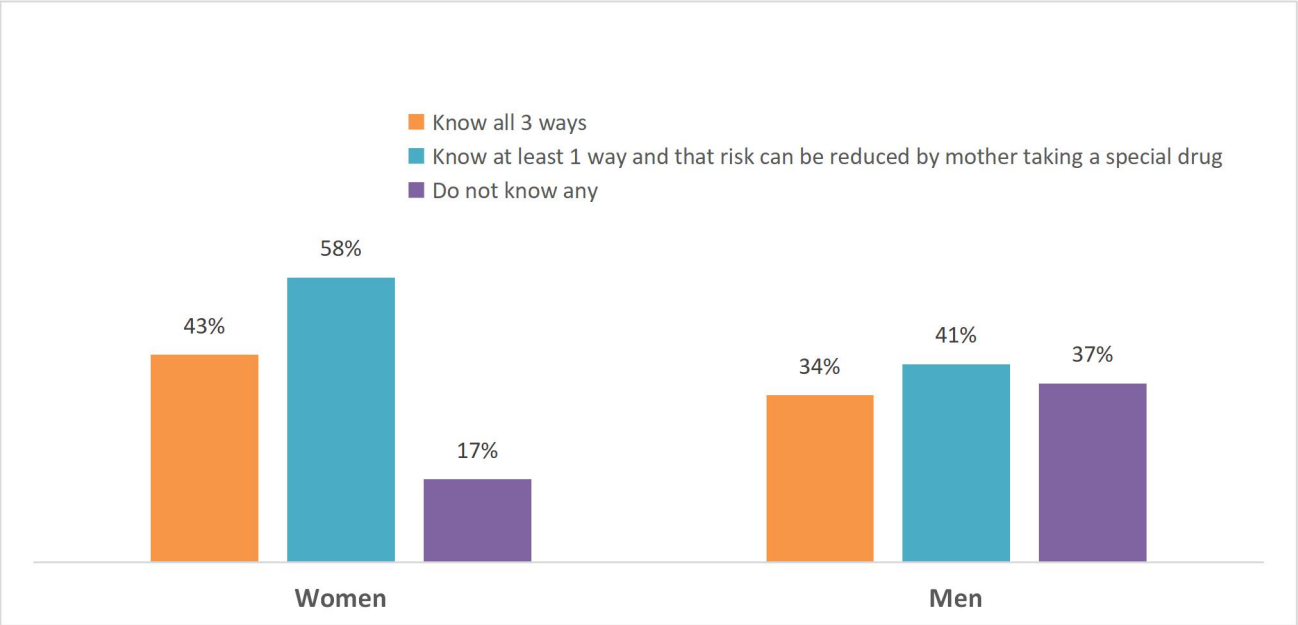
[2] MICS indicator 9.2 - Knowledge of mother-to-child transmission of HIV

Knowledge of mother to child transmission of HIV

Knowledge of mother-to-child transmission of HIV is an important first step for women to seek HIV testing when they are pregnant to avoid infection in the baby. Women and men should know that HIV can be transmitted during pregnancy, during delivery, and through breastfeeding. The percentage distribution of men and women age 15-49 years on knowledge of mother-to-child transmission (PMTCT)in Kano State is presented in Figure 12.2 and Table 12.1 (HA.1, HA.1M, HA.2 &HA.2M). About half of the women can identify the 3 ways of HIV transmission from mother to child. This is slightly higher than the proportion of men who can correctly identify the three ways.

According to the National HIV Strategic framework for Nigeria 2017 -2021, to eliminate Mother to Child Transmission of HIV by 2021, 95 percent of all HIV positive pregnant and breastfeeding mothers should receive antiretroviral therapy by 2021.Among people age 15-49 years in Kano State, 58 percent of women and 41 percent of men know at least one of the three means through which HIV can be transmitted from mother to child and that risk can be reduced by mother taking special drugs.

Figure 12.2: Percentage of men and women age 15-49 years who correctly identify means of HIV transmission from mother to child, Nigeria, 2016-17 Kano state

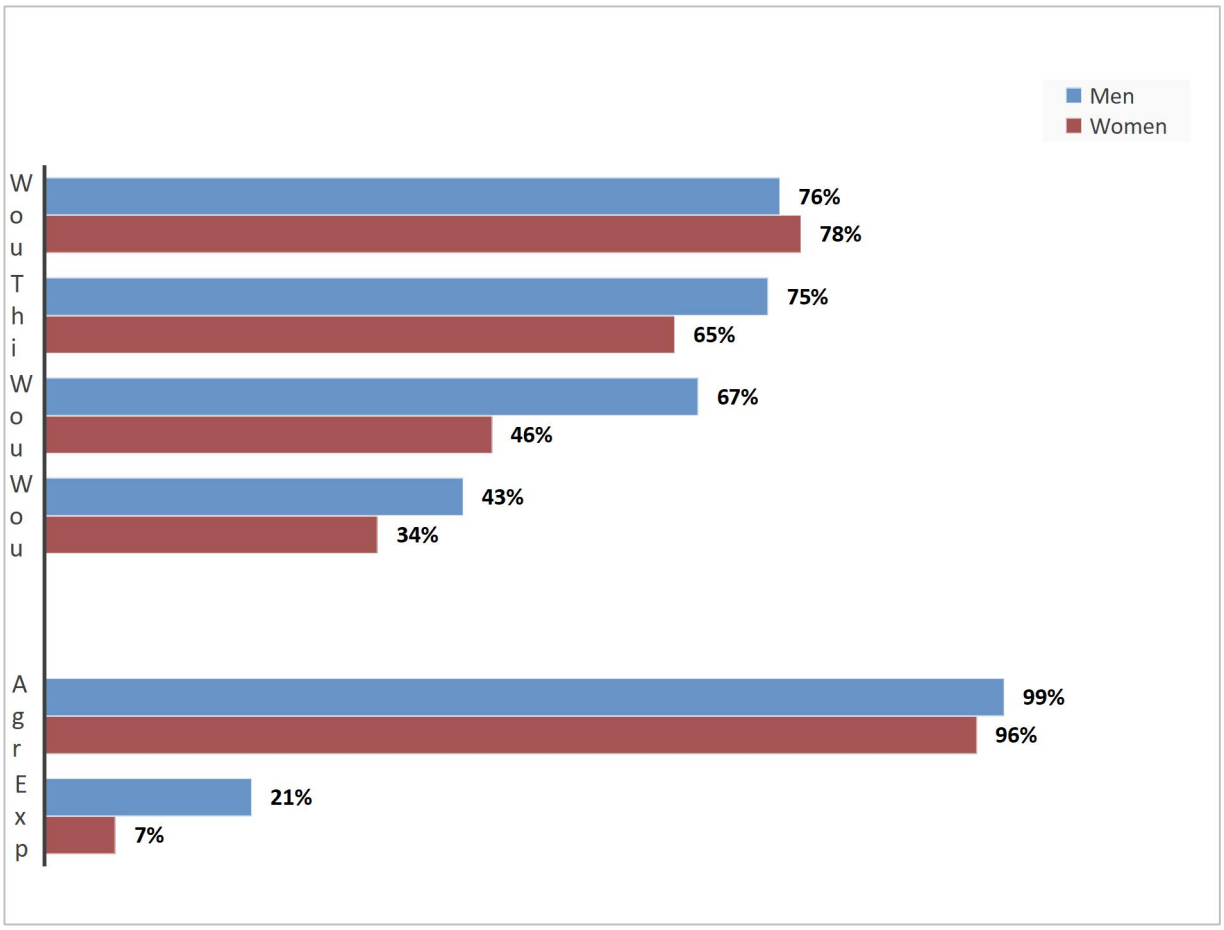


One out of three men age 15-49 correctlyidentified 3 ways of mother to child HIV transmission, except in Kano North, Kano South, men with no education and men the in poorest wealth quintile. For women in Kano State, one out of 2 with the following characteristics correctly identified 3 ways of mother to child HIV transmission: Kano Central, urban areas, women with at least secondary education and women in the richest wealth quintile. Other social groups have lower proportions of women who can correctly identify 3 ways of mother to child HIV transmission.

Accepting Attitudes toward People Living with HIV

The indicators on attitudes toward people living with HIV measure stigma and discrimination in the community. Stigma and discrimination are considered low if respondents report an accepting attitude on the following four questions: 1) would care for a family member with AIDS in own home; 2) would buy fresh vegetables from a vendor who is HIV-positive; 3) thinks that a female teacher who is HIV-positive should be allowed to teach in school; and 4) would not want to keep it a secret if a family member is HIV-positive. Figure 12.3 and Table12.2 (HA.3 & HA.3M) present the percentage of men and women who reported accepting attitude on the indicators in Kano State.

Figure 12.3: Percentage of men and women aged 15-49 years who reports accepting attitude, Nigeria 2016-17 Kano state



Although the majority of men and women age 15-49 agreed with at least one accepting attitude, only 21 percent of men and 7 percent of women in Kano State expressed accepting attitude on all four indicators. This implies that stigma and discrimination are still high in Kano. The most accepted attitude for both men and women is that they would care for a family member with AIDS in their home, while the least accepting attitude is that they would not want to keep it a secret if a family member is HIV-positive.

Using the percentage of those who reported all four accepting attitude as a measure of stigmatization and discrimination towards people living with HIV in Kano State, there are variations by social and demographic characteristics (Table 12.2 (HA.3 & HA.3M). For women, HIV discrimination is higher in Kano South than other senatorial districts. Reported accepting attitude is lower in rural areas, among those who were never married, women aged 25-29, those with non- formal education and poorest wealth index quintile households than other groups.

For men, HIV stigmatization and discrimination is also higher in Kano South. Men's reported accepting attitude is lower in urban areas, among those have never married or in a union, young men aged 15-19, those with no formal education and poorest wealth index quintile than other groups.

Table12.2 (HA.3 & HA.3M): Accepting attitudes toward people living with HIV (men and women)

Percentage of women and men age 15-49 years who have heard of AIDS who express an accepting attitude towards people living with HIV, Nigeria, 2016-17Kano State

	Percentage of women who:		Number of women age 15-49 who have heard of AIDS	Percentage of men who:		Number of men age 15-49 who have heard of AIDS
	Agree with at least one accepting attitude	Express accepting attitudes on all four indicators[1]		Agree with at least one accepting attitude	Express accepting attitudes on all four indicators[1]	
Total	**96.0**	**7.2**	**1883**	**96.8**	**21.3**	**1010**
Senatorial District						
Kano Central	97.5	9.3	936	95.5	18.7	515
Kano North	92.1	8.5	412	99.2	36.9	201
Kano South	96.3	2.6	535	97.3	15.2	293
Residence						
Urban	97.4	9.8	647	96.1	18.8	375
Rural	95.3	5.8	1236	97.1	22.8	634
Age group (Years)						
15-24	95.6	6.4	759	96.2	20.7	432
15-19	94.7	6.5	434	94.8	19.3	259
20-24	96.6	6.2	325	98.3	22.8	173
25-29	96.5	6.1	334	92.6	22.2	151
30-39	94.9	7.5	497	98.0	23.6	211
40-49	98.5	10.0	293	99.6	19.7	216
Marital status						
Ever married/in union	96.1	7.4	1507	97.5	23.5	448
Never married/in union	95.6	6.3	374	96.1	19.6	560
Education						
None	95.9	9.7	253	(97.3)	(26.2)	30
Non-formal	94.6	4.9	775	96.6	16.0	279
Primary	96.0	5.9	229	96.5	32.3	136
Secondary	97.5	8.4	531	96.1	20.8	436
Higher	99.3	15.4	94	99.4	21.9	128
Wealth index quintile						
Poorest	91.7	2.0	255	96.7	17.3	143
Second	94.7	4.5	336	98.9	23.7	150
Middle	94.6	7.9	341	98.1	23.5	197
Fourth	98.4	9.6	450	96.7	19.5	231
Richest	97.8	9.0	500	94.8	22.0	289

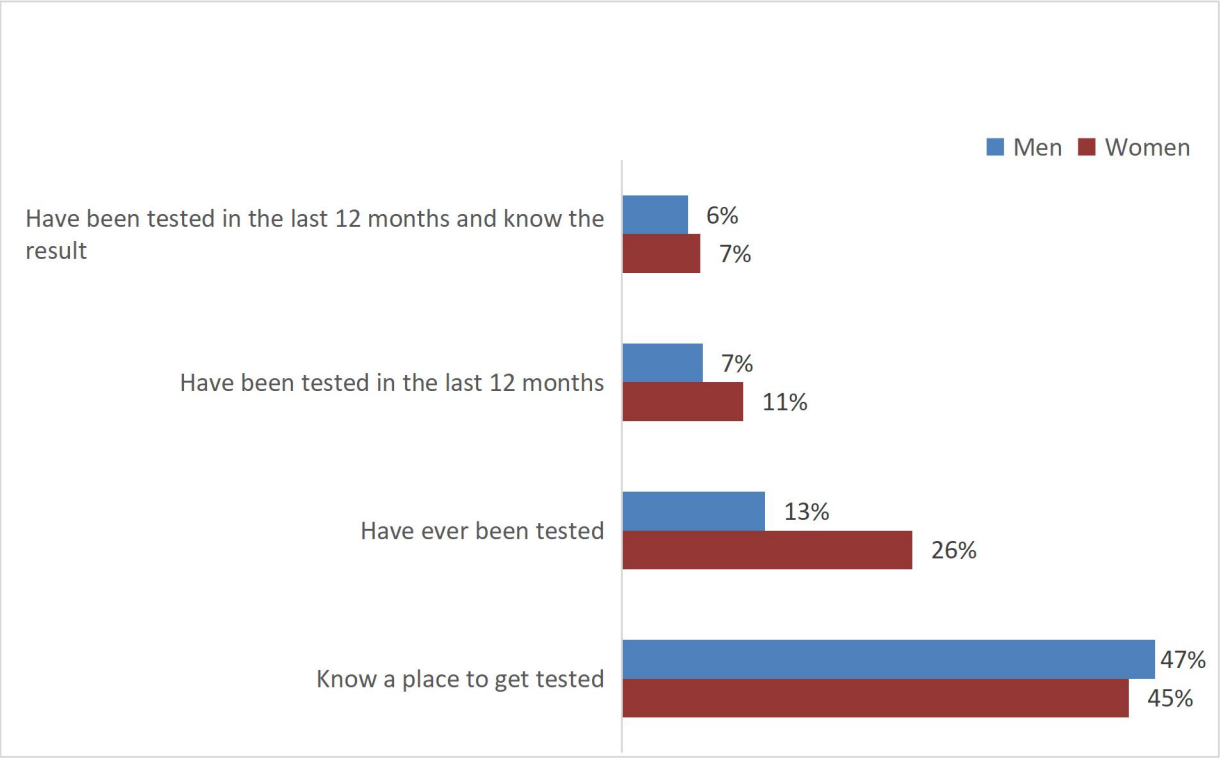
[1] MICS indicator 9.3 - Accepting attitudes towards people living with HIV

HIV Testing

Knowledge of a Place for HIV Testing and HIV Testing

Nigeria adopted the UNAIDS 90-90-90 strategy which aims to have 90 percent of all people living with HIV know their HIV status, 90 percent of all people diagnosed with HIV infection receive antiretroviral treatment and 90 percent of all people receiving antiretroviral treatment attain viral suppression by 2020. To achieve the strategy, knowledge of where to get an HIV test is important. Individuals need to know their HIV status in order to protect themselves and to prevent infecting others. Knowledge of own status is also a critical factor in the decision to seek treatment. Figure 12.4 presents the percentage of men and women age 15-49 in Kano Statewho know where to get an HIV test, ever been tested, have been tested in the last 12 months, and have been tested in the last 12 months and know the result.

Figure 12.4: Percentage of men and women age 15-49 who know where to get an HIV test, ever been tested, have been tested in the last 12 months, and have been tested in the last 12 months and know the result. Nigeria 2016-17, Kano state



About one out of two men and women age 15-49 know where to do an HIV test. Although, more men know where to go for test, but more women actually do the test before or in the last 12 months to the survey. Twenty-six percent of women have ever been tested for HIV, 11 percent tested in the last 12 months and 7 percent tested and know the result in the last 12 months. While it is evident that ratio of women to men who have been tested in the last 12 months is about 2:1, almost the same percentage of men and women know the result of the HIV test done in the previous 12 months.

Table 12.3 (HA.4 & HA.4M) further shows variations in social and demographic characteristics by two MICS indicators among men and women in Kano State. Knowledge of where to get HIV

test is specifically lowest among women who are in: Kano North, rural areas, age 15-19 years, sexually active teenagers, never married, with non-formal education and in poorest wealth quintile households. For men, the knowledge of where to get HIV test is lowest among: Kano South, rural areas, teenagers, sexually inactive, never married or never in a union, with non-formal education and in the poorest wealth quintile household.

The second MICS indicator on HIV testing is the percentage of people who have been tested for HIV and knows the results. Although the percentage of men and women who reported this indicator is low, it is lower in Kano North, among rural dwellers, teenagers, sexually inactive youths, never married, with non-formal education and from poorest wealth quintile households.

Table12.3 (HA.4 & HA.4M): Knowledge of a place for HIV testing and HIV testing (women and men age 15-49)

Percentage of women and men age 15-49 years who know where to get an HIV test and who have been tested in the last 12 months and know the result, Nigeria, 2016-17Kano State

	Percentage of women who:			Percentage of men who:		
	Know a place to get tested[1]	Have been tested in the last 12 months and know the result[2, 3]	Number of women age 15-49	Know a place to get tested[1]	Have been tested in the last 12 months and know the result[2, 3]	Number of men age 15-49
Total	**44.7**	**6.9**	**2500**	**47.0**	**5.8**	**1099**
Senatorial District						
Kano Central	58.6	9.6	1093	44.6	7.3	538
Kano North	27.3	2.6	603	60.3	3.6	228
Kano South	38.8	6.4	803	41.8	4.7	333
Residence						
Urban	64.0	11.9	731	47.3	8.2	394
Rural	36.7	4.8	1769	46.9	4.4	705
Age (years)						
15-24	40.4	4.4	1017	40.2	4.2	483
15-19	34.2	1.9	586	33.6	3.6	290
20-24	48.8	7.8	431	50.1	5.2	193
25-29	48.7	10.4	432	47.2	5.0	163
30-39	49.9	9.5	640	55.4	8.9	225
40-49	42.9	5.1	412	52.9	6.5	229
Age and sexual activity in the last 12 months						
Sexually active	46.7	8.3	1955	51.9	6.1	499
15-24[3]	43.7	7.0	551	(67.5)	(16.1)	29
15-19	34.6	3.1	183	(*)	(*)	8
20-24	48.1	9.0	368	(*)	(*)	20
25-49	47.8	8.8	1403	50.9	5.5	470
Sexually inactive	37.6	1.7	545	42.9	5.5	600
Marital status						
Ever married/in union	46.4	8.1	2014	51.1	5.9	478
Never married/in union	37.8	1.9	482	43.7	5.7	620
Education						
None	31.6	3.7	419	(49.5)	(0.0)	33
Non-formal	38.3	4.7	1081	32.4	2.2	329
Primary	50.9	9.8	294	54.6	4.2	144
Secondary	55.7	8.8	608	49.3	5.9	461
Higher	83.4	23.5	99	66.3	17.3	133
Wealth index quintile						
Poorest	23.1	1.5	447	35.0	0.8	172
Second	35.0	2.9	484	40.3	3.5	175
Middle	36.9	5.1	479	48.6	2.0	209
Fourth	51.9	10.4	530	49.3	7.9	241
Richest	70.2	12.7	560	54.7	10.9	303

[1] MICS indicator 9.4 - Men who know where to be tested for HIV[M]

[2] MICS indicator 9.5 - Men who have been tested for HIV and know the results[M]

[3] MICS indicator 9.6 - Sexually active young men who have been tested for HIV and know the results[M]

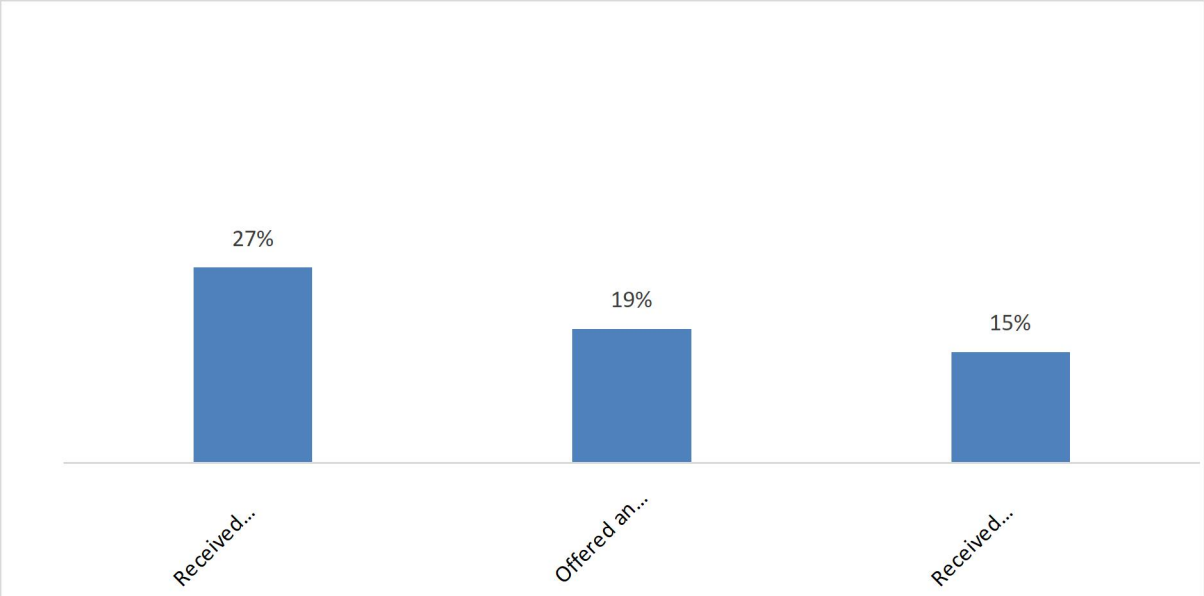
It is important to also consider these two indicators specifically for sexually active young people age 15 to 24 since the number of new HIV infections among young people in Nigeria has been on the increase. Knowledge of behavioural risk reduction, consistent condom use, sexually transmitted infections, and HIV status will provide adolescents and young people with the tools to protect themselves against HIV acquisition and transmission.

Table 12.3 (HA.4 & HA.4M) also presents MICS 2016-17 result on percentage of sexually active young men and women (age 15-24) in Kano State who have knowledge of a place for HIV testing and have been tested in the last 12 months and know the result. Two out of five young women and three out of five young men who are sexually active in Kano State know where to do a test for HIV/AIDS. However, 8.6 percent of young women and 6.1 percent of young men who are sexually active were tested in the last 12 months and know the result.

HIV Counselling and Testing during antenatal care

One of the WHO recommendations[63] on antenatal care for a positive pregnancy experience is that provider-initiated testing and counselling (PITC) should be considered for pregnant women in antenatal care settings as a key component of the effort to eliminate mother-to-child transmission of HIV and to integrate HIV testing with syphilis, viral or other key tests, as relevant to the setting, and to strengthen the underlying maternal and child health systems. In MICS5 2016-17 women were asked if they received HIV counselling, offered an HIV test, tested for HIV, and received the results during antenatal care. Figure 12.5 and Table HA.4 show percentage of women age 15-49 in Kano State with a live birth in the last 2 years who received HIV counselling and testing during antenatal care.

Figure 12.5: Percentage of women age 15-49 with a live birth in the last 2 years preceding the survey who received HIV councelling and testing during antenatal care, Nigeria 2016-17 Kano state



Twenty-seven percent received counselling during antenatal care while 19 percent were offered an HIV test, tested for HIV and received the results during antenatal care. However, the percent of those who; received HIV counselling, offered an HIV test and received the results, reduced to 15

[63] WHO recommendations on antenatal care for a positive pregnancy experience: http://apps.who.int/iris/bitstream/10665/250796/1/9789241549912-eng.pdf

percent. These two indicators on HIV counselling and testing during antenatal care vary across social and demographic groups in Kano State. Kano Central of Nigeria performs better on the two indicators than other senatorial districts. Specifically, the proportion of women who received counselling during antenatal is 43.8 percent for Kano Central, 26.6 percent for Kano South and 7.0 percent for Kano North. Overall, women who attended antenatal care in Kano Central (29.3 percent), from urban area (32.4 percent), age 30-39 (18.8 percent), with higher level of education (49.7 percent) and from the richest wealth index quintile households (39.9 percent), received HIV counselling, were offered an HIV test, and received the results than other groups.

Table 12.4 (HA.5): HIV counselling and testing during antenatal care

Percentage of women age 15-49 with a live birth in the last 2 years who received antenatal care from a health professional during the last pregnancy, percentage who received HIV counselling, percentage who were offered, tested and received the results of the HIV test, and percentage who received counselling and were offered, tested and received the results of the HIV test, Nigeria, 2016-17, Kano State

	Percentage of women who:			
	Received HIV counselling during antenatal care[1]	Were offered an HIV test and were tested for HIV during antenatal care, and received the results[2]	Received HIV counselling, were offered an HIV test, and received the results	Number of women age 15-49 with a live birth in the last 2 years
Total	**27.1**	**18.6**	**15.4**	**1087**
Senatorial District				
Kano Central	43.8	36.2	29.3	393
Kano North	7.0	5.3	3.7	314
Kano South	26.6	11.5	10.7	380
Residence				
Urban	45.4	43.5	32.4	239
Rural	22.0	11.6	10.6	847
Age (years)				
15-24	24.9	13.9	12.0	353
15-19	17.3	6.3	6.3	97
20-24	27.8	16.8	14.1	256
25-29	27.7	20.7	16.2	268
30-39	30.4	22.3	18.8	354
40-49	22.7	17.0	13.9	111
Marital status				
Ever married/in union	27.3	18.7	15.5	1082
Never married/in union	(*)	(*)	(*)	3
Education				
None	13.4	6.6	5.0	196
Non-formal	23.7	12.3	10.9	533
Primary	28.4	25.8	19.3	165
Secondary	46.4	40.4	32.7	162
Higher	(66.6)	(53.5)	(49.7)	30
Wealth index quintile				
Poorest	10.6	4.1	3.9	234
Second	18.8	8.9	8.4	228
Middle	22.1	9.3	8.1	237
Fourth	37.0	30.8	24.1	218
Richest	55.6	49.1	39.9	169

[1] MICS indicator 9.7 - HIV counselling during antenatal care
[2] MICS indicator 9.8 - HIV testing during antenatal care

Sexual Behaviour Related to HIV Transmission

Promoting safer sexual behaviour is an important strategy for reducing HIV transmission. A set of questions was administered to all women and men 15-49 years of age to assess their risk of HIV

infection. Risk factors for HIV include sex at an early age, sex with older men, having multiple sexual partners, sex with a non-marital non-cohabiting partner, and failure to use a condom. The use of condoms during sex, especially with non-regular or multiple partners is particularly important for reducing the spread of HIV. Table 12.5 (HA.8 & HA.8M) presents the percentage of young people age 15-24 in Kano State who has never married and never had sex, and had sex at an early age before 15 years. The percentage of never married young women who have never had sex is higher (98.6 percent) than young men (86.2 percent). However, there is remarkable gender difference in the percentage of those who have had sex before age 15, with a female to male ratio of about 38 to 1 (15.1 percent to 0.4 percent).

While early sexual debut is lower among young women in Kano Central, it is notably high in Kano North and Kano South where about one out 5 young females have had sex before age 15. Early sexual debut is higher also among female age 15-24 who do not have formal education (32 percent), are never married (28 percent), live in the poorest wealth quintile household (30 percent) and in rural area (20 percent). Although the proportion of young men who had sex before age 15 is very low, it occurred more in Kano Central, urban area, ever married, had secondary education and from richest wealth quintile households.

Table 12.5 (HA.8 & HA.8M): Sexual behaviour of young people age 15-24

Percentage of women and men age 15-24 who never had sex, and who had sex before age 15, Nigeria, 2016-17Kano State

	Percentage of women age 15-24 who		Number of women age 15-24 years	Percentage of men age 15-24 who		Number of women age 15-24 years
	Never married Never had sex[1]	Had sex before age 15[2]		Never married Never had sex[1]	Had sex before age 15[2]	
Total	**98.6**	**15.5**	**461**	**86.2**	**0.4**	**474**
Senatorial District						
Kano Central	98.7	6.8	312	84.6	0.8	263
Kano North	99.0	26.8	58	100.0	0.0	85
Kano South	98.1	20.0	91	79.9	0.0	125
Residence						
Urban	98.3	5.6	249	89.3	1.0	201
Rural	98.9	20.2	212	83.9	0.0	272
Age (years)						
15-19	99.2	11.0	402	90.8	0.0	288
15-17	99.1	10.1	295	90.8	0.0	199
18-19	99.4	12.5	106	90.7	0.0	89
20-24	94.4	21.7	59	79.1	1.1	186
20-22	(92.9)	20.3	47	79.8	0.8	134
23-24	(*)	25.6	12	(77.0)	1.7	52
Marital status						
Ever married/in union		28.0	0		(*)	0
Never married/in union	98.6	0.5	461	86.2	0.2	474
Education						
None	(*)	32.5	10	(*)	(*)	2
Non-formal	96.4	26.2	72	79.9	0.0	82
Primary	(98.1)	19.2	33	83.3	0.0	55
Secondary	99.2	2.4	320	89.2	0.7	299
Higher	(100.0)	(0.0)	26	(81.6)	(0.0)	37
Wealth index quintile						
Poorest	(96.3)	30.1	31	84.5	0.0	67
Second	(100.0)	27.0	52	89.8	0.0	63
Middle	95.4	20.6	58	73.4	0.0	86
Fourth	99.3	7.4	137	88.9	0.0	117
Richest	99.0	3.7	183	90.8	1.4	141

[1]MICS indicator 9.9 - Young people who have never had sex

[2] MICS indicator 9.10 - Sex before age 15 among young people

na: not applicable

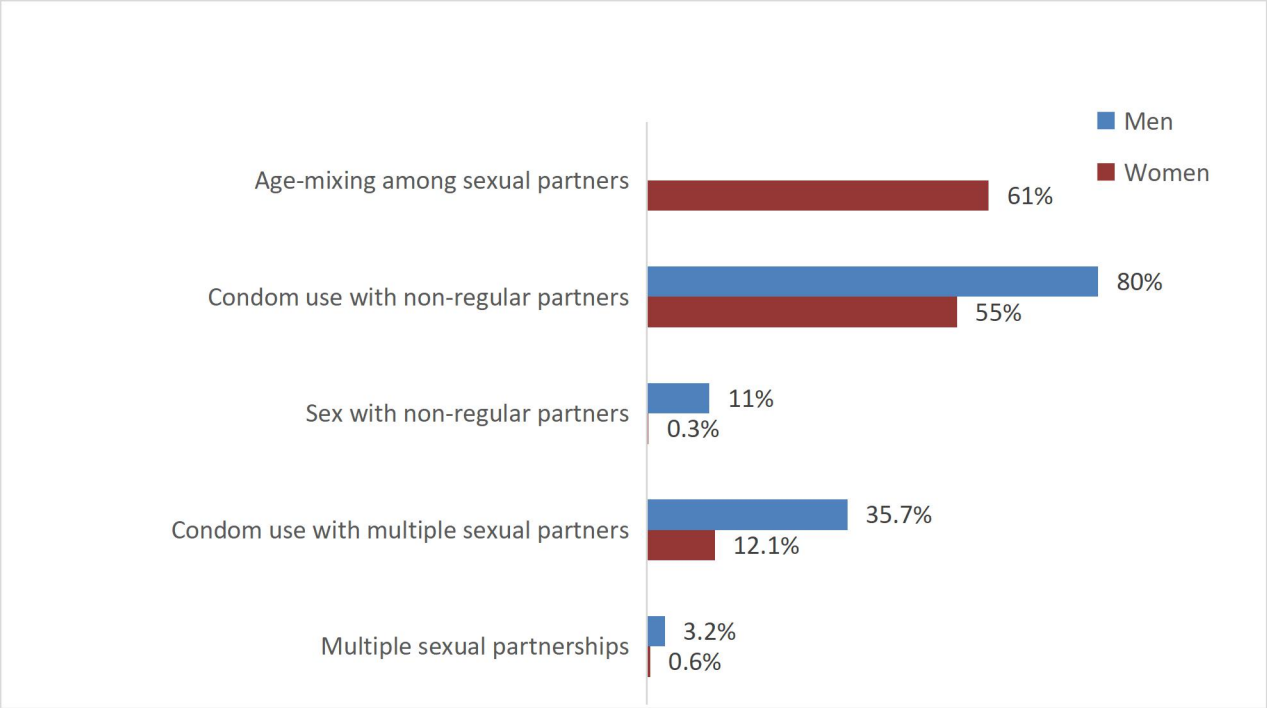
( ) Sample data are based on 25-49 unweighted cases (*) Sample data are fewer than 25 unweighted cases

Multiple sexual partnership

Other risk factors for HIV/AIDS are having multiple sexual partner and sex with a non-marital, non-cohabiting partner, as well as, age-mixing among sexual partner. Figure 12.6 and Table 12.6 (HA.8 & HA.8M) present the percentage of men and women withmultiple sexual partners, age mixing among sexual partners and sexual relation with non-regular partners in Kano State. While very few women (0.6 percent) had sex with more than one partner in the last 12 months, the percentage of men (3.2 percent) who engaged in the same risky sexual behaviour was higher than women.

A higher percentage of young men who had sex with more than one partner in the last 12 months are in Kano South, rural areas, age 20-24 years, never married, have higher education and from richer households than other social groups.

Figure 12.6: Percentage of men and women on multiple sexual partners, age mixing among sexual partners and sexual relation with non-regular partners Nigeria 2016-17 Kano state



Multiple sexual partnership and sexual relation with non-regular partners have comparable gender differentials. Young men (11 percent) age 15-24are more involved in a sexual relation with non-regular partners than young women (0.3 percent). However, risky HIV/AIDS sexual behavior for both young men and women is common in Kano South, in rural areas, age 23-24 and from richest wealth index quintile households. Condom use with multiple sexual partners and non-regular partners is high among young men than women.

Age mixing among sexual partner is when a young woman had sex with a man 10 or more years older than her. This is a common practice as three out of 5 young women age 15-24 reported this. Age mixing is notably high in Kano North, urban area, among ever married women, no education women and richest wealth quintile households.

Table 12.6 (HA.8 & HA.8M): Multiple sexual partnership

Percentage of women and menon multiple sexual partners, age mixing among sexual partners and sexual relation with non-regular partners, Nigeria, 2016-17Kano State

	Percentage of women age 15-24 who had sex with more than one partner in last 12 months[1]	Number of women age 15-24 years	Percentage of women age 15-24		Number of women age 15-24 years who had sex in the last 12 months	Percentage of men age 15-24 who had sex with more than one partner in last 12 months[1]	Number of men age 15-24 years	Percentage of men age 15-24 who had sex with a non-marital, non-cohabiting partner[3]	Number of men age 15-24 who had sex in the last 12 months
			Had sex with a man 10 or more years older[2]	Had sex with a non-marital, non-cohabiting partner[3]					
Total	**0.4**	**1017**	**60.8**	**0.3**	**553**	**2.4**	**483**	**11.1**	**64**
Senatorial District									
Kano Central	0.4	465	61.1	0.7	152	3.0	267	(12.2)	35
Kano North	0.6	229	62.8	0.0	171	0.0	88	(*)	2
Kano South	0.2	323	59.2	0.0	230	3.0	128	(16.3)	27
Residence									
Urban	0.5	328	69.2	1.0	79	1.0	205	(*)	20
Rural	0.3	689	59.4	0.0	474	3.5	278	(11.7)	43
Age (years)									
15-19	0.1	586	56.7	0.2	183	1.1	290	(8.4)	27
15-17	0.0	376	58.3	0.4	82	0.3	200	(*)	18
18-19	0.1	210	55.4	0.0	101	2.8	90	(*)	9
20-24	0.8	431	62.8	0.4	370	4.5	193	(15.2)	37
20-22	0.9	319	66.6	0.6	272	3.5	137	(*)	23
23-24	0.6	112	52.3	0.0	98	6.9	56	(*)	14
Marital status									
Ever married/in union	0.4	555	61.2	0.0	547	(*)	8	(*)	6
Never married/in union	0.4	461	(*)	(*)	4	2.5	474	11.3	58
Education									
None	0.8	116	69.8	0.0	106	(*)	2	(*)	1
Non-formal	0.3	336	54.6	0.4	260	79.9	82	(*)	17
Primary	0.0	114	59.8	0.0	81	83.3	55	(*)	8
Secondary	0.4	421	68.1	0.4	101	89.2	299	(8.6)	30
Higher	(0.0)	31	(*)	(*)	5	(81.6)	37	(*)	7
Wealth index quintile									
Poorest	1.0	143	57.4	0.0	112	84.5	67	(*)	13
Second	0.4	158	58.4	0.0	104	89.8	63	(*)	5
Middle	0.0	212	59.8	0.7	154	73.4	86	(*)	20
Fourth	0.0	257	60.9	0.0	118	88.9	117	(*)	11
Richest	0.7	245	73.0	0.7	64	90.8	141	(*)	14

[1]MICS indicator 9.12 - Multiple sexual partnerships
[2] MICS indicator 9.11 - Age-mixing among sexual partners
[3] MICS indicator 9.14 - Sex with non-regular partners
( ) Sample data are based on 25-49 unweighted cases (*) Sample data are fewer than 25 unweighted cases

Orphans

HIV/AIDS affects the lives of children and their families. Although the number of children orphaned due to AIDS has stabilized globally since 2009, efforts to mitigate the impact of AIDS on households, communities, and children continue to be intensified by national programmes and global partners. The situation of orphans and vulnerable children in Nigeria is significant as many are poor without access to food, acceptable living conditions and psychosocial support. Children who are orphaned may be at increased risk of neglect or exploitation when the parents are not available to assist them.

Monitoring the variations in different outcomes for orphans and comparing them to their peers gives us a measure of how well communities and governments are responding to their needs. Table 12.7 (HA.9) presents school attendance of orphans and non-orphans age 10-14 years.

In Kano State, 1.7 percent of children age 10-14 years are orphans, and the ratio of school attendance of orphan to non-orphan is 1.07. That is89.7 percent of orphans are attending school, as compared with 83.7 percent of non-orphan children of the same age group who are living with at least one parent

Table 12.7 (HA.9): School attendance of orphans and non-orphans

School attendance of children age 10-14 years by orphanhood, Nigeria, 2016-17Kano State

	Percentage of children whose mother and father have died (orphans)	Percentage of children whose parents are still alive and who are living with at least one parent (non-orphans)	Number of children age 10-14 years	Percentage of children whose mother and father have died (orphans) and are attending school	Total number of orphan children age 10-14 years	Percentage of children whose parents are still alive, who are living with at least one parent (non-orphans), and who are attending school	Total number of non-orphan children age 10-14 years	Orphans to non-orphans school attendance ratio[1]
Total	**1.7**	**86.9**	**1930**	**(89.7)**	**33**	**83.7**	**1678**	**1.07**
Sex								
Male	1.8	88.0	917	(*)	16	85.4	807	1.10
Female	1.7	85.9	1013	(*)	17	82.2	871	1.05
Residence								
Urban	2.4	79.9	586	(*)	14	90.2	468	1.02
Rural	1.4	90.0	1344	(*)	19	81.3	1209	1.09

[1] MICS indicator 9.16; MDG indicator 6.4 - Ratio of school attendance of orphans to school attendance of non-orphans

See Table CP.14 for further overall results related to children's living arrangements and orphanhood

( ) Sample data are based on 25-49 unweighted cases (*) Sample data are fewer than 25 unweighted cases

XIII. Access to Mass Media and Use of Information/Communication Technology

Access to information from electronic and mass media is important. It increases knowledge and awareness, as well as, influence perception and causes a behavioural change in the society. The Nigeria MICS 2016-17 collected information on exposure to mass media and the use of computers and the internet. Information was collected on exposure to newspapers/magazines, radio and television among women and men age 15-49 years, while the questions on the use of computers and the use of the internet were asked from young people age 15-24 years old.

KEY FINDINGS

Exposure to any media: newspapers/magazines, radio and televisionat least once a week among young people is low in Kano state

- **4 percent of young women**
- **20 percent of young men**

Exposure to computer and the internet is low

Ever used computer

- **11 percent of young women**
- **27 percent of young men**

Ever usedInternet:

- **9 percent of young women**
- **36 percent of young men**

Access to Mass Media

Figure13.1 presents the percentage of people age 15-49 years who read newspaper or magazine, listen to radio and watch television at least once in a week in Kano. Six percent of women read a newspaper or magazine, 52 percent listen to the radio and 24 percent watch television at least once a week. Fifty-six percent of women use at least one of the media sources in a week, while only 4 percent use all the three media sources.

Media usage is higher among men in all the indices as,26 percent of men read a newspaper or magazine, about 67 percent listen to the radio and 45 percent watch television at least once in a week. Overall, 74 percent of men use at least one of the media source and 20 percent use all the three sources.

For both men and women, differentials by residence, education and socio-economic status are observed for exposure to all types of media. There were higher proportions of exposure to media in Kano Central and urban areas irrespective of the sex. Equally, media exposure increased with increasing education and wealth among men and women. However, there was gender differential in age and media exposure. Media usage decreases with age in women.

Figure 13.1: Percentage of people age 15-49 years who read newspaper or magazine, listen to radio and watch television at least once in a week. Nigeria, 2016-17 Kano State

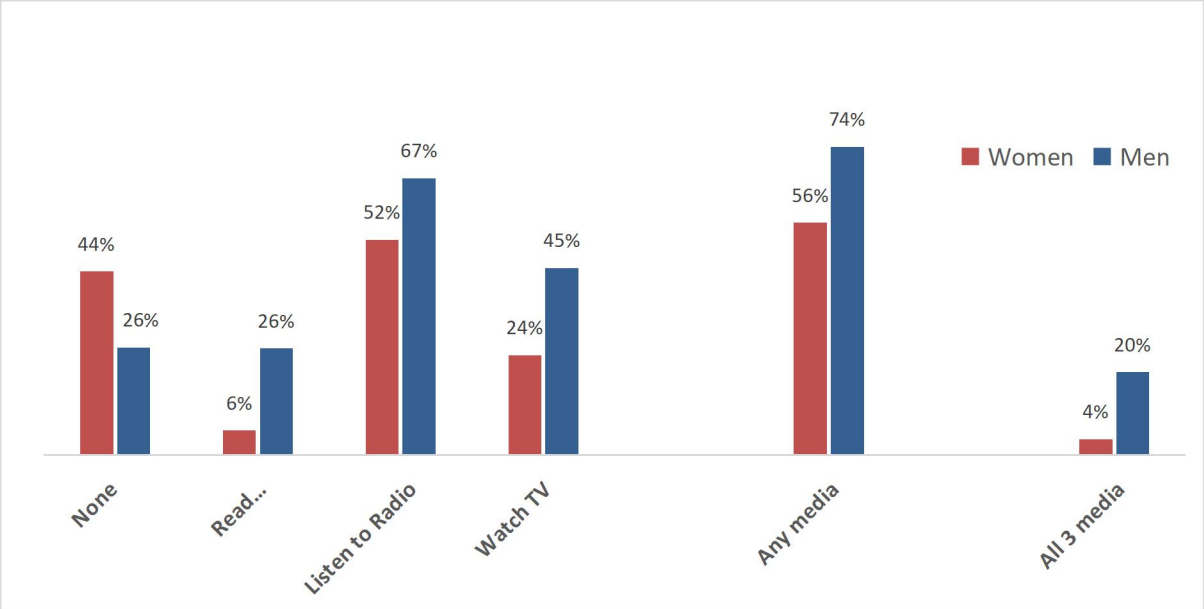


Table13.1 (MT.1& MT.1M): Exposure to mass media

Percentage of women and men age 15-49 years who are exposed to specific mass media on a weekly basis, Nigeria, 2016-17 Kano State

	All three media at least once a week[1] **Women**	All three media at least once a week[1] **Men**
Total	**3.8**	**19.9**
Senatorial District		
Kano Central	7.5	33.7
Kano North	1.9	7.2
Kano South	0.3	6.4
Age (years)		
15-19	5.9	16.1
20-24	3.4	26.7
25-29	3.5	20.7
30-34	2.9	24.3
35-39	3.5	15.3
40-44	3.3	22.0
45-49	2.2	13.0
Residence		
Urban	10.2	37.5
Rural	1.2	10.1
Education		
None	0.0	(3.8)
Non-formal	0.2	3.2
Primary	1.4	5.2
Secondary	9.3	25.6
Higher	33.5	61.7
Wealth index quintile		
Poorest	0.0	0.9
Second	0.0	2.8
Middle	0.5	8.9
Fourth	1.4	25.5
Richest	15.4	43.8

[1] MICS indicator 10.1 - Exposure to mass media

( ) Sample data are based on 25-49 unweighted cases (*) Sample data are fewer than 25 unweighted cases

Use of Information/Communication Technology

Computer-mediated communication via the internet is an important means of mass communication for social and behavioural change. The MICS 2016-17 assessed usage of computer and internet among young people age 15-24 in Kano State as presented in Figure 13.2. There is gender differential in the use of computer and internet among young people; men have a higher proportion of users than women across all indicators. One out of 4 young men had ever used a computer and one out of 3 had ever used internet. Only 11 percent and 9 percent of women ever used computer and internet respectively. Twenty-one percent and thirty- three percent of men used computer and internet respectively at least once a week during the last one month preceding the survey.

Figure 13.2: Percentage of young men and women age 15-24 years who use computer and the internet. Nigeria 2016-17 Kano state

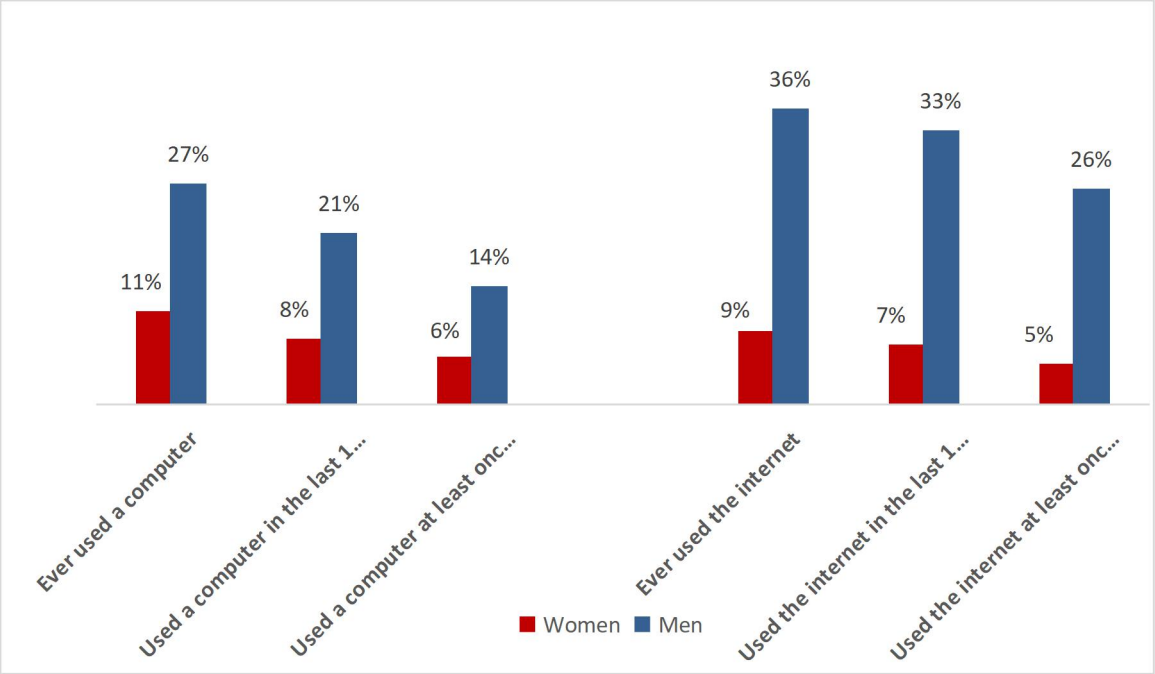


Table 13.2 (MT.2& MT.2M) further shows the percentage of women and men age 15-24 years who used computers and internet during the last 12 months by background characteristics in Kano State. Percentage of women who used computers and internet during the last 12 months is higher in Kano Central, urban areas and women age 15-19. Also, as expected, computer and internet usage increase with higher education and wealth index. The pattern of computer and internet usage among men is similar to women except that more men within age 20-24 years use computer and internet than younger age group.

Table 13.2 (MT.2 & MT.2M): Use of computers and internet

Percentage of women and men age 15-24 years who are exposed to specific mass media on a weekly basis, Nigeria, 2016-17 Kano State

	Women who ever used during the last 12 months		Number of women age 15-24 years	Men who ever used during the last 12 months		Number of men age 15-24 years
	Computer[1]	**Internet[2]**		**Computer[1]**	**Internet[2]**	
Total	**7.9**	**7.2**	**1017**	**16.3**	**32.9**	**483**
Senatorial District						
Kano Central	20.1	13.2	465	24.8	43.0	267
Kano North	3.7	2.4	229	8.9	31.8	88
Kano South	3.6	1.9	323	3.6	12.7	128
Age (year)						
15-19	13.4	8.2	586	11.7	24.1	290
20-24	8.1	5.8	431	23.1	46.2	193
Residence						
Urban	23.6	16.3	328	27.7	43.0	205
Rural	5.2	2.9	689	7.9	25.5	278
Education						
None	0.0	0.0	116	(*)	(*)	3
Non-formal	0.7	0.0	336	0.0	1.2	85
Primary	0.0	1.0	114	2.1	8.4	57
Secondary	21.7	13.1	421	19.2	40.6	302
Higher	(64.1)	(55.0)	31	(54)	(83)	37
Wealth index quintile						
Poorest	0.4	0.0	143	.9	7.1	70
Second	1.3	0.7	158	4.5	12.7	64
Middle	2.8	1.6	212	6.5	32.0	87
Fourth	11.9	5.6	257	25.1	45.4	118
Richest	30.3	22.1	245	27.9	44.9	143

[1] MICS indicator 10.2 - Use of computers

[2] MICS indicator 10.3 - Use of internet

( ) Sample data are based on 25-49 unweighted cases (*) Sample data are fewer than 25 unweighted cases

XIV. Subjective well-being

KEY FINDINGS

In Kano state, at least nine out of 10 young women and men age 15-24 years are very or somewhat happy

Young people who are happy are more than those who are satisfied with life,and those who are satisfied with life are more than those who perceived a better life

Kano Central has the highest percentage of those who perceived a better life for both young men and women (77.9 percent and 78.2 percent respectively).

Two third of women and three quarter of men perceived that their lives improved during the last one year and expect that it will get better after one year

Subjective perceptions of individuals about their income, health, living environments and other related issues, play a significant role in their lives and can impact their perception of well-being. This is irrespective of objective conditions such as actual income and physical health status[64]. In the MICS, a set of questions were asked to women and men age 15-24 years to understand how satisfied this group of young people is in different areas of their lives, such as their family life, friendships, school, current job, health, where they live, how they are treated by others, how they look, and their current income.

Life satisfaction and happiness

Life satisfaction is a measure of an individual's perceived level of well-being. Understanding young people's satisfaction in different areas of lives can give a comprehensive picture of their life situations. A distinction can also be made between life satisfaction and happiness. Happiness is a fleeting emotion that can be affected by numerous factors, including day-to-day factors such as the weather, or a recent death in the family. It is possible for a person to be satisfied with job, income, family life, friends, and other aspects of life, but still be unhappy, or vice versa. In addition to the set of questions on life satisfaction, the survey also asked questions about happiness and the respondents' perceptions of a better life.

Table14.1 (SW.2, SW.2M, SW.3 & SW.3M) presents the percentage of women and men age 15-24 years in Kano State on their overall life satisfaction, happiness and perception of a better life. "Life satisfaction" is defined as those who are very or somewhat satisfied with their life overall, and is based on a single cumulative question from previous responses. Overall, young women and men who are happy are more than those who are satisfied with life and those who are satisfied with life are more than those who perceived a better life. About 89.6 percent of young women and 87.6 percent of young men are satisfied with their life overall.

At least nine out of 10 percent of young women and men age 15-24 years are very or somewhat happy. There are no substantial differences in life satisfaction and happiness among the wealth quintiles and education levels. For both men and women, proportions who are very or somewhat happy are almost the same for 15-19 and 20-24 age groups, with 89.9 and 89.2 percent, respectively for women, and 87.5 and 87.7 percent, respectively for men. There are more young people in urban areas and Kano Central who are happy than other groups.

[64] OECD. 2013. *OECD Guidelines on Measuring Subjective Well Being*. OECD. http://dx.doi.org/10.1787/9789264191655-en

Table 14.1 (SW.2, SW.2M, SW3 & SW.3M): Overall life satisfaction, happiness and perception of better life

Percentage of women and men age 15-24 years who are very or somewhat satisfied with their life overall, the average overall life satisfaction score, and percentage of women age 15-24 years who are very or somewhat happy, Nigeria, 2016-17, Kano State

	Percentage of women aged 15-24 years			Percentage of men aged 15-24 years		
	Overall life satisfaction[1]	Very or somewhat happy [2]	Perception of a better life[3]	Overall life satisfaction[1]	Very or somewhat happy [2]	Perception of a better life[3]
Total	**89.6**	**91.2**	**74.0**	**87.6**	**90.9**	**66.6**
Senatorial District						
Kano Central	91.2	91.9	78.2	93.6	93.5	77.9
Kano North	85.6	89.6	68.2	72.6	89.1	33.0
Kano South	90.2	91.3	72.1	85.3	86.8	66.2
Age (years)						
15-19	89.9	91.3	77.7	87.5	92.1	64.6
20-24	89.2	91.0	68.9	87.7	89.2	69.7
Residence						
Urban	90.8	91.6	77.2	94.1	92.4	80.8
Rural	89.1	91.0	72.4	82.8	89.9	56.2
Marital Status						
Ever married/in union	88.1	90.6	72.2	(*)	(*)	(*)
Never married/in union	91.5	91.9	76.1	87.5	91.0	66.8
Education						
None	88.0	95.8	70.3	(*)	(*)	(*)
Non-formal	89.1	87.9	72.8	88.0	89.6	61.2
Primary	89.9	88.7	67.1	74.6	92.1	58.0
Secondary	90.1	93.3	77.3	90.6	91.8	71.3
Higher	(93.4)	(91.5)	(80.4)	(86.7)	(87.4)	(54.3)
Wealth index quintile						
Poorest	89.0	91.0	76.0	78.7	96.0	57.6
Second	90.0	91.7	71.4	84.5	90.3	61.1
Middle	90.8	91.1	72.8	82.9	85.8	54.3
Fourth	87.3	91.6	71.2	92.2	89.3	72.0
Richest	91.2	90.6	78.3	92.3	93.2	76.6

[1] MICS Indicator 11.1 - Life satisfaction[2] MICS indicator 11.2 - Happiness
[3] MICS indicator 11.3 - Perception of a better life
( ) Sample data are based on 25-49 unweighted cases (*) Sample data are fewer than 25 unweighted cases

Perception of a better life

In addition to the series of questions on life satisfaction and happiness, respondents were asked two questions on whether they think their life improved during the last one year, and whether they think their life will be better in one year's time. Such information may contribute to the understanding of desperation that may exist among young people, as well as hopelessness and hopes for the future. Specific combinations of the perceptions during the last one year and expectations for the next one year may be valuable information to understand the general sense of well-being among young people. Percentage distribution of young people's perception of a better life is also presented in Table14.1. The proportion of women age 15-24 years who think that their lives improved during the last one year and who expect that their lives will get better after one year, is 74 percent. This indicator for men age 15-24 years is 66.6 percent.

Differences in the perception of a better life are observed by wealth quintiles: 76 percent of young women and 57.6 percent of young men that live in households in the poorest wealth quintile think that their lives improved during the last one year and expect that it will get better after one year. While proportions for young women and men that live in households in the richest wealth quintile are 78.3 percent and 76.6 percent, respectively.

XV. Tobacco and Alcohol Use

KEY FINDINGS

Ever use of tobacco products is higher among men than women
- **10.6 percent of men**
- **0.5 percent of women**

None of the women age 15-49 years had alcohol drink during the last one month or drank alcohol before the age of 15 years

Low proportion of men age 15-49 years had at least one drink of alcohol on one or more days during the last one month (0.4 percent) or drank alcohol before the age of 15 years (0.2 percent)

Tobacco products which are made entirely or partly from tobacco leaf are intended to be smoked, sucked, chewed, or snuffed It contains the highly addictive psychoactive ingredient, nicotine. Tobacco use is one of the main risk factors for a number of chronic diseases, including cancer, lung diseases, and cardiovascular diseases.[65]

The consumption of alcohol has a risk of adverse health and social consequences related to its intoxicating, toxic and dependence-producing properties. In addition to the chronic diseases that may develop in those who consume large amounts of alcohol over a number of years, alcohol use is also associated with an increased risk of acute health conditions, such as injuries, including from traffic accidents.[66] Alcohol use also causes harm far beyond the physical and psychological health of the drinker. It harms the well-being and health of people around the drinker. An intoxicated person can harm others, behave violently, or negatively affect co-workers, relatives, friends or strangers. Therefore, the impact of the harmful use of alcohol reaches deep into society.[67]MICS 2016-17 collected information on ever and current use of tobacco and alcohol and intensity of use among women and men age 15-49 years.

Tobacco Use

Table 14.1 (TA.1 & TA.1M) presents ever, current and early use of tobacco products by women and men age 15-49 years. Use of tobacco products is higher among men than women in Kano. About 10.6 percent of men and 0.5 percent of women reported having ever used any tobacco product. Four percent of men used tobacco products at any time during the last one month in Kano. There was no record of current tobacco use among women age 15-49 years at any time during the last one month in Kano State.

About 9.7 percent of men and 0.5 percent of women who ever used tobacco product had at least one under-five child living in the same household. There is an urban-rural difference in tobacco use. Whereas the higher percentage of men in rural area had ever use any tobacco product than urban area, it is reverse for women as a higher percentage of women in urban area had ever use any tobacco product than rural areas. Current use of tobacco product is common among males in Kano North (11.4 percent) and Kano South-East (11.9 percent) than Kano Central (9.5 percent).

[65]WHO.**http://www.who.int/topics/tobacco/en/**
[66]WHO.**http://www.who.int/topics/alcohol_drinking/en/**
[67]WHO.**http://www.who.int/mediacentre/factsheets/fs349/en/**

Table 14.1 (TA.1& TA.1M): Current and ever use of tobacco

Percentage of women and men age 15-49 years by pattern of use of tobacco, Nigeria, 2016-17Kano State

	Percent of women age 15-49 years		Percent of men age 15-49 years	
	Ever use any tobacco product	Current use of tobacco product[1]	Ever use any tobacco product	Current use of tobacco product[1]
Total	0.5	0.0	10.6	4.0
Senatorial District				
Kano Central	1.0	0.0	9.5	3.0
Kano North	0.1	0.0	11.4	1.4
Kano South	0.2	0.0	11.9	7.4
Age (years)				
15-19	0.5	0.0	2.6	0.5
20-24	0.5	0.0	13.2	8.8
25-29	0.3	0.0	19.3	6.1
30-34	0.9	0.0	16.8	6.1
35-39	1.0	0.0	7.9	0.0
40-44	0.0	0.0	7.0	3.4
45-49	0.0	0.0	14.1	3.2
Residence				
Urban	1.2	0.0	6.9	2.1
Rural	0.2	0.0	12.7	5.0
Education				
None	0.3	0.0	(32.4)	(6.2)
Non-formal	0.3	0.0	11.4	4.5
Primary	0.5	0.0	10.1	5.5
Secondary	1.0	0.0	8.4	3.3
Higher	0.7	0.0	11.3	3.0
Under-5s in the same household				
At least one	0.5	0.0	9.7	3.9
None	0.4	0.0	12.9	4.2
Wealth index quintile				
Poorest	0.1	0.0	9.5	3.1
Second	0.0	0.0	11.3	3.0
Middle	0.5	0.0	12.2	5.4
Fourth	0.3	0.0	12.4	4.2
Richest	1.5	0.0	8.3	3.9

[1] MICS indicator 12.1 - Tobacco use
[2] MICS indicator 12.2 - Smoking before age 15

Alcohol Use

Table 14.2 (TA.3 & TA.3M) shows the pattern of use of alcohol among women and men in Kano State. While none of the women age 15-49 years had at least one drink of alcohol on one or more days during the last one month or drank alcohol before the age of 15 years, very few of the men age 15-49 years did the same in Kano State (0.4 and 0.2 respectively).

Table 14.2 shows the pattern of use of alcohol among women and men in Kano State. About 99.2 percent and 99.3 percent of women and men respectively never had an alcoholic drink. None of the women and very few of men (0.2 percent) age 15-49 years had at least one drink of alcohol before the age of 15 years in Kano state. There is a slight difference between the percentage of men and women who had at least one alcoholic drink at any time during the last one month before the survey; None of the women and 0.4 percent of men.

Table 14.2 (TA.3& TA.3M): Use of alcohol

Percentage of women and men age 15-49 years who have never had an alcoholic drink, percentage who first had an alcoholic drink before age 15, and percentage of women who have had at least one alcoholic drink at any time during the last one month, Nigeria, 2016-17Kano State

	Percentage of women who:			Percentage of men who:		
	Never had an alcoholic drink	Had at least one alcoholic drink before age 15[1]	Had at least one alcoholic drink at any time during the last one month[2]	Never had an alcoholic drink	Had at least one alcoholic drink before age 15[1]	Had at least one alcoholic drink at any time during the last one month[2]
Total	99.2	0.0	0.0	99.3	0.2	0.4
Senatorial District						
Kano Central	98.8	0.0	0.1	98.7	0.4	0.8
Kano North	100.0	0.0	0.0	100.0	0.0	0.0
Kano South	99.2	0.0	0.0	99.7	0.0	0.0
Age (years)						
15-19	99.5	0.0	0.0	99.8	0.0	0.0
20-24	99.0	0.0	0.0	98.8	0.6	0.6
25-29	98.6	0.0	0.2	98.9	0.0	0.0
30-34	99.6	0.0	0.0	99.1	0.9	0.9
35-39	100.0	0.0	0.0	100.0	0.0	0.0
40-44	99.2	0.0	0.0	99.2	0.0	0.8
45-49	98.1	0.0	0.0	99.0	0.0	1.0
Residence						
Urban	98.7	0.0	0.1	98.8	0.6	1.1
Rural	99.4	0.0	0.0	99.6	0.0	0.0
Education						
None	99.6	0.0	0.0	100.0	0.0	0.0
Non-formal	99.2	0.0	0.0	99.5	0.0	0.0
Primary	99.6	0.0	0.0	99.3	0.0	0.7
Secondary	98.6	0.0	0.2	99.2	0.2	0.5
Higher	100.0	0.0	0.0	99.2	0.8	0.8
Wealth index quintile						
Poorest	99.6	0.0	0.0	99.7	0.0	0.0
Second	99.0	0.0	0.0	100.0	0.0	0.0
Middle	99.8	0.0	0.0	100.0	0.0	0.0
Fourth	99.2	0.0	0.0	98.7	0.0	0.0
Richest	74.5	4.3	9.9	98.6	0.7	1.4

[1] MICS indicator 12.4 - Use of alcohol before age 15

[2] MICS indicator 12.3 - Use of alcohol

The proportion men who had at least one drink of alcohol before age 15 is higher among 30-34 age groups (0.9 percent). Among men, current alcohol intake is common those with higher education and richest wealth quintile. Only men in Kano Central had at least one drink of alcohol on one or more days during the last one month or drank alcohol before the age of 15 years. There was no reported ever use or current use of alcohol in other senatorial districts.

Appendixes

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