وزارة الصحة
Ministry of Health

WORLD HEALTH SURVEY SAUDI ARABIA (KSAWHS)

2019

FINAL REPORT

WORLD HEALTH SURVEY
SAUDI ARABIA (KSAWHS)
2019
FINAL REPORT

وزارة الصحة
Ministry of Health

FOREWORD

Saudi Arabia's commitment to the global health security agenda and Sustainable Developmental Goals is in-line with the strategic orientation of the KSA Vision 2030. The national focus on improving the quality of life and wellbeing of the population supports the need for analysis of mega-data in order to learn from the past, understand the current situation, and plan for the future.

Conducting the second round of the World Health Survey-2019 in Saudi Arabia should help position the country among the regional and global participants, and in turn allow for better benchmarking and health system evaluation. The World Health Survey KSA-2019 has generated data that covers different aspects of health system sustainability. Thus, inter- and multi-disciplinary research activities should be utilized to address different health concerns and establish informed approaches to various health-related challenges. The National Transformation Program and Vision 2030 focus on preventive health and patient-centered healthcare. Thus, data generated from the World Health Survey serves as an asset for mapping and modeling population health needs and understanding the dynamic of social determinants of health. Therefore, establishing a healthcare reform execution plan that meets the population's expectations is pivotal to positively influencing overall wellbeing and quality of life. In parallel, public health experts could also utilize the generated data to evaluate current programs to enable optimal resource allocation.

The currently going on Model of Care Initiative will greatly benefit from in-depth analysis of the survey data to ensure health programs covering the whole community , with special focus on child,women,and elderly population.

This report highlights the findings of the 2019 World Health Survey-Saudi Arabia which governmental officials, policymakers and researchers can utilize for holistic management to address public health and healthcare system needs. Meanwhile, where the findings are promising, efforts must be exercised to maintain the country's profile and further improve the healthcare system.

Tawfiq F. Alrabeah

Minister of Health

ACKNOWLEDGEMENT

As Director of Vision Realization Office, and Deputy for Planning and Transformation principal I have the honor to convey my great thanks to the World Health Survey- Saudi Arabia (WHS-KSA) Implementation Taskforce, and I am indebted to the experienced, knowledgeable, and committed teams that helped in developing such a groundbreaking report.

We are grateful for our longstanding relationship with Saudi Health Council (SHC), National Center for Disease and Control (NCDC), General Authority for Statistics (GaStat), and World Health Organization (WHO) and would like to express our deep gratitude to continuous support and valuable contribution throughout the project period.

We are grateful for members of expert panel for their sincere generosity with their time, collective wisdom and insights reflected in this report. We are also indebted to our partner Um Alqura University for their effort in execution the implementation process and surveyor recruitment. Our deep gratitude to surveyors for their commitment, participation, efforts, and time.

We greatly acknowledge the efforts of all colleagues at Assistant Deputyship for Planning and Organizational Excellence for their continuous support. We express our gratitude for support and efforts exercised by General Directorate for Internal Communication, and General Directorate for Communication, Public Relation and Awareness.

Dr. Khalid Alshibani

Director of Vision Realization Office,

and Deputy for Planning and Transformation

WORLD HEALTH SURVEY- SAUDI ARABIA 2019
SCIENTIFIC COMMITTEE MEMBERS

Full Name	Scientific Qualification	Department
Mr. Abdulaziz Hasan Abdulbaqi	BSc Medical Technology	Assistant Deputyship for Planning & Institutional Excellence-MoH.
Dr. Abdullah T. Khoja	MD, MBA, MPH,FFPH, SBFM, MRCGP.	Vision Realization Office 2030, MoH-Center for National Health insurance
Dr.Abdel Ghaffar H.Humieda	MBBS, MRCP UK (London), FRCP Edin.	General directorate for Statistics and Information-MoH
Dr. Abdulaziz Ismail Yassin Abou Hussein	MD, Public Health and Preventive Medicine	General directorate for Statistics and Information-MoH
Dr. Ahamed A Alshehri	BDS, MSHCM, PhD, Health Care Management, Health Policy.	Faculty of Health Sciences, Umm Alqura University
Mrs. Athari Faisal Alotaibi	Bachelor of Pharmaceutical Sciences	Director General Directorate of Research and Studies- MoH.
Dr. Deema Abdulhakim Sahab	Masters of Public Health	Dental Public Health at King Abdulaziz University
Mrs. Duaa Ibrahim Olwi	MSc, Public Health and Epidemiology	King Abdullah International Medical Research Center (KAIMRC), Ministry of National Guard-Health Affair and MRC Epidemiology Unit, University of Cambridge
Mr. Faisal Ghadwi alshammari	MSc , Health Information.	Director General directorate for Statistics and Information-MoH.
Dr. Leena Adnan Merdad	Doctorate of Science (D.S.c.)	Associate Professor at the Faculty of Dentistry at King Abdulaziz University
Dr. Izzeldin Fadl Adam	MSc, PhD, Epidemiology	General Directorate for Health Programs and Chronic Diseases - MOH
Dr. Manal Abdalla Elimam Ahmed	MBBS,FRPH(UK) ,MD Community Medicine	General Directorate for Health Programs and Chronic Diseases - MOH
Mr. Majed Meshari Alfheed	MSc Statistical and Mathematical Modeling	Director of Sampling Department at General Authority for Statistics
Mr. Muayad Abdurrahman Hendi	MSc, Healthcare Management	Regional Project Manager at Beam Consultancy and Research company
Dr. Mohamed Mahmoud Ali	PhD, Statistician	WHO, Geneva
Dr. Nada Jamil Fars	BDS, MSc, PhD, Public HeWalth	Dental Public Health, Faculty of Dentistry, King Abdulaziz University
Mrs. Quds Abdulla Al Saffar	Bachelor of Pharmacy, MPH,CPH.	Saudi Health Council
Dr. Rasha Abdulrahman Alfawaz	PhD, Public Health & Epidemiology	Saudi Center for Disease Prevention & Control (SCDC)
Dr. Salem Mohammad AlBalawi	PhD, Public Health & Epidemiology	Saudi Center for Disease Prevention & Control (SCDC)
Dr. Shaker Abdulaziz Alomary	MBBS,Saudi Board FM,ABFM	Director General Directorate for Health Programs and Chronic Diseases-MOH.
Dr.Taghred Mohammed Alghaith	PhD, Healthcare Strategy	Saudi Health Council
Mr. Tamim Abdulaziz Altammam	Bachelor's degree in Statistics	Statistical Specialist in Sampling Department at General Authority for Statistics
Mrs Wadha Alhassan Alabsi	DN, BSc Health Admin.	General directorate for Statistics and Information-MoH
Dr. Weam M. Banjar	DDS., MS. in Clinical Research	Assistant Deputy for Planning and Organization Excellence-MoH.

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES

LIST OF FIGURES

1. SURVEY OBJECTIVES

1.1 INTRODUCTION

Between 2002 and 2004 the World Health Organization (WHO) launched the World Health Survey (WHS) in more than 70 countries. The WHS is a standardised questionnaire used to strengthen national capacity to monitor critical health outcomes, risk factors and health systems through the field implementation of a valid, reliable, and comparable household survey instrument, and represents a major step forward in the use of self-reported health data.

In 2010, The Saudi Arabia World Health Survey (WHS+) was conducted in collaboration with the WHO and the Executive Board of the Gulf Cooperation Council (GCC) Health Ministers Council, as part of a GCC-wide project to generate evidence on various health related topics.

As recommended by the WHO, the WHS+ should ideally be repeated at least once every five years. Therefore, a second round of WHS+ was implemented in 2019. The Saudi Arabian Ministry of Health (MoH) implemented the survey during 2019 in collaboration with the General Authority for Statistics (GASTAT) and the Saudi Health Council. The survey was based on the WHS+ standard questionnaires and further adapted to meet the data needs of the country's national health planning and monitoring key priority indicators.

1.2 SURVEY OBJECTIVES

The main objective of the Kingdom of Saudi Arabia World Health Survey (KSAWHS 2019) is to provide up-to-date, timely and relevant information on SDGs health-related indicators and WHO indicators, framework programmatic indicators, and socio-demographic stratifiers. Specifically, the survey collected information on demographic characteristics, health insurance, household assists and durable goods wealth, expenditure, recent household deaths, health status, chronic conditions, service utilisations, reproductive health, family planning, violence against women, and child immunisation. Another critical objective of the survey is to provide estimates of behavioural indicators for adults aged 15 and older, including behavioural risk factors, and provide estimates of the prevalence of anaemia, hypertension, HDL, LDL, cholesterol, and diabetes mellitus.

The information generated from this survey is intended to assist policymakers and program managers in designing, evaluating and monitoring programs and strategies. This supports the ultimate goal of improving the health of the country's population as well as meeting the country's obligations in monitoring SDGs and other global frameworks.

1.3: SUSTAINABLE DEVELOPMENT GOAL(1) & GLOBAL REFERENCE LIST OF 100 CORE HEALTH INDICATORS(2)

SUSTAINABLE DEVELOPMENT GOAL[1] & GLOBAL REFERENCE LIST OF 100 CORE HEALTH INDICATORS[2] - KSAWHS 2019 SURVEY INDICATORS	PERCENTAGE (%)
1. No Poverty	
1.3.1 Percentage of population covered by social protection floors/systems, by sex, distinguishing children, unemployed persons, older persons, persons with disabilities, pregnant women, newborns, work-injury victims and the poor and the vulnerable	
a) Percentage of population with health care coverage (free governmental services and health insurance coverage)[3]	97.3
1.4.1 Percentage of population living in households with access to basic services	
a) Use of improved drinking water sources	99.3
Use of basic drinking water services[4]	93.0
b) Use of improved sanitation facilities	99.8
Use of basic sanitation services[5]	95.5
3. Good health and well-being	
3.1.2 Percentage of live births attended by skilled health personnel (facility births)[6,7]	98.7
3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	
Universal Health care Coverage (UHC) tracer indicators:	
a) Reproductive, maternal, newborn and child health	
• Percentage of women aged 15–49 with a live birth in the last 5 years who received 4+ antenatal care visits[8]	79.7
• Percentage of women aged 15-49 with a live birth in the last 5 years who received 1+ antenatal care visits	94.6
b) Infectious diseases	
Percentage of the population living in households with access to basic sanitation services	95.5
c) Non-communicable diseases	
• Prevalence of non-raised blood pressure regardless of treatment status	86.5
• Mean random plasma glucose in mmol/L[9] (not percentage)	6.0
Percentage of adults aged at least 15 years who had not smoked tobacco in the previous 30 days[10]	88.2
3.a.1 Age-standardised prevalence of current tobacco use among persons aged 15 years and older	10.2
Sex equality	
5.2.1 Percentage of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner	
a) Husband physical violence (lifetime)	2.0
b) Husband emotional violence (lifetime)	2.1
5.6.1 Percentage of women aged 15-49 years who make their own informed decisions regarding sexual relations, contraceptive use and reproductive health care	
a) Contraceptive use (joint decision by woman and husband)	73.4
Affordable and clean energy	
7.1.1 Percentage of population with access to electricity[11]	99.9
7.2.1 Percentage of population with primary reliance on clean fuels and technology	
a) Clean fuel for cooking	99.9
b) Clean fuel for heating	96.4
Partnerships for the goals	
17.18.1 Percentage of individuals using the Internet (ever-use)	83.2
17.19.2 Percentage of deaths that are registered	98.1

Other Global Reference List of 100 Core Health Indicators (not included in the SDGs)	
a) Percentage of newborns breastfed within 1 hour of birth[7]	37.7
b) Age-standardised prevalence of raised blood pressure among persons 18+ years (defined as measured systolic blood pressure ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg)	24.5
c) Age standardised prevalence of overweight in persons aged 18+ (defined as having a BMI ≥ 25 kg/m^2)	36.2
• Age standardised prevalence of obesity in persons aged 18+ (defined as having a BMI ≥ 30 kg/m^2)	22.0
d) Age-standardised prevalence of raised blood glucose/diabetes among persons aged 18+ years (based on random blood glucose test and self-report) or on medication for raised blood glucose (defined as fasting plasma glucose ≥ 7.0 mmol/L)[10]	16.7
e) Age-standardised prevalence of insufficiently physically active persons aged 18+ years[12]	82.1
f) Percentage of women aged 15–49 years, married, who are currently using, or whose sexual partner is using, at least one method of contraception, regardless of the method used	27.6
g) Percentage of women who have postpartum contact with a health provider within 2 days of delivery[7]	71.4
h) Percentage of newborns who have a postnatal contact with a health provider within 2 days of delivery[7]	77.7

NOTE: The WHO World Standard Population age distribution was used in the age-standardisation. Based on that, age-standardised indictors will be slightly different than the indicators presented in subsequent chapters as those were not age-standardised

1 https://sustainabledevelopment.un.org/sdgs

2 https://apps.who.int/iris/bitstream/handle/10665/259951/WHO-HIS-IER-GPM-2018.1-eng.pdf?sequence=1

3 Partial measure of social and financial risk protection

4 Defined as drinking water from an improved source provided water is on the premises (NOTE: this excludes drinking water that is not on the premises but for which collection time does not exceed 30 minutes)

5 Defined as use of improved facilities that are not shared with other households

6 Deliveries in a health facility are considered to be attended by a skilled health professional

7 Among live births in the 5 years preceding the survey (most recent birth)

8 Among ever-married women age 15-49 who had a live birth in the 5 years preceding the survey (most recent birth)

9 The UHC tracer indicator is fasting plasma glucose, but random plasma glucose was measured in the survey

10 Indicator includes never smokers and former smokers (irrespective of the 30-day reference period)

11 Indicator is based on households not household population

12 Physical activity insufficiency is defined as less than 150 minutes of moderate-intensity physical activity or 75 minutes of vigorous-intensity physical activity or an equivalent combination of moderate- and vigorous-intensity physical activity, not achieving at 600 MET-minutes per week

2. SURVEY METHODOLOGY

The 2019 Kingdom of Saudi Arabia World Health Survey (KSAWHS 2019) was implemented by the MoH and designed to provide up-to-date, reliable estimates of priority health-related indicators at national level by urban and rural residence, and for each of the 13 administrative areas. The Master Sample Frame (MSF) used for the 2019 KSAWHS is based on the Population and Housing Census of the Kingdom, which was conducted in 2010 by the General Authority of Statistics (GASTAT). As part of the sampling process, the Kingdom was divided into regions and sub-regions (Governorates), each sub-region divided into Quarters, and each Quarter divided into census enumeration areas (EAs). In the MSF, the EAs are treated as primary sampling units (PSUs). The frame contains information about the geographic type (governorate, locality, urban, rural, Geo Code), the estimated number of residential households, and the population in each PSU.

A nationally representative sample of 10,000 households was selected from the 13 administrative regions according to population size (**Annex A**). The KSAWHS 2019 followed a stratified three-stage sample design with a probability proportional to population size, as follows: sampling PSUs at the first stage, then a systematic sampling of households of a fixed size of eight households per PSU at the second stage, and at the third stage, an adult member of the household aged 15+ was selected using a random number generated by the tablet computer at the end of the household interview (3). **Table 2.1** displays the sample allocation of selected numbers of PSUs and households in each of the 13 administrative areas. Households were identified as urban or rural based on the GASTAT classification of their corresponding cluster.

Survey design weights were calculated taking into account the probability of selections at each stage and further adjusted for non-response rates at the three levels, then normalised and added to the data file. All analyses were performed using the survey design and the normalised weights of the households and individuals, so that the results would be representative at the national level as well as the domain level (see **Annex A** for additional details).

2.1 INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL

IRB approval was obtained from the General Directorate for Research and Studies at the MoH. Participation was voluntary and participants had the right to refuse to be interviewed or discontinue at any time during the survey. In the case any distress arose, the interviewer referred the participant to social support or the hospital if needed. The interviewers were responsible for explaining the survey objectives, providing all the necessary information such as personnel identity and security approval, and making sure the respondent understood the implications of his/her participation before giving his/her informed consent. The information given was simple, clear and adapted to the respondent's level of understanding. The consent form included information on the expected interview duration, the types of questions to be asked, the purpose of the study, and who will have access to the information provided. The interviewers ensured that respondents read and understood the form before signing. If the respondent was illiterate or unable to read, the form was read and explained to him/her. Verbal consent was obtained or willingness to participate was considered as implied consent.

2.2 QUESTIONNAIRES

Two questionnaires were used in this survey: household, and individual. The questionnaires were based on the WHO's World Health Survey (WHS) questionnaires and the Tunisian 2015 WHS questionnaires (4, 5). Survey indicators were mapped to the Sustainable Development Goads (SDGs) and the WHO Global Reference List of 100 Core Health Indicators, and the questionnaires were further adopted to cover further indicators to meet national priorities. The questionnaires were extensively reviewed by a technical expert panel which consisted of members of the MoH General Directorate for Statistics and Information, academicians, representatives

from the Saudi Health Council, the Saudi Centres for Disease Control and Prevention, the World Bank, Umm Al-Qura University and the General Authority for Statistics. The questionnaires were translated into Arabic by a group of certified translators and reviewed by the expert panel. The questionnaires were pre-tested on 200 households (see the pre-test section below) and the outcomes were reviewed and discussed and used to modify, customise and finalise the questionnaires.

1. **Household Questionnaire**: This questionnaire was administered to the head of the household and covered the following domains:
    a. Household roster
    b. Household health insurance coverage
    c. Housing environmental risk factors and water and sanitation
    d. Household assets and income
    e. Household expenditure
    f. Household mortality
2. **Individual Questionnaire**: This questionnaire was administered to a consenting male or female individual aged 15 or older who was randomly selected from the household roster, and consisted of the following sections:
    a. Socio-demographic characteristics
    b. Work history and information and communications technology (ICT) use
    c. Health state descriptions
    d. Biological risk factors: blood pressure and anthropometrics
    e. Behavioural risk factors and preventive health behaviours
    f. Chronic conditions and health services coverage
    g. Health care utilisation and system responsiveness (outpatient and inpatient care)
    h. Reproductive health, pregnancy and contraception
    i. Violence against women
    j. Child immunisation
    k. Blood chemistry

2.3 ANTHROPOMETRY AND BLOOD TESTING

The 2019 KSAWHS incorporated the following biomarkers from individual respondents (ages 15+): Random plasma glucose, cholesterol, high-density lipoprotein (HDL), low-density lipoprotein (LDL), and haemoglobin testing, as well as anthropometric measurements including weight, height, hip and waist circumference. Height, waist and hip circumference were measured with measuring tape while weight was measured using an electronic weight scale. Blood pressure (systolic and diastolic) and pulse rate were measured 3 times for each respondent using a digital electronic sphygmomanometer. Blood specimens for the tests were collected from those who consented to provide blood either at home or at the nearest health facility. Data related to blood chemistry were directly entered into the tablets by the field supervisors and the specimens taken at home were initially recorded on excel sheets and subsequently entered into the database using the respondent's unique identification number.

2.4 TRAINING OF FIELD SUPERVISORS AND INTERVIEWERS

Field supervisors and interviewers were recruited based on the following criteria: 1-Being a physician or nurse (i.e. having a bachelor's degree or above in medicine or nursing); 2-Being proficient in English and Arabic; 3-Having knowledge of the dialects of the region where they will work. Selection was based on qualifications, previous experience in the field of censuses and surveys, and knowledge of geographical areas and use of maps.

In-depth training was provided for all supervisors. A series of "Training-of the Trainers (ToT)" lectures and practical training sessions were conducted in Makkah over 72 hours throughout a six-day period from the 31st of March to the 5th of April 2019. A team of survey experts and a specialised team from the General Authority for Statistics (GASTAT) and other institutes conducted the training sessions. During training, all aspects of the survey were explained, including objectives, methodology of data collection and measurements, ethical considerations and confidentiality as well as the use of maps. The following topics were covered:

3. Survey overview: introduction, objectives, rationale and significance
4. Household questionnaires
5. Individual questionnaires
6. Blood samples and measurements
7. Reading maps and reaching households
8. Leadership and communication skills with household members and respondents
9. Quality control and assurance

To collect the data and take measurements in the field efficiently, the survey acquired the following devices and

instruments: 170 tablets for data capturing and running a survey tailored software CAPI/CSPro, digital scales, measurement tapes, and fully automatic arm blood pressure monitors.

Supervisors and interviewers were familiarised with the questionnaires, interviewing methods and instructed in how to deal with respondents and overcome obstacles in the field. Moreover, they were introduced to the Computer Assisted Personal Interview (CAPI) used for data collection (CSPro Software). Hands-on training sessions were held to ensure interviewers were able to administer the questionnaire using tablets. Interviewers were also showed how to detect errors and correct whatever is possible to ensure consistency of the answers. Concise field manuals were also developed as a guide for supervisors and interviewers:

1. Household interview manual
2. Individual interview manual
3. Measurements, and blood sample manual
4. Tablet use: household interview manual
5. Tablet use: individual interview manual
6. Tablet use: error message manual

Special attention was paid to the training of supervisors to ensure they had sufficient information, skills and material to be able to train their regional interviewers and monitor their performance and the data collection process.

2.5 PRE-TEST & CHALLENGES

Prior to data collection, appropriate authorisation and permissions were obtained from the: 1- MoH, and the respective regional health directorates, 2- Ministry of Interior, and 3- Regional Governorships. A pre-test was conducted between the 20th of April and the 5th of May 2019 to familiarize the supervisors and interviewers with process and document issues that had been encountered in the field. A convenience sample of 200 households were selected from all 13 regions (approximately 15 households per region). Face-to-face interviews were conducted and data were entered directly into tablets.

The data collected during the pre-test phase were analysed to assess the data quality and identify any problems and lessons learned during this critical phase. Supervisors and interviewers were encouraged to share their experiences in the field and talk about any obstacles they faced. Findings were also summarised in a report which highlighted a number of challenges encountered during the pilot (**see Annex B**).

Based on the challenges faced during the pre-test, corrective and preventive measures were made to improve the field processes, the quality of data and the response rates. Interviewers were advised to emphasise the importance of collecting population health data in order to assist decision-makers in improving health care services and better responding to their needs. Interviewers were also instructed to demonstrate to respondents that the tests are simple and quick and cause minimum inconvenience. In addition, interviewers were instructed to reassure respondents that their data will remain anonymous and delinked from their personal information. In the eventuality that the respondents were obstructed by time constraints, interviewers were instructed to re-schedule appointments at the respondent's convenience.

The pre-test successfully tested all the survey procedures including data collection, quality control and logistics. Feedback was used to improve efficiency and data quality. In fact, improvements in the response rates and general data quality were observed once the main field work had started.

Prior to the survey fieldwork a media campaign was launched by the MoH through several communication channels, including TV, radio, newspapers and social media. Authorities in the country were officially informed (via letter) of the survey and its purpose, the areas to be covered, and the timeframe. Local authorities such as local leaders were contacted to facilitate the work of the interviewers by holding village meetings, informing the residents and, most importantly, by providing reassurance.

Before the field work was launched in each of the 13 regions, training was conducted by field supervisors who attended 6-day practical training to train the interviewers and ensure they were ready to undertake the field work.

2.6 FIELDWORK

The survey team consisted of the headquarters team and the field work teams. The headquarters team consisted of the project manager, assistant project manager, project coordinators, the data analysis team - including quality control (QC) and the IT support team. The field work teams consisted of field coordinators, field supervisors and interviewers. A field work team was assigned to each region/planning zone and was composed of a field supervisor and interviewers. The distribution of the field work teams to the planning zones was based on the size of the work in each of the zones, the degree of spread of the sample sites and the ease of communication. In total there were 173 teams. To be able to conduct sex-specific interviews, each team was composed of two interviewers (one male and one female). Each team visited the sample households allocated to them. If the interviewer was unable to contact an eligible household member, two additional visits were made to the household before it was considered a final non-response. The household questionnaire was administered to the head of the household or the most knowledgeable person of the house if the head of the household was not present at the time of the interview. A household member aged 15 or older was randomly selected from the household roster for the individual interview. Data was collected via face-to-face interviews through CAPI using tablets. Throughout the field work the information technology

team at headquarters provided continuous and real-time support and guidance to the field supervisors and interviewers. To ensure confidentiality, interviews were conducted on a one-to-one basis. Verbal or written consent was obtained from each respondent.

The interviewer was responsible for explaining the survey objectives, providing all the necessary information, and making sure the respondent understood the implications of his/her participation before giving his/her informed consent. In addition, the respondent was informed that participation was voluntary and that he/she could withdraw from the interview at any time. The respondent was asked to read the informed consent form on the tablet, which included information on the expected interview time, the types of questions that will be asked, the importance of the survey and data collection, and who will have access to the information provided. The interviewer was responsible for checking that the respondent had read and understood the form and for offering to go over it with him/her if they were experiencing difficulty. Informed consent was documented by asking the respondent to provide verbal consent, upon which the interviewer would check the appropriate box on the tablet. If the respondent was illiterate or unable to read for himself/herself, the form was read and explained to him/her.

Some of the challenges faced during the pre-test continued through the main survey, although their impact was mitigated by the corrective and preventive measures and systems put in place (see the pre-test section above). Response rates and completeness of data improved. The length of the interview remained a challenge to both the interviewers and respondents. Additionally, some new challenges arose during field work, particularly locating the selected households and accessing them. This difficulty was as a result of: 1-the GPS coordinates provided by the GASTAT were sometimes not updated and inaccurate; 2-households in some rural areas were very distant and difficult to access; 3- due to poor internet connection GPS did not function or was slow in some remote areas; and 4-some areas in the southern regions were inaccessible because of war and conflict. Despite all the challenges mentioned above, the survey team managed to collect high quality data in an efficient manner. In addition, households and respondents were in general cooperative and responsive.

2.7 QUALITY MONITORING & CONTROL

Data monitoring and quality control (QC) are essential to producing high quality data. The QC team monitored the regional activities on a daily basis and communicated with project coordinators regularly. In turn the project coordinators were directly communicating with supervisors and interviewers in the field. The data quality (DQ) team also held weekly meetings with the assistant project manager and project coordinators to identify any bottlenecks and challenges to be addressed.

Interviewers were instructed to send the data to their field supervisors and to upload it onto a server at the headquarters on a daily basis. The field supervisors checked the entered data once when received and again before leaving the field to give the interviewers timely feedback. Moreover, the data analysis team constantly monitored and checked the data for quality purposes. Use of tablets/CAPI helped reduce errors and prevent missing data, remove the manual data entry steps and allow for timely monitoring of the quality of the data.

Two reports were regularly produced by the DQ team. First, the general progress and quality report was produced bi-weekly. The aim of these reports was to highlight general survey progress and data quality aspects. Indicators in terms of response rates overall and itemised as well as the percentage of completeness for each question and module were presented. These reports were shared with the assistant manager and project coordinators for assessment in the weekly DQ meeting.

Second, regional level data quality reports were produced weekly and displayed data for each region for each team/interviewer. In addition to response rates and percentages of missing data, average interview duration and interview timings were reported to identify low quality interviews. The aim of these reports was to monitor the progress and data quality, maintain adherence to the plan, and provide instant feedback to the team field supervisor to ensure better data quality and to assess team performance. These reports were shared with regional field supervisors and coordinators on a weekly basis. Based on low performance and/or quality, teams/interviews and interviews were flagged for investigation. Reasons for flagging included:1-interview duration (household and individual) of less than 30 minutes, the average interview duration was 57 minutes; 2-interview conducted between 2 a.m. and 6 a.m.; 3-more than 4 to 6 interviews per day; 4-low response rates; 5-high refusal rates for measurements and blood samples; and 6-high ‘item missing’ data. Corrective actions such as verification, suspension or termination of the interviewer were discussed and then implemented when necessary.

2.8 DATA PROCESSING AND ANALYSIS

Survey data was cleaned and checked for inconsistencies and data error. New variables and indicators were generated, data was analysed, and tables were produced according to the data analysis plan developed beforehand by the data analysis team. The analysis plan provided the structure for the final report, for how the major findings were to be described and summarised, and the most important indicators to be included in the report. Survey indicators and their 95% confidence intervals are reported in **Annex C**. The statistical software package, Stata Version 15.0, was used for all data management and statistical analyses (Stata Corp, College Station, Texas, USA).

NOTE: On the sampling: The number of the respondents, the percentages and other statistics are weighted using standardised weights, therefore, the reported total respondents or percentages may be slightly different from the actual total because of rounding.

2.9 RESPONSE RATE

The results of the household and individual interviews and response rates are given in **Table 2.2** and **Figure 2.1**. Out of the 10,000 selected households, a total of 9,652 were present (or occupied), and 9,339 were successfully interviewed, yielding a response rate of 96.8%. In the households interviewed, one person aged 15 years or older per household was identified for individual interviews; interviews were completed with 8,912 individuals, yielding a response rate of 95.4%. **Table 2.2** also provides detailed reasons for non-response.

In addition to the overall response rates, section specific-response rates are summarised in **Table 2.3.** Response rates to blood pressure and pulse measurements are almost complete. There were very high responses to height and weight measurements and comparatively lower rates for waist, and much lower rates for hip measurements. 83.7% of respondents provided a blood sample. More information on data quality including the sample deviation index and missing data is presented in **Annex D**.

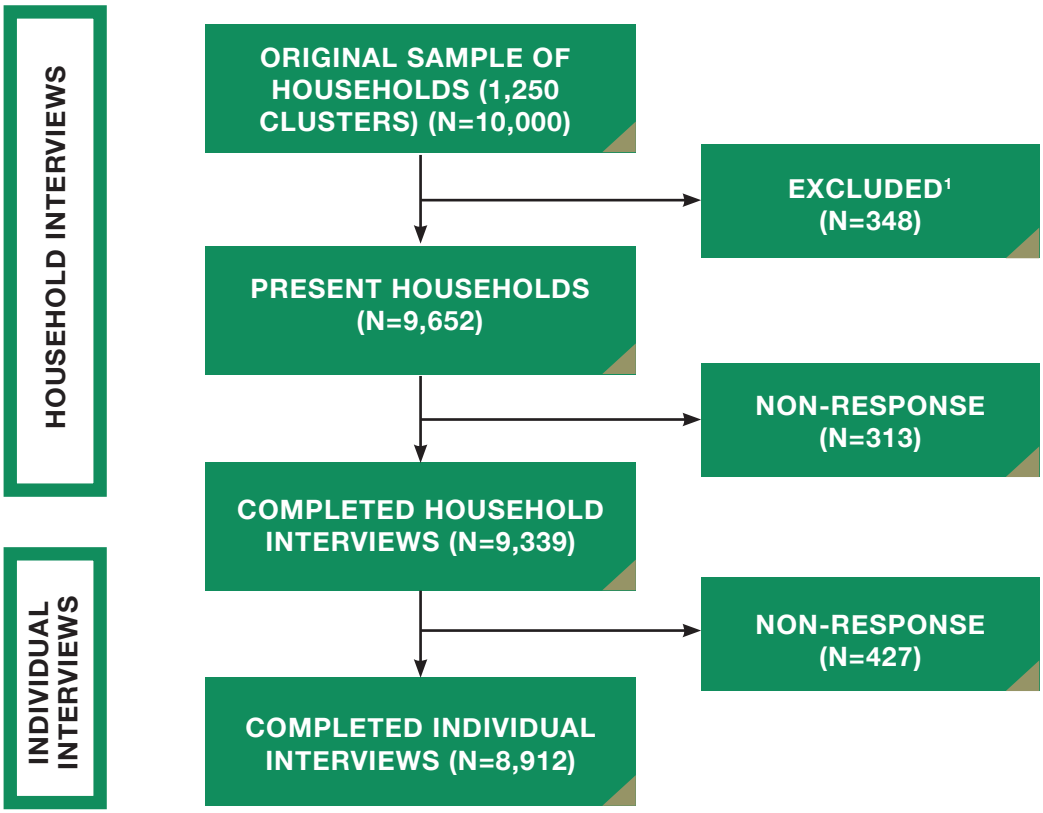


Figure 2.1: Number of completed household and individual interviews

Flow chart illustrating the number of completed household and individual interviews

1 Excluded based on the following interview result categories: household absent for extended period of time; Dwelling vacant; Address not a dwelling; Dwelling destroyed; Dwelling under construction; Dwelling status unknown.

Table 2.1: Number of primary sampling units and households

Number of primary sampling units and households by administrative region [Saudi Arabia, 2019].

ADMINISTRATIVE REGION		NUMBER OF PRIMARY SAMPLING UNITS	NUMBER OF HOUSEHOLDS
CODE	NAME		
1	Riyadh	193	1,544
2	Makkah	225	1,800
3	Madinah	85	680
4	Qasim	62	496
5	Eastern Region	156	1,248
6	Asir	83	664
7	Tabuk	68	544
8	Hail	62	496
9	Northern Borders	68	544
10	Jizan	67	536
11	Najran	61	488
12	Bahah	57	456
13	Jawf	63	504
Total		1,250	10,000

Table 2.2: Response rate to household and individual interviews

Number and percent distribution of households and individuals by results of household and individual interviews, and household, individual and overall response rates [Saudi Arabia, 2019].

RESULTS OF HOUSEHOLD AND INDIVIDUAL INTERVIEW	NUMBER	PERCENT
Households		
Completed (C)	9,339	93.4
Refused (R)	175	1.8
Household present but no eligible/competent member present (HP)	49	0.5
Household absent for extended period of time (HA)	75	0.8
Dwelling vacant/address not a dwelling (DV)	238	2.4
Dwelling under construction/destroyed/status unknown (DD)	35	0.4
Dwelling not found (DNF)	65	0.7
Partially completed	24	0.2
Total	**10,000**	**100.0**
Household response rate (HRR)[1]		96.8
Selected individuals		
Interview completed	8,912	95.4
Refused	7	0.1
Incompetent	1	0.0
Not at home	48	0.5
Interview partially completed	371	4.0
Total	**9,339**	**100.0**
Selected individual response rate (IRR)[2]		95.4
Overall individual response rate (ORR)[3]		92.3

1 The household response rate (HRR) is calculated as follows: HRR= (C/C+R+HP+DNF)*100

2 The individual response rate (IRR) is equivalent to the percentage of interviews completed.

3 The overall individual response rate (ORR) is calculated as: ORR=(HHR*IRR)/100

Table 2.3: Section specific response rates

Number of individuals and response rates to specific sections in the individual questionnaire [Saudi Arabia, 2019].

SECTION	INDIVIDUAL RESPONSE	
	NUMBER	PERCENT
Total completed individual questionnaires	8,912	100.0
Response to first measurement		
Blood pressure	8,747	98.1
Pulse rate	8,747	98.1
Response to anthropometric measurements		
Height	8,775	98.5
Weight	8,772	98.4
Waist circumference	8,061	90.5
Hip circumference	7,208	80.9
Response to blood sample	**7,463**	**83.7**

3. CHARACTERISTICS OF HOUSING AND HOUSEHOLD POPULATION

KEY FINDINGS

- **Housing characteristics:** The most common type of housing units are apartments (58%). Residents of rural areas are more likely to have full ownership of their houses (61%) compared to urban residents (47%), and residents of urban areas are more likely to rent houses (45%) than residents of rural areas (32%). Electricity is available in all houses in Saudi Arabia (100%).

- **Household population composition:** Two out of three household members are below the age of 35 years. Children under the age of 15 years account for around one third of the population (29%), and young adults between the age of 20 and 34 years constitute another third (32%) of the population.

- **Education attainment:** The median years of schooling for both females and males is 12 years. However, 9% of females and 5% of males do not receive any formal education, and 6% of females and 3% of males are illiterate.

This chapter presents information about the demographic and socioeconomic characteristics of the household population in the 2019 KSAWHS. The main focus of this chapter is to provide a background that helps interpret social and health indicators in the context of the country. In addition, this information sheds light on the living conditions in the country and can be useful for assessing the level of economic and social development of the population.

Information in this chapter covers general housing characteristics, household population composition, household population age structure, and educational attainment. Data for this chapter is collected from one household member who provides answers on behalf of other members of the household (i.e. the household informant).

3.1 HOUSEHOLD CHARACTERISTICS

3.1.1 GENERAL HOUSING CHARACTERISTICS

The survey collects data on housing characteristics such as type of housing, building material, number of rooms, ownership and electricity. **Table 3.1** shows that the most common type of housing units in both urban and rural areas are apartments, representing less than two thirds (61%) of housing units in urban areas and 43% in rural areas. Traditional houses account for 27% of housing units in rural areas, as compared to 11% in urban areas. And almost the same percentage of the population in urban and rural areas live in villas (19% and 18%, respectively). The building material used in the majority of housing units is concrete (92% of households in urban areas and 81% of households in rural areas). One third of households (34%) in Saudi Arabia have 5-6 rooms, and 40% of households have 3-4 rooms, with almost no differences between urban and rural areas.

More than half of the houses (61%) in rural areas are solely owned by one of the household members, while this is the case in only 47% of houses in urban areas. Residents of urban areas tend to rely more on renting houses (45%) than residents of rural areas (32%). A small percentage of houses (5%) in both urban and rural areas are owned via mortgage or loan. Most households (96%) have electricity provided through a national gird, the remaining 4% receive electricity from private networks or generators.

3.2 HOUSEHOLD WEALTH

3.2.1 HOUSEHOLD DURABLE GOODS

The availability of durable goods is a useful descriptor of household socioeconomic level. Moreover, certain goods have specific benefits. Ownership of a radio or a television keeps household members up to date on national and global issues and exposes them to different content, a refrigerator prolongs the lifespan of foods, and a means of transportation provides greater access to services beyond the local area. **Table 3.2** presents the availability of selected household possessions by residence. The most commonly found assets are refrigerators (100%), followed by televisions (99%) and air conditioners (99%), then mobile phones (98%), washing machines for clothes (97%), and cars (91%). Households in urban areas are more likely to own a computer (74%), have internet access at home (82%), a vacuum cleaner (94%), a land-line phone (30%) and a security system (11%) than households in rural areas (67%, 70%, 87%, 22% and 6%, respectively). On the other hand, households in rural areas have more dishwashers (36%) and natural gas (58%) than households in urban areas (31% and 55%, respectively). Moreover, 23% of households in urban areas have domestic help (maid, gardener, cook cleaner or driver) compared to 17% of households in rural areas.

3.2.2 WEALTH INDEX

WEALTH INDEX

Households are given scores based on household characteristics such as building materials, drinking water and toilet facilities, and access to consumer goods and services such as refrigerators, computers and cars. These scores are constructed using principal component analysis. National wealth quintiles are obtained by assigning the household score to each de jure household member so that each person in the household population has his or her own score with which they are ranked. The scores are then divided into five equal parts, from quintile one (lowest-poorest) to quintile five (highest-wealthiest), each comprising approximately 20% of the population (5).

Table 3.3 show the distribution of the de jure household population by wealth quintile. The wealthiest households are concentrated in urban areas (23%), while only 2% of households in rural areas fall under the richest quintile.

3.3 HOUSEHOLD POPULATION

3.3.1 CHARACTERISTICS OF HOUSEHOLD POPULATION

Household

A person or group of related or unrelated persons who live together in the same dwelling unit(s), who acknowledge one adult male or female as the head of the household, share the same housekeeping arrangements, and are considered as a single unit.

De jure population

All persons who are usual residents of the selected household, whether or not they stayed in the household the night before the interview.

A total of 9,339 households with a total of 34,902 inhabitants were interviewed. Of these inhabitants 17,484 (50.1%) are male and 17,418 are female (49.9%).

Table 3.4 exhibits the sex distribution of the household members by age, residence, marital status, education, wealth and region. The age distribution of males and females is similar, with a slight increase in favour of males except in the age group 15 – 29, where female percentages are higher than those of males.

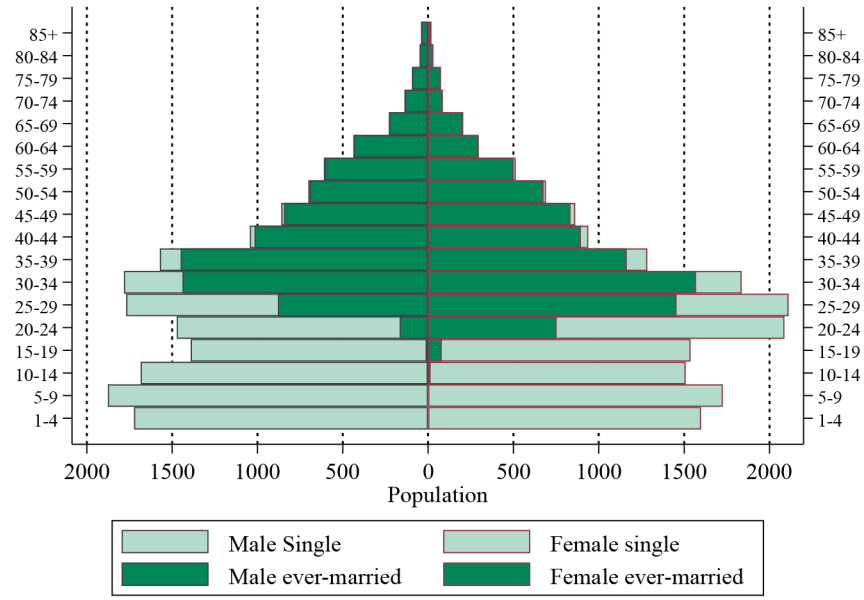
As for marital status, sex distribution is also similar except for the status of formerly married, where females present a higher percentage (6%) when compared to males (3%). 39% of males and 28% of females have never been married, while 59% of males and 43% of females are currently married.

Level of education is of comparable distribution across both males and females, with a slightly higher percentage of females having not received any formal education (7% female vs. 4% male). The percentage with a secondary school education is 33% among females and 32% among males. Furthermore, education beyond secondary school was reported by 28% of women and 31% of men. Finally, there is no noticeable difference in the parentage of males and females living in different regions of the country, with the majority of the population residing in the regions of Makkah, Riyadh and the Eastern Province.

Finally, there is no noticeable difference in the parentage of males and females living in different regions of the country, with the majority of the population residing in the regions of Makkah, Riyadh and the Eastern Province.

3.3.2 HOUSEHOLD POPULATION COMPOSITION

Table 3.5 and **Figure 3.1** illustrate population distribution by 5-year age groups according to sex. Almost one third of the population (29%) are children in the 0-14 dependency age group, while 3% are adults in the 65 and above dependency age group. Young adults between 20 and 34 account for 32% of the population.



Source: KSA WHS 2019

Figure 3.1: Household population pyramid

Percent distribution of the household population

NOTE: Ever-married includes currently married and formerly married (divorced and widowed).

3.4 EDUCATION ATTAINMENT

Educational attainment is a vital characteristic of household members, and many health behaviours are influenced by the education of household members. **Figure 3.3 and Table 3.6** present information about educational attainment among de jure population age 6 and older. Overall, the median years of schooling for both females and males is 12 years. However, 7% of females and 4% of males have not received any formal education, which includes 5% of females and 3% of males who are illiterate. Among females receiving education, 33% attend secondary school or equivalent schooling, and 28% report education beyond secondary school; where 27% attend university or college and 2% attain higher education (masters, higher diploma or doctorate).

Educational attainment among males does not differ widely from that among females. 28% attend secondary school or equivalent schooling and 31% report education beyond secondary school, where 28% attend university or college and 3% receive a higher education degree.

PATTERNS BY BACKGROUND CHARACTERISTICS

- The median years of schooling for older respondents is remarkably lower than that for younger adults. Respondents between the age of 70 and 79 have a median of 9 years of schooling, and respondents above the age of 80 have an even lower median (6 years). On the other hand, respondents between the age of 30 and 44 have a median of 15 years of schooling.
- The median years of schooling is the same in urban and rural areas (12 years), and similar percentages of individuals residing in urban and rural areas report attending college or university (28% vs. 27%). The percentage of individuals not receiving formal education is higher in rural areas (9%) than urban areas (5%).
- The level of education varies greatly between the 13 regions. 35% of residents of the region of Riyadh attend university or college and 4% continue to higher education, whereas 5% receive no formal schooling. Similar numbers are observed in the region of Makkah, where 32% attend university, 2% obtain higher education, and 3% of its population receive no education. The regions with the lowest proportions of university attendees are Najran, Jawf, and the Eastern Province (11%, 16% and 16%, respectively). The region of Bahah has a notably high percentage of individuals who have never attended formal school (20%) relative to other regions, but 26% of its residents graduate from university or college.

LIST OF TABLES

For more information on household population and housing characteristics, see the following tables:

- **Table 3.1**: Household characteristics
- **Table 3.2**: Household possessions
- **Table 3.3**: Household wealth quintiles
- **Table 3.4**: Household population composition
- **Table 3.5**: Household population by age structure
- **Table 3.6**: Educational attainment

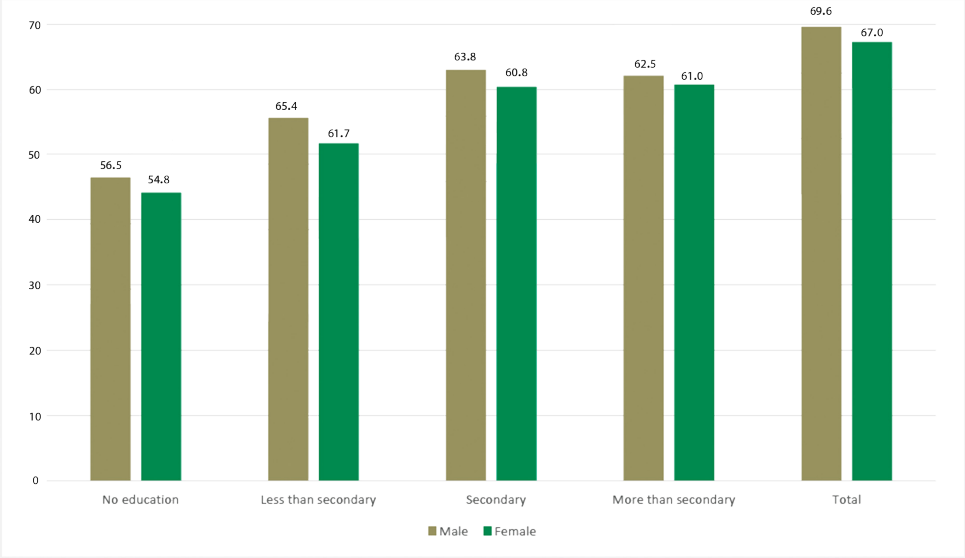


Figure 3.3 : Education secondary and higher

Percentage distribution of males and females by secondary and highest level of schooling

Table 3.1: Housing characteristics

Percentage distribution of households by housing characteristics (type of house, building material, number of rooms, ownership and electricity), according to residence [Saudi Arabia, 2019].

HOUSING CHARACTERISTIC	RESIDENCE		
	URBAN	RURAL	TOTAL
Type of house			
Traditional house	10.9	27.2	13.2
Villa	18.8	18.0	18.7
Story villa	8.6	11.2	9.0
Apartment	60.5	42.8	58.0
Hut/cottage	0.1	0.0	0.0
Other	1.2	0.8	1.1
Total	100.0	100.0	100.0
Building material			
Concrete	92.0	81.3	90.5
Bricks/blocks	6.9	14.7	8.0
Mud/clay	0.0	0.1	0.1
Stone	0.7	2.4	0.9
Other	0.4	1.5	0.5
Total	100.0	100.0	100.0
Number of rooms			
1-2	12.3	12.2	12.3
3-4	40.1	41.8	40.3
5-6	33.8	33.1	33.7
7+	13.9	12.8	13.8
Total	100.0	100.0	100.0
Ownership			
Own full	47.1	61.3	49.1
Own with mortgage or loan	4.7	5.2	4.8
Rent	44.6	32.0	42.8
Rent free, provided by employer	1.9	0.9	1.8
Rent free	1.3	0.3	1.1
Other	0.4	0.4	0.4
Total	100.0	100.0	100.0
Electricity			
Yes, public network	95.6	99.4	96.1
Yes, private network/generator	4.3	0.4	3.7
No	0.1	0.2	0.2
Total	100.0	100.0	100.0
Number of households	8,027	1,312	9,339

Table 3.2: Household possessions

Percentage of households possessing various household effects, according to residence [Saudi Arabia, 2019].

POSSESSION	RESIDENCE		
	URBAN	RURAL	TOTAL
Household effects			
Air conditioner	98.6	97.9	98.5
Natural gas	55.1	58.4	55.6
Television (plasma or old model)	98.8	99.1	98.9
Washing machine for clothes	97.2	97.9	97.3
Dishwasher	30.8	35.8	31.5
Vacuum cleaner	93.7	87.4	92.8
Refrigerator	100.0	100.0	100.0
Fixed line telephone	29.5	22.3	28.5
Mobile/cellular telephone	98.2	97.2	98.1
Computer (desktop or laptop)	73.6	66.5	72.6
Internet access at home	82.4	69.3	80.6
Subscriptions to magazines and/or newspapers	6.6	4.9	6.3
Security system (alarm, reinforced doors, guards)	11.3	6.3	10.6
Car	90.6	90.6	90.6
Others			
People employed who are not members of the family (maid, gardener, cook, cleaner, driver) were interviewed	23.0	16.7	22.1
Second home	9.8	8.0	9.5
Number of households	8,027	1,312	9,339

Table 3.3: Household wealth quintiles

Percent distribution of the de jure population by wealth quintile, according to residence and region [Saudi Arabia, 2019].

HOUSEHOLD CHARACTERISTIC	WEALTH QUINTILE					TOTAL	NUMBER OF PERSONS
	LOWEST	SECOND	MIDDLE	FOURTH	HIGHEST		
Region							
Riyadh	10.9	18.5	16.1	20.9	33.6	100.0	7,937
Makkah	20.5	20.9	22.5	19.0	17.0	100.0	10,051
Madinah	46.5	25.0	13.1	10.3	5.1	100.0	2,080
Qasim	8.2	9.8	15.3	36.9	29.8	100.0	1,262
Eastern Province	21.5	18.7	19.9	20.3	19.7	100.0	4,693
Asir	23.7	21.4	20.9	22.8	11.2	100.0	2,478
Tabuk	21.0	22.4	26.4	19.8	10.4	100.0	1,202
Hail	14.8	15.7	14.3	33.1	22.1	100.0	736
Northern Borders	15.8	15.1	26.9	24.3	18.0	100.0	355
Jizan	33.9	33.0	23.9	5.1	4.2	100.0	1,743
Najran	17.9	13.4	18.8	24.1	25.8	100.0	960
Bahah	2.9	25.3	33.6	19.3	18.9	100.0	545
Jawf	22.4	12.2	23.2	26.1	16.1	100.0	860
Residence							
Urban	18.7	19.5	19.5	19.5	22.8	100.0	30,012
Rural	28.2	23.6	22.5	23.3	2.4	100.0	4,891
Total	20.0	20.1	19.9	20.0	20.0	100.0	34,903

Table 3.4: Household population composition

Percent distribution of the de jure population by age, residence, marital status, education, wealth and region, according to sex [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MALE		FEMALE		TOTAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Age						
0-4	1,724	9.9	1,600	9.2	3,324	9.5
5-14	3,561	20.4	3,237	18.6	6,798	19.5
15-29	4,634	26.5	5,739	32.9	10,373	29.7
30-44	4,399	25.2	4,061	23.3	8,461	24.2
45-59	2,174	12.4	2,067	11.9	4,241	12.1
60-69	669	3.8	504	2.9	1,173	3.4
70-79	233	1.3	162	0.9	395	1.1
80+	90	0.5	49	0.3	139	0.4
Total	17,484	100.0	17,418	100.0	34,903	100.0
Residence						
Urban	15,034	86.0	14,978	86.0	30,012	86.0
Rural	2,450	14.0	2,441	14.0	4,891	14.0
Total	17,484	100.0	17,418	100.0	34,903	100.0
Marital Status[1]						
Never married	5,069	38.5	4,831	27.7	9,899	37.1
Currently married	7,769	58.9	7,561	43.4	15,330	57.5
Formerly married	334	2.5	1,090	6.3	1,423	5.3
Do not know[2]	10	0.1	9	0.1	19	0.1
Total	13,181	100.0	13,491	100.0	26,671	100.0
Education[3]						
No formal education	651	4.2	1,124	7.3	1,776	5.8
Less than secondary school	4,908	32.0	4,836	31.3	9,744	31.6
Secondary school	4,962	32.4	5,086	32.9	10,049	32.6
More than secondary school	4,790	31.2	4,384	28.3	9,174	29.8
Do not know[1]	25	0.2	34	0.2	60	0.2
Total	15,337	100.0	15,464	100.0	30,802	100.0
Wealth Quintile						
Lowest	3,643	20.8	3,340	19.2	6,983	20.0
Second	3,544	20.3	3,466	19.9	7,010	20.1
Middle	3,401	19.5	3,548	20.4	6,949	19.9
Fourth	3,458	19.8	3,525	20.2	6,984	20.0
Highest	3,437	19.7	3,540	20.3	6,977	20.0
Total	17,484	100.0	17,418	100.0	34,903	100.0
Region						
Riyadh	4,142	23.7	3,796	21.8	7,937	22.7
Makkah	4,822	27.6	5,229	30.0	10,051	28.8
Madinah	1,103	6.3	977	5.6	2,080	6.0
Qasim	675	3.9	587	3.4	1,262	3.6
Eastern Province	2,262	12.9	2,431	14.0	4,693	13.4
Asir	1,335	7.6	1,143	6.6	2,478	7.1
Tabuk	600	3.4	603	3.5	1,202	3.4
Hail	382	2.2	354	2.0	736	2.1
Northern Borders	181	1.0	173	1.0	355	1.0
Jizan	798	4.6	944	5.4	1,743	5.0
Najran	477	2.7	482	2.8	960	2.7
Bahah	271	1.5	274	1.6	545	1.6
Jawf	436	2.5	425	2.4	860	2.5
Total	17,484	100.0	17,418	100.0	34,903	100.0

1 Total less than 34,903 because data for marital status was not collected for household members less than 12 years old

2 The informant of the questionnaire used to collect data is a household member who answers on behalf of all the members who usually live in that household, so a small percentage have answered "Do not know"

3 Total less than 34,903 because data for education was not collected for household members less than 6 years old

Table 3.5: Household population age structure

Percent distribution of the de jure household population by 5-year age groups, according to sex [Saudi Arabia, 2019].

AGE	MALE	FEMALE	TOTAL
<5	1,724	1,600	3,324
5-9	1,876	1,728	3,604
10-14	1,684	1,509	3,194
15-19	1,392	1,538	2,930
20-24	1,473	2,088	3,561
25-29	1,769	2,113	3,882
30-34	1,783	1,837	3,621
35-39	1,572	1,285	2,857
40-44	1,044	939	1,983
45-49	860	862	1,723
50-54	702	690	1,393
55-59	611	514	1,125
60-64	438	297	736
65-69	230	206	437
70-74	139	87	226
75-79	94	75	169
80-84	49	30	79
85+	41	19	60
Total	17,484	17,418	34,903

Table 3.6: Educational attainment

Percent distribution of the de jure population age 6 and older by highest level of schooling and median years completed, according to age, sex, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	NO FORMAL SCHOOLING (CANNOT READ AND WRITE)	NO FORMAL SCHOOLING (CAN READ AND WRITE)	LESS THAN PRIMARY SCHOOL	PRIMARY SCHOOL	INTERMEDIATE SCHOOL	SECONDARY SCHOOL (OR EQUIVALENT)	PROFESSIONAL FORMATION (TECHNICAL/ VOCATIONAL TRAINING)	COLLEGE/ UNIVERSITY	MASTERS/ HIGH DIPLOMA	DOCTORATE	DON'T KNOW1	TOTAL	NUMBER OF RESPONDENTS	MEDIAN YEARS OF SCHOOLING	NUMBER OF RESPONDENTS
Age															
6-14	3.7	57.7	29.0	5.4	0.0	0.0	0.0	0.0	0.0	0.5	100.0	6,020	4.0	5,549	5,549
15-29	0.2	0.3	1.8	14.6	44.7	2.8	34.0	1.3	0.0	0.1	100.0	10,373	12.0	10,324	10,324
30-44	0.8	0.8	3.5	6.9	33.8	5.4	43.2	3.5	0.7	0.2	100.0	8,461	15.0	8,288	8,288
45-59	3.9	2.6	10.4	12.1	31.7	3.7	24.6	2.6	1.3	0.1	100.0	4,241	12.0	3,778	3,778
60-69	6.7	5.4	12.4	10.5	19.0	3.2	17.8	2.2	2.4	0.2	100.0	1,173	12.0	857	857
70-79	12.0	7.8	13.0	7.7	9.9	1.1	6.4	1.5	0.7	0.0	100.0	395	9.0	191	191
80+	19.9	4.6	10.2	6.4	4.3	0.0	0.0	0.0	0.0	0.0	100.0	139	6.0	39	39
Sex															
Male	2.5	1.8	12.8	9.2	10.0	27.9	4.4	28.2	2.4	0.6	0.2	100.0	15,337	12.0	14,691
Female	4.9	2.3	11.7	9.5	10.1	31.2	1.7	26.7	1.3	0.3	0.2	100.0	15,464	12.0	14,334
Residence															
Urban	3.3	1.9	11.9	9.3	10.0	30.1	3.2	27.7	1.9	0.5	0.2	100.0	26,555	12.0	25,154
Rural	6.0	2.8	14.6	9.6	10.1	26.6	2.4	26.1	1.5	0.1	0.2	100.0	4,247	12.0	3,872
Marital Status															
Never married	0.8	0.3	1.4	16.3	18.0	36.3	2.4	23.5	1.1	0.0	0.1	100.0	9,899	12.0	9,801
Currently married	4.0	1.9	1.5	5.5	7.6	34.1	4.4	37.5	2.6	0.8	0.1	100.0	15,330	14.0	14,427
Formerly married	15.3	6.2	3.5	10.0	10.5	20.2	2.4	26.5	3.9	1.2	0.4	100.0	1,423	12.0	1,123
Do not know[1]	19.1	0.9	0.0	19.8	0.7	15.9	3.3	39.3	0.0	0.0	1.1	100.0	19	15.0	15
Not applicable[2]	5.6	5.3	81.6	6.7	0.1	0.0	0.0	0.0	0.0	0.0	0.6	100.0	4,130	3.0	3,659
Wealth Quintile															
Lowest	5.7	2.9	13.7	10.6	11.1	30.1	2.7	21.6	1.1	0.2	0.3	100.0	5,923	12.0	5,417
Second	3.8	2.0	13.4	8.2	8.7	28.8	3.1	29.3	2.1	0.3	0.3	100.0	5,936	12.0	5,594
Middle	3.4	1.9	13.4	9.4	9.6	29.6	3.0	27.8	1.5	0.4	0.1	100.0	6,117	12.0	5,794
Fourth	3.6	1.9	12.4	9.4	10.9	29.1	3.0	26.9	2.1	0.5	0.1	100.0	6,273	12.0	5,923
Highest	2.2	1.7	8.8	9.0	9.8	30.2	3.4	31.3	2.4	1.0	0.2	100.0	6,552	12.0	6,297
Region															
Riyadh	2.6	2.1	10.9	7.8	8.2	26.2	3.6	34.5	3.1	0.8	0.1	100.0	7,027	12.0	6,689
Makkah	1.6	1.5	9.9	8.2	9.0	33.5	1.5	32.0	1.8	0.6	0.3	100.0	9,079	12.0	8,799
Madinah	5.3	3.1	15.1	12.5	11.8	24.5	1.8	23.8	1.5	0.6	0.1	100.0	1,824	12.0	1,680
Qasim	6.4	2.1	10.1	10.4	10.9	26.0	4.4	27.9	1.3	0.0	0.5	100.0	1,145	12.0	1,048
Eastern Province	4.4	1.7	13.6	9.7	12.0	36.3	4.1	16.0	1.5	0.2	0.4	100.0	4,042	12.0	3,790
Asir	6.3	3.9	12.5	11.1	10.5	26.8	3.8	23.3	1.7	0.2	0.0	100.0	2,191	12.0	1,969
Tabuk	4.2	2.4	15.2	9.2	14.8	27.5	1.9	24.4	0.4	0.0	0.1	100.0	1,055	12.0	985
Hail	4.9	2.0	15.8	10.4	8.2	22.7	6.4	28.3	0.5	0.4	0.4	100.0	618	12.0	573
Northern Borders	8.4	1.6	17.0	9.0	11.7	26.8	1.2	22.1	1.5	0.6	0.1	100.0	309	12.0	278
Jizan	5.5	0.9	16.6	10.6	9.8	25.7	3.1	25.8	2.0	0.1	0.0	100.0	1,481	12.0	1,385
Najran	5.2	2.0	19.1	13.3	13.4	26.6	8.3	11.3	0.5	0.2	0.1	100.0	822	12.0	763
Bahah	15.8	3.7	11.6	9.1	11.2	22.1	0.2	25.7	0.4	0.1	0.0	100.0	471	12.0	379
Jawf	4.0	2.8	18.3	12.4	12.6	27.7	5.6	15.8	0.8	0.1	0.0	100.0	738	12.0	687
Total	3.7	2.1	12.3	9.3	10.0	29.6	3.0	27.5	1.8	0.5	0.2	100.0	30,802	12.0	29,025

1 The informant of the questionnaire used to collect data is a household member who answers on behalf of all the members who usually live in that household, so a small percentage have answered "Do not know"

2 Not applicable to household members less than 12 years old

4. CHARACTERISTICS OF RESPONDENTS

KEY FINDINGS

- **Marital status:** 12% of females are formerly married compared to only 4% of males.
- **Education**: 33% of males and 35% of females have attended secondary school and 38% of males and 37% of females have attended university.
- **Employment**: 75% of males and 23% of females are currently employed while 13% of males and 57% of females have never been employed.
- **Occupation**: The majority of Saudi respondents (68%) work in the government sector, while the majority of non-Saudi respondents (70%) work in the private sector.
- **Computer and internet use**: 31% and 17% of the respondents had never used a computer and the Internet, respectively, in the past 3 months.

This chapter summarises the demographic and socioeconomic characteristics of the survey respondents. These include sex, age, nationality, residence, marital status, education, wealth, region, employment, and occupation. In addition, the survey collected information on computer and Internet use. It is worth noting that, the employment indicators were calculated for all individual respondents aged 15+.

4.1 BACKGROUND CHARACTERISTICS

Table 4.1 presents the background charactersitics of the respondents stratified by sex. The male and female populations have similar age distributions. The majority of the respondents are in the age groups 15-29 (34% for males and 42% for females) and 30-44 (46% for males and 38% for females).

The largest percentage of respondents are Saudi, where non-Saudis represent only 16%. Among males, 28.6% have never married, 67.6% are currently married, and 3.8% formerly married. Among females, 21.5% have never married, 66.5% are currently married, and 11.9% formerly married.

Table 4.1 also shows that, in general, wealth is equally distributed between males and females, except in the lowest quintile, with 28% of males compared to 21% of females.

4.2 EDUCATION

Table 4.2 and Figure 4.1 present the percent distribution of survey respondents by level of education. 33% of males and 35% of females have attended secondary school, and 38% of males and 37% of females have attended university. In general, more males have attended technical and vocational training than females (7% compared to 3%). More female respondents than male have no formal schooling. The median years of education completed is 14 for males and 12 for females.

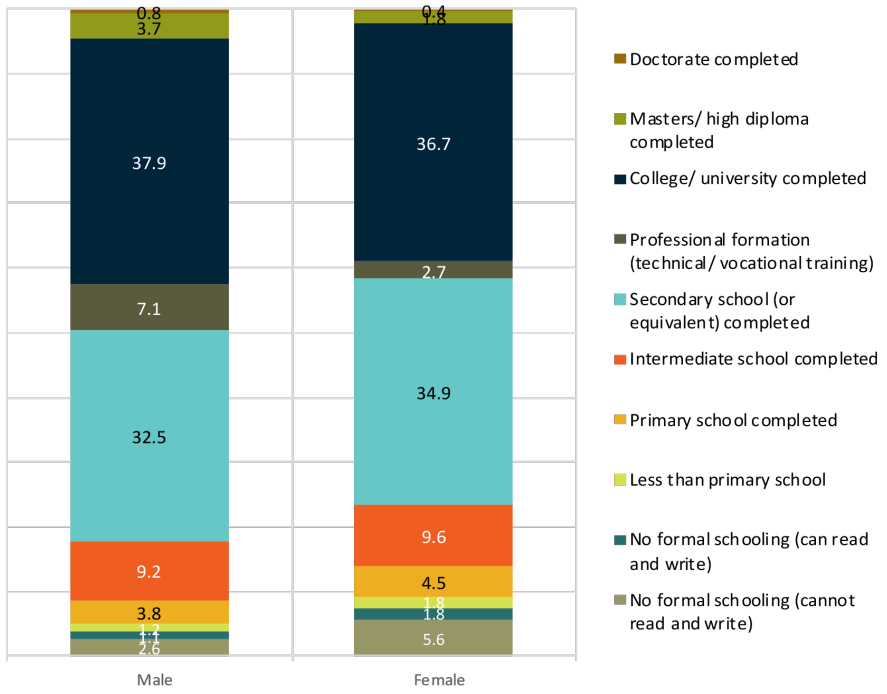


Figure 4.1: Education of survey respondents

Percentage distribution of males and females by highest level of schooling

PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of those who have attended a university or a higher educational level is greater in respondents less than 44 years of age. The majority of the respondents in the older age group (>45 years old) have a secondary school education or less.
- Non-Saudi respondents (5%) have higher levels of education (masters and doctorate) compared to Saudi respondents (3%).
- Urban and rural residents have similar educational attainment percentages for secondary school or higher. However, no formal education is higher in rural residents (11%) compared to urban residents (5%).
- University attendance is highest among currently married (40%) followed by never married (33%), and then formerly married (30%) respondents.
- By region, the percentage of respondents who have attended university or higher is highest in Riyadh (52%), Makkah (49%), and Hail (42%) and lowest in the Eastern Province (26%), Jawf (22%), and Najran (18%).

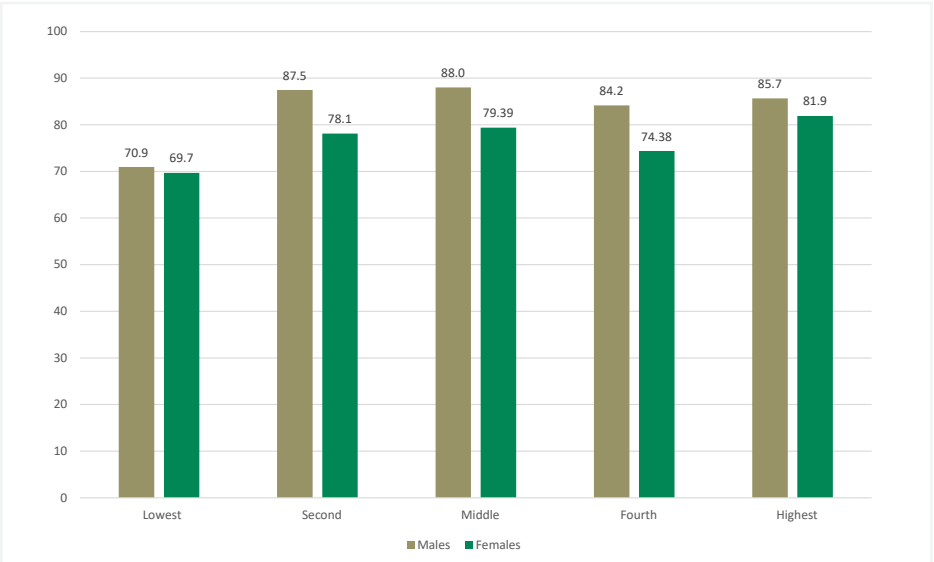


Figure 4.2: Education by household wealth

Percentage of males and females who have attended secondary school (or equivalent) or higher by wealth quintile

4.3 EMPLOYMENT

Table 4.3 shows the employment status of the respondents stratified by sex. A higher percentage of males are currently employed (75%) compared to females (23%). In addition, a higher percentage of females have never been employed (57%) compared to males (13%). Current employment is much higher among males than females in all age groups. It increases with age and peaks at 30-44 (92% males and 35% females).

PATTERNS BY BACKGROUND CHARACTERISTICS

- 73% of Saudi male respondents are currently employed, compared to 87% of non-Saudi male respondents. The percentage of Saudi male respondents who are not currently employed or have never been employed is double that of non-Saudi male respondents. However, the distribution of employment status between Saudi and non-Saudi females is similar.
- Urban and rural residents have similar distribution of employment status.
- The percentage of current employment is highest in currently married male respondents (85%) and formerly married "(i.e. separated, divorced or widowed)" female respondents (37%). On the other hand, never been employed is highest in never married male (34%) and female (61%) respondents.
- Respondents with an education higher than secondary school have the highest percentage of current employment for males (87%) and females (43%). **Figure 4.3** displays employment status by education.
- Current employment in males decreases as household wealth increases, from 81% in the lowest quintile to 62% in the highest quintile. However, the opposite trend is observed in females where current employment increases with increased household wealth, rising from 17% in the lowest quintile to 30% in the highest quintile.
- The percentage of currently employed respondents is lowest in Bahah region, at 53% for males and 11% for females. The highest percentage of currently employed males is in Tabuk (85.7%), while the highest percentage of currently employed females is in Qasim (33.2%).

Table 4.4 shows that the majority of respondents work in the government (58%), followed by the private sector (32%). Respondents are less likely to be self-employed (7%) and in informal employment (3%). A shift in the type of employment occurs as age increases, where there is a trend towards self-employment and informal employment in older individuals compared to younger. The distribution of type of employment is comparable among males and females.

PATTERNS BY BACKGROUND CHARACTERISTICS

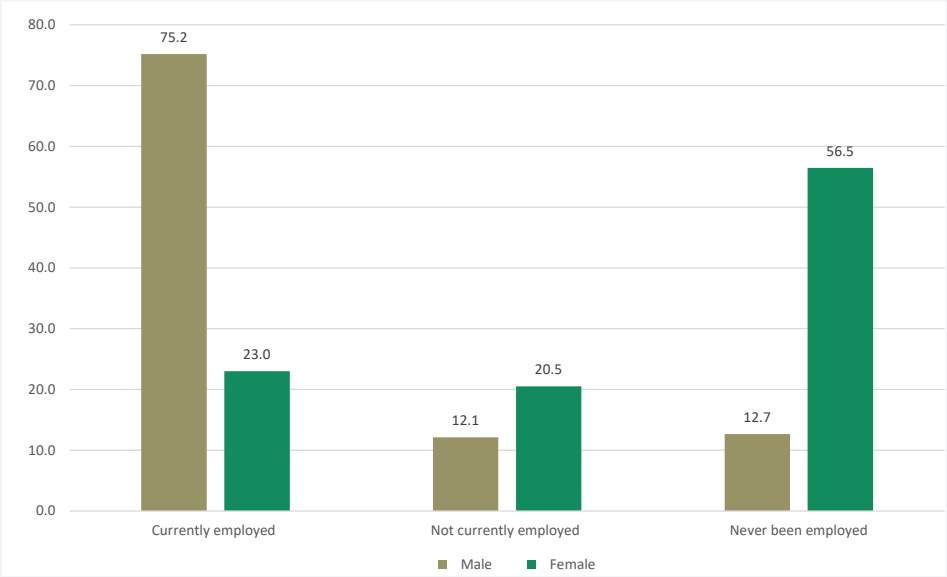


Figure 4.3: Employment status by sex

Percent distribution of males and females by employment status

- 68% of Saudi respondents work in the government sector compared to 8% of non-Saudi respondents.
- Employment in the government sector is greater amongst rural residents (72%) than urban residents (56%).
- The percentage of currently married respondents (64%) who are employed in governmental sectors is higher than formerly (51%) or never married (39%) respondents.
- Respondents with no education or e less than secondary school education are more likely to be self-employed or have informal employment compared to those with a secondary school education or greater.
- By region, respondents in Najran (16%) and Asir (11%) have the highest percentages of self-employment, where respondents in Madinah (15%) and Tabuk (11%) have the highest percentages of informal employment.

4.4 OCCUPATION

Table 4.5 shows the distribution of respondents employed in the last 12 months preceding the survey, by type of occupation. The majority of respondents work as 'specialists in scientific, technical and humanity subjects' (11%), 'armed forces/military' (10%), and 'services' (10%). Respondents are less likely to work in 'agriculture, hunting and animal husbandry' (1%) and 'industrial/ chemical processes and food industries' (0.7%). To a great extent, those older than 60 years of age are working in 'agriculture, hunting and animal husbandry' (54%) or are 'managers and business managers' (33%).

The distribution of occupation by sex follows a similar pattern except in basic 'engineering professions' (7% vs. 1.3%, respectively) and 'armed forces/military'[3] (13% vs. 0.3%, respectively).

PATTERNS BY BACKGROUND CHARACTERISTICS

- In general, a higher percentage of Saudi respondents work in the 'armed forces/military' (13%) or as 'specialists in scientific, technical and humanity subjects' (12%) compared to non-Saudi respondents, who tend to work in 'sales' (19%) and 'services' (18%).
- The distribution of urban and rural residents by occupation is similar.
- The following occupations: 'specialists in scientific, technical and humanity subjects', 'managers and business managers', and 'basic engineering professions', were most common in those with a secondary degree education or more, whereas 'sales' and 'agriculture, hunting and animal husbandry' were most common in those with no education.
- The percentage of respondents working as 'managers and business managers' increases with increasing household wealth, whereas working in 'services' and 'armed/forces military' decreases with increasing household wealth.

4.5 COMPUTER AND INTERNET USE

COMPUTER USE

Respondents were asked to report their frequency of computer use.

INTERNET USE

Respondents were asked to report their frequency of Internet use.

Table 4.6 summarises the usage of computer and internet use in the last 3 months by background characteristics. On average, daily computer usage is 37% (**Figure 4.4**), while daily internet usage is 67%. Computer and internet usage decreases with increasing age. More males than females use computers and the Internet daily.

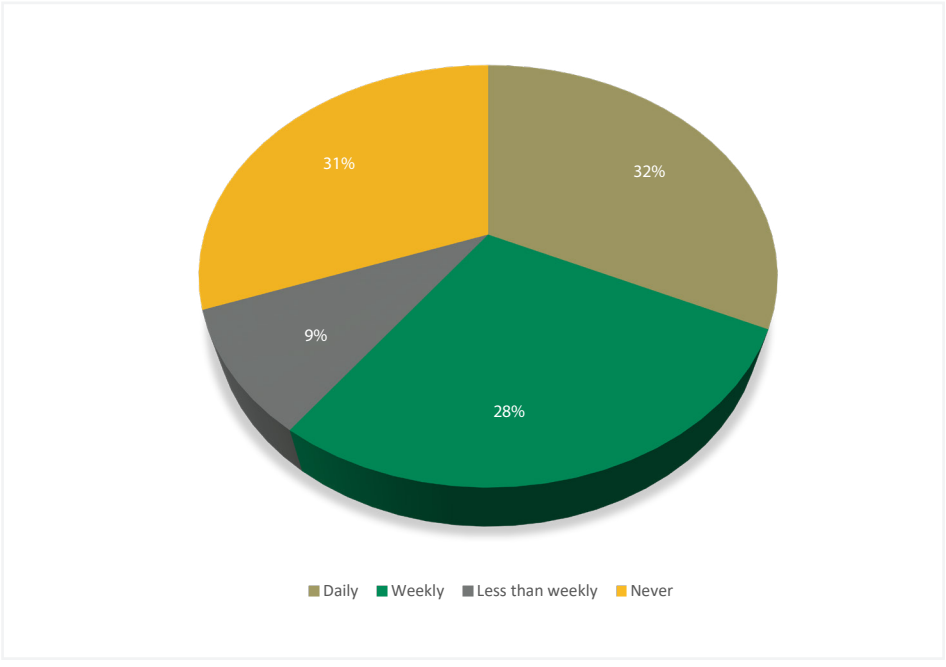


Figure 4.4: Computer use
Percentage distribution of frequency of computer

3 This category includes informal military men

PATTERNS BY BACKGROUND CHARACTERISTICS

- A larger percentage of non-Saudis report never using a computer (41.7%) compared to Saudis (29%). Similarly, 24% of non-Saudis report never using the Internet in comparison to 16% of Saudis.

- Rural residents are more likely to report never using a computer (36%) compared to urban residents (30%). They are also more likely to report never using the Internet (22%) compared to their urban counterparts (16%).
- Never married respondents have the highest daily use of computers and internet (38% and 76%, respectively), followed by currently married (30% and 66%, respectively), and formerly married (29% and 51%, respectively).
- Computer and Internet usage increases with increasing education, varying from 5% and 18%, respectively, in respondents with no education to 88% and 94%, respectively, in respondents with more than secondary education.
- The region with the lowest computer and internet use is the Northern Borders (47% and 66%, respectively).

LIST OF TABLES

For more information on the characteristics of survey respondents, see the following tables:

- **Table 4.1**: Background characteristics of respondents
- **Table 4.2**: Educational attainment
- **Table 4.3**: Employment status
- **Table 4.4**: Type of employment
- **Table 4.5**: Occupation
- **Table 4.6**: Computer and Internet use

Table 4.1: Background characteristics of respondents

Percentage distribution of respondents by sex according to age, nationality, residence, marital status, education, wealth and region[Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MALE RESPONDENTS			FEMALE RESPONDENTS		
	WEIGHTED PERCENT	WEIGHTED NUMBER	UNWEIGHTED NUMBER	WEIGHTED PERCENT	WEIGHTED NUMBER	UNWEIGHTED NUMBER
Age						
15-29	33.5	1,571	1,496	42.2	1,781	1,716
30-44	46.1	2,164	2,271	37.7	1,590	1,589
45-59	14.4	677	697	13.7	578	565
60-69	3.8	180	170	4.3	181	192
70-79	1.4	66	81	1.6	68	73
80+	0.7	33	42	0.4	17	20
Nationality						
Saudi	83.8	3,935	3,988	91.1	3,841	3,853
Non-Saudi	16.2	758	769	8.9	376	302
Residence						
Urban	85.6	4,019	3,956	86.9	3,666	3,473
Rural	14.4	674	801	13.1	551	682
Marital Status						
Never married	28.6	1,341	1,250	21.5	908	786
Currently married	67.6	3,174	3,342	66.5	2,806	2,925
Formerly married	3.8	177	165	11.9	502	444
Education						
No formal education	3.7	175	228	7.4	314	360
Less than secondary school	14.1	663	713	16.0	673	731
Secondary school	39.7	1,861	1,973	37.6	1,587	1,569
More than secondary school	42.4	1,992	1,843	38.9	1,642	1,495
Wealth Quintile						
Lowest	27.6	1,297	1,360	20.6	871	819
Second	20.3	952	963	22.9	965	919
Middle	18.2	855	844	19.9	838	862
Fourth	17.4	817	882	19.2	808	860
Highest	16.4	771	708	17.4	733	695
Region						
Riyadh	28.2	1,322	914	24.3	1,023	707
Makkah	22.9	1,077	641	28.0	1,180	710
Madinah	8.2	384	372	6.6	279	250
Qasim	4.3	201	224	3.8	162	157
Eastern Province	11.6	545	516	14.3	603	572
Asir	8.1	379	360	6.3	265	238
Tabuk	3.5	166	302	3.2	134	242
Hail	2.2	104	245	1.8	74	168
Northern Borders	1.0	46	256	0.9	40	206
Jizan	4.3	201	242	4.9	208	267
Najran	2.2	101	217	2.2	92	188
Bahah	1.6	73	215	1.9	80	241
Jawf	1.9	90	253	1.8	74	209
Total	100.0	4,693	4,757	100.0	4,218	4,155

Table 4.2: Educational attainment

Percent distribution of respondents by highest level of education attended and median years completed, according to age, sex, nationality, residence, marital status, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	NO FORMAL SCHOOLING (CANNOT READ AND WRITE)	NO FORMAL SCHOOLING (CAN READ AND WRITE)	LESS THAN PRIMARY SCHOOL	PRIMARY SCHOOL COMPLETED	INTERMEDIATE SCHOOL COMPLETED	SECONDARY SCHOOL (OR EQUIVALENT) COMPLETED	PROFESSIONAL FORMATION (TECHNICAL/ VOCATIONAL TRAINING)	COLLEGE/ UNIVERSITY COMPLETED	MASTERS/ HIGH DIPLOMA COMPLETED	DOCTORATE COMPLETED	MEDIAN YEARS OF SCHOOLING	TOTAL	NUMBER OF RESPONDENTS
Age													
15-29	0.5	0.2	0.5	1.6	11.4	41.1	3.6	39.2	1.9	0.0	14.0	100	3,353
30-44	1.1	0.9	1.1	3.2	6.6	32.0	7.2	43.7	3.5	0.7	15.0	100	3,755
45-59	9.3	3.6	3.3	11.7	11.9	27.9	3.5	24.1	3.1	1.6	12.0	100	1,256
60-69	26.5	7.5	3.9	9.7	11.9	13.0	4.1	18.5	3.1	1.8	12.0	100	362
70-79	42.3	6.1	10.8	8.2	9.4	13.6	0.3	6.6	1.3	1.4	9.0	100	135
80+	58.2	17.1	9.6	5.2	5.5	4.4	0.0	0.0	0.0	0.0	6.0	100	52
Sex													
Male	2.6	1.1	1.2	3.8	9.2	32.5	7.1	37.9	3.7	0.8	14.0	100	4,694
Female	5.6	1.8	1.8	4.5	9.6	34.9	2.7	36.7	1.8	0.4	12.0	100	4,218
Nationality													
Saudi	3.9	1.2	1.3	3.6	8.8	34.8	5.2	38.0	2.7	0.5	14.0	100	7,777
Non-Saudi	4.7	3.6	2.8	7.9	13.1	26.0	4.0	33.0	3.6	1.2	14.0	100	1,135
Residence													
Urban	3.5	1.2	1.5	4.2	9.5	33.6	5.2	37.9	2.8	0.7	14.0	100	7,687
Rural	7.5	3.2	1.8	3.8	8.4	34.0	4.4	33.8	3.1	0.1	13.0	100	1,225
Marital Status													
Never married	1.3	0.6	0.7	1.9	15.3	40.6	3.9	33.3	2.4	0.0	12.0	100	2,250
Currently married	3.6	1.5	1.5	4.5	7.1	32.6	5.7	39.7	2.9	0.8	14.0	100	5,982
Formerly married	16.3	4.3	4.7	7.8	9.7	19.7	3.2	30.2	3.0	1.0	14.0	100	680
Wealth Quintile													
Lowest	6.3	2.9	2.5	6.3	11.6	35.2	4.7	29.1	1.3	0.1	12.0	100	2,169
Second	4.2	0.7	1.4	3.1	7.8	32.4	5.0	41.7	3.3	0.3	15.0	100	1,918
Middle	3.4	1.2	1.2	2.8	7.7	35.2	5.6	39.7	2.6	0.7	14.0	100	1,694
Fourth	3.2	1.5	1.3	4.3	10.4	31.6	5.1	37.7	3.8	1.0	15.0	100	1,626
Highest	2.1	0.7	0.8	3.5	9.1	33.5	4.9	40.7	3.5	1.2	15.0	100	1,505
Region													
19.9	4.6	10.2	6.4	4.3	5.9	30.5	5.6	46.1	4.7	1.0	16.0	100.0	2,345
Makkah	1.4	0.7	0.8	2.8	8.2	35.0	2.0	45.6	2.7	0.8	16.0	100.0	2,257
Madinah	7.8	4.5	4.3	6.3	15.2	27.1	2.6	30.0	1.8	0.5	13.0	100.0	664
Qasim	7.5	2.9	3.1	6.6	8.6	30.1	8.5	31.7	1.1	0.0	14.0	100.0	364
Eastern Province	4.2	0.8	1.4	5.3	12.8	42.7	7.3	22.7	2.5	0.3	12.0	100.0	1,149
Asir	9.4	3.2	1.9	6.1	7.6	32.1	6.2	30.8	2.3	0.3	12.0	100.0	644
Tabuk	2.2	2.3	1.1	2.7	14.5	38.2	3.8	35.1	0.2	0.0	12.0	100.0	300
Hail	1.3	4.4	0.5	3.4	10.9	28.6	8.7	40.9	0.5	0.7	14.0	100.0	179
Northern Borders	8.6	1.0	3.1	3.2	14.9	33.2	3.4	29.7	2.0	0.9	12.0	100.0	87
Jizan	7.4	0.6	2.0	6.0	10.0	33.6	6.7	31.3	2.5	0.1	12.0	100.0	410
Najran	7.2	0.8	1.2	5.9	15.5	39.3	12.3	16.1	1.3	0.4	12.0	100.0	194
Bahah	20.0	3.4	3.7	3.9	10.5	24.6	2.1	30.8	0.8	0.0	12.0	100.0	153
Jawf	4.2	3.6	1.9	7.0	13.8	36.5	10.6	21.2	1.2	0.0	12.0	100.0	165
Total	4.0	1.5	1.5	4.1	9.4	33.7	5.0	37.4	2.8	0.6	14.0	100.0	8,912

Table 4.3: Employment status

Percent distribution of respondents by employment status, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MALE RESPONDENTS					FEMALE RESPONDENTS				
	CURRENTLY EMPLOYED	NOT CURRENTLY EMPLOYED	NEVER BEEN EMPLOYED	TOTAL	NUMBER OF RESPONDENTS	CURRENTLY EMPLOYED	NOT CURRENTLY EMPLOYED	NEVER BEEN EMPLOYED	TOTAL	NUMBER OF RESPONDENTS
Age										
15-29	60.1	11.5	28.5	100.0	1,571	17.1	19.9	63.0	100.0	1,782
30-44	91.6	4.4	4.0	100.0	2,165	34.6	19.3	46.1	100.0	1,590
45-59	76.8	18.2	5.0	100.0	678	18.4	23.6	58.0	100.0	578
60-69	35.7	58.0	6.3	100.0	180	4.7	28.3	66.9	100.0	181
70-79	24.1	63.3	12.6	100.0	66	2.6	19.1	78.3	100.0	69
80+	7.8	73.4	18.8	100.0	34	0.0	16.3	83.7	100.0	18
Nationality										
Saudi	72.9	13.3	13.8	100.0	3,935	22.9	19.8	57.3	100.0	3,842
Non-Saudi	87.1	6.0	6.9	100.0	759	24.1	27.7	48.2	100.0	376
Residence										
Urban	75.2	11.6	13.1	100.0	4,020	23.6	19.8	56.6	100.0	3,667
Rural	75.0	15.2	9.9	100.0	674	19.0	25.3	55.7	100.0	551
Marital Status										
Never married	52.0	14.0	34.1	100.0	1,342	18.1	21.2	60.7	100.0	908
Currently married	85.2	10.8	4.1	100.0	3,175	22.2	20.1	57.7	100.0	2,807
Formerly married	72.4	22.6	5.0	100.0	177	36.6	21.4	42.0	100.0	503
Education										
No formal education	53.9	31.9	14.1	100.0	175	3.6	24.4	72.0	100.0	314
Less than secondary school	51.8	21.9	26.3	100.0	664	6.6	23.8	69.6	100.0	674
Secondary school	73.2	12.5	14.3	100.0	1,862	13.2	18.5	68.3	100.0	1,587
More than secondary school	86.7	6.8	6.4	100.0	1,993	43.0	20.4	36.7	100.0	1,642
Wealth Quintile										
Lowest	81.1	8.1	10.9	100.0	1,297	17.0	17.6	65.4	100.0	872
Second	79.7	10.4	9.8	100.0	953	22.4	19.3	58.3	100.0	965
Middle	75.8	12.0	12.3	100.0	856	24.7	20.3	54.9	100.0	839
Fourth	72.2	13.6	14.2	100.0	818	22.4	21.2	56.4	100.0	809
Highest	62.3	19.7	18.0	100.0	771	29.6	25.1	45.3	100.0	733
Region										
Riyadh	82.6	9.0	8.4	100.0	1,322	27.7	26.3	46.0	100.0	1,023
Makkah	66.1	13.1	20.8	100.0	1,077	20.5	18.1	61.4	100.0	1,180
Madinah	73.5	11.8	14.7	100.0	385	24.4	16.2	59.4	100.0	279
Qasim	74.4	13.8	11.7	100.0	201	33.2	30.9	35.9	100.0	162
Eastern Province	76.8	12.1	11.1	100.0	546	21.9	10.5	67.6	100.0	603
Asir	77.4	14.7	7.9	100.0	379	18.0	26.4	55.6	100.0	265
Tabuk	85.7	5.7	8.6	100.0	166	27.8	14.8	57.4	100.0	134
Hail	78.0	12.7	9.2	100.0	104	13.7	18.3	68.1	100.0	74
Northern Borders	66.0	13.4	20.6	100.0	47	15.2	23.6	61.2	100.0	41
Jizan	74.0	19.0	7.0	100.0	201	27.2	38.3	34.4	100.0	209
Najran	62.4	11.9	25.8	100.0	101	11.9	20.9	67.2	100.0	92
Bahah	53.3	36.0	10.7	100.0	73	11.4	6.9	81.7	100.0	80
Jawf	82.7	8.2	9.1	100.0	91	18.3	8.0	73.7	100.0	74
Total	75.2	12.1	12.7	100.0	4,694	23.0	20.5	56.5	100.0	4,218

Table 4.4: Type of current employment

Percentage distribution of respondents by type of current employment, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	GOVERNMENTAL SECTOR	PRIVATE SECTOR	SELF EMPLOYED	INFORMAL EMPLOYMENT	TOTAL	NUMBER OF RESPONDENTS
Age						
15-29	45.9	45.1	4.9	4.1	100.0	1,248
30-44	64.4	27.4	5.9	2.3	100.0	2,533
45-59	59.0	26.2	10.2	4.7	100.0	627
60-69	46.0	14.9	31.1	8.0	100.0	73
70-79	38.9	9.8	38.5	12.8	100.0	18
80+	0.0	0.0	45.8	54.2	100.0	3
Sex						
Male	57.2	32.9	7.2	2.7	100.0	3,530
Female	61.3	28.1	5.1	5.5	100.0	971
Nationality						
Saudi	68.1	24.1	5.7	2.1	100.0	3,749
Non-Saudi	8.1	70.3	12.4	9.2	100.0	752
Residence						
Urban	56.0	33.6	7.0	3.5	100.0	3,890
Rural	71.5	21.0	5.6	2.0	100.0	610
Marital Status						
Never married	38.7	50.4	5.7	5.2	100.0	862
Currently married	63.8	26.5	6.9	2.9	100.0	3,327
Formerly married	50.7	37.8	9.2	2.3	100.0	312
Education						
No formal education	17.1	32.9	25.1	24.9	100.0	106
Less than secondary school	32.4	39.0	17.8	10.7	100.0	388
Secondary school	61.2	27.0	8.8	2.9	100.0	1,572
More than secondary school	61.9	33.8	2.9	1.3	100.0	2,434
Wealth Quintile						
Lowest	44.2	40.5	8.3	7.0	100.0	1,200
Second	60.9	32.3	4.4	2.4	100.0	976
Middle	67.6	23.5	7.1	1.7	100.0	855
Fourth	64.9	27.2	6.4	1.5	100.0	772
Highest	58.9	31.8	7.5	1.8	100.0	698
Region						
Riyadh	51.3	42.1	5.4	1.3	100.0	1,376
Makkah	53.5	38.6	6.0	1.9	100.0	953
Madinah	33.8	43.2	8.3	14.7	100.0	351
Qasim	78.2	11.8	4.5	5.5	100.0	204
Eastern Province	63.8	26.8	8.3	1.1	100.0	551
Asir	65.0	19.9	10.9	4.1	100.0	341
Tabuk	81.4	5.3	2.8	10.5	100.0	180
Hail	79.6	12.9	6.0	1.4	100.0	91
Northern Borders	68.3	20.1	7.7	4.0	100.0	37
Jizan	80.4	12.4	7.1	0.1	100.0	206
Najran	68.3	14.8	15.7	1.3	100.0	74
Bahah	82.0	12.4	4.3	1.4	100.0	48
Jawf	54.2	27.3	13.1	5.5	100.0	89
Total	58.1	31.9	6.8	3.3	100.0	4,501

Table 4.5: Occupation

Percent distribution of respondents employed in the last 12 month preceding the survey by occupation, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MANAGERS AND BUSINESS MANAGERS	SPECIALISTS IN SCIENTIFIC, TECHNICAL AND HUMANITY SUBJECTS	TECHNICIANS IN SCIENTIFIC, TECHNICAL AND HUMANITY SUBJECTS	CLERICAL	BASIC ENGINEERING PROFESSIONS	SALES	SERVICES	AGRICULTURE, HUNTING AND ANIMAL HUSBANDRY	INDUSTRIAL/ CHEMICAL PROCESSES AND FOOD INDUSTRIES	ARMED FORCES/ MILITARY[1]	OTHER	TOTAL	NUMBER OF RESPONDENTS
Age													
15-29	3.5	13.3	5.0	6.8	10.1	11.1	9.6	0.4	0.5	8.5	31.2	100.0	1,248
30-44	9.2	10.3	6.4	8.8	4.1	6.5	9.3	0.9	0.8	11.5	32.1	100.0	2,533
45-59	11.5	9.8	4.1	7.4	3.8	8.5	10.2	1.3	0.7	10.4	32.3	100.0	627
60-69	14.0	11.1	2.5	7.2	1.1	10.0	9.3	7.4	0.0	2.4	35.0	100.0	73
70-79	19.2	0.0	0.0	6.6	3.1	1.1	13.8	30.7	0.0	15.2	10.4	100.0	18
80+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.8	0.0	0.0	84.2	100.0	3
Sex													
Male	8.3	9.9	5.3	8.0	6.9	8.3	9.7	1.2	0.7	13.2	28.5	100.0	3,530
Female	7.5	14.9	6.9	8.0	1.3	7.0	8.9	0.4	0.7	0.3	44.1	100.0	971
Nationality													
Saudi	9.2	11.6	6.0	9.0	5.1	5.9	7.7	0.8	0.7	12.5	31.4	100.0	3,749
Non-Saudi	2.5	7.8	3.9	3.1	8.4	19.0	18.4	2.1	0.6	0.0	34.0	100.0	752
Residence													
Urban	8.0	10.1	5.3	7.8	5.9	8.8	9.0	1.0	0.8	10.3	33.0	100.0	3,890
Rural	8.3	16.8	7.4	9.6	4.5	3.5	12.9	1.3	0.4	10.8	24.6	100.0	610
Marital Status													
Never married	4.5	11.5	4.8	8.7	7.7	14.5	9.5	0.8	0.8	7.4	29.7	100.0	862
Currently married	8.4	10.5	5.9	7.7	5.1	6.4	9.7	1.1	0.6	11.4	33.1	100.0	3,327
Formerly married	14.5	14.7	4.8	9.6	6.2	7.9	7.2	1.5	1.4	7.4	25.0	100.0	312
Education													
No formal education	0.0	2.6	0.0	0.3	2.5	19.9	19.9	9.3	0.0	7.6	38.0	100.0	106
Less than secondary school	2.8	0.8	3.0	5.3	0.7	16.4	22.2	3.1	0.2	11.6	34.0	100.0	388
Secondary school	7.1	2.7	6.9	10.6	1.3	10.9	10.1	0.7	1.0	20.2	28.5	100.0	1,572
More than secondary school	9.9	18.3	5.4	7.1	9.5	4.4	6.7	0.6	0.6	4.0	33.4	100.0	2,434
Wealth Quintile													
Lowest	4.2	3.7	4.5	6.8	4.0	13.0	15.2	1.9	0.4	11.3	35.1	100.0	1,200
Second	5.3	12.3	5.9	8.3	6.9	6.8	8.6	0.6	0.4	11.6	33.2	100.0	976
Middle	8.7	15.4	6.9	8.5	4.3	6.5	7.1	0.3	0.7	10.9	30.8	100.0	855
Fourth	8.6	11.6	6.9	9.7	6.3	6.4	7.8	0.5	0.6	9.4	32.1	100.0	772
Highest	17.3	15.7	4.2	7.3	7.9	5.2	5.9	1.6	1.8	7.7	25.4	100.0	698
Region													
Riyadh	8.6	16.9	4.7	9.0	9.9	8.2	5.7	1.4	1.0	11.3	23.3	100.0	1,376
Makkah	12.6	9.6	5.2	4.7	6.9	8.7	6.2	0.5	0.4	5.6	39.6	100.0	953
Madinah	3.0	5.5	3.3	4.6	3.4	16.1	25.1	1.3	1.1	5.1	31.5	100.0	351
Qasim	15.8	7.3	11.8	15.6	1.2	6.3	16.4	1.6	0.0	4.1	20.0	100.0	204
Eastern Province	7.8	5.2	6.0	8.9	2.8	7.1	11.3	0.6	1.0	11.8	37.4	100.0	551
Asir	4.1	4.3	5.1	8.2	1.8	7.6	12.0	1.3	0.5	13.3	42.0	100.0	341
Tabuk	3.6	14.2	3.3	1.1	2.0	3.6	2.8	0.7	0.7	37.1	31.1	100.0	180
Hail	4.5	7.8	6.9	15.6	2.9	2.6	8.5	1.0	0.9	4.8	44.5	100.0	91
Northern Borders	2.8	1.3	3.5	5.2	1.6	7.8	5.4	0.8	0.0	20.8	50.9	100.0	37
Jizan	4.0	17.0	4.6	7.2	1.7	2.8	10.6	0.0	0.7	16.4	35.1	100.0	206
Najran	5.3	10.3	21.9	19.0	5.8	3.7	20.5	1.3	0.0	4.7	7.5	100.0	74
Bahah	2.3	12.6	4.0	22.4	0.0	4.4	0.4	0.9	1.2	2.1	49.8	100.0	48
Jawf	1.4	12.6	12.9	11.5	3.1	11.2	15.0	4.8	0.0	6.1	21.2	100.0	89
Total	8.1	11.0	5.6	8.0	5.7	8.1	9.5	1.0	0.7	10.4	31.9	100.0	4,501

1 This category includes informal military men

Table 4.6: Computer and internet use

Percentage distribution of respondents by frequency of computer and internet use in the last three months, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	COMPUTER USE (LAST 3 MONTHS)					INTERNET USE (LAST 3 MONTHS)					NUMBER OF RESPONDENTS
	DAILY	WEEKLY[1]	LESS THAN WEEKLY	NEVER[2]	TOTAL	DAILY	WEEKLY[1]	LESS THAN WEEKLY	NEVER[3]	TOTAL	
Age											
15-29	34.8	34.1	9.7	21.4	100.0	75.0	12.3	2.7	10.0	100.0	3,353
30-44	37.6	26.8	9.0	26.6	100.0	71.3	12.9	3.8	12.0	100.0	3,755
45-59	19.1	21.9	11.4	47.7	100.0	52.7	12.9	4.0	30.4	100.0	1,256
60-69	9.3	15.1	7.9	67.7	100.0	31.1	14.2	3.0	51.6	100.0	362
70-79	3.0	8.8	0.1	88.1	100.0	11.5	12.9	3.5	72.2	100.0	135
80+	0.0	3.1	0.0	96.9	100.0	0.6	3.1	0.0	96.3	100.0	52
Sex											
Male	39.0	28.7	8.4	23.9	100.0	68.4	13.7	3.4	14.6	100.0	4,694
Female	24.2	27.2	10.4	38.1	100.0	65.8	11.5	3.3	19.4	100.0	4,218
Nationality											
Saudi	32.3	29.4	9.4	29.0	100.0	68.1	12.9	3.2	15.8	100.0	7,777
Non-Saudi	30.5	18.4	9.5	41.7	100.0	60.5	11.0	4.2	24.3	100.0	1,135
Residence											
Urban	32.5	28.6	9.2	29.8	100.0	68.3	12.3	3.3	16.1	100.0	7,687
Rural	29.1	24.0	10.8	36.1	100.0	60.2	15.0	3.3	21.5	100.0	1,225
Marital Status											
Never married	37.5	36.1	9.0	17.4	100.0	76.1	11.9	2.9	9.1	100.0	2,250
Currently married	30.4	25.9	10.1	33.6	100.0	65.6	13.1	3.6	17.7	100.0	5,982
Formerly married	28.7	18.9	4.4	48.0	100.0	51.0	11.6	2.6	34.8	100.0	680
Education											
No formal education	0.3	2.8	2.1	94.7	100.0	10.9	5.2	2.3	81.7	100.0	490
Less than secondary school	12.8	16.9	7.9	62.5	100.0	50.7	12.3	3.2	33.8	100.0	1,338
Secondary school	28.7	29.9	12.4	29.0	100.0	67.4	16.2	4.3	12.1	100.0	3,449
More than secondary school	46.6	33.6	8.0	11.8	100.0	80.5	10.5	2.6	6.4	100.0	3,635
Wealth Quintile											
Lowest	20.7	23.2	8.2	47.9	100.0	59.9	13.1	2.6	24.4	100.0	2,169
Second	34.0	27.9	10.0	28.1	100.0	71.1	11.3	3.4	14.2	100.0	1,918
Middle	36.7	30.2	10.8	22.4	100.0	69.9	13.2	3.7	13.2	100.0	1,694
Fourth	34.6	28.8	11.1	25.5	100.0	68.3	12.8	4.1	14.8	100.0	1,626
Highest	37.8	31.5	6.9	23.8	100.0	68.3	13.0	3.0	15.6	100.0	1,505
Region											
Riyadh	40.6	33.4	5.0	21.0	100.0	70.3	15.9	0.9	12.9	100.0	2,345
Makkah	35.1	27.6	13.6	23.8	100.0	78.3	6.9	4.5	10.2	100.0	2,257
Madinah	19.3	22.9	10.1	47.7	100.0	43.2	17.5	8.5	30.7	100.0	664
Qasim	19.0	26.3	11.7	43.1	100.0	53.1	14.2	9.0	23.7	100.0	364
Eastern Province	28.3	29.2	9.9	32.5	100.0	70.9	12.1	2.7	14.3	100.0	1,149
Asir	25.7	21.6	7.5	45.2	100.0	56.2	8.7	1.7	33.3	100.0	644
Tabuk	40.8	21.9	7.6	29.6	100.0	78.2	7.5	2.6	11.6	100.0	300
Hail	26.8	28.4	15.9	28.8	100.0	56.6	26.1	5.6	11.6	100.0	179
Northern Borders	16.9	14.6	15.4	53.1	100.0	48.5	12.7	5.0	33.7	100.0	87
Jizan	25.8	28.5	11.8	34.0	100.0	67.0	7.3	4.0	21.6	100.0	410
Najran	19.2	30.9	1.8	48.1	100.0	31.1	41.8	0.9	26.1	100.0	194
Bahah	38.4	10.9	10.2	40.4	100.0	62.8	4.4	1.1	31.7	100.0	153
Jawf	21.5	24.8	5.4	48.4	100.0	60.3	22.9	0.8	16.0	100.0	165
Total	32.0	28.0	9.4	30.6	100.0	67.1	12.7	3.3	16.8	100.0	8,912

1 Weekly refers to at least once a week but not daily

2 Includes never used a computer in the last 3 months and never used a computer at all

3 Includes never used the internet in the last 3 months and never used the internet at all

5. BEHAVIOURAL AND ENVIRONMENTAL RISK FACTORS AND PREVENTIVE HEALTH BEHAVIOUR

KEY FINDINGS

- **Smoking:** 12% of respondents are current tobacco smokers (20% of males and 2% in females), while less than 1% are current users of smokeless tobacco and e-cigarettes.
- **Fruit and vegetable intake:** Ninety three percent of respondents have insufficient intake of fruit and vegetables.
- **Physical activity:** Overall, 80% of respondents have insufficient physical activity which varies by region.
- **Indoor exposure to smoke:** All households in Saudi Arabia use clean fuel for cooking. However, in 92% of households, someone smokes in the house (32% daily and 42% monthly). The use of incense occurs in 23% of households.
- **Drinking water:** Improved drinking water sources are used by 99% of households. The percentage of households with basic water services is 93%, limited drinking water services 6% and unimproved water sources 1%.
- **Sanitation:** Improved sanitation services are used by nearly 100% of households. Ninety-six percent of household have basic sanitation services while 4% have limited sanitation services.

Lifestyle can greatly affect the health status and wellbeing of individuals. Knowledge regarding risk factors can aid in preventing and reducing disease. This chapter presents information that was collected from individual respondents on behavioural risk factors and preventive health behaviours that include, smoking, nutrition and physical activity. In addition, it presents information that was collected from households (i.e. household informants) on environmental risk factors including sources of drinking water, sanitation and exposure to smoke inside the house.

5.1 SMOKING TOBACCO AND USE OF SMOKELESS TOBACCO AND E-CIGARETTES

Respondents were asked about their current and daily tobacco, smokeless tobacco, and e-cigarette use. Respondents were also asked about the number of times items were smoked or used per day.

Smoking is one of the main risk factors for many diseases, death and disability. It has long-term effects on many body organs, leading to cancer, cardiovascular disease, respiratory disease and other health problems. Secondhand smoke also has a detrimental effect on health.

Table 5.1 and **Table 5.2** summarise the use of tobacco and smokeless tobacco. 14% reported use of tobacco. 9% smoke daily with a median consumption of four units. The percentage of current smokers increases with age, peaking at the 30-44 age group at 15%, before declining. Daily and occasional use of tobacco are higher for males than females (17% vs. 0.9 for daily consumption, and 3% vs. 1% for occasional consumption, respectively).

Less than 2% report having used smokeless tobacco. The percentage of current users of smokeless tobacco is 0.7%, with a median of one unit. A higher percentage of male respondents report having used smokeless tobacco than females (3% vs. 0.3%).

Table 5.3 presents the use of electronic cigarettes. The prevalence of electronic cigarette use is less than 2%. Male current use of electronic cigarettes is 0.7%, which is twice that of females.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Non-Saudi respondents currently use tobacco more than Saudi respondents (15% vs. 11%). A similar pattern is reported for the use of smokeless tobacco (2% for non-Saudi vs. 0.6% for Saudi respondents).
- The current (daily and occasional) consumption of tobacco, smokeless tobacco, and electronic cigarettes is slightly higher among urban residents compared to rural residents.
- Instances of current tobacco smoking increase with education level, ranging from 5% in respondents with no education to 15% in respondents with higher than secondary school education. On the other hand, education level shows no influence on smokeless tobacco consumption. Education level's association with current use of tobacco by education is displayed in **Figure 5.1**.

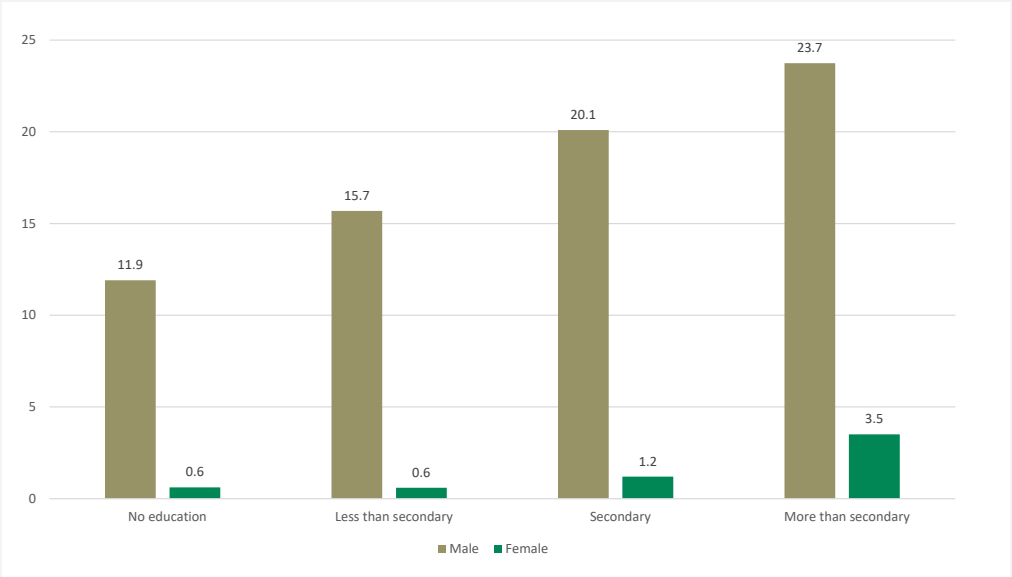


Figure 5.1: Current use of tobacco by education

Percentage of males and females who are current tobacco users

- Differences are observed in the current smoking of tobacco among regions, with the highest percentage in Riyadh (17%) and Jawf (16%), and the lowest in Qasim (4%) and Najran (4%). Current use of tobacco by males in each region is illustrated in **Figure 5.2**.

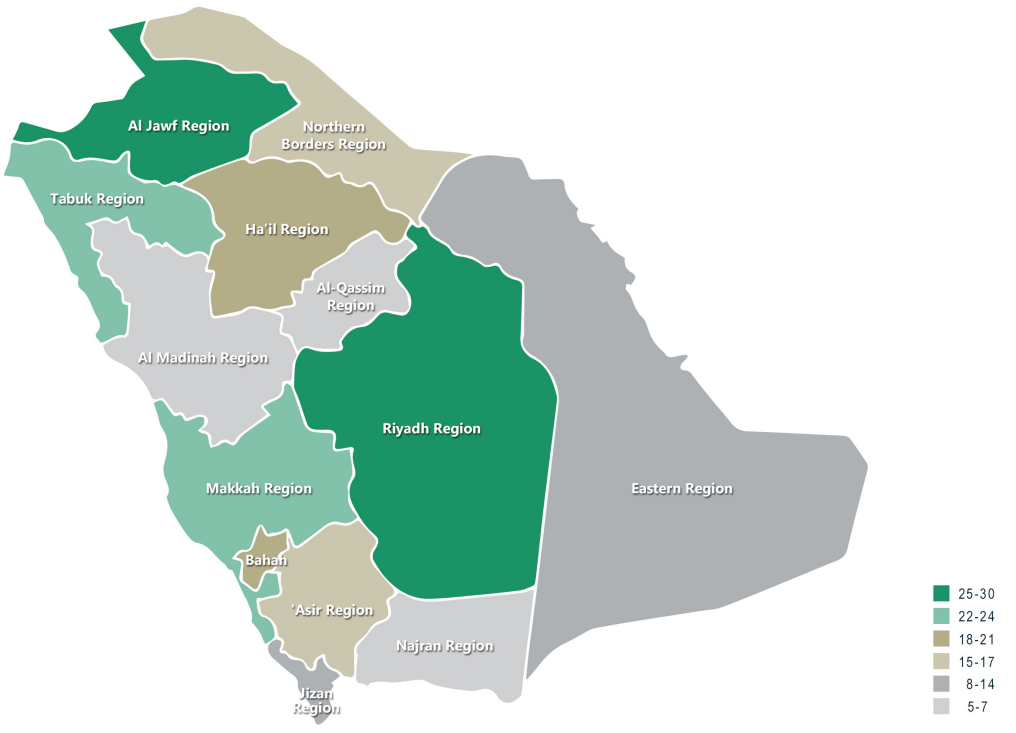


Figure 5.2: Current use of tobacco by region

Percentage of males who are current tobacco users

5.2 FRUIT AND VEGETABLE INTAKE

Fruit and vegetable intake insufficiency

This is defined as having less than five servings of fruit or vegetables on a typical day. Respondents were asked about the number of days fruit/ vegetables were eaten in a typical week and the number of servings eaten on one of these days(7).

Fruit and vegetables are an important source of micronutrients and dietary fibre and are essential components of a healthy diet. At least five servings of fruit or vegetables should be consumed daily. Not meeting the recommended intake of fruit and vegetables could lead to poor health and is associated with chronic diseases including cardiovascular disease and cancer.

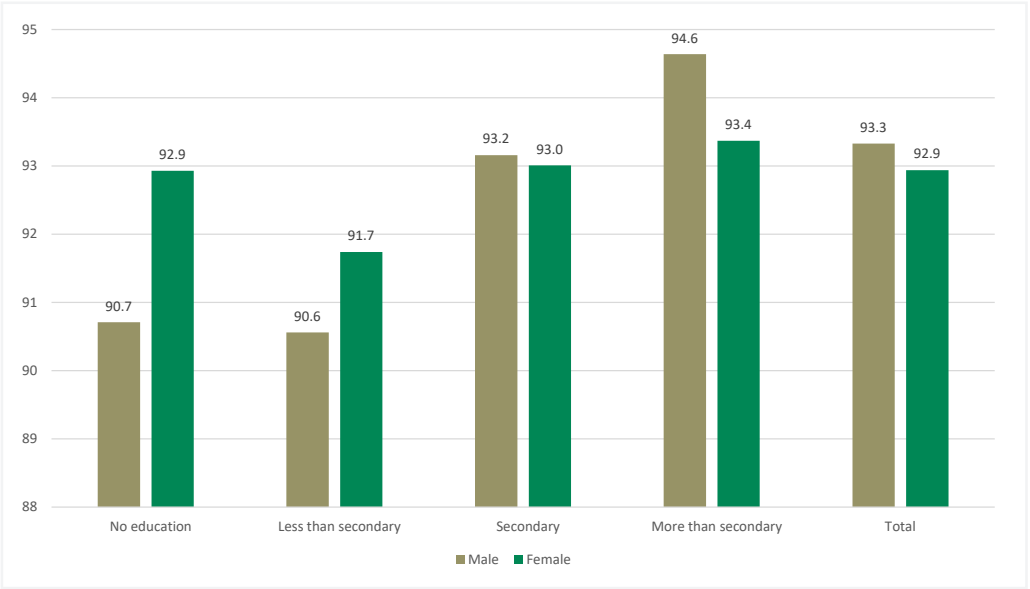
Table 5.4 reports the intake of fruit and vegetables in terms of sufficient and insufficient intake. 93% of respondents were classified as having insufficient intake of fruit and vegetables. Insufficient intake of fruit and vegetables decreases as age increases, before increasing again after the age of 60. Female and male respondents have similar percentages of fruit and vegetable consumption.

PATTERNS BY BACKGROUND CHARACTERISTICS

- In comparison to the Saudi respondents, who have a percentage of 94% of insufficient fruit and vegetable intake, non-Saudi respondents have a percentage of 91%.
- Insufficient intake of fruit and vegetables is generally comparable in relation to residence, marital status, wealth and education.

Figure 5.3: Intake of fruit and vegetables by education

Percentage of males and females who have insufficient fruit and vegetable intake



- Respondents living in Hail (98%) and Najran (97%) have the highest levels of fruit and vegetable intake insufficiency compared to respondents in other regions. Figure 5.4 shows the percentage of respondents who have insufficient fruit and vegetable intake by region.

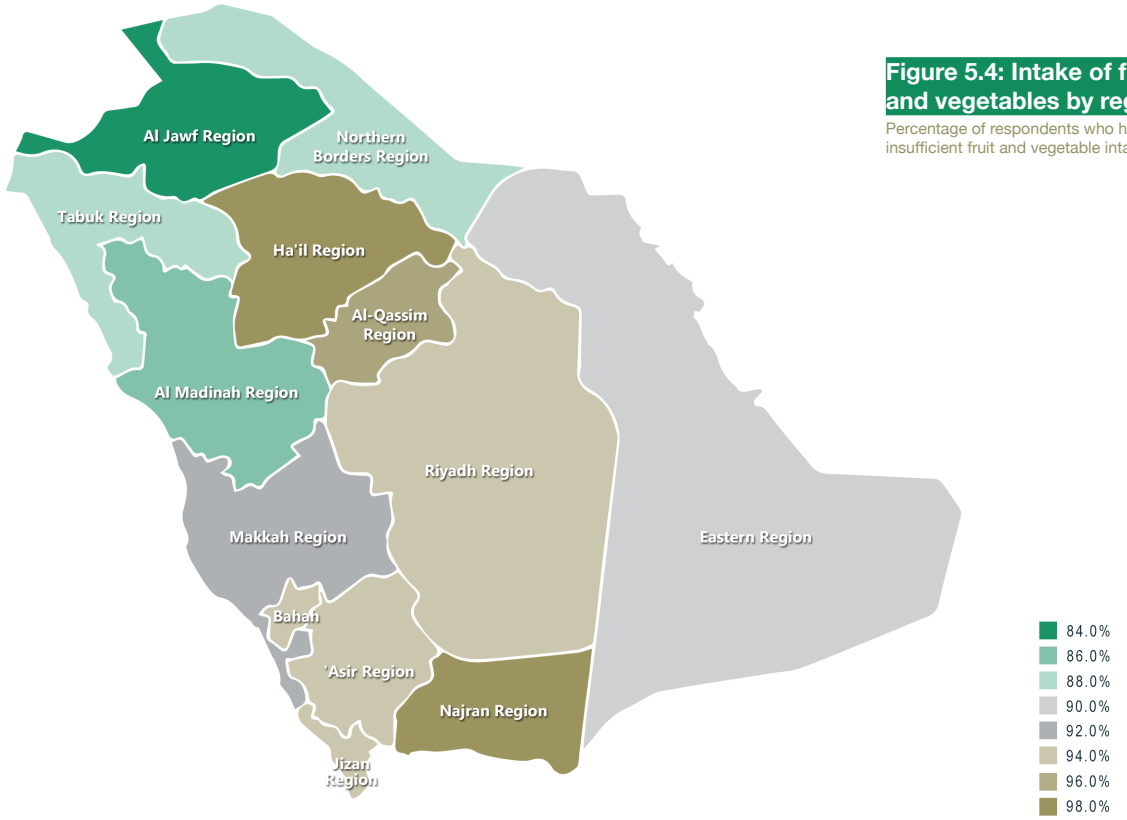


Figure 5.4: Intake of fruit and vegetables by region

Percentage of respondents who have insufficient fruit and vegetable intake

5.3 PHYSICAL ACTIVITY

Insufficient physical activity

Is defined as less than 150 minutes of moderate-intensity physical activity,75 minutes of vigorous-intensity physical activity, or an equivalent combination of moderate- and vigorous-intensity activity each week. Respondents were asked about time spent in physical activity during a typical week and the intensity of the activity(8).

Physical activity has great health benefits as it enhances mental health and helps (together with other factors) in protection from many diseases, including but not limited to, diabetes, hypertension, and cardiovascular disease. Physical activity could be part of a person's lifestyle and work, but it could also be pursued as a fitness or exercise regime.

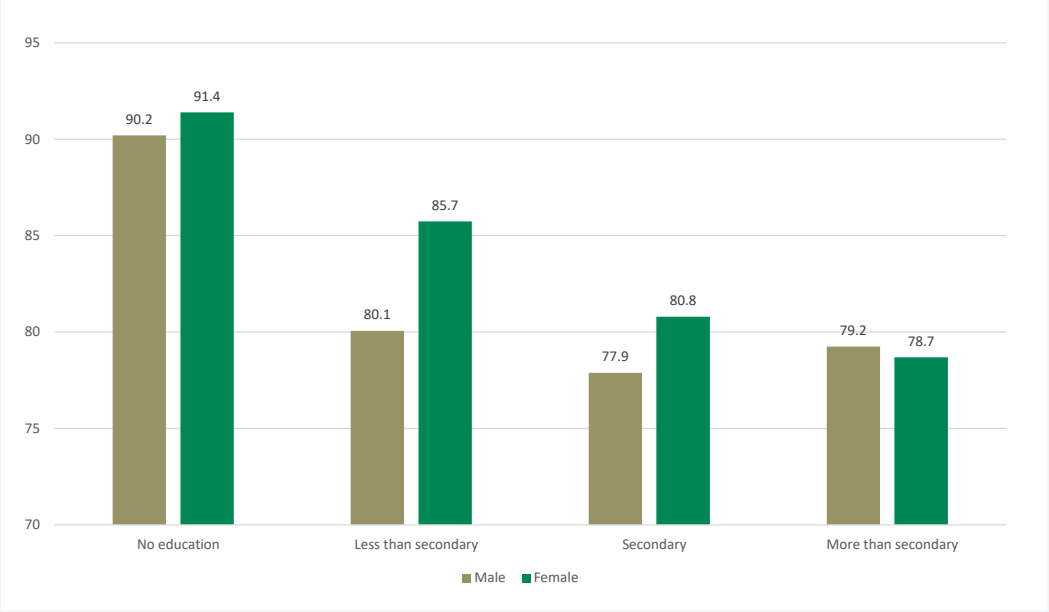
Table 5.5 presents levels of physical activity classified as insufficient and sufficient. In general, 80% of respondents have insufficient physical activity. As age increases, fewer respondents have sufficient physical activity, ranging from 21% in the 15-29 age group to 0.4% in respondents older than 80 years. Percentages of males and females who undertake sufficient physical activity are 21% and 18%, respectively.

PATTERNS BY BACKGROUND CHARACTERISTICS

- 81% of Saudi and 76% of non-Saudi respondents are insufficiently physically active.
- Respondents residing in rural areas have reported slightly higher percentages of insufficient physical activity compared to urban areas (84% vs. 80%).
- As education increases, insufficient physical activity decreases from 91% in the lowest educational attainment level to 79% in the highest educational attainment level. **Figure 5.5** illustrates insufficient physical activity for males and females by education.

Figure 5.5: Physical activity by education

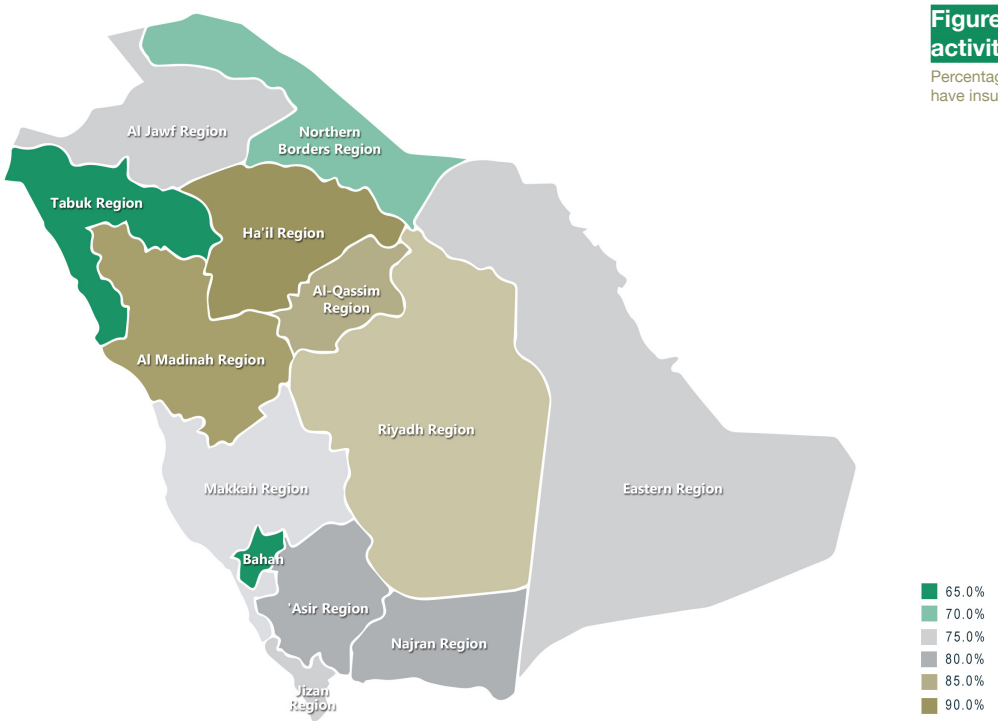
Percentage of males and females who have insufficient physical activity



- A large variation in physical activity insufficiency exists between regions. Hail (91%), Madinah (90%), and Qasim (88%) have the highest percentages, while Tabuk (64%) and Bahah (65%) have the lowest.

Figure 5.6: Physical activity by region

Percentage of respondents who have insufficient physical activity



5.4 EXPOSURE TO HOUSEHOLD SMOKE

Exposure to indoor smoke, either from cooking with solid fuels (coal/charcoal), smoking, or using incense can cause numerous health problems. **Table 5.6** shows that almost all households (99.9%) use clean fuel for cooking, which includes electricity and gas. Respondents in urban areas are more likely to use electricity for cooking than those in rural areas (16% vs. 8%).

The percentage of respondent who report the presence of smoking in the home is 92%, where 32% is daily and 42% is weekly. 38% of rural households smoke daily compared to 32% of urban households. Daily smoking inside the home increases as household wealth increases, varying from 21% in the lowest quintile to 45% in the highest quintile. With respect to the use of incense, 23% of households use incense inside the home. 19% of urban households and 14% of rural households use incense inside the home on a daily basis.

5.5 DRINKING WATER SOURCES AND TREATMENT

Access to safe and clean drinking water and sanitation is a human right and is essential for good public health. Contaminated water and poor sanitation lead to the transmission of diseases such as cholera, diarrhoea and typhoid.

Drinking Water Sources (9)

Improved sources of drinking water

Piped water, public taps, standpipes, tube wells, boreholes, protected wells and springs, rainwater, water delivered via tanker trucks, and bottled water.

Basic drinking water service

Drinking water from an improved source, provided collection time is not more than 30 minutes for a round trip, including queuing[6].

Limited drinking water service

Drinking water from an improved source for which collection time exceeds 30 minutes for a round trip, including queuing[7].

Table 5.7 shows the sources of drinking water and the various methods used to treat drinking water. In Saudi Arabia, 99% of households use improved drinking water sources. The most common sources of improved drinking water are bottled water (44% in urban households and 59% in rural households), water piped into dwellings (45% in urban households and 21% in rural households), and water tanker trucks (8% in urban households and 15% in rural households). In total, 93% of households have basic drinking water services (94% of urban vs. 86% of rural households) and 6% have limited drinking water services (5% of urban vs. 14% of rural households).

Among households that reported using an improved source of drinking water (excluding bottled water), only 23% of households use an appropriate treatment method to make drinking water safe. These main methods used were water filtering (ceramic, sand, composite) (20%) and boiling (3%). Urban households (24%) are more likely to use an appropriate treatment method than rural households (15%). In addition, appropriate treatment method increases with increasing household wealth, from 14% in the lowest quintile to 35% in the highest quintile.

6 The definition used in the survey is drinking water from an improved source provided water is on the premises. This means drinking water that was not on the premises but for which collection time did not exceed 30 minutes was not included. The definition of basic drinking water is available in: Core Questions on Water, Sanitation and Hygiene for Household Surveys update 2018 (WHO, JMP & UNICEF) (https://washdata.org/sites/default/files/documents/reports/2019-05/JMP-2018-core-questions-for-household-surveys.pdf).

7 The definition used in the survey is drinking water from an improved source that is not on the premises. This means that drinking water that was not on the premises but for which collection time did not exceed 30 minutes was included. The definition of limited drinking water is available in: Core Questions on Water, Sanitation and Hygiene for Household Surveys update 2018 (WHO, JMP & UNICEF) (https://washdata.org/sites/default/files/documents/reports/2019-05/JMP-2018-core-questions-for-household-surveys.pdf).

5.6 SANITATION

Sanitation (9)

Improved toilet facilities

Flush/pour flush toilets that flush water and waste to a piped sewer system, septic tank, pit latrine; or an unknown destination; ventilated improved pit (VIP) latrines; or pit latrines with slabs.

Basic sanitation service

Use of improved facilities that are not shared with other households.

Limited sanitation service

Use of improved facilities shared between two or more households.

Table 5.8 presents the household sanitation facilities at the time of survey. In Saudi Arabia, 99.8% of households use improved sanitation facilities. Flush toilets that flush to piped sewer water are the most common type (77% in urban households and 46% in rural households). Their use increases as household wealth increases, ranging from 62% in the lowest quintile to 86% in the highest quintile. The second most common type of facility is flush to septic tank (26%), where rural households (50%) tend to rely more on this sanitation facility than urban households (22%). Increased household wealth is associated with a decrease in the use of flush to septic tank, from 35% in the lowest quintile to 14% in the highest quintile.

In Saudi Arabia, nearly 96% of households have basic sanitation services (96% of urban households and 92% of rural households). 4% of households have limited sanitation services, where more rural households (8%) than urban households (4%) have access to limited sanitation services.

LIST OF TABLES

For more information on the characteristics of survey respondents, see the following tables:

- **Table 5.1**: Use of tobacco
- **Table 5.2**: Use of smokeless tobacco
- **Table 5.3**: Use of electronic cigarettes
- **Table 5.4**: Intake of fruit and vegetables
- **Table 5.5**: Physical activity
- **Table 5.6**: Household indoor air pollution
- **Table 5.7**: Household drinking water
- **Table 5.8**: Household sanitation facilities

Table 5.1: Use of tobacco

Tobacco use, percent distribution by smoking frequency and average daily consumption, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	TOBACCO CONSUMPTION			NEVER SMOKER[2]	TOTAL	NUMBER OF RESPONDENTS	MEDIAN DAILY TOBACCO CONSUMPTION	
	DAILY	OCCASIONAL[1]	NOT CURRENT				MEDIAN	NUMBER OF RESPONDENTS[3]
Age								
15-29	6.9	1.8	1.9	89.4	100.0	3,353	4	288
30-44	12.2	2.8	1.7	83.3	100.0	3,755	3	551
45-59	10.1	1.9	2.2	85.8	100.0	1,256	5	146
60-69	6.2	0.8	5.3	87.7	100.0	362	5	23
70-79	1.6	1.7	3.5	93.1	100.0	135	2	4
80+	0.8	3.2	0.0	96.0	100.0	52	50	2
Sex								
Male	17.1	3.3	2.9	76.7	100.0	4,694	4	933
Female	0.9	1.0	1.0	97.1	100.0	4,218	3	79
Nationality								
Saudi	9.0	2.2	1.7	87.0	100.0	7,777	4	850
Non-Saudi	12.3	2.3	3.6	81.8	100.0	1,135	3	165
Residence								
Urban	9.8	2.4	1.8	86.0	100.0	7,687	4	913
Rural	7.2	1.3	3.1	88.3	100.0	1,225	4	102
Marital Status								
Never married	9.5	2.8	1.6	86.1	100.0	2,250	4	272
Currently married	9.3	2.0	2.2	86.5	100.0	5,982	4	658
Formerly married	10.2	2.7	1.3	85.8	100.0	680	4	85
Education								
No formal education	3.7	0.8	1.1	94.4	100.0	490	8	21
Less than secondary school	7.3	0.8	2.3	89.6	100.0	1,338	5	101
Secondary school	9.7	1.4	1.8	87.1	100.0	3,449	5	377
More than secondary school	10.8	3.7	2.2	83.4	100.0	3,635	3	516
Wealth Quintile								
Lowest	11.7	1.6	1.7	84.9	100.0	2,169	5	283
Second	9.8	1.8	1.4	87.0	100.0	1,918	3	215
Middle	9.9	2.1	2.6	85.4	100.0	1,694	5	198
Fourth	7.1	2.2	2.2	88.5	100.0	1,626	4	148
Highest	7.7	3.8	2.1	86.4	100.0	1,505	3	171
Region								
Riyadh	13.2	3.5	2.0	81.3	100.0	2,345	3	389
Makkah	9.2	2.9	3.5	84.4	100.0	2,257	8	263
Madinah	7.2	1.6	0.9	90.3	100.0	664	10	57
Qasim	3.5	0.4	2.8	93.3	100.0	364	14	14
Eastern Province	6.6	1.6	1.1	90.7	100.0	1,149	4	84
Asir	8.4	0.9	0.9	89.7	100.0	644	2	59
Tabuk	11.0	1.1	0.6	87.3	100.0	300	1	36
Hail	12.6	0.2	2.4	84.8	100.0	179	1	23
Northern Borders	8.2	1.4	0.9	89.5	100.0	87	26	8
Jizan	7.4	1.0	1.1	90.5	100.0	410	5	34
Najran	1.2	2.3	1.3	95.2	100.0	194	15	7
Bahah	9.6	0.1	1.4	89.0	100.0	153	6	15
Jawf	14.6	1.2	0.3	83.9	100.0	165	15	26
Total	9.4	2.2	2.0	86.4	100.0	8,912	4	1,015

1 Occasional refers to less than daily use

2 Includes categories missing, "I do not know" and "refused"

3 Excludes respondents that reported "I do not know" or zero units

Table 5.2: Use of smokeless tobacco

Smokeless tobacco use, percentage distribution by frequency of use and average daily consumption, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	SMOKELESS TOBACCO CONSUMPTION			NEVER USED[2]	TOTAL	NUMBER OF RESPONDENTS	MEDIAN DAILY TOBACCO CONSUMPTION	
	DAILY	OCCASIONAL[1]	NOT CURRENT				MEDIAN	NUMBER OF RESPONDENTS[3]
Age								
15-29	0.1	0.4	0.8	98.8	100.0	3,353	3	5
30-44	0.8	0.3	0.7	98.2	100.0	3,755	1	20
45-59	0.3	0.3	0.4	99.0	100.0	1,256	2	4
60-69	0.3	0.0	1.7	98.1	100.0	362	1	1
70-79	0.0	0.0	0.0	100.0	100.0	135	0	0
80+	0.0	0.0	0.0	100.0	100.0	52	0	0
Sex								
Male	0.8	0.5	1.2	97.6	100.0	4,694	1	30
Female	0.0	0.1	0.2	99.7	100.0	4,218	1	0
Nationality								
Saudi	0.3	0.3	0.5	99.0	100.0	7,777	1	19
Non-Saudi	1.0	0.6	2.5	95.8	100.0	1,135	1	11
Residence								
Urban	0.4	0.3	0.6	98.6	100.0	7,687	1	25
Rural	0.2	0.2	1.4	98.2	100.0	1,225	1	5
Marital Status								
Never married	0.3	0.5	1.0	98.3	100.0	2,250	2	2
Currently married	0.4	0.2	0.5	98.9	100.0	5,982	1	19
Formerly married	0.7	0.7	1.6	97.0	100.0	680	1	8
Education								
No formal education	0.4	0.8	1.2	97.6	100.0	490	1	5
Less than secondary school	0.4	0.1	0.8	98.7	100.0	1,338	2	2
Secondary school	0.4	0.4	0.7	98.5	100.0	3,449	2	13
More than secondary school	0.5	0.2	0.7	98.7	100.0	3,635	1	10
Wealth Quintile								
Lowest	0.8	0.5	0.7	97.9	100.0	2,169	1	15
Second	0.2	0.1	1.2	98.5	100.0	1,918	2	2
Middle	0.6	0.5	0.6	98.2	100.0	1,694	1	9
Fourth	0.2	0.3	0.8	98.7	100.0	1,626	3	3
Highest	0.0	0.0	0.1	99.8	100.0	1,505	17	1
Region								
Riyadh	0.2	0.4	1.1	98.3	100.0	2,345	1	9
Makkah	0.3	0.4	0.7	98.5	100.0	2,257	1	3
Madinah	0.8	0.0	1.4	97.8	100.0	664	7	2
Qasim	0.0	0.0	0.0	100.0	100.0	364	0	0
Eastern Province	0.1	0.1	0.0	99.8	100.0	1,149	0	0
Asir	1.5	0.8	0.7	97.0	100.0	644	1	8
Tabuk	0.8	0.2	0.6	98.4	100.0	300	3	3
Hail	0.3	0.0	0.0	99.7	100.0	179	0	0
Northern Borders	0.0	0.4	1.6	98.0	100.0	87	1	0
Jizan	1.2	0.2	1.0	97.6	100.0	410	1	4
Najran	0.0	0.2	0.5	99.3	100.0	194	2	0
Bahah	0.0	0.0	0.0	100.0	100.0	153	0	0
Jawf	0.0	0.0	0.0	100.0	100.0	165	0	0
Total	0.4	0.3	0.7	98.6	100.0	8,912	1	30

1 Occasional refers to less than daily use

2 Includes categories missing, "I do not know" and "refused"

3 Excludes respondents that reported "I do not know" or zero units

Table 5.3: Use of electronic cigarettes

Electronic cigarette use and percentage distribution by frequency of use, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	ELECTRONIC CIGARETTE CONSUMPTION			NEVER USE D[2]	TOTAL	NUMBER OF RESPONDENTS
	DAILY	OCCASIONAL[1]	NOT CURRENT			
Age						
15-29	0.2	0.4	0.7	98.7	100.0	3,353
30-44	0.2	0.4	1.3	98.1	100.0	3,755
45-59	0.1	0.0	0.5	99.3	100.0	1,256
60-69	0.0	0.0	0.0	100.0	100.0	362
70-79	0.0	0.0	0.0	100.0	100.0	135
80+	0.0	0.0	0.0	100.0	100.0	52
Sex						
Male	0.3	0.4	1.4	97.8	100.0	4,694
Female	0.0	0.3	0.2	99.5	100.0	4,218
Nationality						
Saudi	0.2	0.4	0.8	98.6	100.0	7,777
Non-Saudi	0.1	0.0	1.3	98.6	100.0	1,135
Residence						
Urban	0.2	0.4	0.9	98.6	100.0	7,687
Rural	0.1	0.0	0.9	99.0	100.0	1,225
Marital Status						
Never married	0.2	0.5	1.0	98.2	100.0	2,250
Currently married	0.1	0.2	0.8	98.8	100.0	5,982
Formerly married	0.3	1.0	0.6	98.2	100.0	680
Education						
No formal education	0.0	0.0	0.0	100.0	100.0	490
Less than secondary school	0.0	0.0	0.3	99.7	100.0	1,338
Secondary school	0.3	0.4	0.6	98.7	100.0	3,449
More than secondary school	0.2	0.5	1.4	97.9	100.0	3,635
Wealth Quintile						
Lowest	0.2	0.3	0.6	99.0	100.0	2,169
Second	0.2	0.3	0.6	98.9	100.0	1,918
Middle	0.3	0.5	1.6	97.7	100.0	1,694
Fourth	0.2	0.1	1.1	98.5	100.0	1,626
Highest	0.0	0.5	0.6	98.8	100.0	1,505
Region						
Riyadh	0.0	0.1	1.3	98.5	100.0	2,345
Makkah	0.1	1.0	1.4	97.5	100.0	2,257
Madinah	0.2	0.0	0.8	99.0	100.0	664
Qasim	0.1	0.5	0.2	99.2	100.0	364
Eastern Province	0.6	0.2	0.3	98.8	100.0	1,149
Asir	0.3	0.1	0.3	99.3	100.0	644
Tabuk	0.0	0.0	0.3	99.7	100.0	300
Hail	0.5	0.0	0.0	99.5	100.0	179
Northern Borders	0.0	0.0	1.2	98.8	100.0	87
Jizan	0.0	0.0	0.1	99.9	100.0	410
Najran	0.0	0.0	0.0	100.0	100.0	194
Bahah	0.0	0.0	0.0	100.0	100.0	153
Jawf	0.0	0.0	0.0	100.0	100.0	165
Total	0.2	0.3	0.9	98.6	100.0	8,912

1 Occasional refers to less than daily use

Table 5.4: Intake of fruit and vegetables

Insufficient and sufficient intake of fruit and vegetables, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	FRUIT AND VEGETABLE INTAKE		TOTAL	NUMBER OF RESPONDENTS
	INSUFFICIENT[1]	SUFFICIENT		
Age				
15-29	94.1	5.9	100.0	3,353
30-44	92.6	7.4	100.0	3,755
45-59	91.8	8.2	100.0	1,256
60-69	93.7	6.3	100.0	362
70-79	94.1	5.9	100.0	135
80+	97.0	3.0	100.0	52
Sex				
Male	93.3	6.7	100.0	4,694
Female	92.9	7.1	100.0	4,218
Nationality				
Saudi	93.5	6.5	100.0	7,777
Non-Saudi	90.9	9.1	100.0	1,135
Residence				
Urban	93.2	6.8	100.0	7,687
Rural	93.0	7.0	100.0	1,225
Marital Status				
Never married	94.0	6.0	100.0	2,250
Currently married	92.7	7.3	100.0	5,982
Formerly married	94.2	5.8	100.0	680
Education				
No formal education	92.1	7.9	100.0	490
Less than secondary school	91.2	8.8	100.0	1,338
Secondary school	93.1	6.9	100.0	3,449
More than secondary school	94.1	5.9	100.0	3,635
Wealth Quintile				
Lowest	92.7	7.3	100.0	2,169
Second	93.6	6.4	100.0	1,918
Middle	92.0	8.0	100.0	1,694
Fourth	93.5	6.5	100.0	1,626
Highest	94.0	6.0	100.0	1,505
Region				
Riyadh	95.3	4.7	100.0	2,345
Makkah	93.9	6.1	100.0	2,257
Madinah	85.4	14.6	100.0	664
Qasim	96.2	3.8	100.0	364
Eastern Province	90.7	9.3	100.0	1,149
Asir	95.3	4.7	100.0	644
Tabuk	87.3	12.7	100.0	300
Hail	98.0	2.0	100.0	179
Northern Borders	88.7	11.3	100.0	87
Jizan	94.9	5.1	100.0	410
Najran	97.0	3.0	100.0	194
Bahah	95.3	4.7	100.0	153
Jawf	82.5	17.5	100.0	165
Total	93.1	6.9	100.0	8,912

1 Insufficient intake of fruit/vegetables: less than 5 servings of fruit/vegetables per one typical day

Table 5.5: Physical activity

Insufficient and sufficient physical activity, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	PHYSICAL ACTIVITY		TOTAL	NUMBER OF RESPONDENTS
	INSUFFICIENT[1]	SUFFICIENT		
Age				
15-29	78.9	21.1	100.0	3,353
30-44	79.1	20.9	100.0	3,755
45-59	82.9	17.1	100.0	1,256
60-69	88.8	11.2	100.0	362
70-79	95.4	4.6	100.0	135
80+	99.6	0.4	100.0	52
Sex				
Male	79.2	20.8	100.0	4,694
Female	81.6	18.4	100.0	4,218
Nationality				
Saudi	80.9	19.1	100.0	7,777
Non-Saudi	76.2	23.8	100.0	1,135
Residence				
Urban	79.8	20.2	100.0	7,687
Rural	83.7	16.3	100.0	1,225
Marital Status				
Never married	79.3	20.7	100.0	2,250
Currently married	79.8	20.2	100.0	5,982
Formerly married	88.4	11.6	100.0	680
Education				
No formal education	91.0	9.0	100.0	490
Less than secondary school	82.9	17.1	100.0	1,338
Secondary school	79.2	20.8	100.0	3,449
More than secondary school	79.0	21.0	100.0	3,635
Wealth Quintile				
Lowest	81.3	18.7	100.0	2,169
Second	75.6	24.4	100.0	1,918
Middle	81.3	18.7	100.0	1,694
Fourth	80.9	19.1	100.0	1,626
Highest	83.2	16.8	100.0	1,505
Region				
Riyadh	83.5	16.5	100.0	2,345
Makkah	79.1	20.9	100.0	2,257
Madinah	89.6	10.4	100.0	664
Qasim	87.7	12.3	100.0	364
Eastern Province	76.0	24.0	100.0	1,149
Asir	79.6	20.4	100.0	644
Tabuk	64.2	35.8	100.0	300
Hail	90.6	9.4	100.0	179
Northern Borders	74.0	26.0	100.0	87
Jizan	76.1	23.9	100.0	410
Najran	80.2	19.8	100.0	194
Bahah	65.4	34.6	100.0	153
Jawf	77.3	22.7	100.0	165
Total	80.3	19.7	100.0	8,912

1 Insufficient physical activity: less than 150 minutes of moderate-intensity physical activity or 75 minutes of vigorous-intensity physical activity or an equivalent combination of moderate- and vigorous-intensity physical activity, not achieving at 600 MET-minutes per week (MET: Metabolic equivalent is the ratio of a person's working metabolic rate relative to the resting metabolic rate)

Table 5.6: Household air pollution

Percentage distribution of households using solid fuel for cooking and percentage distribution by frequency of smoking and using incense in the home, according to residence and wealth [Saudi Arabia, 2019].

HOUSING CHARACTERISTIC	RESIDENCE		WEALTH QUINTILE					TOTAL
	URBAN	RURAL	LOWEST	SECOND	MIDDLE	FOURTH	HIGHEST	
Cooking fuel								
Gas	83.8	91.6	86.2	85.4	84.1	85.2	82.8	84.9
Electricity	16.1	8.2	13.7	14.6	15.7	14.6	16.9	15.0
Kerosene	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Coal/Charcoal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.1	0.1	0.1	0.0	0.1	0.3	0.2	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage using solid fuel for cooking[1]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentage using clean fuel for cooking[2]	99.9	99.8	99.9	100.0	99.9	99.7	99.8	99.9
Place for cooking								
In the house	99.6	99.9	99.3	100.0	99.8	99.7	99.6	99.7
In a separate building	0.3	0.0	0.2	0.0	0.2	0.3	0.4	0.2
Outdoors	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Other	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Frequency of smoking in the home								
Daily	31.5	38.0	21.3	29.2	35.8	35.7	45.0	32.4
Weekly	41.5	42.5	36.8	43.0	42.3	44.4	43.4	41.7
Monthly	12.0	8.1	12.2	13.4	11.6	12.0	6.8	11.4
Less often than once a month	6.4	5.7	8.6	8.2	5.3	4.8	3.3	6.3
Never	8.6	5.7	21.1	6.1	4.9	3.1	1.4	8.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Frequency of using incense in the home								
Daily	19.4	14.1	19.2	18.2	17.3	16.7	22.0	18.6
Weekly	3.1	2.0	2.3	2.5	4.0	2.3	3.8	2.9
Monthly	0.8	0.2	0.5	0.9	0.5	0.9	0.8	0.7
Less often than once a month	1.0	1.1	1.0	1.1	1.3	0.8	0.7	1.0
Never	75.8	82.6	77.0	77.2	77.0	79.3	72.7	76.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of households	8,027	1,312	2,266	2,014	1,784	1,699	1,575	9,339

1 Includes coal/charcoal

2 Includes gas and electricity

Table 5.7: Household drinking water

Percentage distribution of households by source of drinking water, percentage using various methods to treat drinking water and percentage using an appropriate treatment method, according to residence and wealth [Saudi Arabia, 2019].

CHARACTERISTIC	RESIDENCE		WEALTH QUINTILE					TOTAL
	URBAN	RURAL	LOWEST	SECOND	MIDDLE	FOURTH	HIGHEST	
Source of drinking water								
Improved source								
Piped into dwelling	45.0	21.0	37.4	37.7	38.5	42.9	55.1	41.6
Piped into yard/plot	0.4	0.2	0.9	0.2	0.3	0.1	0.0	0.4
Public tap/standpipe	0.9	3.4	0.7	0.9	1.5	2.8	0.6	1.3
Tubewell/borehole	0.1	0.5	0.5	0.0	0.0	0.0	0.1	0.1
Protected well	0.2	0.8	0.7	0.3	0.3	0.1	0.0	0.3
Protected spring	0.3	0.0	0.1	0.1	0.2	0.7	0.2	0.3
Bottled water	44.2	59.0	46.7	50.0	48.9	45.7	38.9	46.3
Water tanker trucks	8.1	15.1	12.9	10.0	9.0	7.1	4.5	9.1
Rainwater	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other (unimproved)	0.8	0.0	0.1	0.9	1.3	0.6	0.7	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage with improved drinking water	99.2	100.0	99.9	99.1	98.7	99.4	99.3	99.3
Water treatment method[1]								
Boil	3.2	2.3	1.5	2.6	3.8	3.9	4.1	3.0
Add bleach/chlorine	0.7	2.0	0.9	0.5	1.0	0.9	1.0	0.9
Strain through a cloth	0.3	0.5	0.4	0.4	0.2	0.3	0.5	0.3
Use water filter (ceramic, sand, composite)	21.5	12.9	12.6	19.1	17.9	23.5	32.2	20.3
Solar disinfection	0.2	0.0	0.2	0.2	0.2	0.1	0.1	0.2
Let it stand and settle	0.3	0.5	0.4	0.1	0.4	0.2	0.5	0.3
Other	0.6	0.6	0.8	0.7	0.5	0.2	0.5	0.6
Percentage using an appropriate treatment method[2]	23.9	14.5	13.7	21.0	20.9	26.4	35.1	22.5
Percentage with basic drinking water services[3]	94.2	86.1	93.5	93.1	92.4	90.6	95.6	93.0
Percentage with limited drinking water services[4]	5.0	13.9	6.4	6.1	6.3	8.8	3.8	6.3
Number of households	8,027	1,312	2,266	2,014	1,784	1,699	1,575	9,339

1 For households that reported using any source of drinking water except bottled water and that reported using a method to make drinking water safe. Households may report multiple treatment methods, so the sum of treatment methods may exceed 100%

2 Appropriate water treatment methods include boiling, filtering and solar disinfection

3 Defined as drinking water from an improved source provided water is on the premises (NOTE: this excludes drinking water that is not on the premises but for which collection time does not exceed 30 minutes)

4 Defined as drinking water from an improved source that is not on the premises (NOTE: this includes drinking water that is not on the premises but for which collection time does not exceed 30 minutes)

Table 5.8: Household sanitation facilities

Percentage distribution of household by type of toilet/latrine facilities and percentage distribution with a toilet/latrine facility by location of the facility, according to residence [Saudi Arabia, 2019].

TYPE OF TOILET/ LATRINE FACILITY	RESIDENCE		WEALTH QUINTILE					TOTAL
	URBAN	RURAL	LOWEST	SECOND	MIDDLE	FOURTH	HIGHEST	
Improved sanitation facility								
Flush to piped sewer system	77.3	45.6	61.5	65.9	74.6	82.6	85.6	72.9
Flush to septic tank	21.7	50.1	35.0	32.8	24.4	16.7	14.4	25.7
Flush to pit latrine	0.7	2.2	2.9	0.6	0.5	0.0	0.0	0.9
Flush to unknown	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1
Ventilated improved pit (VIP) latrine	0.0	0.8	0.2	0.3	0.1	0.0	0.0	0.1
Pit latrine with slab	0.0	0.9	0.1	0.2	0.4	0.1	0.0	0.2
Unimproved sanitation facility								
Flush to somewhere else	0.2	0.2	0.2	0.2	0.0	0.4	0.0	0.2
Bucket	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Percentage with improved sanitation facility	99.8	99.7	99.7	99.8	100.0	99.5	100.0	99.8
Percentage with basic sanitation services[1]	96.0	92.3	92.6	95.7	97.4	96.7	95.8	95.5
Percentage with limited sanitation services[2]	3.8	7.5	7.2	4.1	2.6	2.8	4.2	4.3
Number of households	8,027	1,312	2,266	2,014	1,784	1,699	1,575	9,339

1 Defined as use of improved facilities that are not shared with other households

2 Defined as use of improved facilities that are shared by two or more households

6. BIOLOGICAL RISK FACTORS

KEY FINDINGS

- **Blood pressure**: Approximately 14% of respondents have raised blood pressure.
- **Anthropometrics: In general**, less than half of respondents (40%) have normal BMI. The prevalence of overweight and obesity are 38% and 20%, respectively.
- **Blood glucose**: The percentage of respondents with raised blood glucose is 4% and the percentage with impaired glucose tolerance is 11%.
- **Cholesterol**: Raised serum cholesterol is observed in 43% of respondents.
- **Haemoglobin:** Overall, the percentage of respondents with low haemoglobin is 50%; mild (20%), moderate (24%), and severe (6%).

This chapter focuses on the biological risk factors of the respondents; measured through a clinical health examination and a blood test. Information on the biological risk factors could give insight into the wellbeing of individuals and their risks of developing diseases such as cardiovascular problems. This chapter presents information on blood pressure, weight, anthropometrics, blood glucose, cholesterol, and haemoglobin levels. WHO guidelines and classifications were used to define cut-offs to produce results in line with the international metadata of the SDGs and the Global Reference List of 100 Core Health Indicators (10, 11).

N.B. The percentages of conditions reported in this chapter are based on measurements (clinical health examination or a blood test) and might not equal the percentages self-reported by respondents (based on clinical diagnosis) in subsequent chapters.

6.1 BLOOD PRESSURE

High blood pressure or hypertension is a serious medical condition that needs to be addressed. It is referred to as the "silent killer", as it can have no warning signs or symptoms. If left untreated, it can lead to eye, kidney, and cardiovascular disease. Hypertension is a major risk factor for premature mortality.

Hypertension based on measured blood pressure (raised blood pressure)

Defined as having systolic blood pressure ≥140 mmHg or diastolic blood pressure ≥90 mmHg.[11]

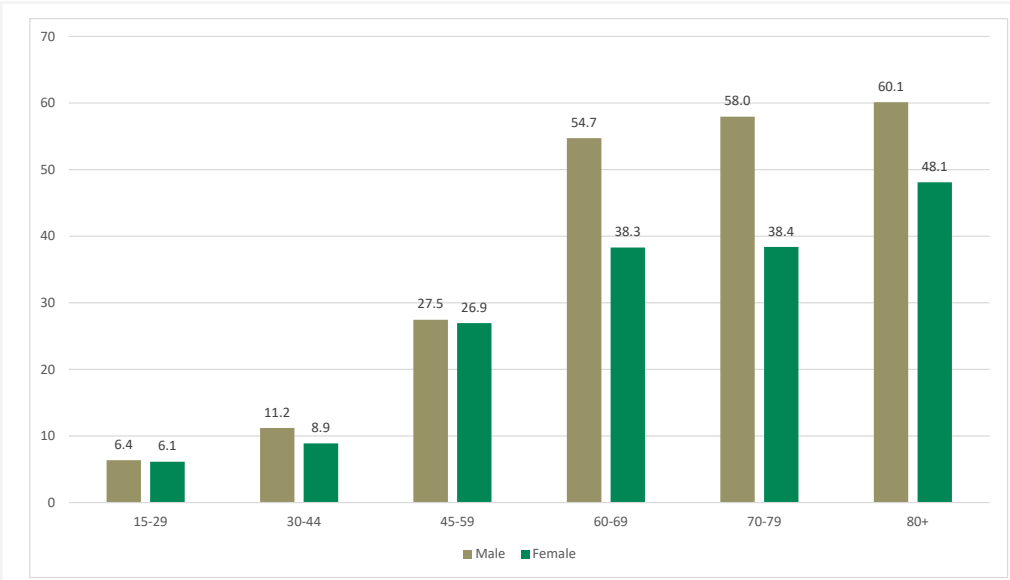
Table 6.1 presents the mean systolic and diastolic blood pressure and pulse rate. The mean systolic blood pressure is 123 mmHg, the mean diastolic blood pressure is 80 mmHg, and mean pulse rate is 80 beats per minute. The measured values of systolic and diastolic blood pressure progressively increase with age; from 120 mmHg and 79 mmHg, respectively, in the age group 15-29, to 138 mmHg and 86 mmHg, respectively, in the age group 80+.

Table 6.2 indicates that 14% of respondents have raised blood pressure. The percentage of respondents with raised blood pressure dramatically increases with age; from 6% in the age group 15-29 to 56% in the age group 80+. More males have raised blood pressure than females (15% vs. 12%). Figure 6.1 displays raised blood pressure among males and females by age.

11 Plausible values were as follows: for systolic blood pressure min=70 mmHg, max=270 mmHg; for diastolic blood pressure min=30 mmHg, max=150 mmHg. Any values below the minimum plausible value or above the maximum plausible value were excluded from the analysis.

Figure 6.1: Raised blood pressure by age

Percentage of males and females who have raised blood pressure based on measured blood pressure

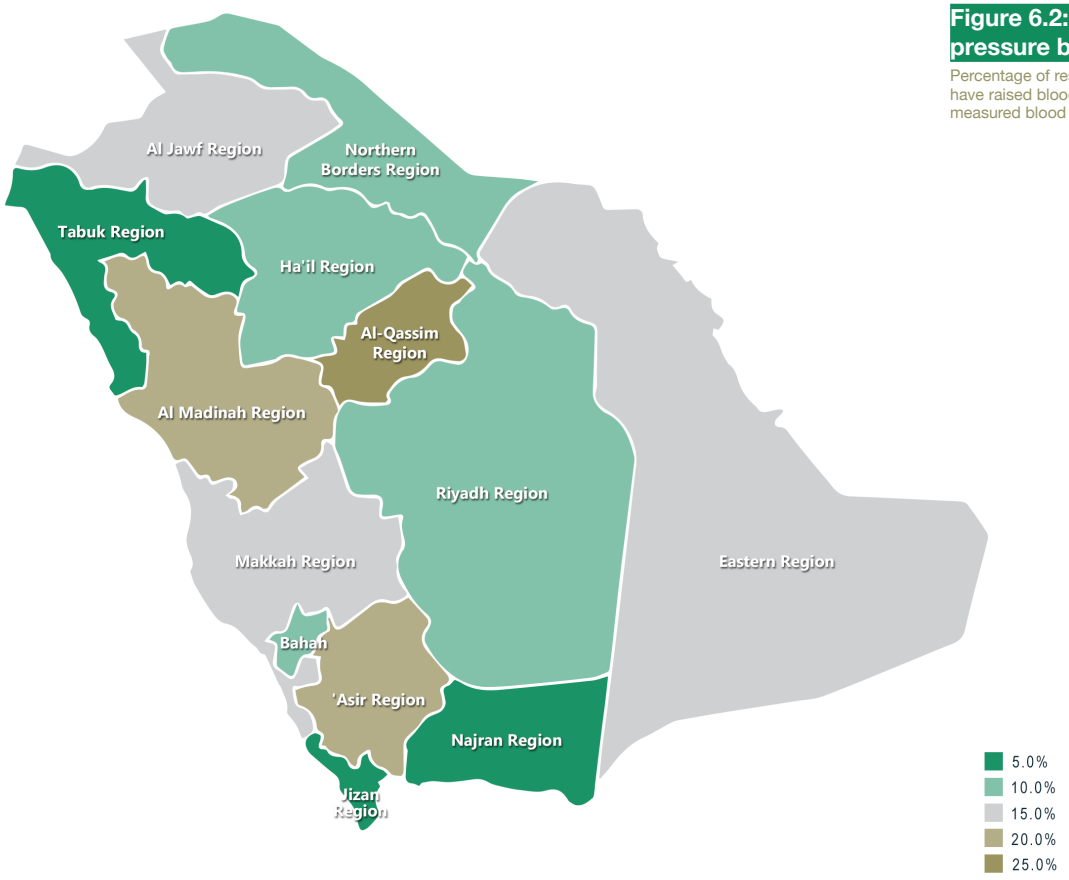


PATTERNS BY BACKGROUND CHARACTERISTICS

- 16% of rural residents have raised blood pressure, compared with 13% of urban residents.
- Raised blood pressure decreases with higher education; decreasing from 35% in respondents with no formal education to 10% in respondents with more than secondary school completion.
- **Figure 6.2** shows raised blood pressure by region. Tabuk has the lowest percentage of raised blood pressure (4%), while Qasim has the highest (26%).

Figure 6.2: Raised blood pressure by region

Percentage of respondents who have raised blood pressure based on measured blood pressure



6.2 ANTHROPOMETRICS

Body Mass Index (BMI)

Calculated by dividing the ratio of weight in kilograms to the square of height in metres (kg/m2). It is categorised as: underweight (<18.5 kg/m2), normal (18.5-24.9 kg/m2), overweight (25.0-29.9 kg/m2), and obese (≥30.0 kg/m2)[12].

Abnormal waist circumference

Defined as waist >80 cm in women and as waist >94 cm in men.

Abnormal waist/hip ratio

Defined as a waist/hip ratio ≥0.85 cm in women and as waist/hip ratio ≥0.9 cm in men.

The measurement of anthropometrics is a screening tool to examine the health of individuals. Fat distribution across the body, measured by BMI or waist and hip circumference, can be an indicator of risk of certain diseases. Conditions related to overweight and obesity include cardiovascular diseases, some cancers, and diabetes.

6.2.1 BODY MASS INDEX (BMI)

Table 6.3 shows that 39% of respondents have normal BMI; however, 3% are underweight, 38% are overweight, and 20% are obese. The mean BMI of the respondents is 26.4 kg/m2. In general, the percentage of respondents with obesity increases with age, from 10% in the age group 18-29, to 29% in the age group 70-79, before falling to 22% in respondents 80+ years. The percentage of overweight is higher in males (43%) than females (33%) while the percentage of obesity is higher in females (21%) than males (19%).

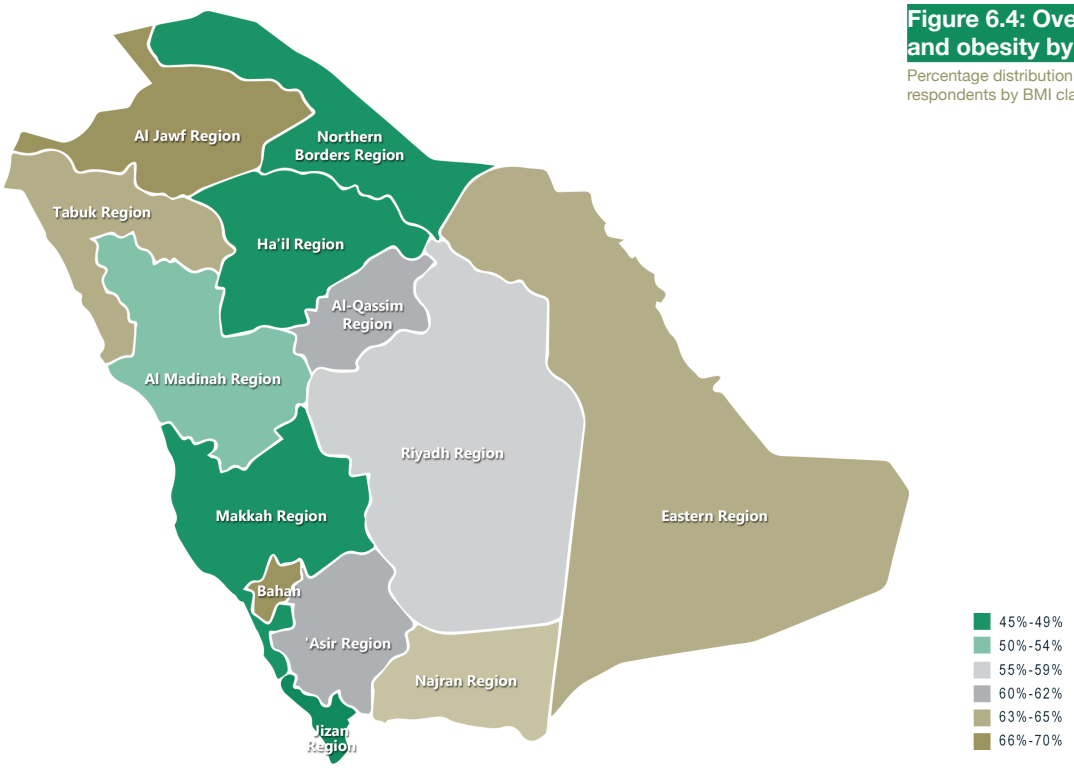
PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of respondents with obesity is higher in urban areas than rural areas (21% vs. 18%)
- In general, the percentage of obese respondents decreases as education increases, ranging from 29% in respondents with no formal education, to 18% in respondents with more than secondary school education.
- The percentage of respondents who are overweight or obese is displayed in **Figure 6.4**. Overweight is the highest in Jawf (52%) and Tabuk (50%), and obesity is the highest in Bahah (33%) and Najran (33%).

12 Plausible values for BMI were min=10 (kg/m2), max=80 (kg/m2). Any values below the minimum plausible value or above the maximum plausible value were excluded from the analysis. Pregnant women were excluded.

Figure 6.4: Overweight and obesity by region

Percentage distribution of respondents by BMI classification



WAIST AND HIP CIRCUMFERENCE

Table 6.4 and **Table 6.5** present the mean waist and hip circumference and the percentage of abnormal waist circumference and abnormal waist/hip ratio. The mean waist and hip circumferences for males are 71 cm and 50 cm, respectively. The mean waist and hip circumferences for females are 66 cm and 49 cm, respectively.

Abnormal waist circumference is found in 30% of respondents. The majority of respondents (91%) have abnormal waist/hip ratio. There is a steady increase in abnormal waist circumference with age, from 23% in the 15-29 age group, to 58% in the 80+ age group. Females have higher percentages of abnormal waist circumference than males (34% vs. 27%).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Rural residents have a higher percentage of abnormal waist circumference compared to urban residents (35% vs. 29%).
- The percentage with abnormal waist circumference generally decreases with increasing education, ranging from 47% in respondents with no formal education, to 30% in respondents with more than secondary school education.
- The region with the highest percentage of abnormal waist circumference is Najran (77%), and the region with the lowest is the Northern Borders (5%).

6.3 BLOOD GLUCOSE

Diabetes mellitus based on measured random blood glucose (raised blood glucose)

Defined as random glucose levels ≥11.1 mmol/L[13, 14].

Impaired glucose tolerance

Defined as random glucose levels ≥7.8 and <11.1 mmol/L[13, 14].

Elevated blood glucose level can lead to serious complications. These include, but are not limited to neuropathy, nephropathy, cardiovascular disease and susceptibility to infection. However, prediabetic individuals may not experience the same symptoms or be at the same risk for diabetes complications as diabetic individuals.

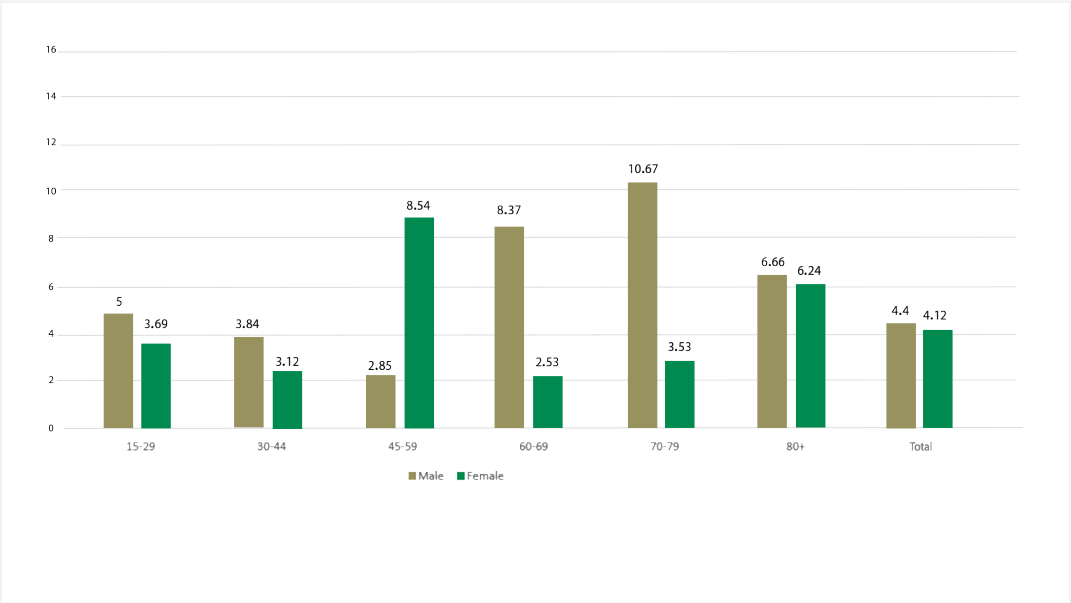
Table 6.6 reports random blood glucose among the respondents. The mean random blood glucose is 6.1 mmol/L. Impaired glucose function and raised blood glucose is found in 11% and4% of respondents, respectively.The percentage of respondents with raised blood glucose increases with advancing age, increasing from 4% in the 15-29 age group, to 7% in the 80+group. Males and females have similar percentages of raised blood glucose (4%) respectively. The percentage of males and females with raised blood glucose by age is illustrated in **Figure 6.5**.

13 Random glucose levels are categorised as follows: Normal <7.8 mmol/L ;Impaired glucose tolerance =(≥ 7.8mmol/L - < 11.1 mmol/L ; Diabetes =≥11.1 mmol/L

14 Plausible values for random blood glucose were min=1.5 (mmol/L), max=30 (mmol/L). Any values below the minimum plausible value or above the maximum plausible value were excluded from the analysis

Figure 6.5: Raised blood glucose by age

Percentage of males and females who have raised blood glucose based on measured random blood glucose



PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of respondents with raised blood glucose increases with increasing household wealth; 4% of respondents in the lowest wealth quintile have raised blood glucose, compared with 6% of respondents in the highest quintile.
- The percentage of respondents with raised blood glucose varies from region to region (Figure 6.6), the highest being Tabuk (8%) and the lowest Najran (1%).

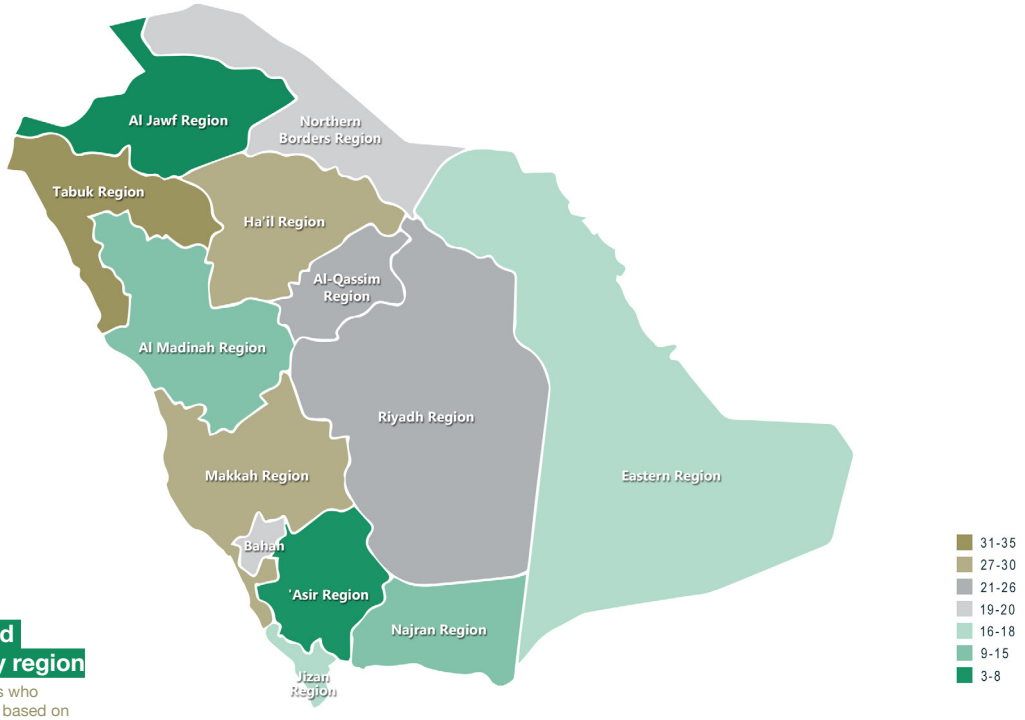


Figure 6.6: Raised blood glucose by region

Percentage of respondents who have raised blood glucose based on measured random blood glucose

6.4 CHOLESTEROL

Hypercholesterolemia based on measured serum cholesterol (raised serum cholesterol)

Defined as total cholesterol (TC) levels ≥5 mmol/L[15].

Cholesterol is crucial to maintaining normal functioning of the human body. Cholesterol levels are primarily measured by total cholesterol, high-density lipoprotein (HDL), and low-density lipoprotein (LDL). Whereas high levels of total cholesterol and LDL are considered to be dangerous, a high level of HDL is considered protective. If presented in abnormal concentrations, these lipids can increase the risk of certain diseases, such as pancreatitis, atherosclerosis, and cardiovascular disease.

Table 6.7 summarises cholesterol levels based on TC, HDL, and LDL. The mean total cholesterol level is 3.4 mmol/L, HDL level is 4.6 mmol/L, and LDL level is 2.5 mmol/L. 43% of respondents have raised serum cholesterol. The percentage of respondents with measured raised serum cholesterol increases dramatically with increased age, from 39% in the 15-29 age group, to 68% in the 80+ age group. Raised serum cholesterol among males and females by age is displayed in **Figure 6.7**.

15 Plausible values were as follows: for LDL min=0.5 mmol/L, max=10 mmol/L; for HDL min=0.4 mmol/L; max=5 mmol/L; for TC min=1.75 mmol/L, max=20 mmol/L. Any values below the minimum plausible value or above the maximum plausible value were excluded from the analysis.

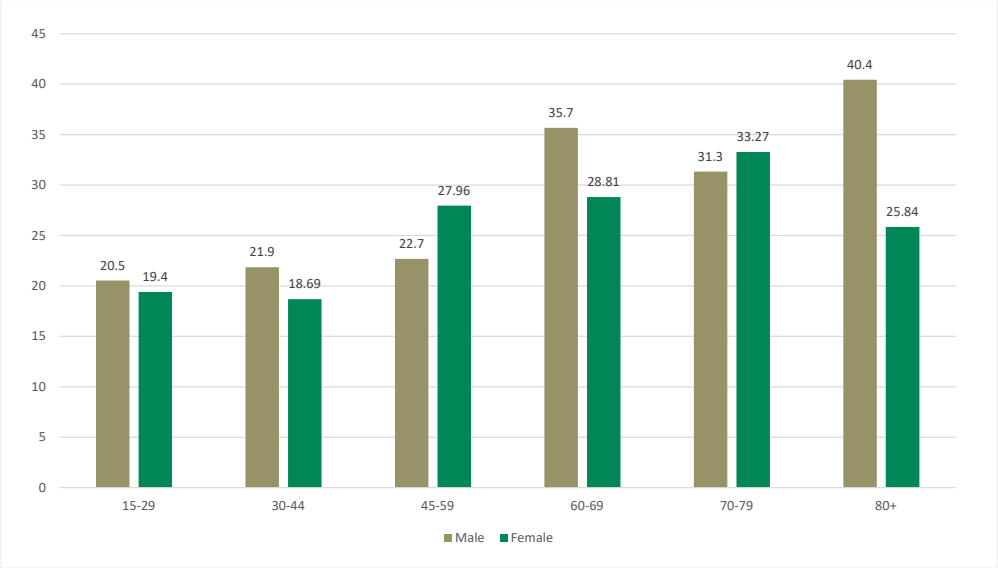


Figure 6.7: Raised serum cholesterol by age

Percentage of males and females who have raised serum cholesterol based on measured serum cholesterol

PATTERNS BY BACKGROUND CHARACTERISTICS

- Respondents living in rural areas have higher percentages of raised serum cholesterol than respondents living in urban areas (47% vs. 42%).
- Raised serum cholesterol decreases with education, ranging from 52% in respondents with no education to 40% in respondents with more than secondary school education.
- The lowest percentage of raised serum cholesterol is found in respondents with the highest household wealth (38%).
- The percentage of raised serum cholesterol varies among regions (**Figure 6.8**); the Northern Borders has the highest percentage (64%), while Bahah has the lowest percentage (26%).

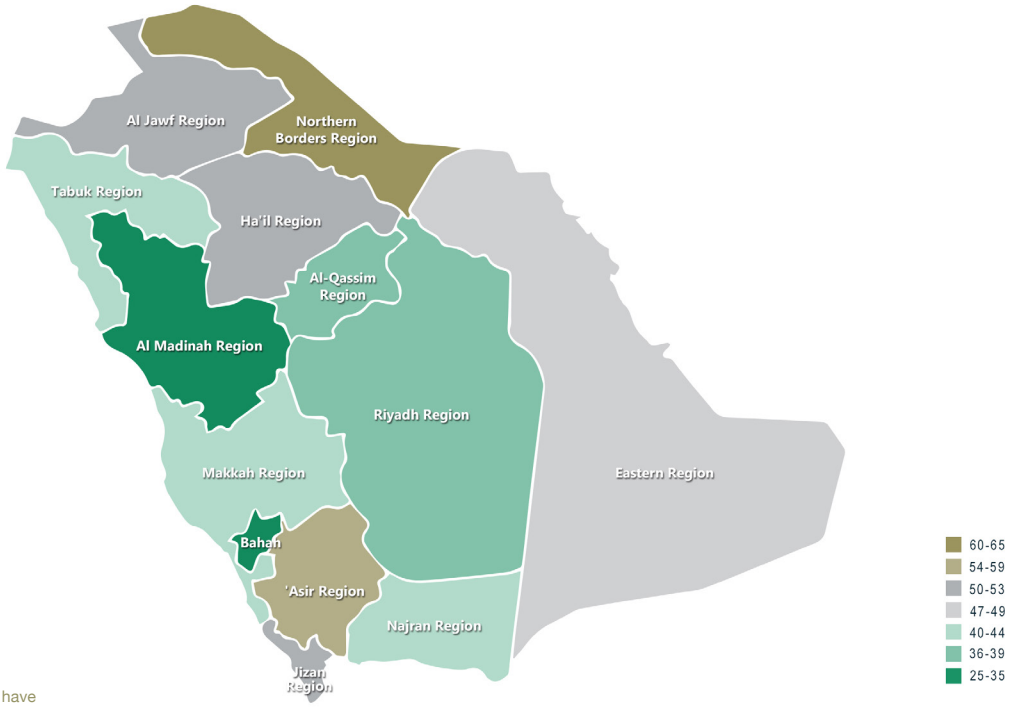


Figure 6.8: Raised serum cholesterol by region

Percentage of respondents who have raised serum cholesterol based on measured serum cholesterol

6.5 HAEMOGLOBIN

Anaemia based on measured blood haemoglobin (low haemoglobin) (11)

Defined as haemoglobin levels <120 g/L for females (7.5 mmol/L), <110 g/L for pregnant females (6.8 mmol/L), and <130 g/L for males (8.0 mmol/L)[16,17].

Haemoglobin is responsible for delivering oxygen throughout the body. Anaemia occurs when there is a low haemoglobin level in the blood. Iron deficiency is a major cause for anaemia, which is usually a result of poor diet. However, certain infectious diseases, chronic diseases, and genetic conditions, such as sickle cell anaemia and thalassemia, can give rise to anaemia. Individuals with anaemia experience (among other health problems) fatigue, pregnancy complications, susceptibility to diseases, and heart problems.

Table 6.8 indicates that the mean haemoglobin level is 120.8 g/L. Anaemia based on measured low haemoglobin is found in 50% of respondents; mild anaemia (20%), modrate anaemia (24%), and severe anaemia (6%). In general, the percentage of any anaemia rises with age to reach its highest (70%) in the 80+ age group. Males show a higher percentage of anaemia than females (52% and 48%, respectively). In terms of severity among females, 15% have mild, 26% have moderate, and 7% have severe anaemia. In terms of severity among males, 25% have mild, 23% have moderate, and 5% have severe anaemia. The percenrtage of anaemia among pregnant women is 53%.

PATTERNS BY BACKGROUND CHARACTERISTICS

- As defined above, the percentage of anaemia is higher among non-Saudi respondents (56%) compared to Saudi respondents (49%).
- As defined above, the percentage of anaemia is highest in respondents with no formal education (57%) and respondents with more than secondary school education (52%).
- As defined above, the percentage of anaemia varies widely by region, ranging from a low percentage of 13% in the Northern Borders to a higher percentage of 82% in Bahah.

LIST OF TABLES

For more information on the characteristics of survey respondents, see the following tables:

- **Table 6.1** Mean blood pressure and pulse rate
- **Table 6.2** Blood pressure
- **Table 6.3** Body Mass Index (BMI)
- **Table 6.4** Mean waist and hip circumference
- **Table 6.5** Abnormal waist circumference and waist/hip ratio
- **Table 6.6** Blood glucose levels
- **Table 6.7** Cholesterol levels
- **Table 6.8** Haemoglobin (Hgb) levels

16 Plausible values were as follows for females: min=40 g/L, max=180 g/L; for males: min=50 g/L, max=200 g/L. Any values below the minimum plausible value or above the maximum plausible value were excluded from the analysis.

17 Haemoglobin adjusted for smoking, adjustment -0.3 g/l for all smokers.

Table 6.1: Mean blood pressure and pulse rate

Mean systolic and diastolic blood pressure and mean pulse rate, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	SYSTOLIC BLOOD PRESSURE[1]		DIASTOLIC BLOOD PRESSURE[1]		PULSE RATE	
	MEAN (MMHG)	NUMBER OF RESPONDENTS	MEAN (MMHG)	NUMBER OF RESPONDENTS	MEAN (BEATS/ MINUTE)	NUMBER OF RESPONDENTS
Age						
15-29	119.9	3,240	79.0	3,243	79.9	3,259
30-44	122.3	3,634	80.0	3,634	80.0	3,651
45-59	129.3	1,233	83.6	1,233	81.1	1,237
60-69	135.0	354	83.6	353	81.4	355
70-79	135.2	134	82.5	134	79.8	134
80+	138.0	52	86.2	52	81.5	52
Sex						
Male	124.6	4,557	81.1	4,561	80.0	4,585
Female	121.6	4,090	79.6	4,088	80.4	4,103
Nationality						
Saudi	123.1	7,549	80.3	7,547	80.3	7,570
Non-Saudi	124.0	1,098	80.9	1,102	79.5	1,118
Residence						
Urban	123.1	7,469	80.2	7,472	80.3	7,506
Rural	123.6	1,178	81.5	1,177	79.6	1,182
Marital Status						
Never married	120.3	2,182	79.1	2,184	80.2	2,192
Currently married	123.7	5,799	80.6	5,799	80.2	5,829
Formerly married	128.5	667	82.0	667	80.4	668
Education						
No formal education	132.2	465	82.7	463	80.9	470
Less than secondary school	125.0	1,296	80.8	1,299	81.1	1,310
Secondary school	122.6	3,328	80.2	3,329	80.6	3,347
More than secondary school	121.9	3,558	80.1	3,558	79.4	3,562
Wealth Quintile						
Lowest	123.8	2,025	79.9	2,028	79.6	2,047
Second	122.3	1,873	79.6	1,871	80.1	1,878
Middle	122.2	1,657	80.5	1,658	80.5	1,667
Fourth	123.4	1,602	80.9	1,602	80.5	1,604
Highest	124.4	1,491	81.2	1,491	80.3	1,492
Region						
Riyadh	124.4	2,306	80.3	2,305	79.2	2,315
Makkah	122.5	2,169	81.8	2,169	79.5	2,174
Madinah	123.4	628	80.9	631	80.3	648
Qasim	125.5	364	83.6	364	80.8	364
Eastern Province	122.6	1,123	78.1	1,123	82.7	1,129
Asir	126.1	611	81.2	611	79.4	611
Tabuk	119.2	300	76.7	300	83.5	300
Hail	121.4	163	80.5	163	77.0	163
Northern Borders	112.1	87	77.9	87	80.8	87
Jizan	119.7	385	80.6	385	82.3	385
Najran	122.9	193	78.5	193	81.9	193
Bahah	121.5	153	76.8	153	79.6	153
Jawf	127.0	165	78.7	165	77.6	165
Total	123.2	8,647	80.4	8,649	80.2	8,688

[1] Plausible values were as follows: for systolic blood pressure min=70 mmHg, max=270 mmHg; for diastolic blood pressure min=30 mmHg, max=150 mmHg. Any values below the minimum plausible value or above the maximum plausible value were excluded from the analysis

Table 6.2: Blood pressure

Percentage of respondents with low, normal and high systolic and diastolic blood pressure, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	SYSTOLIC BLOOD PRESSURE[1]			TOTAL	NUMBER OF RESPONDENTS	DIASTOLIC BLOOD PRESSURE[2]			TOTAL	NUMBER OF RESPONDENTS	RAISED BLOOD PRESSURE[3]	NUMBER OF RESPONDENTS
	LOW	NORMAL	RAISED			LOW	NORMAL	RAISED				
Age												
15-29	0.8	96.6	2.6	100.0	3,240	0.9	94.4	4.7	100.0	3,243	6.2	3,240
30-44	0.8	94.5	4.7	100.0	3,634	0.7	92.0	7.3	100.0	3,634	10.2	3,632
45-59	0.2	80.0	19.9	100.0	1,233	0.1	81.9	17.9	100.0	1,233	27.2	1,233
60-69	0.2	61.6	38.2	100.0	354	0.3	72.9	26.8	100.0	353	46.7	353
70-79	0.4	62.6	36.9	100.0	134	0.7	74.8	24.5	100.0	134	48.0	134
80+	0.0	55.4	44.6	100.0	52	0.7	63.1	36.2	100.0	52	56.0	52
Sex												
Male	0.4	90.7	8.9	100.0	4,557	0.5	89.5	10.0	100.0	4,561	14.7	4,556
Female	1.0	91.6	7.4	100.0	4,090	0.9	91.0	8.1	100.0	4,088	12.2	4,087
Nationality												
Saudi	0.7	91.1	8.2	100.0	7,549	0.6	90.3	9.1	100.0	7,547	13.6	7,546
Non-Saudi	0.4	91.4	8.3	100.0	1,098	1.3	90.2	8.5	100.0	1,102	13.0	1,098
Residence												
Urban	0.7	91.4	7.9	100.0	7,469	0.8	90.5	8.7	100.0	7,472	13.0	7,467
Rural	0.7	89.5	9.9	100.0	1,178	0.2	88.5	11.2	100.0	1,177	16.4	1,177
Marital Status												
Never married	0.7	95.6	3.7	100.0	2,182	0.8	94.9	4.3	100.0	2,184	6.7	2,182
Currently married	0.7	90.8	8.6	100.0	5,799	0.7	89.2	10.1	100.0	5,799	14.6	5,795
Formerly married	0.5	79.9	19.6	100.0	667	0.4	84.0	15.6	100.0	667	26.1	667
Education												
No formal education	0.2	70.9	28.9	100.0	465	0.5	80.1	19.4	100.0	463	34.8	463
Less than secondary school	0.4	86.5	13.1	100.0	1,296	0.7	87.1	12.2	100.0	1,299	18.3	1,296
Secondary school	0.7	92.4	6.9	100.0	3,328	0.7	90.3	9.0	100.0	3,329	12.8	3,327
More than secondary school	0.8	94.3	4.9	100.0	3,558	0.7	92.7	6.7	100.0	3,558	9.7	3,557
Wealth Quintile												
Lowest	0.5	90.0	9.5	100.0	2,025	0.9	90.9	8.2	100.0	2,028	14.2	2,024
Second	0.9	92.0	7.1	100.0	1,873	0.4	92.5	7.1	100.0	1,871	11.1	1,870
Middle	0.7	93.3	6.1	100.0	1,657	1.1	90.8	8.1	100.0	1,658	11.7	1,657
Fourth	1.0	90.6	8.4	100.0	1,602	0.7	88.0	11.2	100.0	1,602	14.8	1,602
Highest	0.2	89.9	9.9	100.0	1,491	0.2	88.3	11.4	100.0	1,491	16.0	1,491
Region												
Riyadh	0.1	93.2	6.7	100.0	2,306	0.1	91.6	8.2	100.0	2,305	10.8	2,305
Makkah	1.2	91.7	7.1	100.0	2,169	0.7	90.1	9.3	100.0	2,169	13.4	2,168
Madinah	0.0	90.7	9.3	100.0	628	2.1	85.1	12.8	100.0	631	20.6	627
Qasim	0.2	87.1	12.7	100.0	364	1.0	78.8	20.2	100.0	364	26.2	364
Eastern Province	0.1	90.1	9.8	100.0	1,123	1.2	90.8	8.0	100.0	1,123	13.4	1,123
Asir	0.0	82.6	17.4	100.0	611	0.6	85.1	14.4	100.0	611	22.1	611
Tabuk	3.1	93.6	3.3	100.0	300	0.5	98.0	1.5	100.0	300	4.4	300
Hail	0.0	94.8	5.2	100.0	163	0.0	92.3	7.7	100.0	163	10.3	163
Northern Borders	19.3	77.3	3.4	100.0	87	1.8	90.5	7.7	100.0	87	10.3	87
Jizan	0.0	96.8	3.2	100.0	385	0.0	94.9	5.1	100.0	385	7.6	385
Najran	0.0	94.4	5.6	100.0	193	0.6	98.0	1.4	100.0	193	6.3	193
Bahah	0.0	90.6	9.4	100.0	153	2.3	93.6	4.1	100.0	153	10.7	153
Jawf	0.0	87.3	12.7	100.0	165	0.0	94.7	5.3	100.0	165	13.3	165
Total	0.7	91.2	8.2	100.0	8,647	0.7	90.3	9.1	100.0	8,649	13.5	8,644

1 Systolic blood pressure is categorised as: Low <90 mmHg; 90 mmHg>= Normal <140 mmHg; Raised>=140 mmHg

2 Diastolic blood pressure is categorised as: Low <60 mmHg; 60 mmHg<= Normal >90 mmHg; Raised >=90 mmHg

3 Raised blood pressure is defined as systolic blood pressure >=140 mmHg or diastolic blood pressure >=90 mmHg

Table 6.3: Body Mass Index (BMI)

Mean BMI and percentage of respondents aged 18+ with normal weight, underweight, overweight and obese, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MEAN BMI (KG/M²)[1]	BODY MASS INDEX (BMI)[2]				TOTAL	NUMBER OF RESPONDENTS
		UNDERWEIGHT	NORMAL	OVERWEIGHT	OBESE		
Age							
18-29	24.5	4.8	54.6	30.4	10.2	100.0	2,722
30-44	27.1	1.3	33.2	43.2	22.3	100.0	3,519
45-59	28.4	1.0	26.2	40.1	32.7	100.0	1,176
60-69	28.2	2.2	27.1	38.2	32.5	100.0	328
70-79	28.2	2.3	21.6	47.0	29.1	100.0	106
80+	27.1	4.4	32.5	41.0	22.0	100.0	40
Sex							
Male	26.6	2.1	36.0	42.7	19.2	100.0	4,327
Female	26.2	3.0	43.0	32.7	21.4	100.0	3,564
Nationality							
Saudi	26.4	2.8	39.2	37.5	20.5	100.0	6,855
Non-Saudi	26.6	1.0	38.6	42.2	18.1	100.0	1,035
Residence							
Urban	26.4	2.7	39.1	37.6	20.6	100.0	6,802
Rural	26.5	1.5	39.5	41.4	17.6	100.0	1,088
Marital Status							
Never married	24.4	6.1	51.7	30.8	11.3	100.0	1,818
Currently married	27.0	1.4	36.1	40.2	22.3	100.0	5,466
Formerly married	27.7	2.4	28.4	41.5	27.7	100.0	606
Education							
No formal education	27.8	2.9	28.2	39.8	29.1	100.0	410
Less than secondary school	26.7	1.0	34.1	35.8	29.1	100.0	969
Secondary school	26.2	3.0	41.0	37.0	18.9	100.0	3,124
More than secondary school	26.3	2.4	40.2	39.7	17.7	100.0	3,388
Wealth Quintile							
Lowest	26.1	1.6	43.3	39.8	15.3	100.0	1,926
Second	26.5	3.2	37.8	38.5	20.6	100.0	1,735
Middle	26.2	3.4	40.2	36.7	19.7	100.0	1,496
Fourth	26.7	2.3	34.2	40.4	23.1	100.0	1,418
Highest	26.4	2.3	38.9	34.6	24.2	100.0	1,316
Region							
Riyadh	26.3	1.8	38.3	40.3	19.6	100.0	2,072
Makkah	25.8	3.7	45.6	32.6	18.1	100.0	1,957
Madinah	26.2	1.8	44.9	38.6	14.7	100.0	574
Qasim	26.9	2.7	34.6	37.2	25.5	100.0	339
Eastern Province	27.4	3.2	30.1	39.4	27.3	100.0	1,021
Asir	27.0	1.5	34.8	41.2	22.5	100.0	596
Tabuk	26.3	2.2	32.8	50.4	14.6	100.0	271
Hail	25.8	2.3	46.1	36.3	15.4	100.0	159
Northern Borders	25.9	1.2	48.8	35.6	14.4	100.0	75
Jizan	25.3	3.4	49.6	35.4	11.6	100.0	363
Najran	27.2	1.0	30.4	35.2	33.4	100.0	169
Bahah	28.7	1.8	27.1	38.4	32.7	100.0	144
Jawf	26.8	0.9	27.9	52.2	19.1	100.0	149
Total	26.4	2.5	39.1	38.2	20.2	100.0	7,890

1 Plausible values for BMI were min=10 (kg/m2), max=80 (kg/m2). Any values below the minimum plausible value or above the maximum plausible value were excluded from the analysis. Pregnant women were excluded

2 Body Mass Index (BMI) is expressed as the ratio of weight in kilograms to the square of height in metres (kg/m2) and is categorised as follows: Underweight <18.5; Normal 18.5-24.9; Overweight 25.0-29.9; Obese: ≥ 30.0

Table 6.4: Mean waist and hip circumference

Mean waist circumference and mean hip circumference, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	WAIST CIRCUMFERENCE		HIP CIRCUMFERENCE	
	MEAN (CM)	NUMBER OF RESPONDENTS[1]	MEAN (CM)	NUMBER OF RESPONDENTS[1]
Age				
15-29	63.3	2,771	46.5	2,674
30-44	70.4	3,191	51.2	3,042
45-59	73.3	1,086	50.9	1,016
60-69	76.6	293	55.5	268
70-79	79.2	100	54.5	96
80+	83.4	38	65.2	37
Sex				
Male	70.5	4,144	50.1	3,908
Female	66.3	3,335	49.1	3,225
Nationality				
Saudi	69.0	6,462	50.3	6,191
Non-Saudi	66.5	1,017	45.4	941
Residence				
Urban	68.1	6,523	49.0	6,241
Rural	72.2	956	54.0	892
Marital Status				
Never married	63.0	1,956	46.5	1,882
Currently married	71.0	4,976	51.2	4,726
Formerly married	67.5	547	47.2	524
Education				
No formal education	75.8	376	54.6	345
Less than secondary school	67.6	1,153	49.5	1,086
Secondary school	67.6	2,935	49.8	2,800
More than secondary school	69.1	3,014	49.0	2,901
Wealth Quintile				
Lowest	69.2	1,764	49.8	1,692
Second	73.3	1,588	52.8	1,522
Middle	68.5	1,418	51.2	1,334
Fourth	69.1	1,403	50.9	1,309
Highest	61.7	1,306	42.8	1,275
Region				
Riyadh	60.6	1,869	42.9	1,775
Makkah	69.0	1,810	50.5	1,657
Madinah	55.0	548	40.7	527
Qasim	61.7	340	54.2	327
Eastern Province	67.9	1,012	51.3	994
Asir	92.8	581	45.2	550
Tabuk	68.3	278	62.6	276
Hail	90.2	155	40.8	154
Northern Borders	53.7	69	47.0	63
Jizan	56.3	327	48.5	320
Najran	99.8	185	50.4	184
Bahah	94.8	150	103.1	150
Jawf	87.9	156	79.7	154
Total	68.6	7,479	49.7	7,132

1 Pregnant women were excluded.

Table 6.5: Abnormal waist circumference and waist/hip ratio

Percentage of respondents with abnormal hip circumference and abnormal waist/hip ratio, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	ABNORMAL WAIST CIRCUMFERENCE[1]	NUMBER OF RESPONDENTS	ABNORMAL WAIST/ HIP RATIO[2]	NUMBER OF RESPONDENTS
Age				
15-29	22.4	2,771	89.7	2,666
30-44	32.1	3,191	92.0	3,039
45-59	38.6	1,086	92.8	1,016
60-69	40.1	293	93.7	268
70-79	48.8	100	90.9	96
80+	57.7	38	84.0	37
Sex				
Male	27.0	4,144	91.0	3,900
Female	34.0	3,335	91.5	3,221
Nationality				
Saudi	30.2	6,462	91.0	6,180
Non-Saudi	29.4	1,017	93.2	941
Residence				
Urban	29.3	6,523	91.5	6,231
Rural	35.3	956	89.7	890
Marital Status				
Never married	20.2	1,956	88.5	1,877
Currently married	33.3	4,976	92.2	4,720
Formerly married	36.3	547	93.4	524
Education				
No formal education	46.5	376	93.4	345
Less than secondary school	30.1	1,153	91.5	1,086
Secondary school	28.2	2,935	89.9	2,796
More than secondary school	29.9	3,014	92.3	2,894
Wealth Quintile				
Lowest	27.8	1,764	92.6	1,692
Second	36.7	1,588	91.8	1,521
Middle	31.0	1,418	89.2	1,326
Fourth	31.2	1,403	89.6	1,309
Highest	22.9	1,306	92.7	1,273
Region				
Riyadh	18.5	1,869	94.4	1,765
Makkah	29.9	1,810	90.8	1,657
Madinah	12.4	548	96.9	527
Qasim	20.0	340	89.2	327
Eastern Province	32.2	1,012	84.4	994
Asir	69.6	581	100.0	550
Tabuk	18.8	278	82.8	276
Hail	56.8	155	99.6	154
Northern Borders	5.2	69	92.5	63
Jizan	13.4	327	88.4	320
Najran	76.5	185	97.9	184
Bahah	66.9	150	69.8	150
Jawf	44.7	156	84.0	154
Total	30.1	7,479	91.3	7,121

1 Abnormal waist circumference is defined as >80 cm in women and >94 cm in men. Pregnant women were excluded.

2 Abnormal waist/hip ratio is defined as >=0.85 cm in women and >=0.9 cm in men.

Table 6.6: : Blood glucose levels

Mean random blood glucose and percentage of respondents with impaired glucose tolerance and raised blood glucose, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MEAN NON-FASTING BLOOD GLUCOSE (MMOL/L)	RANDOM BLOOD GLUCOSE LEVEL[2]			TOTAL	NUMBER OF RESPONDENTS
		NORMAL[1]	IMPAIRED GLUCOSE TOLERANCE (PREDIABETES)	RAISED BLOOD GLUCOSE		
Age						
15-29	6.0	86.1	9.6	4.3	100.0	2907
30-44	6.0	86.4	10.1	3.5	100.0	3114
45-59	6.3	83.4	11.1	5.5	100.0	1076
60-69	6.5	74.9	19.7	5.4	100.0	318
70-79	6.3	78.4	14.7	6.9	100.0	119
80+	6.5	66.7	26.7	6.5	100.0	50
Sex						
Male	6.1	84.8	10.8	4.4	100.0	3991
Female	6.0	85.5	10.4	4.1	100.0	3592
Nationality						
Saudi	6.1	84.9	10.8	4.2	100.0	6546
Non-Saudi	6.0	86.2	9.4	4.4	100.0	1037
Residence						
Urban	6.1	84.7	10.7	4.6	100.0	6581
Rural	5.9	87.4	10.5	2.1	100.0	1002
Marital Status						
Never married	6.0	85.6	10.2	4.3	100.0	1927
Currently married	6.1	85.6	10.4	4.0	100.0	5065
Formerly married	6.3	79.4	13.8	6.8	100.0	591
Education						
No formal education	6.1	81.9	14.9	3.2	100.0	390
Less than secondary school	6.0	84.8	10.3	4.9	100.0	1103
Secondary school	6.0	86.0	10.0	4.0	100.0	2897
More than secondary school	6.1	84.8	10.8	4.4	100.0	3194
Wealth Quintile						
Lowest	6.0	86.7	9.0	4.3	100.0	1806
Second	6.0	84.9	11.3	3.9	100.0	1603
Middle	6.0	85.3	10.7	4.0	100.0	1424
Fourth	6.1	85.8	10.7	3.5	100.0	1392
Highest	6.2	82.3	12.0	5.8	100.0	1358
Region						
Riyadh	6.2	82.7	10.7	6.7	100.0	1981
Makkah	6.4	82.2	13.7	4.1	100.0	2126
Madinah	5.9	90.3	4.8	4.9	100.0	654
Qasim	6.0	85.4	8.7	5.9	100.0	283
Eastern Province	5.6	89.1	8.6	2.3	100.0	884
Asir	5.5	93.6	5.0	1.4	100.0	565
Tabuk	7.2	62.8	28.8	8.4	100.0	200
Hail	6.0	89.0	8.9	2.0	100.0	121
Northern Borders	5.8	86.7	13.3	0.0	100.0	5
Jizan	5.8	86.8	11.6	1.6	100.0	324
Najran	6.0	92.0	7.5	0.5	100.0	175
Bahah	5.4	82.5	16.8	0.7	100.0	134
Jawf	5.2	97.8	1.2	0.9	100.0	132
Total	6.1	85.1	10.6	4.3	100.0	7583

1 Plausible values for random blood glucose were min=1.5 (mmol/L), max=30 (mmol/L). Any values below the minimum plausible value or above the maximum plausible value were excluded from the analysis

2 Random glucose levels are categorized as follows: Normal <7.8 mmol/L; 7.8mmol/L <=Impaired glucose tolerance< 11.1 mmol/L; Raised glucose >=11.1 mmol/L.

Table 6.7: Cholesterol levels

Mean random high-density lipoprotein (HDL), low-density lipoprotein (LDL) and total cholesterol (TC) according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	HDL[1]		LDL[1]		TC[1]		RAISED SERUM CHOLESTEROL[2]	NUMBER OF RESPONDENTS
	MEAN (MMOL/L)	NUMBER OF RESPONDENTS	MEAN (MMOL/L)	NUMBER OF RESPONDENTS	MEAN (MMOL/L)	NUMBER OF RESPONDENTS		
Age								
15-29	4.4	2,438	2.6	1,875	3.3	2,898	39.3	2,438
30-44	4.6	2,611	2.5	2,223	3.4	3,104	43.1	2,611
45-59	4.8	881	2.5	721	3.3	1,077	46.3	881
60-69	4.9	273	2.4	197	3.2	314	48.3	273
70-79	5.1	106	2.5	84	3.4	121	52.1	106
80+	5.7	43	1.7	36	3.4	47	67.5	43
Sex								
Male	4.6	3,319	2.5	2,739	3.3	3,971	42.3	3,319
Female	4.6	3,034	2.5	2,397	3.4	3,590	42.9	3,034
Nationality								
Saudi	4.6	5,530	2.5	4,520	3.4	6,527	42.8	5,530
Non-Saudi	4.5	823	2.6	616	3.3	1,033	41.2	823
Residence								
Urban	4.6	5,420	2.5	4,302	3.4	6,562	41.8	5,420
Rural	4.9	934	2.4	834	3.4	999	47.1	934
Marital Status								
Never married	4.4	1,607	2.7	1,230	3.2	1,911	37.3	1,607
Currently married	4.7	4,286	2.5	3,537	3.4	5,061	44.9	4,286
Formerly married	4.6	460	2.7	369	3.6	589	39.7	460
Education								
No formal education	4.9	340	2.1	300	3.4	388	52.0	340
Less than secondary school	4.7	926	2.4	758	3.3	1,091	42.5	926
Secondary school	4.6	2,526	2.5	2,047	3.3	2,902	44.0	2,526
More than secondary school	4.5	2,562	2.7	2,031	3.4	3,179	40.1	2,562
Wealth Quintile								
Lowest	4.6	1,555	2.4	1,199	3.3	1,793	43.7	1,555
Second	4.7	1,324	2.7	1,073	3.4	1,588	43.6	1,324
Middle	4.7	1,212	2.5	932	3.3	1,425	44.4	1,212
Fourth	4.7	1,163	2.4	974	3.3	1,398	42.5	1,163
Highest	4.4	1,100	2.6	958	3.5	1,358	38.1	1,100
Region								
Riyadh	4.2	1,428	2.8	1,402	3.9	2,000	36.4	1,428
Makkah	4.5	1,712	3.7	762	3.0	2,109	43.4	1,712
Madinah	3.8	461	2.6	451	3.4	655	27.8	461
Qasim	4.6	276	1.5	281	3.1	279	32.3	276
Eastern Province	5.1	859	2.1	769	3.3	868	47.9	859
Asir	5.1	564	2.1	561	3.1	566	60.0	564
Tabuk	5.0	174	2.6	132	3.1	197	39.0	174
Hail	5.1	121	2.3	102	3.3	121	51.6	121
Northern Borders	6.2	5	1.6	4	4.5	5	63.5	5
Jizan	5.2	311	3.0	237	4.1	324	54.4	311
Najran	4.6	174	1.4	174	2.3	171	41.4	174
Bahah	4.3	134	1.2	131	2.5	134	25.6	134
Jawf	5.0	132	1.5	131	2.3	133	50.9	132
Total	4.6	6,353	2.5	5,136	3.4	7,561	42.6	6,353

1 Plausible values were as follows: for LDL min=0.5 mmol/L, max=10 mmol/L; for HDL min=0.4 mmol/L; max=5 mmol/L; for TC min=1.75 mmol/L, max=20 mmol/L. Any values below the minimum plausible value or above the maximum plausible value were excluded from the analysis.

2 Raised serum cholesterol is defined as total cholesterol >=5 mmol/L.

Table 6.8: : Haemoglobin (Hgb)

Mean haemoglobin (Hgb) and percentage of respondents with anaemia based on measured blood haemoglobin, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MEAN HEMOGLOBIN (G/L)[1,2]	ANEMIA STATUS BY HEMOGLOBIN LEVEL[3]				NUMBER OF RESPONDENTS
		ANY ANEMIA	MILD	MODERATE	SEVERE	
Age						
15-29	119.8	50.2	18.3	25.4	6.5	2,837
30-44	122.3	49.1	21.5	22.1	5.5	3,056
45-59	121.5	50.1	21.3	23.3	5.5	1,051
60-69	116.1	56.0	17.8	29.9	8.3	317
70-79	116.8	52.2	16.1	27.7	8.4	116
80+	108.1	70.0	19.9	38.8	11.3	50
Sex						
Male	124.6	51.9	24.5	22.5	4.9	3,898
Female	116.6	48.3	15.1	25.7	7.4	3,529
Nationality						
Saudi	120.9	49.2	19.5	23.7	6.0	6,413
Non-Saudi	119.9	55.9	23.2	26.2	6.5	1,014
Residence						
Urban	120.8	50.4	20.0	24.4	6.0	6,430
Rural	120.8	48.7	20.3	21.6	6.9	997
Marital Status						
Never married	120.2	51.8	19.4	26.0	6.4	1,862
Currently married	121.7	49.1	20.9	22.5	5.7	4,992
Formerly married	114.8	54.0	14.6	31.4	8.1	573
Education						
No formal education	114.8	56.5	21.1	28.1	7.3	389
Less than secondary school	121.6	49.1	20.7	23.4	5.0	1,096
Secondary school	121.6	48.1	19.2	22.6	6.3	2,847
More than secondary school	120.5	51.7	20.4	25.1	6.2	3,094
Wealth Quintile						
Lowest	124.2	46.9	22.4	20.7	3.8	1,790
Second	119.4	51.7	19.5	25.0	7.2	1,558
Middle	120.9	49.3	20.5	22.6	6.1	1,399
Fourth	120.2	49.1	17.8	24.9	6.4	1,387
Highest	118.2	54.9	19.1	28.1	7.6	1,293
Region						
Riyadh	118.3	54.6	18.5	27.8	8.3	1,893
Makkah	119.0	56.4	21.0	30.0	5.4	2,069
Madinah	123.3	47.9	24.1	19.7	4.1	627
Qasim	134.5	26.2	14.2	11.2	0.8	284
Eastern Province	128.3	35.5	22.6	12.6	0.3	887
Asir	118.0	55.2	25.6	19.5	10.1	566
Tabuk	115.0	49.7	19.3	12.2	18.2	208
Hail	142.0	17.7	16.3	1.4	0.0	121
Northern Borders	137.3	13.3	0.0	13.3	0.0	5
Jizan	126.7	34.4	19.4	13.9	1.1	325
Najran	102.4	79.4	10.7	49.9	18.9	175
Bahah	96.9	81.5	5.4	62.8	13.3	134
Jawf	128.4	27.4	13.0	12.2	2.2	133
Total	120.8	50.2	20.0	24.0	6.1	7,427

1 Hemoglobin adjusted for smoking, adjustment -0.3 g/l for all smokers.

2 Plausible values were as follows for females: min=40 g/L, max=180 g/L; for males: min=50 g/L, max=200 g/L. Any values below the minimum plausible value or above the maximum plausible value were excluded from the analysis

3 Hemoglobin levels are categorized as follows for women: Mild 110-119 g/L; Moderate 80-109 g/L; Severe <80 g/L, for pregnant women: Mild 100-109 g/L; Moderate 70-99 g/L; Severe <70 g/L, for men: Mild 110-129 g/L; Moderate 80-109 g/L; Severe <80 g/L.

7. HEALTH STATE DESCRIPTIONS

KEY FINDINGS

- **General health rating:** Respondents report having excellent (74%), very good (25%) and good health (5%). Less than 1% of respondents report having poor and fair health.
- **Disability score**: The average disability score was 7/100. Disability increases with age from 5 in the15-29 age group to 31 in the 80+ age group.
- **Hearing:** 7% of respondents have had a hearing test and 1% wear a hearing aid.
- **Vision:** 71% of the respondents wear glasses or contact lenses for nearsightedness and 48% for farsightedness. 80% of respondents have had a vision test.

Health state descriptions relate to the descriptions of health and health-related domains based on the International Classification of Functioning, Disability, and Health (12). The domains include mobility, self-care, pain and discomfort, cognition, interpersonal activities, sleep and energy, affect, hearing, and vision. Respondents were asked to rate the levels of their difficulty on a five point Likert scale from "none" to "extreme" for each domain. In addition, for hearing and vision more questions were asked about tests and aids used. This chapter presents information on each health state domain and on general health.

7.1 GENERAL HEALTH

7.1.1 GENERAL HEALTH RATING

Table 7.1 presents the general health rating of the respondents. The majority of the respondents reported having excellent general health (74%). Twenty percent and 5% have very good and good general health, respectively. Reporting excellent general health decreases with increasing age from 84% in respondents ages 15-29 to 4% in respondents ages 80+.

7.1.2 DIFFICULTY WITH WORK AND HOUSEHOLD ACTIVITIES

Table 7.2 shows that 84% report no difficulty with 'work and household activities' in the past 30 days. Mild and moderate difficulty is experienced by 10% and 5% of the respondents, respectively.

Older respondents report more difficulty with 'work and household activities' compared to younger respondents. More males experience no difficulty in conducting work and household activities than females (87% vs. 80%). Respondents with higher household wealth have a lower percentage of reporting no difficulty in work and household activities, ranging from 80% in the highest quintile, to 87% in the lowest quintile.

7.2 MOBILITY

7.2.1 MOVING AROUND

Table 7.3 describes difficulty with 'moving around' in the past 30 days among the respondents. A large percentage of respondents report no difficulty (84%). Approximately 10% and 4% report mild and moderate difficulty, respectively. 86% of males have no difficulty with 'moving around' compared to 82% of females. Reported difficulty with moving around increases with age. Lack of difficulty with 'moving around' was similar for urban and rural residents (84%), but slightly higher in non-Saudis (87%) compared to Saudis (84%).

7.2.2 VIGOROUS ACTIVITY

Vigorous activity is defined as an activity that requires hard physical effort which leads to significant increase in breathing or heart rate. **Table 7.4** depicts difficulty with 'vigorous activity'. Most of the respondents (75%) have no difficulty with 'vigorous activity', whereas mild and moderate difficulty is experienced by 14% and 6% of the respondents, respectively. Having no difficulty in conducting 'vigorous activities' is higher in males than females (77% vs. 72%, respectively). Difficulty with vigorous activity is higher among older respondents than younger respondents.

7.3 SELF-CARE

Self-care is defined as the ability to wash, dress, and maintain general appearance.

7.3.1 WASHING AND DRESSING

93% of respondents state they face no difficulty with 'self-care (washing and dressing)' and 5% face mild difficulty (Table 7.5). The percentage of those who face difficulty 'washing and dressing' increases with age. 94% of males reported no difficulty with self-care, compared to 92% of females.

7.3.2 MAINTAINING GENERAL APPEARANCE

A large percentag of respondents (90%) state they have no difficulty 'taking care of and maintaining general appearance' (Table 7.6). Diffiuclty 'taking care of and maintaining general appearance' increases with age; 95% of participants aged 15-29 reported no difficulty, compared with 27% of those aged 80 and above.

7.4 PAIN AND DISCOMFORT

Those who have to live with bodily aches, pains and discomfort find their day to day life difficult as these issues impinge on such person's ability to live a full, healthy, and normal life.

7.4.1 BODILY ACHES PAIN & BODILY DISCOMFORT

Table 7.7 presents the amount of 'bodily aches and pains' reported by the respondents. 76% report no 'bodily aches and pains', 16%, 6%, and 2% of respondents have 'mild', 'moderate', and 'severe' 'bodily aches and pain', respectively. Males and non-Saudis are more likely to have no 'aches and pains' compared to females and Saudis (79% and 81% vs. 73% and 75%, respectively).

Table 7.8 shows the amount of 'bodily discomfort' in the past 30 days. Almost three quarters (74%) experience no 'bodily discomfort', while 18% have 'mild' and 7% have 'moderate' 'bodily discomfort'. Only 1.2% and 0.1% reported 'severe' and 'extreme' discomfort, respectively. Respondents who report no 'bodily aches and pains' and no 'bodily discomfort' are younger than respondents who report mild, moderate, severe and extreme pain and discomfort.

7.5 COGNITION

'Health' generally signifies both physical and mental health. Mental health processes relate to gaining knowledge, remembering, and comprehension, such as the ability to think, absorb knowledge or information, recall information, and the ability to solve problems.

7.5.1 CONCENTRATING OR REMEMBERING

Concentration and remembering is defined as the ability to absorb and recall information. Having no difficulty with 'concentrating or remembering' in the last 30 days was reported by 82% of respondents (**Table 7.9**). 13% and 4% have mild and moderate difficulty with 'concentrating or remembering', respectively. Difficulty with 'concentrating or remembering' increases with age. Males and non-Saudis were more likely to have no difficulty concentrating or remembering compared to females and Saudis (84% and 86% compared with 80% and 82%). Urban and rural residents had the same level of difficulty with concentrating or remembering (18%).

7.5.2 LEARNING A NEW TASK

Table 7.10 demonstrates difficulty 'learning a new task'. More than half of the respondents (55%) reported no difficulty 'learning a new task'. 3% and 1% have 'severe' and 'extreme' difficulty with 'learning a new task, respectively. Around 55% of males and of females reported no difficulty in learning a new task.

7.6 INTERPERSONAL ACTIVITIES

The ability to form and manage interpersonal relationships is an important aspect of an individual's mental and emotional health. Interpersonal activities are defined as activities related to individual participation in relationships and the community, making new friendships, and dealing with strangers.

7.6.1 PERSONAL RELATIONSHIPS OR PARTICIPATION IN THE COMMUNITY

Table 7.11 presents difficulty with 'personal relationships or participation in the community'. The majority (86%) have no difficulty with 'personal relationships or participation in the community', followed by mild (10%), moderate (4%), then severe (0.5%) and extreme (0.2%) difficulty. Lack of difficulty decreased steadily with age, from 90% in the 15-29 age group, to 26% of the 80 and older participants.

7.6.2 DEALING WITH CONFLICTS AND TENSIONS

Table 7.12 shows that 80% of respondents have no difficulty 'dealing with conflicts and tensions'; however, 18% of respondents have mild to moderate difficulty. A lower percentage of females (78%) report no difficulty with 'dealing with conflicts and tensions', compared to males

(83%). The percentage of participants reporting no difficulty in dealing with tensions and conflicts was the same among urban and rural residents (80%). There was no difference in that percentage according to wealth quintiles; as it ranged between 79% for the second and middle quintiles to 82% in the lowest and fourth quintiles.

7.6.3 MAKING NEW FRIENDSHIPS

No difficulty in 'making new friendships' was reported by 84% of respondents (**Table 7.13**). 10% and 5% have mild and moderate difficulty, respectively. Lack of difficulty in making friends decreased with age, from 88% in the 15-29 age group to a low of 29% in the 80 and older age group. There were no major differences in the percentage of lack of difficulty in making friends by se, nationality, residence and, wealth quintiles.

7.6.4 DEALING WITH STRANGERS

Table 7.14 summarises difficulty 'dealing with strangers' among respondents. The percentage that report none, mild, moderate and severe difficulty amounted to 80%, 12%, 6% and 1%, respectively. Males are more likely to report no difficulty in 'dealing with strangers' (83%) compared to females (78%). For all interpersonal activities there is an age gradient, as the percentage of difficulty (mild, moderate, severe and extreme) increases with age.

7.7 SLEEP AND ENERGY

7.7.1 SLEEPING

Table 7.15 provides the percentage distribution of difficulty 'sleeping'. The results show that 77% have no difficulty 'sleeping', while 14% have mild difficulty, and 7% have moderate difficulty. The percentage of respondents with severe and extreme difficulty sleeping is 2% and 0.2%, respectively. Males are more likely to have no difficulty with 'sleeping' compared to females (79% vs. 81%). Similarly, 81% of rural and non-Saudi respondents reported no difficulty with 'sleeping' compared to 76% of the urban and Saudi respondents. Difficulty 'sleeping' also increases with age.

7.7.2 FEELING RESTED AND REFRESHED

Table 7.16 reports difficulty 'feeling rested and refreshed'. 74% of the participants reported having no difficulty 'feeling rested and refreshed', while 18%, 7%, and 1.2% reported mild, moderate, and severe difficulty, respectively. None of the participants reported extreme difficulty feeling rested and refreshed. A lower percentage of females reported lack of difficulty feeling rested and refreshed than male (71% vs 76%, respectively). Respondents in older age groups are more likely to have difficulty 'feeling rested and refreshed'.

7.8 AFFECT

Affect relates to problems related to feeling sad, low and depressed, as well as worry or anxiety.

7.8.1 FEELING SAD, LOW OR DEPRESSED

'Experiencing no difficulty 'with feeling sad, low or depressed' was reported by 78% of respondents (Table 7.17). On the other hand, 21% reported mild or moderate difficulty, and 1% severe or extreme difficulty with 'feeling sad, low or depressed'.

7.8.2 WORRY OR ANXIETY

74% of respondents have no difficulty with 'worry or anxiety', mild difficulty (17%), and moderate difficulty (7%) (Table 7.18). Males are more likely to report no difficulties with 'feeling sad, low or depressed' or 'worry or anxiety' compared to females (81% and 77% vs. 74% and 70%, respectively). There is also an age gradient with older age groups showing greater difficulty than younger age groups.

7.9 DISABILITY SCORE

The disability score was generated based on the responses on 17 items being rated on a 5-point Likert scale as follows: 0 "None", 1 "Mild", 2 "Moderate", 3 "Severe", 4 "Extreme". A total disability score was calculated for each respondent by summing across items. The score was converted into a metric ranging from 0,"No disability" to 100,"Full disability"(13).

Table 7.19 summarises the results for the disability score by background characteristics. Respondents had an average disability score of 6.9. In general, as age increases, the disability score increases from 5 in age group 15-29 to 31 in age group 80+. The differences in the disability score by sex, nationality, residence, wealth and region are not, in general, large.

7.10 HEARING

7.10.1 HEARING TEST AND HEARING AID

Table 7.20 displays the hearing testing and use of aids among the respondents. A total of 7% of the respondents have taken a hearing test, and 1% have a hearing aid. The percentage of respondents who have had a hearing test or have a hearing aid increases with age, ranging from 5% and 0.7% in the 15-29 age group to 31% and 6% in the 80+ age group, respectively. The percentage of respondents having had hearing testing and those using a hearing aid is higher in males than females (8% and 1% vs. 6% and 0.7%, respectively). The percentage of those having had a hearing test and those using a hearing aid is greater in Saudis than non-Saudis (7% and 1% vs. 5% and 0.3%, respectively).

7.11 VISION

7.11.1 SEEING AND RECOGNISING A PERSON YOU KNOW ACROSS THE ROAD (20 M)

Table 7.21 indicates that 82% of respondents have no difficulty with 'seeing and recognising a person you know across the road (20 m)'. 12% have mild and 4% have moderate difficulty. Only 2% and 0.1% reported severe and extreme difficulty, respectively. The lack of difficulty with 'seeing and recognising a person you know across the road (20 m)' decreases as age increases. Respondents in the highest wealth quintile are more likely to have difficulty with 'seeing and recognising a person you know across the road (20 m)'.

7.11.2 SEEING AN OBJECT AT ARM'S LENGTH OR READING

Table 7.22 reports difficulty 'seeing an object at arm's length or reading'. The majority of respondents have no difficulty (87%), followed by mild (9%), and then moderate (3%) difficulty. As age increases, respondents report greater difficulty. Males and females have comparable percentages. By household wealth, respondents in the highest quintile have a lower percentage (81%) compared with the lowest quintile (89%).

7.11.3 VISION TEST AND GLASSES/CONTACT LENSES

The percentage of respondents who wear glasses or contact lenses for nearsightedness is 71%, and farsightedness is 48% (**Table 7.23**). 79% of the respondents have had a vision test. The percentage of those having had a vision test differs by sex, nationality, residence and wealth. The percentage of respondents who have had a vision test increases with age, ranging from 77% in the 15-29 age group , to 90% in the 80+ age group. Respondents who have had a vision test increases with household wealth; from 72% in the lowest quintile to 88% in the highest quintile. The percentage of respondents who wear glasses or contact lenses for nearsightedness and farsightedness also varies with age, sex, and residence.

LIST OF TABLES

For more information on household population and housing characteristics, see the following tables:

- **Table 7.1**: General health rating
- **Table 7.2**: Difficulty with 'work and household activities' in the last 30 days
- **Table 7.3**: Difficulty with 'moving around'
- **Table 7.4**: Difficulty with 'vigorous activity'
- **Table 7.5**: Difficulty with 'self-care (washing and dressing)'
- **Table 7.6**: Difficulty with 'taking care of and maintaining general appearance'
- **Table 7.7:** Amount of 'bodily aches and pains'
- **Table 7.8**: Amount of 'bodily discomfort'
- **Table 7.9**: Difficulty with 'concentrating or remembering'
- **Table 7.10**: Difficulty with 'learning a new task'
- **Table 7.11**: Difficulty with 'personal relationships or participation in the community'
- **Table 7.12**: Difficulty with 'dealing with conflicts and tensions'
- **Table 7.13**: Difficulty with 'making new friendships'
- **Table 7.14**: Difficulty 'dealing with strangers'
- **Table 7.15**: Difficulty with 'sleeping'
- **Table 7.16**: Difficulty with 'feeling rested and refreshed'
- **Table 7.17**: Difficulty with 'feeling sad, low or depressed'
- **Table 7.18**: Difficulty with 'worry or anxiety'
- **Table 7.19**: Disability score
- **Table 7.20:** Hearing test and aids
- **Table 7.21**: Difficulty with 'seeing and recognising a person you know across the road (20 m)'
- **Table 7.22** : Difficulty with 'seeing an object at arm's length or reading'
- **Table 7.23**: Vision test and aids

Table 7.1: General health rating

Percentage distribution of general health rating, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	GENERAL HEALTH RATING						TOTAL	NUMBER OF RESPONDENTS
	EXCELLENT	VERY GOOD	GOOD	FAIR	POOR	DON'T KNOW		
Age								
15-29	84.4	13.7	1.5	0.3	0.1	0.0	100.0	3,353
30-44	77.7	19.4	2.5	0.4	0.0	0.0	100.0	3,755
45-59	57.5	32.3	9.6	0.4	0.1	0.1	100.0	1,256
60-69	33.5	39.0	24.1	3.0	0.0	0.4	100.0	362
70-79	11.3	25.8	53.2	7.9	0.8	1.0	100.0	135
80+	4.4	32.8	34.2	23.7	4.9	0.0	100.0	52
Sex								
Male	75.1	19.9	4.3	0.6	0.1	0.0	100.0	4,694
Female	73.0	20.2	5.7	0.9	0.2	0.1	100.0	4,218
Nationality								
Saudi	74.1	19.8	5.2	0.8	0.1	0.0	100.0	7,777
Non-Saudi	74.5	21.6	3.6	0.2	0.0	0.1	100.0	1,135
Residence								
Urban	73.7	20.5	5.0	0.6	0.1	0.1	100.0	7,687
Rural	76.7	17.0	4.7	1.3	0.3	0.0	100.0	1,225
Wealth Quintile								
Lowest	78.3	16.9	3.8	0.7	0.3	0.1	100.0	2,169
Second	74.2	19.0	5.8	0.9	0.1	0.0	100.0	1,918
Middle	75.6	19.2	4.2	1.0	0.0	0.0	100.0	1,694
Fourth	71.5	22.9	5.0	0.5	0.0	0.1	100.0	1,626
Highest	69.1	23.9	6.4	0.4	0.1	0.1	100.0	1,505
Region								
Riyadh	70.9	24.6	4.2	0.2	0.1	0.0	100.0	2,345
Makkah	76.4	17.7	5.1	0.7	0.1	0.0	100.0	2,257
Madinah	80.4	14.3	3.9	0.5	0.4	0.4	100.0	664
Qasim	81.3	14.2	4.2	0.1	0.0	0.3	100.0	364
Eastern Province	74.8	17.3	6.7	1.1	0.1	0.0	100.0	1,149
Asir	75.9	16.4	6.8	0.9	0.0	0.0	100.0	644
Tabuk	51.7	41.2	6.4	0.8	0.0	0.0	100.0	300
Hail	84.4	13.4	2.1	0.2	0.0	0.0	100.0	179
Northern Borders	74.9	20.4	3.6	0.9	0.3	0.0	100.0	87
Jizan	76.1	18.2	5.0	0.7	0.0	0.0	100.0	410
Najran	65.4	31.6	2.2	0.7	0.0	0.0	100.0	194
Bahah	71.3	13.5	6.2	7.0	1.9	0.0	100.0	153
Jawf	73.0	22.8	3.4	0.5	0.0	0.2	100.0	165
Total	74.1	20.1	5.0	0.7	0.1	0.1	100.0	8,912

Table 7.2: Difficulty with 'work and household activities' in the last 30 days

Percentage distribution of difficulty with 'work and household activities' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'WORK AND HOUSEHOLD ACTIVITIES'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	92.0	5.9	1.6	0.3	0.2	0.1	100.0	3,353
30-44	88.7	7.6	2.9	0.6	0.2	0.1	100.0	3,755
45-59	68.4	20.7	8.9	1.2	0.2	0.6	100.0	1,256
60-69	43.0	26.4	21.4	7.4	0.1	1.7	100.0	362
70-79	18.5	24.2	34.0	15.7	3.5	4.0	100.0	135
80+	5.5	25.1	27.2	34.9	6.5	0.8	100.0	52
Sex								
Male	87.1	7.9	3.4	1.0	0.2	0.3	100.0	4,694
Female	79.8	12.1	6.0	1.5	0.4	0.2	100.0	4,218
Nationality								
Saudi	83.1	10.0	4.9	1.4	0.3	0.3	100.0	7,777
Non-Saudi	87.2	9.0	2.9	0.4	0.2	0.3	100.0	1,135
Residence								
Urban	83.4	10.0	4.9	1.2	0.3	0.3	100.0	7,687
Rural	85.5	9.5	3.1	1.8	0.1	0.1	100.0	1,225
Wealth Quintile								
Lowest	86.5	8.4	3.7	1.0	0.2	0.1	100.0	2,169
Second	83.1	10.4	4.7	1.4	0.3	0.2	100.0	1,918
Middle	84.3	9.7	4.3	0.9	0.5	0.2	100.0	1,694
Fourth	83.2	9.7	5.0	1.6	0.3	0.2	100.0	1,626
Highest	80.2	11.9	5.7	1.3	0.0	0.7	100.0	1,505
Region								
Riyadh	85.7	10.2	2.4	1.1	0.2	0.5	100.0	2,345
Makkah	80.0	11.6	6.5	1.4	0.4	0.1	100.0	2,257
Madinah	89.3	5.8	3.3	1.3	0.1	0.2	100.0	664
Qasim	88.6	7.1	3.2	0.1	0.3	0.8	100.0	364
Eastern Province	86.0	6.7	5.2	1.2	0.5	0.4	100.0	1,149
Asir	82.9	10.8	5.5	0.7	0.1	0.0	100.0	644
Tabuk	81.2	8.8	8.0	1.5	0.2	0.2	100.0	300
Hail	91.6	5.1	2.3	0.9	0.0	0.2	100.0	179
Northern Borders	89.7	5.7	3.0	1.6	0.0	0.0	100.0	87
Jizan	77.9	14.1	6.8	0.5	0.4	0.3	100.0	410
Najran	74.4	20.4	4.2	1.0	0.0	0.0	100.0	194
Bahah	70.9	11.7	6.6	10.7	0.2	0.0	100.0	153
Jawf	87.9	9.0	2.6	0.0	0.2	0.2	100.0	165
Total	83.7	9.9	4.6	1.3	0.3	0.3	100.0	8,912

Table 7.3: Difficulty with 'moving around'

Percentage distribution of difficulty with 'moving around' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'MOVING AROUND'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	92.4	6.1	1.0	0.4	0.1	0.0	100.0	3,353
30-44	88.5	8.4	2.6	0.3	0.1	0.0	100.0	3,755
45-59	72.0	18.9	7.2	1.6	0.1	0.2	100.0	1,256
60-69	39.4	35.3	18.6	6.5	0.2	0.0	100.0	362
70-79	16.5	22.9	41.5	17.0	2.1	0.0	100.0	135
80+	5.8	18.1	32.6	40.7	2.0	0.8	100.0	52
Sex								
Male	86.3	9.4	3.2	0.9	0.2	0.0	100.0	4,694
Female	81.6	11.4	5.1	1.6	0.1	0.1	100.0	4,218
Nationality								
Saudi	83.7	10.6	4.1	1.4	0.1	0.0	100.0	7,777
Non-Saudi	86.5	9.0	3.8	0.4	0.2	0.0	100.0	1,135
Residence								
Urban	84.1	10.3	4.3	1.2	0.1	0.0	100.0	7,687
Rural	83.9	11.0	3.1	1.8	0.3	0.0	100.0	1,225
Wealth Quintile								
Lowest	86.7	8.0	3.8	1.3	0.1	0.0	100.0	2,169
Second	81.9	12.4	4.3	1.4	0.1	0.0	100.0	1,918
Middle	84.5	10.2	3.9	1.0	0.3	0.0	100.0	1,694
Fourth	85.2	8.8	4.5	1.4	0.1	0.0	100.0	1,626
Highest	81.3	13.1	4.1	1.2	0.0	0.2	100.0	1,505
Region								
Riyadh	85.3	10.7	3.0	0.9	0.0	0.1	100.0	2,345
Makkah	84.6	8.6	5.2	1.4	0.1	0.0	100.0	2,257
Madinah	88.9	6.7	2.7	1.4	0.3	0.0	100.0	664
Qasim	86.6	8.2	3.5	1.3	0.0	0.4	100.0	364
Eastern Province	86.7	8.1	3.6	1.3	0.3	0.0	100.0	1,149
Asir	81.1	13.2	4.5	1.1	0.1	0.0	100.0	644
Tabuk	75.1	14.1	10.0	0.8	0.0	0.0	100.0	300
Hail	91.7	5.4	1.4	0.9	0.6	0.0	100.0	179
Northern Borders	83.1	13.0	3.1	0.2	0.6	0.0	100.0	87
Jizan	78.2	16.0	4.9	0.7	0.3	0.0	100.0	410
Najran	66.7	29.6	2.6	1.2	0.0	0.0	100.0	194
Bahah	72.2	11.6	6.5	9.6	0.0	0.0	100.0	153
Jawf	83.5	13.5	2.8	0.0	0.2	0.0	100.0	165
Total	84.1	10.4	4.1	1.3	0.1	0.0	100.0	8,912

Table 7.4: Difficulty with 'vigorous activity'

Percentage distribution of difficulty with 'vigorous activity' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'VIGOROUS ACTIVITY'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	83.1	10.2	3.8	0.6	0.2	2.1	100.0	3,353
30-44	80.1	11.8	4.8	1.0	0.5	1.9	100.0	3,755
45-59	57.5	22.8	12.2	4.1	0.8	2.6	100.0	1,256
60-69	31.1	26.1	19.4	12.9	5.6	4.8	100.0	362
70-79	12.2	22.1	23.7	20.2	13.5	8.3	100.0	135
80+	4.7	19.6	17.4	37.3	18.9	2.1	100.0	52
Sex								
Male	77.2	12.6	5.6	1.8	0.9	1.9	100.0	4,694
Female	71.6	14.5	7.2	2.8	1.1	2.7	100.0	4,218
Nationality								
Saudi	74.2	13.4	6.6	2.4	1.0	2.3	100.0	7,777
Non-Saudi	76.9	14.1	4.9	1.3	0.8	2.0	100.0	1,135
Residence								
Urban	74.1	13.6	6.6	2.3	1.0	2.4	100.0	7,687
Rural	77.7	13.1	5.2	2.4	0.5	1.2	100.0	1,225
Wealth Quintile								
Lowest	78.7	10.0	4.3	1.9	0.9	4.2	100.0	2,169
Second	71.9	16.9	6.7	2.0	0.8	1.6	100.0	1,918
Middle	76.5	12.7	6.4	2.0	1.0	1.4	100.0	1,694
Fourth	74.1	13.6	7.7	2.4	1.3	0.9	100.0	1,626
Highest	70.3	14.9	7.6	3.5	0.9	2.8	100.0	1,505
Region								
Riyadh	72.5	14.5	6.8	2.0	1.1	3.0	100.0	2,345
Makkah	67.0	16.3	8.4	2.7	1.0	4.6	100.0	2,257
Madinah	88.8	6.5	2.2	1.2	1.1	0.2	100.0	664
Qasim	85.8	8.2	3.8	0.4	0.8	0.9	100.0	364
Eastern Province	76.9	11.0	6.2	3.5	1.5	0.9	100.0	1,149
Asir	81.1	11.7	4.8	1.0	0.2	1.1	100.0	644
Tabuk	74.6	12.3	9.7	2.6	0.4	0.4	100.0	300
Hail	82.7	8.5	6.2	2.2	0.4	0.0	100.0	179
Northern Borders	79.2	14.0	3.7	2.8	0.3	0.0	100.0	87
Jizan	71.5	18.6	6.3	2.3	0.3	1.1	100.0	410
Najran	72.8	22.1	3.3	1.3	0.0	0.5	100.0	194
Bahah	69.6	12.5	6.7	9.3	1.9	0.0	100.0	153
Jawf	86.4	10.2	2.5	0.1	0.8	0.0	100.0	165
Total	74.6	13.5	6.4	2.3	1.0	2.3	100.0	8,912

Table 7.5: Difficulty with 'self-care (washing and dressing)'

Percentage distribution of difficulty with 'self-care (washing and dressing)' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'TAKING CARE OF AND MAINTAINING GENERAL APPEARANCE'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	97.4	2.0	0.4	0.1	0.1	0.0	100.0	3,353
30-44	95.9	3.4	0.5	0.0	0.1	0.1	100.0	3,755
45-59	86.8	10.6	2.1	0.2	0.1	0.1	100.0	1,256
60-69	65.6	19.0	13.6	1.7	0.0	0.0	100.0	362
70-79	41.3	27.3	23.9	4.4	3.1	0.0	100.0	135
80+	22.2	27.4	24.3	14.9	11.3	0.0	100.0	52
Sex								
Male	93.7	4.4	1.2	0.4	0.2	0.1	100.0	4,694
Female	91.6	5.7	2.3	0.1	0.2	0.1	100.0	4,218
Nationality								
Saudi	92.6	5.0	1.8	0.3	0.2	0.1	100.0	7,777
Non-Saudi	93.7	4.7	1.2	0.1	0.2	0.1	100.0	1,135
Residence								
Urban	93.1	4.7	1.6	0.3	0.2	0.1	100.0	7,687
Rural	90.6	6.9	2.2	0.2	0.1	0.0	100.0	1,225
Wealth Quintile								
Lowest	92.1	5.3	1.9	0.3	0.2	0.2	100.0	2,169
Second	93.2	5.0	1.4	0.3	0.1	0.0	100.0	1,918
Middle	93.3	4.6	1.5	0.2	0.4	0.0	100.0	1,694
Fourth	93.8	3.5	2.2	0.2	0.4	0.0	100.0	1,626
Highest	91.2	6.7	1.6	0.5	0.0	0.1	100.0	1,505
Region								
Riyadh	94.9	3.6	0.9	0.3	0.1	0.1	100.0	2,345
Makkah	94.2	3.5	1.9	0.2	0.2	0.1	100.0	2,257
Madinah	90.7	6.3	1.6	0.5	0.7	0.2	100.0	664
Qasim	91.7	5.9	1.6	0.3	0.2	0.3	100.0	364
Eastern Province	94.3	3.6	1.4	0.3	0.4	0.0	100.0	1,149
Asir	88.8	7.7	3.3	0.2	0.1	0.0	100.0	644
Tabuk	95.7	2.2	2.1	0.0	0.0	0.0	100.0	300
Hail	98.3	0.6	1.1	0.0	0.0	0.0	100.0	179
Northern Borders	89.1	9.7	0.8	0.0	0.5	0.0	100.0	87
Jizan	83.6	12.8	3.1	0.5	0.0	0.0	100.0	410
Najran	82.3	15.8	1.9	0.0	0.0	0.0	100.0	194
Bahah	79.9	11.7	5.8	2.4	0.1	0.0	100.0	153
Jawf	92.9	5.4	1.8	0.0	0.0	0.0	100.0	165
Total	92.7	5.0	1.7	0.3	0.2	0.1	100.0	8,912

Table 7.6: Difficulty with 'taking care of and maintaining general appearance'

Percentage distribution of difficulty with 'taking care of and maintaining general appearance' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'TAKING CARE OF AND MAINTAINING GENERAL APPEARANCE'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	94.9	3.5	1.2	0.4	0.0	0.0	100.0	3,353
30-44	92.2	6.1	1.5	0.0	0.1	0.0	100.0	3,755
45-59	86.5	10.1	3.1	0.3	0.0	0.1	100.0	1,256
60-69	67.0	22.0	8.0	2.5	0.0	0.4	100.0	362
70-79	42.1	25.6	26.8	2.6	2.9	0.0	100.0	135
80+	26.7	24.1	29.3	14.1	5.9	0.0	100.0	52
Sex								
Male	90.9	6.5	2.0	0.3	0.2	0.0	100.0	4,694
Female	89.5	7.0	2.9	0.5	0.1	0.1	100.0	4,218
Nationality								
Saudi	90.1	6.8	2.5	0.5	0.1	0.0	100.0	7,777
Non-Saudi	91.5	6.4	1.8	0.1	0.2	0.1	100.0	1,135
Residence								
Urban	90.8	6.3	2.2	0.4	0.1	0.1	100.0	7,687
Rural	86.8	9.2	3.6	0.2	0.2	0.0	100.0	1,225
Wealth Quintile								
Lowest	89.8	7.0	2.4	0.6	0.1	0.0	100.0	2,169
Second	90.7	6.2	2.8	0.2	0.0	0.1	100.0	1,918
Middle	90.1	6.7	2.6	0.3	0.3	0.0	100.0	1,694
Fourth	90.8	5.8	2.6	0.6	0.2	0.0	100.0	1,626
Highest	90.0	8.0	1.5	0.3	0.0	0.2	100.0	1,505
Region								
Riyadh	91.9	6.2	1.7	0.2	0.0	0.0	100.0	2,345
Makkah	93.6	4.6	1.2	0.5	0.1	0.0	100.0	2,257
Madinah	89.7	6.8	2.0	0.8	0.6	0.2	100.0	664
Qasim	89.3	8.1	1.8	0.4	0.0	0.3	100.0	364
Eastern Province	94.8	2.9	1.8	0.1	0.3	0.1	100.0	1,149
Asir	85.5	11.1	2.0	1.2	0.2	0.0	100.0	644
Tabuk	83.0	6.4	10.4	0.2	0.0	0.0	100.0	300
Hail	98.5	1.1	0.4	0.0	0.0	0.0	100.0	179
Northern Borders	84.3	9.9	4.7	0.2	0.5	0.5	100.0	87
Jizan	78.1	14.6	7.1	0.3	0.0	0.0	100.0	410
Najran	67.5	25.9	6.4	0.2	0.0	0.0	100.0	194
Bahah	79.9	10.6	7.8	1.5	0.2	0.0	100.0	153
Jawf	85.4	9.7	4.9	0.0	0.0	0.0	100.0	165
Total	90.3	6.7	2.4	0.4	0.1	0.0	100.0	8,912

Table 7.7: Amount of 'bodily aches and pains'

Percentage distribution of the amount of 'bodily aches and pains' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	AMOUNT OF 'BODILY ACHES AND PAINS'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	86.7	10.2	2.1	0.8	0.1	0.0	100.0	3,353
30-44	80.1	14.8	4.3	0.6	0.1	0.1	100.0	3,755
45-59	59.7	26.9	11.2	2.2	0.0	0.0	100.0	1,256
60-69	27.8	37.6	22.3	12.2	0.1	0.0	100.0	362
70-79	8.7	29.9	37.1	21.4	2.9	0.0	100.0	135
80+	4.0	25.8	34.2	30.2	5.9	0.0	100.0	52
Sex								
Male	79.3	14.4	4.6	1.5	0.2	0.0	100.0	4,694
Female	72.5	17.9	7.2	2.3	0.2	0.0	100.0	4,218
Nationality								
Saudi	75.3	16.3	6.3	1.9	0.2	0.0	100.0	7,777
Non-Saudi	81.2	14.4	3.0	1.3	0.1	0.0	100.0	1,135
Residence								
Urban	76.0	15.8	6.2	1.8	0.2	0.0	100.0	7,687
Rural	76.7	17.1	3.9	2.1	0.2	0.0	100.0	1,225
Wealth Quintile								
Lowest	81.2	12.3	4.4	2.0	0.1	0.0	100.0	2,169
Second	73.9	17.4	6.0	2.5	0.1	0.1	100.0	1,918
Middle	75.6	16.4	6.6	1.2	0.1	0.0	100.0	1,694
Fourth	76.1	15.8	6.3	1.6	0.3	0.0	100.0	1,626
Highest	72.0	19.4	6.5	1.8	0.3	0.0	100.0	1,505
Region								
Riyadh	78.4	16.4	3.9	1.2	0.1	0.0	100.0	2,345
Makkah	70.8	17.5	8.6	3.1	0.1	0.0	100.0	2,257
Madinah	83.4	11.2	3.5	1.3	0.6	0.0	100.0	664
Qasim	86.1	9.1	4.2	0.5	0.0	0.0	100.0	364
Eastern Province	77.4	14.1	6.5	1.3	0.4	0.2	100.0	1,149
Asir	80.3	14.1	4.4	1.0	0.2	0.0	100.0	644
Tabuk	58.0	27.0	13.3	1.7	0.0	0.0	100.0	300
Hail	88.2	8.9	1.6	1.3	0.0	0.0	100.0	179
Northern Borders	75.5	17.9	4.8	1.1	0.7	0.0	100.0	87
Jizan	67.6	23.4	6.6	2.4	0.0	0.0	100.0	410
Najran	76.9	18.8	3.3	0.4	0.5	0.0	100.0	194
Bahah	70.3	13.1	7.1	9.5	0.0	0.0	100.0	153
Jawf	84.4	13.1	1.9	0.6	0.0	0.0	100.0	165
Total	76.1	16.0	5.9	1.9	0.2	0.0	100.0	8,912

Table 7.8: Amount of 'bodily discomfort'

Percentage distribution of the amount of 'bodily discomfort' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	AMOUNT OF 'BODILY DISCOMFORT'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	83.7	12.4	3.2	0.6	0.1	0.1	100.0	3,353
30-44	76.8	17.0	5.6	0.4	0.1	0.0	100.0	3,755
45-59	60.4	28.4	10.1	1.1	0.0	0.0	100.0	1,256
60-69	28.4	41.0	24.4	6.2	0.0	0.0	100.0	362
70-79	8.3	32.6	47.2	10.4	1.5	0.0	100.0	135
80+	7.5	17.2	38.8	36.5	0.0	0.0	100.0	52
Sex								
Male	76.1	17.2	5.8	0.8	0.1	0.0	100.0	4,694
Female	71.0	19.1	8.2	1.5	0.1	0.1	100.0	4,218
Nationality								
Saudi	73.0	18.4	7.2	1.2	0.1	0.0	100.0	7,777
Non-Saudi	78.1	16.4	4.7	0.6	0.3	0.0	100.0	1,135
Residence								
Urban	73.8	17.8	7.2	1.1	0.1	0.0	100.0	7,687
Rural	73.1	20.1	5.2	1.6	0.1	0.0	100.0	1,225
Wealth Quintile								
Lowest	78.4	14.3	6.3	1.0	0.1	0.0	100.0	2,169
Second	70.4	20.2	7.4	2.0	0.1	0.0	100.0	1,918
Middle	74.0	18.9	5.5	1.1	0.2	0.2	100.0	1,694
Fourth	75.1	16.4	7.3	1.0	0.1	0.0	100.0	1,626
Highest	69.2	21.8	8.3	0.5	0.1	0.0	100.0	1,505
Region								
Riyadh	76.1	17.8	5.3	0.7	0.0	0.0	100.0	2,345
Makkah	67.6	21.2	9.3	1.7	0.1	0.1	100.0	2,257
Madinah	84.3	10.1	4.0	1.1	0.4	0.0	100.0	664
Qasim	85.0	11.1	3.3	0.5	0.0	0.0	100.0	364
Eastern Province	77.2	14.9	6.8	0.7	0.4	0.0	100.0	1,149
Asir	78.2	16.5	4.7	0.5	0.1	0.0	100.0	644
Tabuk	54.7	24.0	20.7	0.6	0.0	0.0	100.0	300
Hail	86.6	10.7	2.3	0.3	0.0	0.0	100.0	179
Northern Borders	72.7	21.5	4.4	1.0	0.5	0.0	100.0	87
Jizan	63.3	26.5	8.3	2.0	0.0	0.0	100.0	410
Najran	62.4	31.4	5.2	0.9	0.0	0.1	100.0	194
Bahah	70.1	14.2	6.8	8.8	0.0	0.0	100.0	153
Jawf	75.9	17.9	5.8	0.4	0.0	0.0	100.0	165
Total	73.7	18.1	6.9	1.2	0.1	0.0	100.0	8,912

Table 7.9: Difficulty with 'concentrating or remembering'

Percentage distribution of difficulty with 'concentrating or remembering' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'CONCENTRATING OR REMEMBERING'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	89.7	8.0	2.0	0.2	0.1	0.0	100.0	3,353
30-44	84.7	12.1	2.8	0.4	0.0	0.0	100.0	3,755
45-59	73.7	19.9	6.0	0.5	0.0	0.0	100.0	1,256
60-69	45.6	34.3	18.0	2.1	0.0	0.0	100.0	362
70-79	27.1	25.5	38.5	7.7	1.3	0.0	100.0	135
80+	12.8	36.2	39.3	5.8	5.9	0.0	100.0	52
Sex								
Male	84.4	11.4	3.6	0.5	0.1	0.0	100.0	4,694
Female	79.7	14.6	5.2	0.6	0.0	0.0	100.0	4,218
Nationality								
Saudi	81.7	13.2	4.5	0.6	0.1	0.0	100.0	7,777
Non-Saudi	85.6	10.8	3.1	0.5	0.0	0.0	100.0	1,135
Residence								
Urban	82.2	12.8	4.4	0.6	0.1	0.0	100.0	7,687
Rural	82.1	13.5	4.0	0.2	0.1	0.0	100.0	1,225
Wealth Quintile								
Lowest	85.0	11.4	2.9	0.5	0.1	0.0	100.0	2,169
Second	80.1	14.0	5.2	0.6	0.0	0.1	100.0	1,918
Middle	81.2	13.9	4.3	0.5	0.0	0.0	100.0	1,694
Fourth	84.4	10.2	4.5	0.7	0.2	0.0	100.0	1,626
Highest	79.3	15.3	5.0	0.5	0.1	0.0	100.0	1,505
Region								
Riyadh	82.5	13.4	3.5	0.6	0.0	0.0	100.0	2,345
Makkah	78.8	14.7	5.6	0.9	0.0	0.0	100.0	2,257
Madinah	88.6	6.8	3.1	0.7	0.8	0.0	100.0	664
Qasim	89.9	6.6	3.1	0.4	0.0	0.0	100.0	364
Eastern Province	88.6	8.3	2.9	0.2	0.0	0.0	100.0	1,149
Asir	82.6	13.6	3.8	0.0	0.0	0.0	100.0	644
Tabuk	72.2	16.3	11.3	0.2	0.0	0.0	100.0	300
Hail	92.8	5.8	1.2	0.2	0.0	0.0	100.0	179
Northern Borders	72.0	23.2	4.1	0.7	0.0	0.0	100.0	87
Jizan	73.2	20.0	6.3	0.3	0.0	0.3	100.0	410
Najran	73.8	23.2	2.5	0.4	0.0	0.0	100.0	194
Bahah	75.9	13.0	9.2	1.8	0.0	0.1	100.0	153
Jawf	83.7	14.7	1.6	0.0	0.0	0.0	100.0	165
Total	82.2	12.9	4.3	0.6	0.1	0.0	100.0	8,912

Table 7.10: Difficulty with 'learning a new task'

Percentage distribution of difficulty with 'learning a new task' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'LEARNING A NEW TASK'						TOTAL	NUMBER OF RESPONDENTS[1]
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	69.8	23.8	2.5	1.1	1.5	1.3	100.0	656
30-44	60.5	29.0	8.3	0.6	0.2	1.4	100.0	1,006
45-59	52.1	29.4	13.1	1.8	0.6	2.9	100.0	555
60-69	32.2	29.8	19.9	9.6	0.7	7.8	100.0	267
70-79	20.4	17.3	26.4	20.1	4.1	11.6	100.0	126
80+	5.3	15.0	37.5	22.4	12.5	7.2	100.0	48
Sex								
Male	55.4	28.3	9.9	2.7	1.0	2.8	100.0	1,277
Female	55.2	25.9	10.9	3.7	1.2	3.1	100.0	1,380
Nationality								
Saudi	54.5	27.4	10.5	3.4	1.1	3.0	100.0	2,366
Non-Saudi	61.9	24.4	9.5	1.6	0.4	2.2	100.0	291
Residence								
Urban	56.8	25.8	10.2	3.1	1.2	2.9	100.0	2,299
Rural	45.7	35.2	11.5	4.0	0.3	3.4	100.0	358
Wealth Quintile								
Lowest	53.6	28.2	8.5	5.8	1.2	2.6	100.0	537
Second	53.9	30.8	9.3	3.3	0.5	2.3	100.0	622
Middle	54.3	29.8	11.1	1.3	1.2	2.3	100.0	513
Fourth	59.0	21.9	11.6	2.6	2.7	2.3	100.0	462
Highest	56.6	23.3	12.0	2.9	0.0	5.2	100.0	523
Region								
Riyadh	49.7	30.5	10.2	3.2	1.6	4.8	100.0	628
Makkah	69.9	17.4	8.2	1.8	0.5	2.3	100.0	859
Madinah	48.6	28.1	10.4	2.6	4.5	5.8	100.0	115
Qasim	51.6	23.7	18.8	1.0	1.3	3.6	100.0	63
Eastern Province	64.3	16.3	9.5	4.7	1.7	3.5	100.0	294
Asir	44.1	35.6	12.4	5.9	0.6	1.3	100.0	170
Tabuk	38.3	38.6	20.8	2.3	0.0	0.0	100.0	140
Hail	68.6	16.7	5.5	1.2	0.0	8.0	100.0	29
Northern Borders	53.8	34.1	6.9	0.4	1.8	3.0	100.0	31
Jizan	32.6	47.8	12.8	4.7	0.7	1.4	100.0	158
Najran	35.2	55.0	7.0	2.9	0.0	0.0	100.0	79
Bahah	18.0	41.9	20.6	19.1	0.4	0.0	100.0	46
Jawf	60.5	33.0	2.9	0.8	0.7	2.1	100.0	47
Total	55.3	27.1	10.4	3.2	1.1	2.9	100.0	2,657

1 Total does not add up to the total number of respondents (8,912) because of an incorrect skip pattern so the total is 2,657

Table 7.11: Difficulty with 'personal relationships or participation in the community'

Percentage distribution of difficulty with 'personal relationships or participation in the community' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'PERSONAL RELATIONSHIPS OR PARTICIPATION IN THE COMMUNITY'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	90.4	6.9	1.9	0.4	0.1	0.3	100.0	3,353
30-44	87.5	8.9	3.1	0.3	0.0	0.2	100.0	3,755
45-59	82.0	11.9	5.1	0.4	0.1	0.5	100.0	1,256
60-69	60.1	24.7	13.2	0.5	1.2	0.4	100.0	362
70-79	37.0	26.7	28.9	5.1	0.6	1.8	100.0	135
80+	26.3	23.8	34.5	7.1	8.4	0.0	100.0	52
Sex								
Male	86.9	8.6	3.6	0.5	0.2	0.2	100.0	4,694
Female	84.2	10.6	4.2	0.4	0.2	0.4	100.0	4,218
Nationality								
Saudi	85.4	9.7	3.9	0.5	0.2	0.3	100.0	7,777
Non-Saudi	86.7	8.8	3.5	0.3	0.1	0.6	100.0	1,135
Residence								
Urban	85.9	9.2	3.9	0.5	0.2	0.3	100.0	7,687
Rural	83.5	12.0	3.9	0.5	0.1	0.1	100.0	1,225
Wealth Quintile								
Lowest	86.3	9.4	3.4	0.6	0.1	0.3	100.0	2,169
Second	82.8	11.6	4.7	0.4	0.0	0.6	100.0	1,918
Middle	85.7	8.8	4.6	0.6	0.2	0.1	100.0	1,694
Fourth	88.9	7.2	3.0	0.2	0.6	0.1	100.0	1,626
Highest	84.5	10.6	3.8	0.6	0.1	0.4	100.0	1,505
Region								
Riyadh	85.7	9.8	3.4	0.6	0.1	0.4	100.0	2,345
Makkah	88.4	8.3	2.3	0.4	0.2	0.4	100.0	2,257
Madinah	85.3	7.3	5.8	0.5	0.7	0.4	100.0	664
Qasim	91.1	5.7	3.2	0.0	0.0	0.0	100.0	364
Eastern Province	91.4	4.7	2.9	0.5	0.2	0.3	100.0	1,149
Asir	85.3	10.9	3.6	0.2	0.0	0.0	100.0	644
Tabuk	66.1	17.4	16.0	0.5	0.0	0.0	100.0	300
Hail	97.5	1.4	1.1	0.0	0.0	0.0	100.0	179
Northern Borders	78.1	16.4	4.8	0.5	0.2	0.0	100.0	87
Jizan	72.3	19.3	6.5	1.1	0.6	0.3	100.0	410
Najran	63.3	29.2	6.8	0.7	0.0	0.0	100.0	194
Bahah	78.9	11.4	8.5	1.1	0.1	0.0	100.0	153
Jawf	88.4	10.1	1.5	0.0	0.0	0.0	100.0	165
Total	85.6	9.6	3.9	0.5	0.2	0.3	100.0	8,912

Table 7.12: Difficulty with 'dealing with conflicts and tensions'

Percentage distribution of difficulty with 'dealing with conflicts and tensions' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'DEALING WITH CONFLICTS AND TENSIONS'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	84.7	10.3	3.6	0.6	0.2	0.5	100.0	3,353
30-44	82.8	11.2	5.1	0.8	0.0	0.2	100.0	3,755
45-59	75.5	15.5	6.5	2.2	0.0	0.2	100.0	1,256
60-69	54.6	25.4	12.4	4.9	0.8	1.8	100.0	362
70-79	35.1	22.1	35.3	5.2	0.0	2.2	100.0	135
80+	24.9	28.8	31.1	9.3	5.9	0.0	100.0	52
Sex								
Male	82.7	10.6	5.4	1.0	0.1	0.1	100.0	4,694
Female	77.6	14.2	5.9	1.4	0.1	0.7	100.0	4,218
Nationality								
Saudi	79.9	12.6	5.6	1.2	0.1	0.4	100.0	7,777
Non-Saudi	82.9	10.2	5.7	0.9	0.0	0.3	100.0	1,135
Residence								
Urban	80.3	12.3	5.6	1.3	0.2	0.4	100.0	7,687
Rural	80.4	12.4	6.2	0.5	0.0	0.4	100.0	1,225
Wealth Quintile								
Lowest	81.8	11.2	5.5	1.3	0.0	0.2	100.0	2,169
Second	79.0	12.0	6.7	1.0	0.3	0.9	100.0	1,918
Middle	79.0	12.4	6.7	1.5	0.1	0.4	100.0	1,694
Fourth	81.9	12.0	4.4	1.3	0.2	0.2	100.0	1,626
Highest	79.5	14.5	4.7	0.9	0.0	0.5	100.0	1,505
Region								
Riyadh	80.4	12.9	5.0	0.9	0.1	0.7	100.0	2,345
Makkah	78.2	14.0	5.4	1.6	0.1	0.7	100.0	2,257
Madinah	82.2	8.2	8.1	0.4	0.5	0.6	100.0	664
Qasim	86.1	9.0	3.5	1.0	0.0	0.4	100.0	364
Eastern Province	89.2	5.9	3.3	1.4	0.0	0.1	100.0	1,149
Asir	83.6	12.1	3.3	1.0	0.0	0.0	100.0	644
Tabuk	63.2	15.6	19.1	2.0	0.0	0.0	100.0	300
Hail	92.0	6.1	1.5	0.4	0.0	0.0	100.0	179
Northern Borders	68.9	16.9	12.1	1.1	0.6	0.4	100.0	87
Jizan	68.2	19.9	9.2	2.2	0.6	0.0	100.0	410
Najran	61.9	30.3	7.3	0.5	0.0	0.0	100.0	194
Bahah	79.1	12.3	7.7	0.7	0.2	0.0	100.0	153
Jawf	88.5	9.2	2.2	0.0	0.0	0.1	100.0	165
Total	80.3	12.3	5.6	1.2	0.1	0.4	100.0	8,912

Table 7.13: Difficulty with 'making new friendships'

Percentage distribution of difficulty with 'making new friendships' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'MAKING NEW FRIENDSHIPS'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	88.4	7.8	3.3	0.3	0.1	0.2	100.0	3,353
30-44	85.4	9.4	4.3	0.5	0.0	0.3	100.0	3,755
45-59	80.4	13.2	5.9	0.1	0.0	0.4	100.0	1,256
60-69	61.9	21.4	12.3	1.2	0.5	2.6	100.0	362
70-79	40.5	20.2	29.1	6.2	0.5	3.5	100.0	135
80+	28.5	24.5	38.7	2.5	5.9	0.0	100.0	52
Sex								
Male	85.4	8.9	4.9	0.6	0.1	0.2	100.0	4,694
Female	82.2	11.4	5.2	0.4	0.1	0.7	100.0	4,218
Nationality								
Saudi	83.6	10.3	5.1	0.5	0.1	0.4	100.0	7,777
Non-Saudi	85.5	8.8	4.8	0.4	0.0	0.4	100.0	1,135
Residence								
Urban	84.1	9.8	5.1	0.5	0.1	0.5	100.0	7,687
Rural	82.7	11.9	4.6	0.6	0.1	0.1	100.0	1,225
Wealth Quintile								
Lowest	84.8	9.3	4.8	0.6	0.1	0.3	100.0	2,169
Second	81.3	11.8	5.7	0.5	0.0	0.6	100.0	1,918
Middle	83.6	10.4	5.1	0.4	0.1	0.3	100.0	1,694
Fourth	86.7	8.3	4.1	0.4	0.2	0.3	100.0	1,626
Highest	82.9	10.5	5.4	0.3	0.1	0.8	100.0	1,505
Region								
Riyadh	82.2	11.6	4.8	0.9	0.1	0.5	100.0	2,345
Makkah	87.4	8.2	3.8	0.1	0.0	0.5	100.0	2,257
Madinah	83.7	7.9	6.6	0.6	0.5	0.8	100.0	664
Qasim	88.6	7.3	3.2	0.0	0.0	0.9	100.0	364
Eastern Province	90.0	5.6	3.4	0.5	0.0	0.5	100.0	1,149
Asir	86.1	10.4	3.3	0.1	0.0	0.0	100.0	644
Tabuk	64.8	11.5	22.4	0.9	0.2	0.2	100.0	300
Hail	95.2	3.0	1.8	0.0	0.0	0.0	100.0	179
Northern Borders	68.3	18.4	11.2	1.1	0.4	0.6	100.0	87
Jizan	69.4	21.1	7.9	1.0	0.6	0.0	100.0	410
Najran	65.3	29.1	4.6	0.9	0.0	0.0	100.0	194
Bahah	80.6	10.3	8.5	0.4	0.2	0.0	100.0	153
Jawf	90.6	8.2	0.6	0.0	0.0	0.6	100.0	165
Total	83.9	10.1	5.0	0.5	0.1	0.4	100.0	8,912

Table 7.14: Difficulty 'dealing with strangers'

Percentage distribution of difficulty with 'dealing with strangers' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'DEALING WITH STRANGERS'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	83.4	9.7	5.2	0.9	0.1	0.6	100.0	3,353
30-44	81.8	12.1	4.8	1.1	0.1	0.2	100.0	3,755
45-59	78.8	13.1	7.1	0.6	0.0	0.4	100.0	1,256
60-69	65.1	20.8	10.0	0.5	0.5	3.1	100.0	362
70-79	44.2	17.2	30.2	4.9	0.9	2.7	100.0	135
80+	30.4	26.8	27.1	9.8	5.9	0.0	100.0	52
Sex								
Male	83.0	10.7	5.4	0.6	0.2	0.1	100.0	4,694
Female	77.6	13.1	6.7	1.5	0.0	1.0	100.0	4,218
Nationality								
Saudi	80.2	12.0	6.0	1.1	0.1	0.6	100.0	7,777
Non-Saudi	81.9	11.1	6.1	0.3	0.2	0.4	100.0	1,135
Residence								
Urban	81.0	11.2	6.1	1.0	0.1	0.6	100.0	7,687
Rural	76.7	16.1	5.2	1.4	0.2	0.4	100.0	1,225
Wealth Quintile								
Lowest	81.8	10.8	5.7	0.7	0.3	0.8	100.0	2,169
Second	77.4	13.8	7.3	1.0	0.1	0.4	100.0	1,918
Middle	79.5	13.3	5.6	1.3	0.0	0.4	100.0	1,694
Fourth	82.9	9.7	5.9	1.0	0.2	0.3	100.0	1,626
Highest	80.6	11.7	5.5	1.3	0.0	0.9	100.0	1,505
Region								
Riyadh	78.4	11.5	7.6	1.5	0.1	0.8	100.0	2,345
Makkah	82.6	11.8	4.5	0.6	0.0	0.5	100.0	2,257
Madinah	80.8	10.5	6.4	1.1	0.8	0.3	100.0	664
Qasim	87.7	8.1	3.1	0.2	0.0	0.9	100.0	364
Eastern Province	87.1	5.9	5.0	1.5	0.2	0.2	100.0	1,149
Asir	81.9	13.8	2.8	0.3	0.0	1.2	100.0	644
Tabuk	61.4	18.5	19.8	0.3	0.0	0.0	100.0	300
Hail	92.4	5.3	2.1	0.2	0.0	0.0	100.0	179
Northern Borders	64.0	18.1	8.0	9.0	0.9	0.0	100.0	87
Jizan	70.1	21.4	6.9	1.1	0.0	0.6	100.0	410
Najran	57.6	35.4	6.5	0.4	0.0	0.0	100.0	194
Bahah	80.7	9.9	8.2	1.0	0.2	0.0	100.0	153
Jawf	90.3	8.5	1.0	0.0	0.0	0.2	100.0	165
Total	80.4	11.9	6.0	1.0	0.1	0.5	100.0	8,912

Table 7.15: Difficulty with 'sleeping'

Percentage distribution of difficulty with 'sleeping' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'SLEEPING'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	85.0	9.2	4.2	1.2	0.2	0.1	100.0	3,353
30-44	78.2	13.9	6.4	1.3	0.2	0.0	100.0	3,755
45-59	68.3	20.1	8.0	3.6	0.1	0.0	100.0	1,256
60-69	43.8	34.4	14.7	7.1	0.0	0.0	100.0	362
70-79	30.2	24.8	39.3	4.5	0.5	0.6	100.0	135
80+	17.9	30.9	36.2	13.0	2.0	0.0	100.0	52
Sex								
Male	78.7	13.3	5.7	2.0	0.2	0.1	100.0	4,694
Female	74.8	15.0	8.0	1.9	0.2	0.1	100.0	4,218
Nationality								
Saudi	76.3	14.2	7.2	2.0	0.2	0.1	100.0	7,777
Non-Saudi	81.1	13.0	4.0	1.5	0.3	0.0	100.0	1,135
Residence								
Urban	76.2	14.2	7.3	2.1	0.2	0.1	100.0	7,687
Rural	81.4	13.5	4.0	1.0	0.1	0.1	100.0	1,225
Wealth Quintile								
Lowest	79.8	10.8	6.5	2.4	0.4	0.1	100.0	2,169
Second	75.5	15.1	6.9	2.3	0.1	0.1	100.0	1,918
Middle	76.3	15.2	6.5	1.7	0.3	0.0	100.0	1,694
Fourth	77.3	14.8	6.5	1.5	0.0	0.0	100.0	1,626
Highest	74.7	15.4	7.9	1.6	0.3	0.2	100.0	1,505
Region								
Riyadh	77.6	15.9	5.3	1.0	0.1	0.0	100.0	2,345
Makkah	73.0	12.5	10.1	3.9	0.5	0.0	100.0	2,257
Madinah	85.4	9.8	3.4	0.9	0.3	0.3	100.0	664
Qasim	88.4	5.9	4.7	0.2	0.0	0.8	100.0	364
Eastern Province	73.6	15.4	8.2	2.7	0.1	0.0	100.0	1,149
Asir	82.2	12.2	4.0	1.5	0.0	0.0	100.0	644
Tabuk	67.4	16.9	15.2	0.6	0.0	0.0	100.0	300
Hail	85.6	11.1	3.3	0.0	0.0	0.0	100.0	179
Northern Borders	76.3	17.9	4.9	0.6	0.4	0.0	100.0	87
Jizan	74.0	19.7	4.4	1.6	0.3	0.1	100.0	410
Najran	68.7	26.2	2.7	2.4	0.0	0.0	100.0	194
Bahah	76.9	12.3	8.6	1.9	0.3	0.0	100.0	153
Jawf	87.5	11.2	1.1	0.2	0.0	0.0	100.0	165
Total	76.9	14.1	6.8	2.0	0.2	0.1	100.0	8,912

Table 7.16: Difficulty with 'feeling rested and refreshed'

Percentage distribution of difficulty with 'feeling rested and refreshed' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'FEELING RESTED AND REFRESHED'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	81.1	14.2	4.0	0.5	0.1	0.1	100.0	3,353
30-44	75.8	17.3	6.2	0.6	0.0	0.0	100.0	3,755
45-59	64.3	24.9	9.1	1.6	0.0	0.0	100.0	1,256
60-69	36.5	38.9	19.1	5.4	0.0	0.0	100.0	362
70-79	23.3	30.0	39.2	6.0	0.5	0.9	100.0	135
80+	14.6	24.6	30.6	30.2	0.0	0.0	100.0	52
Sex								
Male	75.9	16.8	6.1	1.2	0.0	0.1	100.0	4,694
Female	70.7	20.0	8.0	1.2	0.0	0.0	100.0	4,218
Nationality								
Saudi	73.2	18.4	7.0	1.3	0.0	0.0	100.0	7,777
Non-Saudi	75.3	17.7	6.5	0.5	0.0	0.0	100.0	1,135
Residence								
Urban	73.4	18.2	7.3	1.2	0.0	0.0	100.0	7,687
Rural	74.2	19.4	5.1	1.2	0.0	0.1	100.0	1,225
Wealth Quintile								
Lowest	75.8	17.2	5.6	1.2	0.0	0.2	100.0	2,169
Second	71.5	19.3	8.0	1.2	0.1	0.0	100.0	1,918
Middle	73.6	19.3	6.1	1.1	0.0	0.0	100.0	1,694
Fourth	74.9	16.7	7.8	0.6	0.0	0.0	100.0	1,626
Highest	71.1	19.3	7.8	1.8	0.0	0.0	100.0	1,505
Region								
Riyadh	73.0	18.5	7.1	1.4	0.0	0.0	100.0	2,345
Makkah	70.0	20.2	8.6	1.1	0.0	0.0	100.0	2,257
Madinah	79.8	13.3	5.2	1.1	0.2	0.4	100.0	664
Qasim	85.7	8.2	5.8	0.0	0.2	0.1	100.0	364
Eastern Province	75.7	17.8	5.4	1.1	0.0	0.0	100.0	1,149
Asir	82.3	13.0	4.2	0.5	0.0	0.0	100.0	644
Tabuk	57.0	25.2	17.1	0.7	0.0	0.0	100.0	300
Hail	86.0	13.3	0.3	0.3	0.0	0.0	100.0	179
Northern Borders	68.7	25.0	5.5	0.2	0.6	0.0	100.0	87
Jizan	67.5	23.2	8.0	1.3	0.0	0.0	100.0	410
Najran	56.1	36.5	4.9	2.5	0.0	0.0	100.0	194
Bahah	72.2	14.6	6.6	6.3	0.3	0.0	100.0	153
Jawf	81.0	15.3	3.6	0.0	0.0	0.0	100.0	165
Total	73.5	18.3	7.0	1.2	0.0	0.0	100.0	8,912

Table 7.17: Difficulty with 'feeling sad, low or depressed'

Percentage distribution of difficulty with 'feeling sad, low or depressed' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'FEELING SAD, LOW AND DEPRESSED'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	82.4	12.6	4.0	0.7	0.1	0.2	100.0	3,353
30-44	79.7	14.6	4.6	0.8	0.0	0.2	100.0	3,755
45-59	70.3	20.3	7.2	1.4	0.3	0.5	100.0	1,256
60-69	52.4	28.4	12.4	5.6	0.0	1.1	100.0	362
70-79	43.5	26.4	20.1	6.1	0.0	3.9	100.0	135
80+	42.2	14.4	30.8	12.6	0.0	0.0	100.0	52
Sex								
Male	80.6	13.7	4.2	1.1	0.1	0.2	100.0	4,694
Female	74.1	17.3	6.8	1.3	0.1	0.5	100.0	4,218
Nationality								
Saudi	77.5	15.2	5.6	1.3	0.1	0.4	100.0	7,777
Non-Saudi	77.8	16.7	4.4	0.8	0.0	0.4	100.0	1,135
Residence								
Urban	77.1	15.5	5.6	1.3	0.1	0.4	100.0	7,687
Rural	79.9	14.5	4.6	0.5	0.0	0.4	100.0	1,225
Wealth Quintile								
Lowest	78.2	14.9	5.1	1.3	0.1	0.4	100.0	2,169
Second	75.8	16.6	6.2	1.1	0.1	0.2	100.0	1,918
Middle	77.7	15.9	5.1	0.9	0.2	0.2	100.0	1,694
Fourth	79.4	13.7	5.2	1.3	0.0	0.4	100.0	1,626
Highest	76.5	15.9	5.5	1.5	0.0	0.6	100.0	1,505
Region								
Riyadh	78.4	13.5	6.3	1.2	0.0	0.6	100.0	2,345
Makkah	71.2	19.6	6.9	2.0	0.1	0.2	100.0	2,257
Madinah	84.3	10.4	2.8	1.3	0.5	0.7	100.0	664
Qasim	88.1	8.6	2.3	0.0	0.2	0.8	100.0	364
Eastern Province	85.4	10.3	2.9	1.1	0.0	0.3	100.0	1,149
Asir	81.5	13.3	4.1	1.1	0.0	0.0	100.0	644
Tabuk	60.3	27.7	10.8	0.4	0.0	0.8	100.0	300
Hail	93.7	4.5	1.7	0.2	0.0	0.0	100.0	179
Northern Borders	68.3	22.8	7.0	0.9	0.6	0.4	100.0	87
Jizan	68.1	24.4	7.2	0.3	0.0	0.0	100.0	410
Najran	62.4	32.8	4.5	0.2	0.0	0.0	100.0	194
Bahah	79.2	11.1	7.3	2.4	0.0	0.0	100.0	153
Jawf	89.0	9.6	1.2	0.0	0.0	0.2	100.0	165
Total	77.5	15.4	5.4	1.2	0.1	0.4	100.0	8,912

Table 7.18: Difficulty with 'worry or anxiety'

Percentage distribution of difficulty with 'worry or anxiety' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'WORRY OR ANXIETY'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	78.2	14.3	6.6	0.7	0.1	0.2	100.0	3,353
30-44	76.1	16.0	6.8	0.9	0.1	0.2	100.0	3,755
45-59	66.7	21.7	8.5	2.4	0.3	0.5	100.0	1,256
60-69	48.4	33.5	11.4	5.9	0.5	0.4	100.0	362
70-79	39.2	32.1	17.9	9.1	0.0	1.7	100.0	135
80+	38.4	24.2	24.5	12.9	0.0	0.0	100.0	52
Sex								
Male	76.7	15.1	6.5	1.5	0.1	0.2	100.0	4,694
Female	70.3	19.5	8.4	1.4	0.1	0.3	100.0	4,218
Nationality								
Saudi	73.7	16.9	7.5	1.6	0.1	0.3	100.0	7,777
Non-Saudi	73.2	18.8	6.9	0.6	0.3	0.2	100.0	1,135
Residence								
Urban	73.0	17.4	7.7	1.5	0.1	0.2	100.0	7,687
Rural	77.4	15.8	5.7	0.7	0.0	0.3	100.0	1,225
Wealth Quintile								
Lowest	76.3	13.4	8.5	1.2	0.2	0.3	100.0	2,169
Second	71.5	18.3	8.5	1.5	0.1	0.1	100.0	1,918
Middle	73.1	18.9	6.5	1.3	0.1	0.1	100.0	1,694
Fourth	74.3	17.6	6.5	1.5	0.0	0.0	100.0	1,626
Highest	72.5	18.9	6.2	1.6	0.1	0.7	100.0	1,505
Region								
Riyadh	74.9	15.6	7.1	1.8	0.0	0.7	100.0	2,345
Makkah	63.6	22.7	11.5	2.0	0.2	0.0	100.0	2,257
Madinah	81.8	12.1	4.1	1.3	0.5	0.1	100.0	664
Qasim	85.4	10.4	3.2	0.0	0.2	0.8	100.0	364
Eastern Province	83.6	11.5	3.6	1.2	0.0	0.0	100.0	1,149
Asir	81.0	14.2	3.7	1.1	0.0	0.0	100.0	644
Tabuk	57.7	23.7	17.5	0.7	0.0	0.4	100.0	300
Hail	91.7	5.8	2.4	0.2	0.0	0.0	100.0	179
Northern Borders	65.1	22.8	9.0	2.3	0.3	0.4	100.0	87
Jizan	65.4	25.1	9.0	0.5	0.0	0.0	100.0	410
Najran	58.1	34.0	7.1	0.9	0.0	0.0	100.0	194
Bahah	77.8	13.1	6.8	2.3	0.0	0.0	100.0	153
Jawf	85.6	12.9	1.5	0.0	0.0	0.0	100.0	165
Total	73.6	17.2	7.4	1.4	0.1	0.2	100.0	8,912

Table 7.19: Disability score

Disability score, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MEAN DISABILITY SCORE[1]	NUMBER OF RESPONDENTS
Age		
15-29	5.2	3,353
30-44	6.2	3,755
45-59	7.5	1,256
60-69	17.1	362
70-79	23.2	135
80+	30.5	52
Sex		
Male	8.0	4,694
Female	5.6	4,218
Nationality		
Saudi	7.2	7,777
Non-Saudi	4.6	1,135
Residence		
Urban	6.6	7,687
Rural	8.7	1,225
Wealth Quintile		
Lowest	5.9	2,169
Second	6.9	1,918
Middle	6.9	1,694
Fourth	6.9	1,626
Highest	8.1	1,505
Region		
Riyadh	7.8	2,345
Makkah	4.6	2,257
Madinah	6.4	664
Qasim	6.8	364
Eastern Province	5.8	1,149
Asir	15.2	644
Tabuk	4.4	300
Hail	3.2	179
Northern Borders	16.9	87
Jizan	9.5	410
Najran	4.9	194
Bahah	5.2	153
Jawf	1.9	165
Total	6.9	8,912

1 The disability score was generated based on the responses on 17 items being rated on a 5-point Likert scale as follows: 0 “None”, 1 “Mild”, 2 “Moderate”, 3 “Severe”, 4 “Extreme”. A total disability score was calculated for each respondent by summing across items. The score was converted into a metric ranging from 0,”No disability” to 100,”Full disability”.

Table 7.20: Hearing test and aids

Percentage of respondents who have had a hearing test and percentage of respondents who wear a hearing aid, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	HEARING TEST	HEARING AID	NUMBER OF RESPONDENTS
Age			
15-29	5.2	0.7	3,353
30-44	6.2	0.6	3,755
45-59	7.5	1.4	1,256
60-69	17.1	2.6	362
70-79	23.2	8.1	135
80+	30.5	5.7	52
Sex			
Male	8.0	1.2	4,694
Female	5.6	0.7	4,218
Nationality			
Saudi	7.2	1.1	7,777
Non-Saudi	4.6	0.3	1,135
Residence			
Urban	6.6	0.9	7,687
Rural	8.7	1.7	1,225
Wealth Quintile			
Lowest	5.9	1.0	2,169
Second	6.9	0.6	1,918
Middle	6.9	0.8	1,694
Fourth	6.9	0.8	1,626
Highest	8.1	1.9	1,505
Region			
Riyadh	7.8	1.1	2,345
Makkah	4.6	0.5	2,257
Madinah	6.4	0.9	664
Qasim	6.8	2.1	364
Eastern Province	5.8	0.8	1,149
Asir	15.2	2.8	644
Tabuk	4.4	1.2	300
Hail	3.2	0.2	179
Northern Borders	16.9	0.2	87
Jizan	9.5	0.9	410
Najran	4.9	0.7	194
Bahah	5.2	0.0	153
Jawf	1.9	0.0	165
Total	6.9	1.0	8,912

Table 7.21: Difficulty with 'seeing and recognising a person you know across the road (20m)'

Percentage distribution of difficulty with 'seeing and recognising a person you know across the road (20m)' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'SEEING AND RECOGNIZING A PERSON YOU KNOW ACROSS THE ROAD (20 M)'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	88.8	7.7	2.0	1.1	0.1	0.4	100.0	3,353
30-44	86.6	9.5	2.7	0.6	0.1	0.4	100.0	3,755
45-59	71.7	20.5	5.1	2.1	0.1	0.5	100.0	1,256
60-69	43.7	30.7	16.2	8.2	0.5	0.7	100.0	362
70-79	19.7	28.8	31.8	16.8	1.0	1.9	100.0	135
80+	16.2	36.7	28.5	12.0	0.0	6.6	100.0	52
Sex								
Male	82.7	11.5	3.8	1.4	0.2	0.4	100.0	4,694
Female	81.6	11.9	4.0	1.9	0.1	0.5	100.0	4,218
Nationality								
Saudi	82.3	11.4	4.0	1.6	0.1	0.5	100.0	7,777
Non-Saudi	81.0	13.9	3.0	1.6	0.2	0.2	100.0	1,135
Residence								
Urban	81.8	11.8	4.0	1.8	0.1	0.5	100.0	7,687
Rural	84.5	11.2	3.3	0.5	0.2	0.3	100.0	1,225
Wealth Quintile								
Lowest	87.2	8.7	2.8	0.9	0.1	0.3	100.0	2,169
Second	80.2	13.4	4.4	1.7	0.0	0.4	100.0	1,918
Middle	84.6	10.6	2.8	1.6	0.1	0.3	100.0	1,694
Fourth	83.6	10.3	4.0	1.4	0.3	0.5	100.0	1,626
Highest	73.3	16.6	6.1	2.8	0.2	0.9	100.0	1,505
Region								
Riyadh	79.1	13.8	4.3	2.1	0.1	0.7	100.0	2,345
Makkah	80.3	12.2	3.9	3.1	0.4	0.3	100.0	2,257
Madinah	87.8	7.8	2.6	0.3	0.0	1.5	100.0	664
Qasim	88.3	7.7	2.8	0.3	0.1	0.7	100.0	364
Eastern Province	86.4	8.7	3.9	0.9	0.1	0.2	100.0	1,149
Asir	80.5	14.6	4.5	0.3	0.0	0.0	100.0	644
Tabuk	85.6	7.6	5.9	1.0	0.0	0.0	100.0	300
Hail	89.8	6.7	2.5	0.0	0.7	0.2	100.0	179
Northern Borders	79.1	13.2	4.9	1.7	0.0	1.1	100.0	87
Jizan	82.0	13.0	4.0	0.7	0.1	0.2	100.0	410
Najran	79.2	18.4	1.5	0.4	0.0	0.5	100.0	194
Bahah	73.0	18.0	7.1	1.9	0.0	0.0	100.0	153
Jawf	93.2	4.7	1.9	0.0	0.0	0.2	100.0	165
Total	82.2	11.7	3.9	1.6	0.1	0.5	100.0	8,912

Table 7.22: Difficulty with 'seeing an object at arm's length or reading'

Percentage distribution of difficulty 'seeing an object at arm's length or reading' in the last 30 days, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DIFFICULTY WITH 'SEEING AN OBJECT AT ARM'S LENGTH OR IN READING'						TOTAL	NUMBER OF RESPONDENTS
	NONE	MILD	MODERATE	SEVERE	EXTREME	DON'T KNOW		
Age								
15-29	95.1	3.6	0.7	0.3	0.1	0.2	100.0	3,353
30-44	91.5	6.5	1.3	0.3	0.1	0.3	100.0	3,755
45-59	71.5	18.2	7.3	2.3	0.2	0.6	100.0	1,256
60-69	50.8	28.7	13.0	6.0	0.6	1.0	100.0	362
70-79	29.8	33.6	27.7	5.5	0.9	2.6	100.0	135
80+	23.4	28.4	22.6	15.7	2.5	7.4	100.0	52
Sex								
Male	87.5	8.3	2.7	1.0	0.1	0.4	100.0	4,694
Female	86.6	8.7	3.2	0.9	0.2	0.5	100.0	4,218
Nationality								
Saudi	87.0	8.5	3.0	0.9	0.2	0.4	100.0	7,777
Non-Saudi	87.6	8.7	2.4	1.1	0.0	0.2	100.0	1,135
Residence								
Urban	87.0	8.4	2.9	1.0	0.2	0.4	100.0	7,687
Rural	87.4	9.0	2.7	0.6	0.1	0.3	100.0	1,225
Wealth Quintile								
Lowest	88.9	6.8	2.7	1.1	0.1	0.3	100.0	2,169
Second	88.6	7.9	2.7	0.4	0.1	0.3	100.0	1,918
Middle	87.9	8.9	2.1	0.5	0.4	0.3	100.0	1,694
Fourth	87.3	7.7	3.5	1.2	0.0	0.3	100.0	1,626
Highest	81.1	12.0	3.8	1.9	0.2	0.9	100.0	1,505
Region								
Riyadh	88.5	7.3	2.3	1.2	0.2	0.5	100.0	2,345
Makkah	86.5	8.2	3.5	1.5	0.3	0.1	100.0	2,257
Madinah	88.2	8.2	2.4	0.4	0.0	0.7	100.0	664
Qasim	87.2	7.7	2.7	0.1	0.0	2.2	100.0	364
Eastern Province	89.8	6.3	3.2	0.5	0.2	0.1	100.0	1,149
Asir	80.9	14.6	2.9	1.6	0.0	0.0	100.0	644
Tabuk	87.0	7.3	4.8	0.6	0.0	0.2	100.0	300
Hail	92.5	5.7	1.4	0.0	0.2	0.2	100.0	179
Northern Borders	85.7	10.5	2.3	0.6	0.2	0.7	100.0	87
Jizan	83.2	12.0	3.5	0.3	0.1	1.0	100.0	410
Najran	83.9	14.7	1.1	0.0	0.0	0.2	100.0	194
Bahah	77.7	15.8	5.2	1.1	0.0	0.3	100.0	153
Jawf	91.6	5.6	2.6	0.0	0.0	0.2	100.0	165
Total	87.1	8.5	2.9	1.0	0.2	0.4	100.0	8,912

Table 7.23: Vision test and aids

Percentage of respondents who have had a vision test and percentage of respondents who wear glasses/contact lenses, according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	VISION AID (GLASSES/LENSES) FOR:		VISION TEST	NUMBER OF RESPONDENTS
	NEARSIGHTEDNESS	FARSIGHTEDNESS		
Age				
15-29	80.5	25.3	76.5	3,353
30-44	70.3	40.7	80.0	3,755
45-59	61.5	66.7	82.5	1,256
60-69	66.5	76.0	84.9	362
70-79	84.5	49.8	82.2	135
80+	100.0	100.0	89.5	52
Sex				
Male	73.6	47.4	80.6	4,694
Female	68.1	48.7	77.9	4,218
Nationality				
Saudi	71.3	48.1	79.8	7,777
Non-Saudi	69.8	46.8	76.6	1,135
Residence				
Urban	72.3	47.5	79.6	7,687
Rural	59.5	53.1	77.8	1,225
Wealth Quintile				
Lowest	68.2	53.0	72.0	2,169
Second	75.9	44.2	77.4	1,918
Middle	68.9	42.9	80.5	1,694
Fourth	67.7	53.7	82.6	1,626
Highest	73.3	47.2	87.7	1,505
Region				
Riyadh	71.6	40.2	80.3	2,345
Makkah	73.6	42.4	67.9	2,257
Madinah	77.7	72.7	75.6	664
Qasim	80.8	68.3	90.1	364
Eastern Province	77.0	62.4	91.7	1,149
Asir	53.2	48.2	87.0	644
Tabuk	77.5	56.4	79.3	300
Hail	79.1	53.5	67.8	179
Northern Borders	85.1	82.6	73.5	87
Jizan	59.6	65.4	86.9	410
Najran	54.9	91.3	89.8	194
Bahah	86.5	62.4	71.0	153
Jawf	49.1	62.2	90.8	165
Total	71.1	48.0	79.4	8,912

8. SELF-REPORTED CHRONIC CONDITIONS AND INJURIES AND HEALTH SERVICES COVERAGE

KEY FINDINGS

- The most prevalent chronic conditions reported by the respondents are hypertension (8%), dyslipidemia (8%) and diabetes (8%). The treatment coverage rates for hypertension, diabetes and dyslipidemia 83%, 42% and 60%, respectively.
- Arthritis is reported by 6% of the population, with 68% of them receiving treatment for their condition. Asthma is reported by 5%, with half of the cases receiving recent treatment (54%).
- The least prevalent self-reported conditions include depression (1%), angina (1%), stroke (0.3%), chronic lung disease (0.4%) and chronic kidney disease (0.4%). The coverage rates for these conditions vary, at 29%, 71%, 83%, 42%, 65%, respectively.
- Conditions affecting the elderly include Alzheimer's disease and cataracts. 2% of the population over 60 years report having Alzheimer's disease and 23% having had cataracts in the past 5 years. Half of the respondents (53%) who report having Alzheimer's disease report receiving recent treatment, and 66% of those with cataracts report having had surgery to treat them in the last 5 years.
- Glaucoma is self-reported by 2% of the population above the age of 40, and 42% of them receive treatment for it.
- 16% of the population report having problems with their mouth or teeth, with the majority of them (90%) receiving care for their oral health problem.
- Injuries caused by road traffic accidents are reported by 3%, non-traffic injuries are reported by 2%. Coverage for both traffic and non-traffic injuries is similar (22% and 25%, respectively).
- 10% and 14% of eligible women report undergoing cervical cancer screening (pap smear test) and breast cancer screening (mammography), respectively, in the past 3 years.

For healthcare systems to achieve their main goal of improving population health, appropriate care must be delivered to those who need it. Since non-communicable diseases account for more than two thirds of the global disease burden, the provision of healthcare interventions for chronic conditions is a gauge of efficient healthcare delivery. The morbidity profile of a population provides a good indication of healthcare demands and needs, whether or not these demands are being satisfied, and to what extent.

This chapter provides information on the need for healthcare interventions and the treatment received by respondents. Need is measured as the percentage of respondents indicating having ever been diagnosed with a condition, while coverage is defined as the percentage of population with the condition who have received the necessary treatment or intervention (in this context - in the last 2 weeks). Health conditions in this chapter cover non-communicable disease, oral health and injuries and cervical and breast cancer screening. In the questionnaire, pap smear was defined as "a doctor or nurse using a swab or stick to wipe from inside your vagina, take a sample and send it to a laboratory" and a mammogram was defined as "an x-ray of your breasts taken to detect breast cancer at an early stage".

In this chapter it is worth noting that the sample sizes for certain conditions are small once disaggregated by age. Patterns and results in older age could be influenced by the small sample sizes. Also, the percentages of chronic conditions presented in this chapter are based on respondents' self-reports which might not reflect the overall prevalence of the condition.

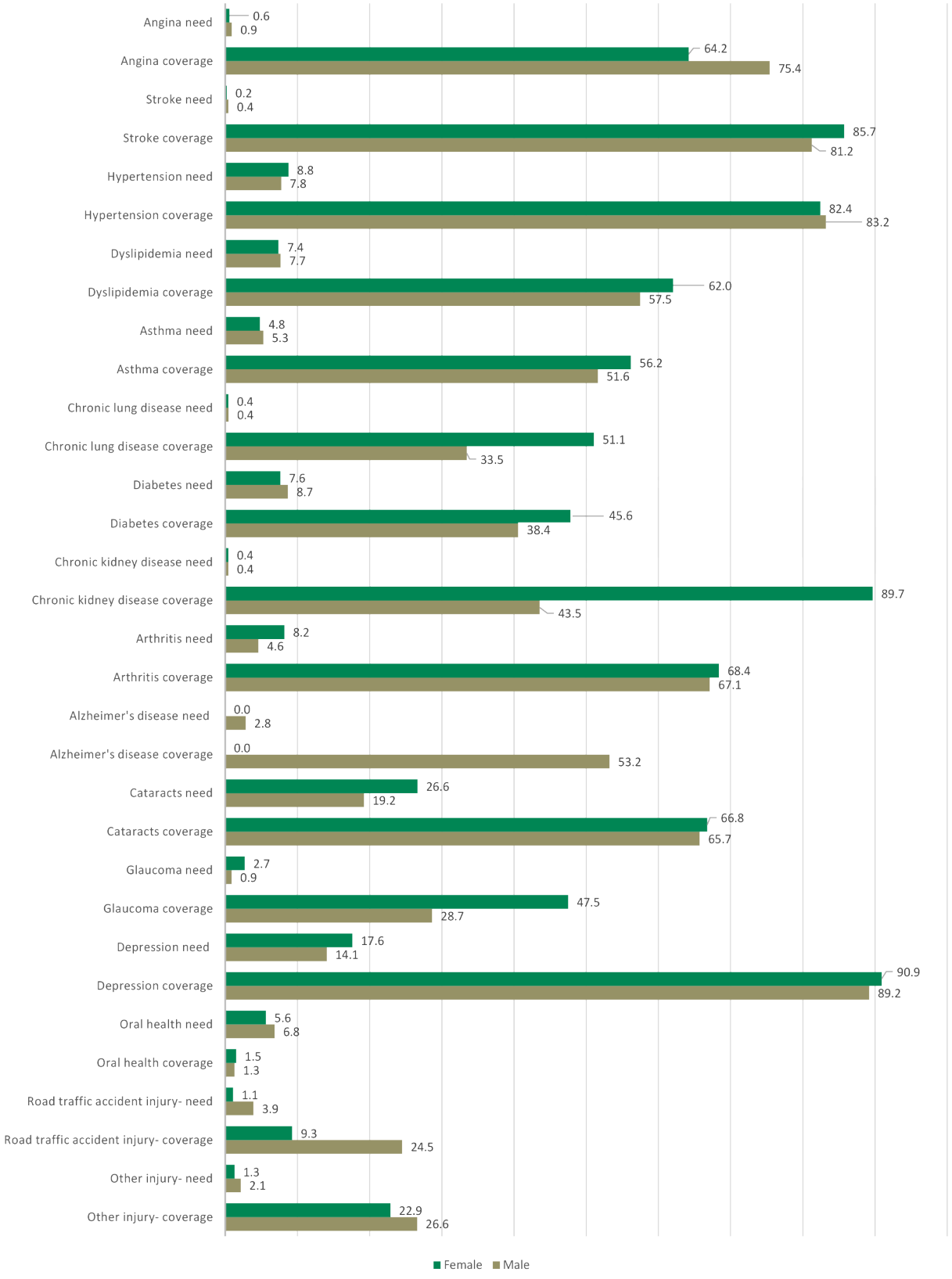


Figure 8.1: Self-reported non-communicable conditions and injuries

Percentage of males and females who have received a diagnosis in the last 12 months (need) and percentage who have received treatment in the last two weeks.

8.1 NON-COMMUNICABLE CONDITIONS

Figures 8.1 displays the self-reported non-communicable conditions and injuries among respondents. **Tables 8.1, 8.2 and 8.3** present the need and coverage of angina, stroke, hypertension, dyslipidaemia, chronic lung disease, asthma, chronic kidney disease, arthritis, diabetes, Alzheimer's disease, cataract and glaucoma

8.1.1 ANGINA

The percentage of respondents with angina and coverage is shown in **Table 8.1**. Overall, 1% of the respondents reported being diagnosed with angina, with 71% of them receiving treatment in the two weeks prior to the survey. Although the percentage of respondents with angina was the same in both males and females, males were more likely to have received recent treatment for the condition than females (75% and 64%, respectively).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Angina increases with age, with the highest percentage observed in individuals between the age of 70 and 79 (11%), though those in the 80 and older age group had a slightly lower percentage than those in the 70-79 category (9%).
- Rural residents are more likely to receive treatment compared to urban residents (87% vs. 69%, respectively).
- Coverage varies significantly across wealth quintiles. Individuals in the second quintile have the least coverage (45%), and those in the fourth quintile have the highest (100%). Individuals in the richest quintile reported unusually low coverage (57%) as compared to other wealth quintiles.
- Recent receipt of treatment for angina differs drastically across the regions. For example, in Asir it is more than twice as likely when compared to Najran (91% and 40%, respectively).

8.1.2 STROKE

Generally, respondents reported a low percentage of stroke (0.3%) with 83% of them receiving treatment in the two weeks prior to the survey (**Table 8.1**). Although stroke percentages are similar in males and females, females are slightly more likely to report it than males (86% and 81%, respectively).

PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of respondents between 60 and 79 years who reported a stroke is 3 to 4%, and 87% of those reporting having a stroke received treatment for it in the two most recent weeks. The percentage of respondents who reported a stroke doubles in individuals in the older age group of 80 and above. The likelihood of having received treatment in the past two weeks, however, drops to 64%.
- Non-Saudi respondents reported receiving treatment for stroke more often than Saudi respondents (100% and 80%, respectively).

8.1.3 HYPERTENSION

As illustrated in **Table 8.1**, 8% of the population reported being diagnosed with hypertension by a professional healthcare provider, 83% of those reported receiving treatment recently. The percentage receiving treatment for hypertension are almost the same for males and females.

PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of respondents between the age of 30 and 44 with hypertension is 5%. The percentage increases to 20% in individuals aged between 45 and 59 years, then doubles to 45% in the 60 to 69 age group. The percentage further increases to 57% in individuals between the age of 70 and 79, then drops slightly to 54% in the 80 and above age group. The percentage further increases to 57% in individuals between the age of 70 and 79, then drops slightly to 54% in the 80 and above age group. As the need for healthcare grows with age, coverage for hypertension also increases. Two of every three individuals diagnosed with hypertension in the 30 to 44 age group received treatment in the two weeks preceding the survey. This percentage rises to 91% in the 60 to 69 age group, 96% in the 70 to 79 age group, and 100% in the oldest age group.
- Saudi respondents have a slightly higher percentage of hypertension (9%) as compared to non-Saudi respondents (6%). Saudi respondents also reported receiving treatment more often than non-Saudi respondents (83% and 77%, respectively).
- Regions show different percentages of hypertension among their residents. The highest is observed in Bahah (25%), and the lowest rate is seen in Madinah (4%). Coverage varies greatly across the regions as well. The highest is reported in Jawf (96%) and Bahah (94%), and the lowest rate is recorded in Tabuk (66%).

8.1.4 DYSLIPIDAEMIA

Table 8.1 displays the percentage of respondents who have been diagnosed with any type of dyslipidaemia, and of those, the percentage who have reported receiving treatment for the condition in the two weeks prior to the survey. The percentage of respondents with dyslipidaemia among all respondents is 8%, with 60% of them having received treatment during the two weeks prior to the survey. The percentage is similar in females and males, but females are more likely to have received recent treatment than males (62% and 58%, respectively).

PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of respondents with dyslipidemia is very low (2%) in adolescents and young adults (15-29 years). The percentage rises to 7% in individuals between the age of 30 and 44 years, 16% in individuals aged between 45 and 59, 30% in the 60 to 69 age group, and 31% in the 70-79 age group. The percentage then goes down to 25% in the 80 years and above group. Coverage also increases with age. Young adults up to the age of 44 receive treatment for dyslipidemia at a percentage of 38%, as compared to 83% in the 60-79 age group, and 96% in the 80 years and above group.
- 66% of residents in rural areas and 59% of residents in urban areas reported being treated for dyslipidemia.
- Individuals in the richest quintile were more likely to receive treatment than those ranking in the lowest wealth quintile (67% and 56%, respectively)
- The percentage of respondents with dyslipidemia is distributed unevenly across the 13 regions. The highest is recorded in Bahah (20%) and the lowest in Tabuk (3%). Coverage also varies by region. The highest percentage of receiving treatment is reported in Jawf (96%), followed by Bahah (82%), and the lowest rate is recorded in Jizan (28%).

8.1.5 ASTHMA

The percentage of respondents with asthma and coverage levels are shown in **Table 8.2**. Overall, 5% of respondents were diagnosed with asthma, and 54% of them received treatment in the two weeks prior to the survey. The percentage does not seem to be affected by sex, but females tend to receive treatment more often than males (56% and 52%, respectively).

PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of respondents between the age of 15 and 44 is 4 to 5%. This increases steadily as age increases to reach 14% in the oldest age group (80 years and above). Treatment for asthma, on the other hand, is not consistent with its need. The likelihood of receiving treatment for individuals between the age of 30 and 44 (53%) is higher than that for individuals younger than 30 (40%). The age group with the highest percentage of receiving recent treatment is 60-69 years (82%), despite the fact that the oldest group has the largest percentage of asthma.
- Non-Saudi respondents reported receiving treatment more often than Saudi respondents (67% and 52%, respectively).
- Residents of rural areas were less likely to receive treatment (46%) when compared to residents of urban areas (55%).
- Regions have varying percentages of asthma. The percentages are generally higher in regions such as Riyadh (8%), Makkah (6%) and Asir (5%), and lower in regions such as Qasim, Jawf and Hail (1% in each). Coverage also differs according to region, with Bahah recording the highest rate (100%) and Jizan the lowest (21%).

8.1.6 CHRONIC LUNG DISEASE

Chronic lung disease includes diseases such as emphysema and bronchitis. **Table 8.2** shows that 0.4% of the respondents reporting having been diagnosed with chronic lung disease, and 42% reporting taking medication or receiving treatment in the two weeks prior to the survey (**Table 9.2**). Rates are the same among females and males (0.4%). However, females are more likely to have received recent treatment than males (51% and 34%, respectively).

PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of individuals receiving recent treatment differs considerably from region to region. All of the residents of the Asir and Najran regions received treatment if diagnosed with the disease 100% coverage in individuals from 60 to 79 years, although those in the 80+ group reported no coverage (0%).
- Residents of urban areas are more likely to be receiving treatment than residents of rural areas (43% and 10%, respectively).
- The proportion of individuals receiving recent treatment differs considerably from region to region. All of the residents of the Asir and Najran regions received treatment if diagnosed with the disease (100%). The rate of coverage ranges between 60% and 69% in the Eastern Province, Northern Borders and Tabuk. Furthermore, Madinah and Makkah show even lower rates of coverage (33% and 27%, respectively).

8.1.7 DIABETES

Diabetes is one of the most prevalent chronic diseases in Saudi Arabia. 8% of respondents reported being diagnosed with diabetes, with a coverage rate of 42% (**Table 8.2**). Reported percentages among males and females are similar, and the likelihood of being treated for diabetes varies between males and females (38% for males and 46% for females).

PATTERNS BY BACKGROUND CHARACTERISTICS

- As with most chronic diseases, the percentage of diabetes generally increases with age. Half of the population (51%) between 70 and 79 years have been diagnosed with diabetes, as compared to 2% in individuals between 15 and 29 years. 40% of individuals over the age of 80 have been diagnosed with diabetes.
- Non-Saudi respondents have a lower percentage (5%) compared to Saudi respondents (9%). The percentage receiving treatment was similar between Saudis (42%) and non-Saudis (41%).
- The region of Bahah had a notably high percentage of diabetes (26%) when compared to the other regions where the percentage ranged between 4% and 10%. Diabetes treatment percentages vary across the regions of Makkah (100%), Riyadh (87%) and the Eastern Province (51%).

8.1.8 CHRONIC KIDNEY DISEASE

Respondents were asked if they had ever received a diagnosis of chronic kidney disease. As shown in **Table 8.2**, 0.4% of respondents reported receiving a diagnosis of chronic kidney disease, 65% of those reported receiving treatment in the two weeks prior to the survey. Despite equal percentages in males and females, females were much more likely to have received recent treatment as compared to males (90% and 44%, respectively).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Chronic kidney disease is not affected by age. The percentage ranges between 0% and 2%, with the highest percentage seen in individuals aged between 60 and 69. However, trends for receiving treatment were different across age groups. Almost all of the diagnosed cases in the 15-29 and 70-79 age groups reported having received recent treatment. While having the highest percentage of chronic kidney disease, individuals in the 60-69 age group reported a coverage rate of only 40%.
- Residents of rural areas were more likely to be receiving treatment compared to residents of urban areas (78% and 64%, respectively).
- Coverage for chronic kidney disease varies across regions. Resident of Riyadh, Qasim and Bahah reported receiving recent treatment for all diagnosed cases. In Makkah and Asir, only half of the individuals with chronic kidney disease receive treatment (52% and 48%, respectively).

8.1.9 ARTHRITIS

Table 8.3 displays the percentage of respondents who have ever been diagnosed with arthritis, and of those, the percentage who reported receiving treatment for arthritis in the two weeks prior to the survey. The percentage of respondents with arthritis is 6%, with 68% of those receiving treatment during the two weeks prior to the survey. The percentage was relatively higher in females compared to males (8% and 5%, respectively), but both males and females were almost equally likely to have received recent treatment.

PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of respondents with arthritis increased with age, going up from 1% in the youngest age group to 63% in the oldest age group. Slightly less than half of the individuals younger than 44 years reported receiving recent treatment for arthritis, while the majority of diagnosed cases in older ages receive treatment.
- Non-Saudi respondents have a moderately lower percentage of arthritis at 3%, compared to 7% in Saudi respondents. They were also more likely to receive treatment if they have been diagnosed (91% in Non-Saudi and 66% in Saudi respondents).
- The percentage of respondents with arthritis was marginally higher among rural population (8%) than urban population (6%), and the former were more likely to be receiving treatment than the latter.
- Regions showed slightly different percentages of arthritis, the highest rate is observed in Bahah (18%), followed by Asir (10%). Residents of different regions also reported varying likelihood of receiving recent treatment. While Bahah had a high coverage rate of 95%, other regions such as Jizan had less than half of that rate (40%).

8.1.10 ALZHEIMER'S DISEASE

Alzheimer's disease is the most common cause of dementia among older adults[19]. **Table 8.3** displays the percentage of respondents aged 60 years and above who have received a diagnosis of Alzheimer's disease, and of those, the percentage who reported receiving treatment for the condition in the two weeks prior to the survey. The overall prevalence is 2%, with 53% of those diagnosed with the condition receiving treatment in the two weeks prior to the survey. Alzheimer's disease in Saudi Arabia mainly affects males (3%), with almost no female cases reported.

19 It is worth noting that many people use the word Alzheimer's to describe dementia.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Individuals aged 80 and above have a higher percentage of Alzheimer's disease (9%) compared to those between 70 and 79 years (2%). Nonetheless, individuals in the older group (80 and above) have a much lower likelihood of being treated for Alzheimer's disease (23%) than those in the younger group (100%).
- There are almost no reported cases of Alzheimer's disease among non-Saudi respondents, while 2% of the Saudi population above 60 years reported being diagnosed with the condition. Around half of the Saudi population with Alzheimer's disease reported receiving recent treatment (53%).
- In the interviewed population aged 60 years and above, Alzheimer's disease is only reported in the urban population (2%), with 53% need coverage.
- Most of the recorded cases of Alzheimer's disease are concentrated in the regions of Madinah and Jizan (6% for both), and the Northern Borders (5%). Coverage, however, is reported only in Riyadh, Makkah, and Jizan (100% in each), and Bahah (25%).

8.1.11 CATARACTS

Sensory deficits commonly increase with age. Respondents aged 60 and above were asked if they had received a diagnosis for cataracts in one or both eyes in the past five years. Respondents who reported being diagnosed were asked if they underwent surgery to remove the cataracts in the past five years. The percentage and coverage of cataracts is shown in **Table 8.3**. Overall, 23% of respondents above the age of 60 reported being diagnosed with cataracts, and 66% of them have had surgery during the last five years. The percentage of cataracts is higher in females compared to males (27% and 19%, respectively), yet the likelihood of receiving treatment is the same in both groups (66%).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Cataracts have been experienced by 28% of respondents between the age of 70 and 79, 62% of them have had surgery in the past five years to treat it. 15% of respondents above the age of 80 have had cataracts, and 72% of them have been treated.
- Individuals living in urban areas have a higher percentage of cataracts compared to individuals living in rural areas (25% and 16%, respectively), and were also more likely to receive treatment (68% and 59%, respectively).
- Regions showed different reported percentages of cataracts cases. The highest rates are observed in the region of Madinah (45%) and Makkah (38%) and the lowest percentage is seen Bahah (3%). Complete coverage is observed in Qasim and Hail, while the Northern Borders and Jawf had no reported coverage.

8.1.12 GLAUCOMA

Glaucoma tends to show up later in life. For this reason, respondents who are 40 years and older were asked if they were ever diagnosed with glaucoma, and if they had received treatment for it in the last two weeks. 2% of respondents reported being diagnosed with glaucoma with a coverage rate of 42%. As shown in **Table 8.3**, 3% of females were diagnosed with glaucoma compared to 1% of males, and females were concurrently more likely to be receiving recent treatment than males (48% and 29%, respectively).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Respondents between the ages of 40 and 59 rarely reported having glaucoma (1%), while respondents in the 60 to 79 age group had more than ten times the percentage (10-12%). Furthermore, respondents above the age of 80 had a higher percentage (72%). The percentage of respondents receiving recent treatment also increases with age, with no cases among respondents aged 40-44 years, to 82% in those above 80 years (Bearing in mind the small number of respondents in the age 80+).
- 2% of Saudi respondents were diagnosed with glaucoma, as compared to 0.6% of non-Saudi respondents. Saudi respondents received treatment for 45% of the diagnosed cases, while non-Saudi respondents received no treatment at all.
- The differences in percentages between respondents in urban and rural areas resemble the differences between Saudi and non-Saudi respondents, with the urban areas having more cases (1.8% vs 0.6, respectively). Coverage is different, however, as 43% of cases in urban areas were treated recently, compared to 20% in rural areas.
- While the percentage of respondents with glaucoma across the regions is similar (0-2%), coverage is diverse. The regions of Qasim and Hail have full coverage for glaucoma (100%), other regions diagnosed respondent received no treatment.

8.2 OTHER CONDITIONS

Health demands relative to other conditions have a substantive effect on healthcare delivery in Saudi Arabia. **Table 8.4** shows the need and coverage of depression and oral health conditions. Moreover, information about road traffic injuries and other types of injuries are shown in **Table 8.5**.

8.2.1 DEPRESSION

Table 9.4 shows the percentage of respondents with depression and coverage for depression. Overall, only 1.4% of respondents reported having been diagnosed with depression by a professional healthcare provider, with 29% of them receiving current treatment. While rates are similar for males and females (1.3% and 1.5%, respectively), males were slightly more likely to have received recent treatment (31% and 28%, respectively).

PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of respondents with depression is less than 2% below the age of 60, while the percentage is 5%, 3% and 6% in respondents aged 60-69, 70-79, and 80+, respectively. Respondents of older age were more likely to receive treatment, where respondents ages 70-70 and 80+ years have a coverage rate of 66% and 78%, respectively.
- Non-Saudi respondents do not receive treatment for depression, unlike Saudi respondents who have a coverage rate of 31%.
- Respondents living in rural areas are much more likely to receive treatment compared to respondents living in urban areas (47% and 28%, respectively).
- Respondents in the two highest quintiles have lower treatment coverage than respondents in the lower three quintiles.
- Depression has relatively similar percentages in different regions, between 0-2%. Varying rates of coverage are reported in these regions. The highest coverage is observed in Asir (70%) and Jizan (57%).

8.2.2 ORAL HEALTH CARE

Oral health problems don't have a distinct age distribution. Nonetheless, tooth decay in children is a national concern. Respondents were asked if they have suffered any problems in their mouth or teeth in the past year, and whether or not they have received treatment for it. The percentage and coverage of oral health problems are also reflected in **Table 8.4**. 16% of respondents reported having an oral health condition, with 90% of those reporting having received treatment. Rates of oral health problems are slightly higher in females compared to males (18% and 14%, respectively), and their likelihood of receiving recent treatment is also slightly higher (91% and 89%, respectively).

PATTERNS BY BACKGROUND CHARACTERISTICS

- As shown in **Table 8.4**, the percentage of respondents reporting oral health problem ranges between 14% in the 15-29 age group, and 16% in the 30-59 age group. The percentage increases to 34% in respondents aged 60 to 69 and reaches a striking 87% in respondents above 80 years. Nine out of ten respondents with oral health problems reported receiving dental treatment in the past year for all age groups, except for respondents aged 60 to 79, where dental treatment is not sought as frequently as it is in other age groups. The coverage for oral health problems was 95% for the 80+ age group.
- Saudi respondents had more oral health problems than non-Saudi respondents (16% and 12%, respectively). They were also more likely to receive oral health care (90% and 87%, respectively).
- The percentage of respondents with oral health problems is somewhat higher in the urban population (16%) compared to the rural population (13%). Conversely, the rural population has a slightly higher coverage rate than the urban (94% and 90%, respectively).
- The percentage of respondents with oral health problems ranges between 15% and 17% in the three middle wealth quintiles, and increases to 22% in the wealthiest quintile. Coverage increases steadily from the poorest to wealthiest quintiles, starting at 84% and reaching 95%.
- Regions show varying percentages of respondents with oral health problems. The highest are observed in the regions of Najran (22%), and Riyadh (20%), and the lowest rate is seen Qasim (6%). Coverage is highest in the regions of Najran (100%), Northern Borders and Bahah (98%), and the lowest is in Qasim (64%).

8.2.3 INJURIES

Road traffic injuries

Road traffic accidents place a large burden on health systems, particularly in countries such as Saudi Arabia where the majority live in urban areas and rely heavily on vehicles for transportation. **Table 8.5** displays the percentage of respondents who reported injuries due to road traffic accidents and other reasons in the most recent year. 3% of respondents reported having road traffic injuries, with a higher percentage among male respondents (4%) compared to female respondents (1%). Among those who had road traffic injuries, coverage was much higher among male respondents (25%) than female respondents (9%).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Road traffic injuries are significantly higher among respondents above the age of 80 (24%) compared to respondents in the other age groups (0-3%). On the other hand, coverage decreases with age as respondents in the youngest age group (15-29) have the highest rate (20%) while respondents above the age of 60 report receiving no medical care for their injuries.
- Non-Saudi respondents suffer road traffic injuries more frequently (4%) than Saudi respondents (2%), they also receive medical care for their injuries more often than Saudi respondents (31% and 19%, respectively).
- The percentage of respondents receiving medical care for injuries in rural areas is twice as high as it in urban areas (41% and 19%, respectively).
- Injuries due to road traffic accidents are mostly reported among respondent of the highest wealth quintile (6%), while the other four quintiles have a percentage of 2%. Respondents in the poorest quintile have the lowest coverage (9%).
- Road traffic injuries occur most commonly in the region of Riyadh (6%), followed by Asir (4%). The regions of Bahah and Jawf have almost no reported injuries due to road traffic accidents. Despite the relatively high percentage in Riyadh, the coverage rate is quite low (17%) compared to other regions where the percentage is lower.

Other injuries

Table 8.5 shows that 2% of all respondents suffered injuries for reasons other than road traffic accidents in the past 12 months. 25% of those reported receiving medical care for their injuries. Nearly the same percentage of females and males have suffered non-traffic injuries (1% and 2%, respectively), with a higher coverage rate among males (27% vs. 23%, respectively).

PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of respondents who report non-traffic injuries pivots at the age of 60. Respondents under the age of 60 have a percentage of 2%, while respondents above that age have a percentage of 6%. This drops to no coverage in the 80 and above age group.
- Saudi respondents are more likely to receive care for their injuries compared to non-Saudi respondents (27% and 20%, respectively).
- Treatment coverage for injuries in rural areas (33%) is larger than in urban areas (24%).
- Respondents in the richest quintile have the highest coverage rate (44%), followed by the second quintile (37%). Respondents in the poorest quintile have the lowest rate (7%).
- Non-traffic related injuries occur most commonly in the Northern Borders (5%), followed by Tabuk (4%). The regions of Qasim, Hail and Jawf have almost no reported injuries due to reasons other than road traffic accidents. Despite the relatively high percentage in the Northern Borders, the coverage rate is quite low (22%) compared to other regions where the percentage is lower.

8.3 CANCER SCREENING

Early detection of cancer not only improves health outcomes for cancer patients, it also considerably reduces healthcare expenditures**. Tables 8.6** and **8.7** show the screening coverage for women who are eligible for cervical and breast cancer screening.

8.3.1 CERVICAL CANCER SCREENING

Cervical cancer can be effectively prevented through screening programs that enable the detection of precancerous lesions and treating them before they progress to cancerous lesions. Therefore, screening plays a vital role in providing healthcare coverage for cervical cancer. In this survey, female respondents between the age of 18 and 69 who have been married were asked if they had received a pap smear during their most recent pelvic examination over the last three years.

As can be seen in **Table 8.6**, out of 3,210 women who were eligible for cervical cancer screening, only 10% reported receiving a pap smear in the past three years.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Women in their second and third decades have the highest screening percentage, with 12% and 10% of women in these age categories reporting receiving a pap smear test in the last three years, respectively. Women over the age of 60, on the other hand, were far less likely to receive the test in the last three years (1%).
- Non-Saudi women were more likely to receive the test in the last three years (14%) compared to Saudi women (10%).
- Women living in rural areas reported a slightly lower recent screening rate than women living in urban areas (8% vs 10%, respectively).
- Screening percentages were lower in the poorest wealth quintile, with only 5% receiving the test in the last three years compared to 12% and 17% in the richest two quintiles, respectively.
- The likelihood of having a pap smear in the last three years varies significantly across the regions. The highest screening percentage is recorded in the region of Riyadh (21%), followed by the regions of Tabuk (13%), Makkah (11%) and the Northern Borders (10%). Conversely, none of the women in Jawf reported having a pap smear in the

past three years.

8.3.2 BREAST CANCER SCREENING

Early detection of breast cancer reduces mortality and morbidity due to breast cancer. The Centres for Disease Control and Prevention recommend that women aged 50–74 have a mammography every two years. Other types of breast cancer screening include breast magnetic resonance imaging (MRI), clinical breast examination, and self-examination. In the survey, women aged 30-69 who had been married were asked about their most recent breast clinical examination. Furthermore, they were asked about the last time they had undergone a mammography. A three years cut-off was chosen to report the percentage of women reporting screening. A total of 2,217 women answered the questions about breast cancer screening.

Table 8.7 shows that 57% of eligible women reported having a breast clinical examination, and only 14% reported having a mammogram in the past three years.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Women aged between 50 and 59 have the highest screening percentage, with 23% of women in this age category reporting having a mammography. Women over the age of 59 and ages 30-39, on the other hand, are less likely to have received a mammography in the last three years (11%).
- The percentages of having a mammography is higher among non-Saudi women (19%) compared to Saudi women (14%).
- Women living in rural areas report a lower screening rate than women living in urban areas (11% vs 15%, respectively).
- Screening percentages are highest in the two richest quintiles (31% and 14%, respectively).
- Breast cancer screening is not distributed evenly across the regions of the country. The highest breast cancer screening percentage is recorded in the region of Riyadh (29%), consistent with findings for cervical cancer screening, and the lowest being in Hail and Jizan, where the screening percentage in the past three years is reported to be 2%.

LIST OF TABLES

For more information on chronic conditions and health services coverage, see the following tables:

- **Table 8.1**: Self-reported chronic conditions (angina, stroke, hypertension, dyslipidemia)
- **Table 8.2**: Self-reported chronic conditions (asthma, chronic lung disease, diabetes, chronic kidney disease)
- **Table 8.3**: Self-reported chronic conditions (arthritis, Alzheimer's disease, cataract, glaucoma)
- **Table 8.4**: Self-reported chronic conditions (depression, oral health care)
- **Table 8.5**: Self-reported road traffic accident injuries and other injuries
- **Table 8.6**: Self-reported cervical cancer screening
- **Table 8.7:** Self-reported breast cancer screening

Table 8.1: Self-reported chronic conditions (Angina, stroke, hypertension, dyslipidemia)

Percentage of respondents indicating ever having received a diagnosis of the chronic condition (need), and the percentage of respondents with a self-reported chronic condition indicating they have received treatment in the last two weeks (coverage), according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	ANGINA		STROKE		HYPERTENSION		DYSLIPIDEMIA		NUMBER OF RESPONDENTS
	NEED	COVERAGE	NEED	COVERAGE	NEED	COVERAGE	NEED	COVERAGE	
Age									
15-29	0.0	0.0	0.0	0.0	0.6	51.7	1.8	37.7	3,353
30-44	0.0	64.0	0.1	100.0	5.0	60.9	6.5	38.9	3,755
45-59	2.0	66.0	0.4	70.5	20.4	90.1	16.4	71.1	1,256
60-69	4.0	92.0	3.1	86.6	45.3	91.3	29.5	83.3	362
70-79	11.0	79.0	4.4	86.7	56.8	96.1	30.6	83.7	135
80+	9.0	27.0	8.2	63.8	53.6	100.0	24.6	95.8	52
Sex									
Male	1.0	75.0	0.4	81.2	7.8	83.2	7.7	57.5	4,694
Female	1.0	64.0	0.2	85.7	8.8	82.4	7.4	62.0	4,218
Nationality									
Saudi	1.0	74.0	0.3	80.8	8.6	83.4	7.8	59.5	7,777
Non-Saudi	0.0	37.0	0.2	100.0	5.8	76.7	5.9	60.3	1,135
Residence									
Urban	1.0	69.0	0.4	84.9	7.9	81.9	7.7	58.8	7,687
Rural	1.0	87.0	0.1	0.0	10.2	87.3	6.2	65.9	1,225
Wealth Quintile									
Lowest	0.0	78.0	0.2	79.1	6.3	80.9	4.1	55.5	2,169
Second	1.0	45.0	0.2	37.1	7.8	83.9	7.5	51.5	1,918
Middle	1.0	97.0	0.3	100.0	6.5	87.6	6.1	52.6	1,694
Fourth	1.0	100.0	0.2	100.0	8.9	86.4	8.1	65.7	1,626
Highest	1.0	57.0	0.8	87.3	12.8	77.9	13.5	66.7	1,505
Region									
Riyadh	1.0	78.0	0.5	86.8	8.9	76.6	9.7	59.0	2,345
Makkah	1.0	63.0	0.5	100.0	8.5	86.2	7.3	58.6	2,257
Madinah	0.0	100.0	0.1	0.0	3.5	77.7	3.9	63.3	664
Qasim	1.0	100.0	0.0	0.0	5.5	83.8	4.5	64.3	364
Eastern Province	1.0	57.0	0.5	51.4	8.6	86.0	7.6	67.5	1,149
Asir	2.0	91.0	0.0	0.0	10.0	85.4	8.3	44.7	644
Tabuk	1.0	100.0	0.0	0.0	4.5	65.7	3.1	44.1	300
Hail	0.0	0.0	0.0	0.0	5.3	77.5	5.3	52.7	179
Northern Borders	1.0	63.0	0.0	0.0	5.8	83.7	4.4	69.6	87
Jizan	0.0	54.0	0.0	0.0	8.4	77.4	5.2	27.6	410
Najran	2.0	40.0	0.0	0.0	9.8	93.2	6.1	67.0	194
Bahah	1.0	42.0	0.0	0.0	24.4	94.4	19.7	82.3	153
Jawf	0.0	0.0	0.0	0.0	4.6	96.0	5.2	96.1	165
Total	1.0	71.0	0.3	82.7	8.2	82.8	7.5	59.6	8,912

Note: Need = % of total respondents indicating having received a diagnosis of the condition .

Coverage = % of respondents with a self-reported condition indicating they have received treatment for the condition in the last two weeks.

Table 8.2: Self-reported chronic conditions (Asthma, chronic lung disease, diabetes, chronic kidney disease)

Percentage of respondents indicating ever having received a diagnosis of the chronic condition (need), and the percentage of respondents with a self-reported chronic condition indicating they received treatment in the last two weeks (coverage), according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	ASTHMA		CHRONIC LUNG DISEASE		DIABETES		CHRONIC KIDNEY DISEASE		NUMBER OF RESPONDENTS
	NEED	COVERAGE	NEED	COVERAGE	NEED	COVERAGE	NEED	COVERAGE	
Age									
15-29	5.3	40.7	0.3	22.4	1.8	54.2	0.1	100.0	3,353
30-44	3.8	52.7	0.4	23.4	4.4	35.9	0.3	68.6	3,755
45-59	6.4	70.6	0.6	58.9	19.7	34.1	1.3	63.1	1,256
60-69	7.8	81.9	0.8	100.0	45.8	47.9	1.6	39.5	362
70-79	8.8	74.1	2.3	100.0	51.1	49.4	1.4	100.0	135
80+	14.1	60.3	3.0	0.0	40.1	64.4	0.0		52
Sex									
Male	5.3	51.6	0.4	33.5	8.7	38.4	0.4	43.5	4,694
Female	4.8	56.2	0.4	51.1	7.6	45.6	0.4	89.7	4,218
Nationality									
Saudi	5.1	51.8	0.5	44.9	8.6	41.6	0.4	75.9	7,777
Non-Saudi	5.0	66.6	0.3	0.0	5.4	41.2	0.5	0.0	1,135
Residence									
Urban	5.1	54.7	0.5	42.8	8.2	41.4	0.4	63.5	7,687
Rural	4.4	46.0	0.1	10.3	8.2	42.8	0.4	77.9	1,225
Wealth Quintile									
Lowest	4.0	57.7	0.1	77.9	6.4	36.3	0.2	85.2	2,169
Second	5.1	52.8	0.6	38.9	8.1	38.7	0.4	41.4	1,918
Middle	4.7	48.3	1.0	29.2	7.1	47.9	0.7	81.1	1,694
Fourth	4.9	43.4	0.4	67.5	9.9	42.4	0.4	63.0	1,626
Highest	7.2	62.8	0.1	42.0	10.2	43.3	0.4	55.1	1,505
Region									
Riyadh	8.3	61.4	0.1	0.0	8.3	45.6	0.2	100.0	2,345
Makkah	6.3	45.0	0.5	26.6	8.6	40.9	0.8	52.2	2,257
Madinah	1.4	42.5	0.6	32.7	4.5	59.0	0.0	0.0	664
Qasim	0.8	66.6	0.1	0.0	6.7	61.6	0.3	100.0	364
Eastern Province	2.9	58.5	1.2	60.6	9.6	27.1	0.4	66.6	1,149
Asir	5.1	57.4	0.3	100.0	8.9	22.8	0.5	48.0	644
Tabuk	4.3	22.8	0.6	69.2	5.9	46.8	0.0	0.0	300
Hail	1.4	25.6	0.0	0.0	4.6	66.7	0.0	0.0	179
Northern Borders	1.9	55.9	0.5	66.0	3.9	60.7	0.0	0.0	87
Jizan	1.8	21.1	0.8	0.0	6.5	28.2	0.8	75.9	410
Najran	3.3	70.2	0.2	100.0	7.6	9.2	0.0	0.0	194
Bahah	1.8	100.0	0.0	0.0	26.2	77.7	0.1	100.0	153
Jawf	0.8	24.1	0.0	0.0	4.8	47.4	0.9	84.5	165
Total	5.0	53.7	0.4	41.6	8.2	41.6	0.4	65.2	8,912

Note: Need = % of total respondents indicating having received a diagnosis of the condition.

Coverage = % of respondents with a self-reported condition indicating they have received treatment for the condition in the last 2 weeks

Table 8.3: Self-reported chronic conditions (Arthritis, Alzheimer's disease, cataract, glaucoma)

Percentage of respondents indicating ever having received a diagnosis of the chronic condition (need), and the percentage of respondents with a self-reported chronic condition indicating they received treatment in the last two weeks (coverage), according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	ARTHRITIS		NUMBER OF RESPONDENTS	ALZHEIMER'S DISEASE		CATARACT		NUMBER OF RESPONDENTS AGE 60+	GLAUCOMA		NUMBER OF RESPONDENTS AGE 40+
	NEED	COVERAGE		NEED	COVERAGE	NEED	COVERAGE[1]		NEED	COVERAGE	
Age											
15-29	0.8	46.2	3,353	na	na	na	na	na	na	na	na
30-44	2.6	41.5	3,755	na	na	na	na	na	0.3	0.0	764
45-59	15.1	70.4	1,256	na	na	na	na	na	1.1	35.6	1,256
60-69	36.6	73.7	362	0.0	0.0	21.8	68.1	362	11.6	36.2	79
70-79	60.5	87.3	135	2.4	100.0	28.4	61.5	135	10.2	47.8	38
80+	63.0	79.0	52	8.9	22.8	15.4	72.0	52	72.0	81.7	8
Sex											
Male	4.6	67.1	4,694	2.8	53.2	19.2	65.7	280	0.9	28.7	1,215
Female	8.2	68.4	4,218	0.0	0.0	26.6	66.8	268	2.7	47.5	930
Nationality											
Saudi	6.7	66.2	7,777	1.6	53.2	23.1	66.4	499	1.9	44.5	1,786
Non-Saudi	3.4	90.7	1,135	0.0	0.0	19.7	65.7	49	0.6	0.0	359
Residence											
Urban	6.0	65.9	7,687	1.8	53.2	24.6	67.6	433	1.8	42.8	1,878
Rural	8.4	77.0	1,225	0.0	0.0	16.1	58.9	115	0.6	19.7	266
Wealth Quintile											
Lowest	5.0	59.8	2,169	0.9	100.0	23.6	52.2	116	1.7	17.4	517
Second	7.2	69.3	1,918	1.4	68.9	23.4	62.8	118	0.2	32.9	356
Middle	4.4	67.9	1,694	0.2	0.0	32.6	83.6	77	2.6	66.1	367
Fourth	6.6	68.0	1,626	2.9	0.0	23.2	70.7	103	1.0	27.8	449
Highest	8.8	72.9	1,505	1.5	100.0	15.8	63.8	135	2.6	46.0	455
Region											
Riyadh	4.8	72.4	2,345	2.1	100.0	16.2	39.7	90	2.0	45.5	407
Makkah	7.2	69.4	2,257	0.9	100.0	38.4	76.1	135	2.1	37.8	575
Madinah	5.2	78.5	664	6.2	0.0	44.8	63.0	49	1.6	65.6	219
Qasim	6.4	49.5	364	0.0	0.0	14.9	100.0	23	1.2	100.0	90
Eastern Province	5.1	57.1	1,149	0.0	0.0	17.4	58.3	77	1.8	19.1	331
Asir	10.2	68.6	644	0.0	0.0	15.1	77.9	73	1.3	55.8	168
Tabuk	6.9	44.3	300	0.0	0.0	16.1	57.9	15	2.1	44.1	56
Hail	4.1	76.1	179	0.0	0.0	6.5	100.0	4	0.7	100.0	44
Northern Borders	3.4	78.3	87	4.6	0.0	21.5	0.0	4	0.0	0.0	20
Jizan	7.4	39.5	410	5.9	100.0	17.2	34.6	18	1.3	0.0	78
Najran	5.6	100.0	194	0.0	0.0	14.0	67.0	8	0.0	0.0	59
Bahah	17.8	95.4	153	1.5	24.8	2.5	68.3	46	0.0	0.0	41
Jawf	3.0	79.0	165	0.0	0.0	5.1	0.0	7	0.0	0.0	57
Total	6.3	67.9	8,912	1.5	53.2	22.8	66.3	548	1.7	41.8	2,145

Note: Need = % of total respondents indicating having received a diagnosis of the condition .

Coverage = % of respondents with a self-reported condition indicating they have received treatment for the condition in the last two weeks.

1 Coverage for cataracts refers to the respondents indicating they have received surgery in the last five years.

Table 8.4: Self-reported chronic conditions (Depression, oral health)

Percentage of respondents indicating ever having received a diagnosis of the chronic condition (need), and the percentage of respondents with a self-reported chronic condition indicating they received treatment in the last two weeks (coverage), according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	DEPRESSION		NUMBER OF RESPONDENTS	ORAL HEALTH PROBLEMS		NUMBER OF RESPONDENTS[1]
	NEED	COVERAGE		NEED	COVERAGE	
Age						
15-29	0.8	23.8	3,353	14.4	91.3	3,353
30-44	1.4	29.3	3,755	16.1	90.4	3,755
45-59	1.6	20.1	1,256	16.3	90.3	1,256
60-69	5.1	30.1	362	34.4	71.8	79
70-79	2.8	66.2	135	26.3	58.4	38
80+	5.8	77.6	52	86.8	94.8	8
Sex						
Male	1.3	30.7	4,694	14.1	89.2	4,468
Female	1.5	27.6	4,218	17.6	90.9	4,021
Nationality						
Saudi	1.5	30.8	7,777	16.4	90.4	7,393
Non-Saudi	0.6	0.0	1,135	11.6	87.2	1,096
Residence						
Urban	1.5	27.6	7,687	16.2	89.6	7,360
Rural	0.7	47.3	1,225	12.7	93.9	1,129
Wealth Quintile						
Lowest	1.1	40.4	2,169	12.1	83.5	2,080
Second	1.2	39.7	1,918	16.5	88.6	1,828
Middle	1.0	42.3	1,694	14.6	89.7	1,643
Fourth	1.9	16.2	1,626	15.5	93.4	1,548
Highest	1.9	17.9	1,505	21.9	94.9	1,391
Region						
Riyadh	2.1	30.7	2,345	20.4	96.2	2,270
Makkah	1.5	8.7	2,257	15.6	85.6	2,174
Madinah	1.3	37.6	664	10.5	89.9	637
Qasim	0.4	32.9	364	5.6	64.0	344
Eastern Province	0.8	28.0	1,149	14.0	84.5	1,086
Asir	1.6	69.5	644	14.7	83.8	582
Tabuk	0.0	0.0	300	19.8	90.3	288
Hail	0.5	0.0	179	12.7	94.3	174
Northern Borders	0.3	0.0	87	18.3	97.7	85
Jizan	1.8	57.0	410	10.2	89.1	395
Najran	0.4	0.0	194	22.1	100.0	187
Bahah	0.6	0.0	153	14.0	97.7	109
Jawf	0.0	0.0	165	11.9	85.2	158
Total	1.4	29.1	8,912	15.7	90.1	8,489

1 The number of respondents does not add up to the total of 8,912 because of a mistake in the skip pattern, therefore only 8,489 respondents answered the questions related oral health.

Table 8.5: Self-reported road traffic accident injuries and other injuries

Percentage of respondents reporting having an injury in the last 12 months (need), and the percentage of respondents with a self-reported injury indicating they received treatment for their injury onsite or from a health facility/provider within an hour of the injury (coverage), according to age, sex, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	ROAD TRAFFIC INJURIES		OTHER INJURIES		NUMBER OF RESPONDENTS[1]
	NEED	COVERAGE	NEED	COVERAGE	
Age					
15-29	2.9	20.0	1.7	36.3	3,353
30-44	2.2	27.2	1.5	18.7	3,755
45-59	2.5	13.0	1.9	22.0	1,256
60-69	2.4	0.0	6.3	0.0	79
70-79	0.0	0.0	6.6	0.0	38
80+	23.5	0.0	0.0	0.0	8
Sex					
Male	3.9	24.5	2.1	26.6	4,468
Female	1.1	9.3	1.3	22.9	4,021
Nationality					
Saudi	2.4	19.4	1.6	26.5	7,393
Non-Saudi	3.5	31.3	2.7	20.2	1,096
Residence					
Urban	2.6	19.0	1.7	24.1	7,360
Rural	2.1	41.3	1.8	32.5	1,129
Wealth Quintile					
Lowest	1.6	8.8	1.1	6.6	2,080
Second	2.4	16.4	1.8	36.9	1,828
Middle	2.1	38.0	1.8	15.3	1,643
Fourth	1.9	21.0	1.8	13.8	1,548
Highest	5.5	22.4	2.5	44.1	1,391
Region					
Riyadh	5.5	17.3	1.5	51.3	2,270
Makkah	1.8	7.5	2.6	15.3	2,174
Madinah	0.7	30.9	0.3	0.0	637
Qasim	0.4	57.9	0.0	0.0	344
Eastern Province	1.4	15.9	1.4	42.2	1,086
Asir	3.7	66.6	2.6	14.5	582
Tabuk	1.5	42.9	4.4	9.0	288
Hail	0.2	0.0	0.0	0.0	174
Northern Borders	0.2	100.0	4.5	22.2	85
Jizan	0.8	0.0	1.9	0.0	395
Najran	1.1	59.3	0.2	100.0	187
Bahah	0.0	0.0	0.3	0.0	109
Jawf	0.0	0.0	0.0	0.0	158
Total	2.6	21.5	1.7	25.3	8,489

1 The number of respondents does not add up to the total of 8,912 because of a mistake in the skip pattern, therefore only 8,489 respondents answered the questions related to road traffic and other injuries.

Table 8.6: Self-reported cervical cancer screening

Number of ever-married women age 18-69 (need), and the percentage of women who self-reported receiving a pap smear test in the last three years (coverage), according to age, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	NUMBER OF EVER-MARRIED WOMEN AGE 18-69 (NEED)	EVER HAD A PAP TEST	HAD A PAP TEST IN THE LAST THREE YEARS
Age			
18-29	994	12.4	11.9
30-39	1,207	14.0	10.4
40-49	459	12.6	9.8
50-59	372	15.1	8.2
60-69	178	1.6	1.3
Nationality			
Saudi	2,919	12.1	9.6
Non-Saudi	291	19.6	14.2
Residence			
Urban	2,769	13.3	10.3
Rural	442	9.7	8.4
Wealth Quintile			
Lowest	707	5.4	4.5
Second	774	13.0	10.7
Middle	650	11.1	8.4
Fourth	602	14.5	12.1
Highest	478	23.5	16.7
Region			
Riyadh	830	26.6	20.7
Makkah	765	12.5	10.6
Madinah	228	2.1	2.1
Qasim	127	1.1	1.1
Eastern Province	464	8.0	4.9
Asir	215	4.0	4.0
Tabuk	114	18.4	13.1
Hail	65	2.1	2.1
Northern Borders	35	11.5	10.2
Jizan	167	3.3	3.3
Najran	78	11.0	6.8
Bahah	62	1.6	1.6
Jawf	60	0.0	0.0
Total	3,210	12.8	10.0

Note: Pap smear need = % of all ever-married women age 18-69.

Pap smear coverage = % of those ever-married women age 18-69 who self-reported receiving a pap smear test during a pelvic examination in the last three years.

Table 8.7: Self-reported breast cancer screening

Number of ever-married women ages 30-69 (need), and the percentage of women who self-reported receiving a mammogram in the last three years (coverage), according to age, nationality, residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	NUMBER OF EVER-MARRIED WOMEN AGE 30-69 (NEED)	EVER HAD A BREAST CLINICAL EXAM	EVER HAD A MAMMOGRAM	HAD A MAMMOGRAM IN THE LAST THREE YEARS (COVERAGE)
Age				
30-39	1,207	55.9	10.7	3.6
40-49	459	54.5	16.7	4.4
50-59	372	59.4	23.1	7.4
60-69	178	59.2	11.0	1.5
Nationality				
Saudi	2,009	56.0	13.5	4.2
Non-Saudi	208	61.4	18.8	4.2
Residence				
Urban	1,919	56.2	14.6	4.5
Rural	298	58.3	10.5	2.2
Wealth Quintile				
Lowest	433	59.6	8.2	3.4
Second	497	54.8	10.3	2.7
Middle	448	52.8	9.2	2.2
Fourth	452	61.8	14.3	5.2
Highest	387	53.1	30.6	8.3
Region				
Riyadh	516	47.6	28.7	8.5
Makkah	528	45.8	9.5	3.8
Madinah	161	84.2	5.8	0.8
Qasim	106	83.8	12.5	5.3
Eastern Province	352	54.2	13.2	3.7
Asir	149	81.7	4.0	2.7
Tabuk	80	42.4	10.3	2.5
Hail	47	52.4	1.5	0.0
Northern Borders	22	55.6	9.5	0.7
Jizan	107	61.6	1.7	0.0
Najran	57	70.2	9.5	0.7
Bahah	49	51.2	33.6	3.1
Jawf	44	58.7	7.9	3.0
Total	2,217	56.5	14.0	4.2

Note: Mammography need = % of all ever-married women age 30-69

Mammography coverage = % of those ever-married women age 30-69 who self-reported receiving a mammogram in the last 3 years

9. HEALTH CARE UTILISATION AND SYSTEM RESPONSIVENESS

KEY FINDINGS

- **Frequency of health care utilisation**: Respondents see general practitioners on average once a year, and consultants and dentists less than once a year. Only 5% of respondents report not receiving healthcare when they need it.
- **Type of health care utilisation**: (47%) of respondents utilise outpatient care each year, with an average of four visits. While only 5% are admitted into health care facilities annually, with a mean number of two stays.
- **Reasons for health care utilisation**: Acute conditions are the leading reason for seeking care, followed by problems with mouth and teeth.
- **Health care facilities providing health care services**: The main outpatient health care facilities are government primary health care clinics (35%), government hospitals (21%), and private hospitals (17%). On the other hand, the main inpatient health care facilities are government hospitals (77%); provided mainly by the Ministry of Health (65%), followed by private hospitals (20%).
- **Health care providers providing outpatient care services**: The highest percentage of patients are seen by general practitioners at primary health care centres (37%), followed by specialised general practitioners/ family physicians (22%), then specialists/consultants (18%). Dentists are seen by 14% of the population.
- **Patient assessed characteristics of health care services**: The majority of patients (95%-97%) receiving outpatient and inpatient care rate the skills of health care providers, hospital equipment, and drug supply as adequate.
- **Patient assessment of responsiveness of health care services**: The percentage of respondents reporting poor responsiveness of outpatient and inpatient care services ranges between 5% and 17% for the different domains of health care responsiveness.
- **Patient satisfaction with the quality of care services**: Most of the respondents report being satisfied or very satisfied with the quality of outpatient and inpatient care services (91% and 92%, respectively). Moreover, the likelihood of recommending the care to friends and family is 89% for users of outpatient care services and 85% for users of inpatient care services.
- **General satisfaction with the health care system**: The level of satisfaction with the health care system in the country is high, where 89% of respondents state that they are either satisfied or very satisfied with health care services in general, and 85% of respondents are either satisfied or very satisfied with the way the health care system involves the patients in deciding what and where services are provided.
- **Patient assessed discrimination in the health care system**: Six percent (6%) of respondents feel discriminated against due to their nationality, while 2% report discrimination because of their social class. Furthermore, 1% experience discrimination based on their sex, and 0.3% say they are discriminated against due to their financial status. It is worth mentioning that almost one third of the population (31%) refused to respond to questions about discrimination.

Delivering the best quality healthcare is a core mission of all sectors of the health care delivery system in Saudi Arabia. Hence, assessing the performance of the Saudi health system is inherently important. The performance of the health system can be measured by the utilisation and responsiveness of its services. Utilisation demonstrates the type of health care services used by the population, and how often these services are used. It is essential for planning and monitoring of healthcare services. Responsiveness, on the other hand, looks at how well the health system responds to the needs and expectations of the population. It is a complex concept that adapts to different contexts and can be expressed through a wide range of outcomes. Responsiveness studies the interaction between the health system and the patient

on a number of different aspects that are related to, but are not direct, health outcomes (14).

The WHO identified seven distinct elements or aspects of health care system responsiveness that are related to either respect for human beings as persons, or to how the system reacts to common concerns expressed by patients. These key elements enable countries to assign responsiveness scores that quantify how the health care system treats patients. The seven aspects of responsiveness are: autonomy, choice, communication, confidentiality, dignity, prompt attention, and quality of basic amenities. The elements are defined in **Box 9.1** (14).

BOX 9.1: DEFINITIONS OF THE SEVEN KEY DOMAINS OF HEALTH CARE RESPONSIVENESS

1. **Autonomy**: The right of patients to make decisions about their treatment without influence from their health care provider. Autonomy allows the health care provider to explain the treatment options to the patient rather than make the decisions on his/her behalf.
2. **Choice**: The ability of patients to choose their health care provider or organisation. It also includes that the patient has access to the information he/she needs to make an informed decision.
3. **Communication**: The communication between the health care provider and the patient, requiring that the health care provider has the time to give the patient clear explanations.
4. **Confidentiality**: The right to decide who has access to the patient's personal health information.
5. **Dignity**: The right of the patient to be treated with respect and without violating basic human rights.
6. **Prompt attention**: Providing care in a timely manner. This means that immediate attention is provided in emergencies, and that non-emergency care is provided within a reasonable time (i.e. short waiting lists and "waiting times").
7. **Quality of basic amenities**: Providing the basic physical requirements for care, including a clean environment with sufficient space and healthy hospital food.

The survey includes questions on health care utilisation, domains of health care system responsiveness, and discrimination in the health care system. This chapter presents the results of these questions throughout its sections, namely utilisation of health care services, outpatient care, inpatient care, general satisfaction with the health care system, and discrimination in the health care system.

9.1 UTILISATION OF HEALTH CARE SERVICES

This section presents the results of respondents' self-reported need and utilisation of healthcare services according to selected background characteristics. Results on health care utilisation are also displayed separately for inpatient and outpatient services in later sections of this chapter.

9.1.1 FREQUENCY OF HEALTH CARE UTILISATION

Respondents were asked about the number of times they had seen a general practitioner/family doctor, consultant/specialist or a dentist in the year prior to the survey. Moreover, to estimate the unmet need, respondents were asked about the last time they needed healthcare and whether or not they had received the care they needed.

Table 9.1 shows the mean number of visits by type of healthcare provider visited and the percentage distribution of unmet need for services according to age, sex, nationality, residence, marital status, education, wealth and region. On average, respondents reported that they visit or are visited by a general practitioner once a year and see a consultant and dentist less than one time per year (0.6 and 0.5 times per year, respectively).

Unmet need for services is defined as the percentage of respondents who did not receive health care among those who indicated needing health care in the past three years. A total of 5,008 respondents stated that they needed health care at some point in the three last years. 5% of them did not receive care when they needed it. Males are slightly more likely to not receive necessary care than females (6% and 4%, respectively).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Participants of older age groups reported seeing general practitioners and consultants more frequently. The mean number of times reported by respondents over the age of 70 (four times) is four times the mean for those under the age of 45 (one time). Dentists, however, are visited in equal frequency by respondents in all age groups. Respondents in the 45 to 59 age group have the highest percentage of unmet need, while respondents over the age of 70 have their healthcare needs fully covered.
- Upon seeking consultations for health needs, non-Saudi respondents said that their health needs are not met at 10% of the time, as compared to 4% in Saudi respondents.
- A slightly higher percentage of respondents in urban areas (5%) do not receive needed care when compared with those in rural areas (2%).
- Respondents who stated that they had not received any formal education see a general practitioner more frequently (three times) compared to individuals completing secondary school (once). And respondents who did not complete

secondary education have the highest percentage of unmet need (8%).

- Apparently there seem to be no differences in the number of visits by region, except for Bahah, where general practitioners are seen more often than other regions (five times vs. one time). On the other hand, the percentage of unmet need differs greatly between the regions. The highest percentage is in Riyadh (22%), followed by Madinah (10%) and Hail (9%). The region of Bahah has the lowest percentage of unmet need (0.4%).

9.1.2 HEALTH REASONS FOR HEALTH CARE UTILISATION

Table 9.2 provides information on the main reason for seeking care the last time healthcare services were utilised. The top reason for seeking health care among males and females is acute conditions (31% and 22%, respectively), followed by problems with mouth and teeth (13-15%). Moreover, maternal and perinatal care accounted for 12% of healthcare utilisation for females.

9.1.3 REASONS FOR NOT RECEIVING HEALTH CARE

A small number of individuals (5%) reported not receiving healthcare when they last needed it. Generally, the top reported reason for not receiving care is "not thinking they were sick enough" (25%) (**Table 9.3**). A large percentage of residents in Najran and Makkah said that the most common cause for not seeking care is the lack of transportation.

9.2 OUTPATIENT CARE

Respondents were asked about the number of healthcare visits excluding overnight stays in the 12 months prior to the survey. To provide a more detailed outlook of outpatient services, respondents who reported receiving outpatient care in the past year were asked about the health care facility and health care provider they visited, the responsiveness of the system, and their satisfaction with the quality of the services.

Table 9.4 shows that 47% of the respondents reported using outpatient care in the past 12 months, with an average of four visits per year.

PATTERNS BY BACKGROUND CHARACTERISTICS

- The rate of utilisation increases progressively with age, the rate almost doubles in the oldest age group (78%) when compared to the youngest age group of 15-29 (42%). The mean number of visits is also bigger in the oldest group (six and four, respectively).
- Respondents in rural areas reported using outpatient care more than respondents in urban areas (55% and 46%, respectively), but the mean number of visits is similar.
- The highest percentage receiving outpatient care is seen among respondents who had no formal education (52%), while respondents who completed secondary school have the lowest percentage (43%).
- The highest utilisation rate is observed in the richest wealth quintile (57%), and the lowest rate is seen in the poorest quintile (38%).
- The likelihood of using healthcare services fluctuated greatly across regions. The regions with the highest likelihood are Bahah (97%), Asir (89%) and the Northern Borders (79%). The lowest rates are recorded in the regions of Madinah (19%) and Qasim (21%).

9.2.1 HEALTH CARE FACILITIES

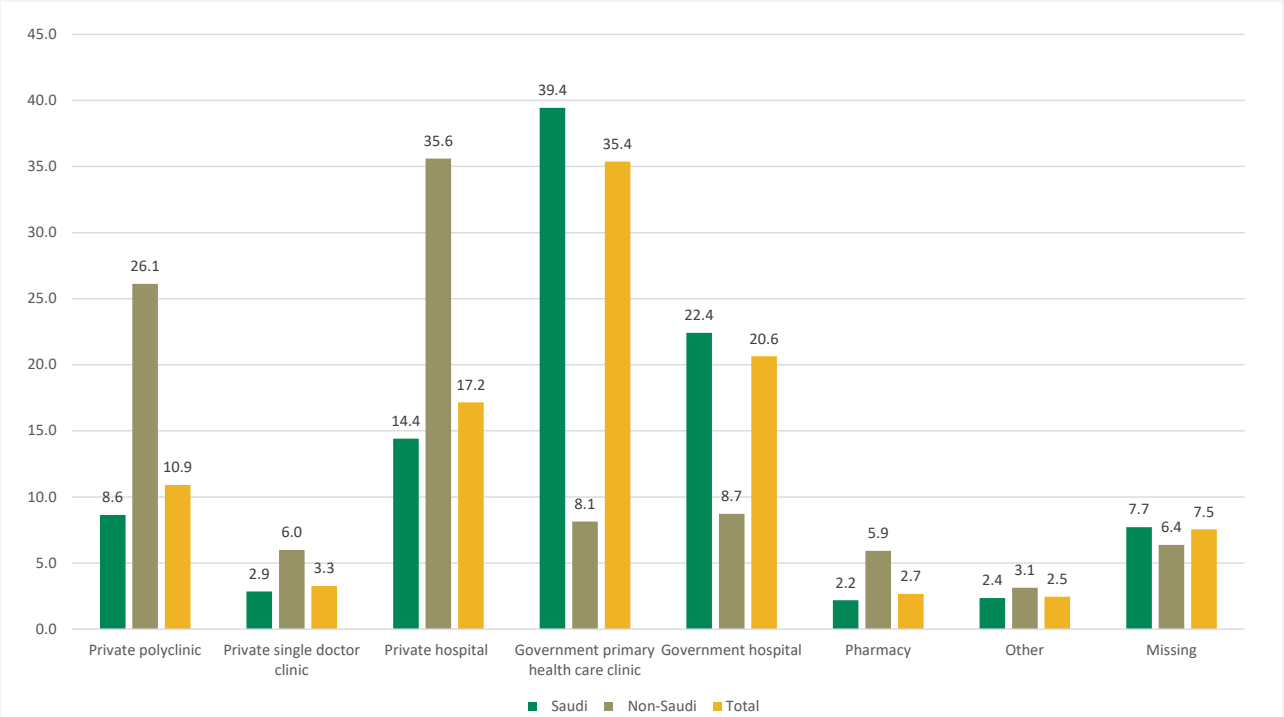
Individuals who reported receiving outpatient care in the last 12 months were asked about the facility they visited to receive healthcare the last time they needed it. The results are shown in **Table 9.5**. The main facilities for receiving outpatient health care are government primary health care clinics, as reported by 35% of respondents, followed by government hospitals (21%). 17% of respondents state that private hospitals are the main facilities they use for receiving outpatient care, and 11% say they attend private polyclinics. Furthermore, a small percentage report visiting private doctor clinics (3%), and another 3% of respondents say they seek outpatient care at pharmacies.

PATTERNS BY BACKGROUND CHARACTERISTICS

- The younger age groups are more likely to visit private polyclinics, private doctor clinics, private hospitals and pharmacies. The pattern changes to the opposite with older age, as respondents in older age groups report higher utilisation rates of government primary health care clinics and government hospitals.
- There is a clear distinction in use of outpatient health care facilities between Saudi and non-Saudi respondents, where Saudi respondents use governmental facilities more often and non-Saudi respondents mostly use private facilities (Figure 9.1).
- Public outpatient health care services are used by more than half the population in both urban and rural areas. However, the percentage using public services in rural areas is higher than that in urban areas (65% and 55%, respectively).
- Type of place for outpatient service varied with education as those with education level beyond secondary school were utilising private facilities more often.
- Utilisation of outpatient health care services differs by wealth level. Although public health services are used most frequently across all wealth quintiles, yet private health services still play a rather considerable role in providing health care for respondents in all wealth quintiles.

Figure 9.1: Health care facilities providing outpatient services by nationality

Percent distribution of Saudis and non-Saudis by outpatient health care facility



9.2.2 HEALTH CARE PROVIDERS

Respondents were asked about the health care provider of outpatient services in their last visit. The highest percentage of patients' report being seen by a general practitioner at a primary health care centre (37%), 22% of respondents state that they are seen by a specialised general practitioner/family physician, and 18% are seen by a specialist/consultant.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Respondents above 80 years of age are more likely to receive care from a general practitioner or a home health care worker than respondents under the age of 80. Specialised general practitioners/family physicians are mostly visited by patients between the age of 70 and 79, and dentists mostly see patients under the age of 45.
- Saudi respondents see general practitioners far more frequently than non-Saudi respondents (40% and 17%, respectively), while non-Saudi respondents reported seeing specialised general practitioners/family physicians and specialists/consultants more often than Saudi respondents (27% and 19% vs. 22% and 17%). Non-Saudi respondents also resort to pharmacists for outpatient health care more than Saudi respondents (8% and 3%, respectively).
- Respondents residing in rural areas depend mainly on general practitioners at primary health care centres for outpatient

health care (53%), while respondents in urban areas see specialists/consultants at a higher rate than respondents in rural areas (20% and 8%, respectively).

- Level of education influences the choice of healthcare provider. Respondents who have a higher level of education are less likely to visit general practitioners at primary health care centres than those who did not pursue education beyond secondary school, instead they are more likely to see specialists/consultants. Furthermore, respondents with a higher education are more likely to visit dentists.
- The pattern of seeing a particular health care provider reflects wealth level. Respondents in the poorest quintile are more likely to see a general practitioner at a primary health care centre (43%) than respondents in the richest quintile (27%). The opposite can be seen with specialists/consultants, where most of their patients fall in the wealthiest quintile. Also, respondents in wealthier quintiles are more likely to see dentists.
- There is a large variability shown with regions, with the regions of Qasim, the Northern Borders, Jizan, Madinah and Bahah having more than half of their respondents reporting being seen by general practitioners, compared with only 20% in Makkah.

9.2.3 PATIENT ASSESSED CHARACTERISTICS OF OUTPATIENT HEALTH SERVICES

Respondents who reported utilising outpatient care in the past year were asked whether or not they thought the skills of the health care provider, the hospital equipment, and drug supply were adequate during their last visit. Furthermore, this section also included questions regarding transportation used to reach the healthcare facility. The results are shown in **Table 9.7**. 97% of patients state that the health care provider's skills were adequate, while 95% rate the hospital's equipment and drug supply as adequate, with no major differences in these numbers across background characteristics. 95% report using a private vehicle to reach the facility.

9.2.4 PATIENT ASSESSMENT OF RESPONSIVENESS OF OUTPATIENT CARE SERVICES

Respondents were asked to evaluate their last outpatient visit based on domains of responsiveness (prompt attention, dignity, communication, autonomy, choice, confidentiality, and quality of basic amenities). For each domain, respondents rated their experience on a five-point-Likert scale ranging from "very good" to "very bad". **Table 9.8** presents the percentage of patients who perceived poor responsiveness in outpatient services on each domain. Responses of "moderate", "bad", "very bad", "do not know" and "refused" were identified as poor responsiveness. Overall, poor perception of services is uncommon among users of outpatient healthcare service. Domain specific ratings are discussed in further detail below.

First, prompt attention (measured by evaluation of wait times) is described as "poor" by 9% of respondents. Secondly, dignity is assessed through asking the patients to rate how respectfully they were spoken to and how their privacy was preserved. The percentage of patients rating these categories as poor are 10% and 7%, respectively. The next domain is communication, where 8% of respondents rated receiving clear explanations during their care as poor and 9% choose "poor" when evaluating the time they were given to ask questions. Autonomy is assessed by measuring the patients' involvement in making decisions related to their care. 9% of the patients rate autonomy as poor. In order to evaluate the domain of choice, patients were asked about how easy it is to see a health care provider they are happy with. A poor experience is reported by 8% of the patients. Confidentiality in healthcare is defined by the ability of the patient to talk privately to health care providers and by how well personal information is kept confidential. Both descriptors of confidentiality are rated as poor by 8% of the patients. The last domain of healthcare responsiveness is the availability of basic amenities. This is gauged by the cleanliness and spaciousness of the facilities. 16% of patients describe the cleanliness and spaciousness of the facilities as poor. Female respondents are generally more likely to report poor responsiveness than male respondents.

PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of respondents over the age of 80 reporting poor responsiveness is less than that of other age groups, except for the domains of autonomy and choice, where a larger percentage of older respondents rate these domains as poor.
- Overall, a higher percentage of respondents in rural areas describe responsiveness of outpatient health care services as poor when compared to residents of urban areas.
- The percentage of reporting poor responsiveness is the highest among respondents in the poorest wealth quintile.
- Rates of poor responsiveness are generally higher in the regions of Jizan, the Northern Borders, Tabuk and Asir. The lowest rates are seen in Bahah and Hail.

9.2.5 PATIENT SATISFACTION WITH QUALITY OF OUTPATIENT CARE SERVICES

For their last outpatient visit, patients were asked about their satisfaction with the care they received. Satisfaction with care was measured on a five-point-Likert scale ranging from "very satisfied" to "very dissatisfied". To confer the assessment of satisfaction with outpatient services, patients were asked if they were likely to recommend the health care facility to others. The results are shown in **Table 9.8.** 43% of respondents report being very satisfied and 48% reported being satisfied. Less than 2% of patients report being dissatisfied or very dissatisfied. Concurrently, half of the respondents (50%) say they would probably recommend the health facility or home care to friends and family, and 39% say they definitely would recommend it.

The levels of satisfaction and likelihoods of recommending care to friends and family do not differ greatly by background characteristics. Levels of satisfaction vary by region, however, the sample sizes in some regions are small.

9.3 INPATIENT CARE

Respondents were asked if they had been admitted to a health care facility in the three years prior to the survey. Respondents reporting being admitted were further asked about the number of times they were admitted in the most recent year alone. Similar to outpatient services assessment, more information was obtained from patients who reported utilising inpatient care services in the past three years.

Table 9.4 shows that only 8% of the population has been admitted to a healthcare facility in the last three years, and 5% were admitted in the last 12 months. During the 12 months preceding the survey, the mean number of overnight stays in a healthcare facility is two times. Females utilise inpatient health care services more than males do (10% of females were admitted in the last three years as compared to 7% of males).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Respondents age 70 to 79 are most likely to have had received inpatient care in the three years prior to the survey (26%), followed by those aged 60-69 (21%). Respondents aged 15-29 (6%) are least likely to have received inpatient care.
- Saudi respondents are more likely to be admitted to a health care facility than non-Saudi respondents (9% and 6%, respectively). The average number of overnight stays in the last year is two times for Saudi and one time for non-Saudi respondents.
- The pattern of seeking inpatient care in different education levels resembles the pattern of seeking outpatient care. The highest percentage receiving inpatient care is seen among respondents who had no formal education (14%), while respondents who completed secondary school have the lowest percentage (7%).
- Unlike outpatient care, the rates of inpatient utilisation are the same across wealth quintiles, except for the poorest quintile which has a lower rate (6% vs. 9%).
- The likelihood of using healthcare services varies across regions. The regions with the highest likelihood are Tabuk (15%), Najran (14%), Asir (13%) and the Northern Borders (14%). The lowest rates are recorded in the regions of Bahah (4%) and Jawf (4%). The average number of visits is higher in the regions of Jizan and Jawf.

9.3.1 HEALTH CARE FACILITIES

Individuals who reported being admitted in the last three years were asked about the facility they were most recently admitted to. The results are shown in **Table 9.10**. The main facilities for receiving inpatient health care are Ministry of Health hospitals (65%), followed by private hospitals (20%), where males are more likely to be admitted than females (22% and 18%, respectively). 7% of respondents are admitted to National Guard hospitals, with a higher percentage of male (11%) than female patients (4%). Moreover, 2% are admitted to Ministry of Defence hospitals, and 2% to King Faisal Specialist Hospital and Research Centre.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Government hospitals provide more health care services to Saudi respondents, while private hospitals provide more services to non-Saudi than Saudi respondents (55% and 16%, respectively). Figure 9.2 illustrates outpatient health care facilities by nationality.
- Respondents in rural areas rely on private hospitals for inpatient health care more than respondents living in urban areas (23% and 19%, respectively). Respondents of rural areas also utilise inpatient care offered by the Ministry of Health more than those in urban areas (68% and 64%, respectively). Other public hospitals are more often occupied by patients from urban areas.
- The majority of respondents with no formal education receive inpatient care from the Ministry of Health (73%), and few of them receive private inpatient care (6%),whereas respondents with higher education use private hospitals more frequently for inpatient care (25%).
- Ministry of Health hospitals provide inpatient health care to respondents in all wealth quintiles, with higher percentages of respondents in lower quintiles. National Guard hospitals, on the other hand, serve more respondents from the two richest quintiles.
- Utilisation of inpatient health care differs by region. The highest percentage of private inpatient care use is reported in the region of Makkah (33%), followed by Asir (25%).

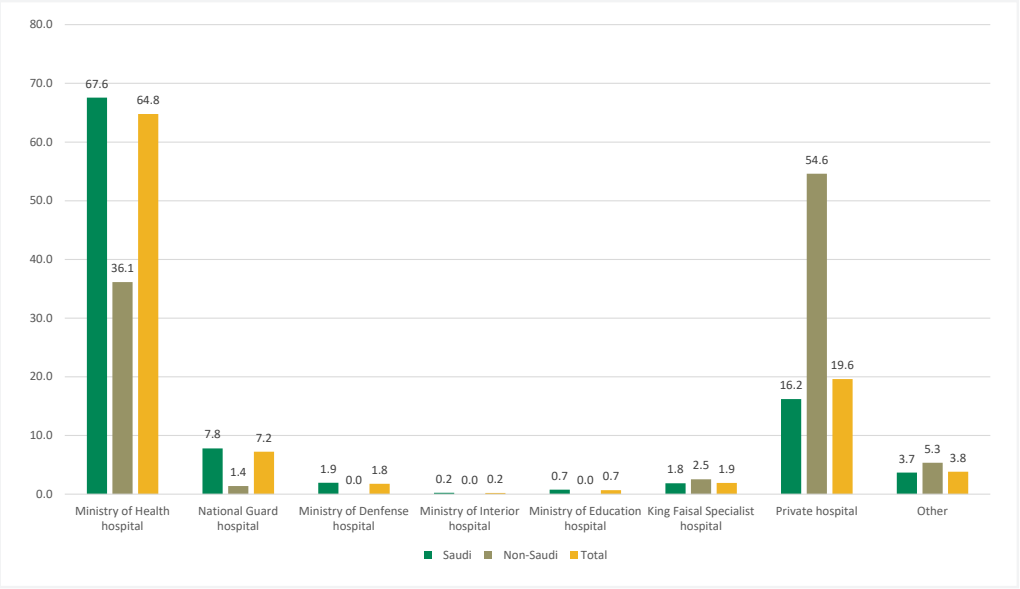


Figure 9.2: Health care facilities providing outpatient services by nationality

Percentage distribution of Saudis and non-Saudis by inpatient health care facility.

9.3.2 PATIENT ASSESSED CHARACTERISTICS OF INPATIENT CARE SERVICES

Respondents who reported being admitted into a healthcare facility were also asked to assess their last stay using the same set of questions used for the assessment of the outpatient services in addition to questions about waiting time for admission. The results are shown in **Table 9.11**. 96% of patients state that the skills of the health care provider, hospital equipment, and drug supply are adequate. These ratings do not differ significantly by background characteristics, except for some regions that score lower in one or more of the three categories.

The mean time spent waiting from the time of needing inpatient care to the time of actual admittance to the hospital is 34 days. Females usually wait longer to be admitted (36 days vs. 30 days). Finally, 94% of respondents report using a private vehicle to reach the facility, with females reporting using private cars more than males (97% and 90%, respectively).

9.3.3 PATIENT ASSESSMENT OF RESPONSIVENESS OF INPATIENT CARE SERVICES

Respondents were asked to evaluate their last inpatient stay based on the same domains of responsiveness used for outpatient care (prompt attention, dignity, communication, autonomy, confidentiality, and quality of basic amenities), and the same five-point-Likert scale ranging from "very good" to "very bad". In addition to the seven key domains, respondents were asked about the ease with which family and friends could visit them and about their experience of staying in contact with the outside world when they were in hospital. The results are displayed in **Table 9.12** in the same manner as in **Table 9.8**. Generally, a low percentage of respondents report poor responsiveness of inpatient care service. Domain specific ratings are discussed in further detail below.

First, prompt attention (measured by evaluation of wait times) is described as "poor" by 9% of respondents. With regards to measures of dignity experienced during their hospital stays, 8% of respondents state that their experience with being addressed respectfully is poor, while 6% rate the privacy of inpatient care as poor. The next domain is communication, where 9% of respondents describe receiving a clear explanation during their care as poor, and 8% choose "poor" when evaluating the amount of time they were allowed to ask questions. After that, autonomy is assessed by measuring the patients' involvement in making decisions related to their care. 7% of the patients rate autonomy as poor. In order to evaluate the domain of choice, patients were asked about how easy it is to see a health care provider they are happy with. Here a poor experience was reported by 5% of the patients. Furthermore, the ability to talk privately to health care providers was rated as poor by 5% of the respondents, and 7% of respondents rated confidentiality of records as poor. Another domain of healthcare responsiveness is the availability of basic amenities. This is gauged by the cleanliness and spaciousness of the facilities. 17% of patients describe the cleanliness and the spaciousness of the facilities as poor. Finally, when asked about access to social support, 11% of patients say that the ease with which they can receive visitors in hospitals is poor, and 10% describe their experience with being able to stay connected with the outside world as also poor.

Female respondents report a higher percentage of poor experience in terms of prompt attention, communication, choice, confidentiality, basic amenities and social support. Other domains (i.e. dignity and autonomy) have more males rating them as poor than females.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Age groups report different percentages of "poor" experience for different domains, ranging between 0% and 24%.
- Saudi respondents rate prompt attention, dignity, autonomy, choice, basic amenities as poor more often than non-Saudi respondents, while non-Saudi respondents rate the other domains as poor more frequently than Saudi respondents.
- A higher of percentage of respondents in rural areas describe responsiveness of inpatient health care services as poor when compared to residents of urban areas, except for the ability to stay in contact with the outside world when in hospital, where respondents in urban areas report a higher percentage of poor experience.
- Respondents who reported completing secondary school are more likely to give an evaluation of poor for responsiveness of inpatient care services when assessing prompt attention, dignity, confidentiality when talking to health care providers, and contact with the outer world while in the hospital. While respondents who did not complete secondary school record a poor evaluation for communication, autonomy, choice, confidentiality of records, basic amenities and ease of visitations.
- Responsiveness of inpatient care services depends on the wealth of the patient. Respondents in the richest quintile typically have a better experience with inpatient care services than respondents in other wealth quintiles.
- Rates of poor responsiveness are the significantly high in the region of Jizan. The Northern Borders region also has high rates of poor responsiveness, especially when assessing basic amenities. Additionally, the regions of Makkah and Madinah have relatively high rates of poor responsiveness. The lowest rates of poor responsiveness are seen in Jawf, Bahah and Hail.

9.3.4 PATIENT SATISFACTION WITH QUALITY OF INPATIENT CARE SERVICES

Patients were asked about their satisfaction with the care they received during their last inpatient stay using the same approach used for the outpatient services. As shown in **Table 9.13**, an overall percentage of 53% are very satisfied and 39% are satisfied. Less than 3% of patients report being dissatisfied or very dissatisfied. Concurrently, almost half of the respondents (48%) say they would probably recommend the health facility or home care to friends and family, and 37% say they definitely would recommend it.

Respondents in the richest quintile have the highest levels of satisfaction with inpatient care services. Levels of satisfaction vary by region, however, the sample sizes in some regions are small.

9.4 GENERAL SATISFACTION WITH THE HEALTH CARE SYSTEM

Following the questions about outpatient and inpatient health services, respondents were asked two questions about their opinion of health care in Saudi Arabia in general. The first question enquired about the patients' satisfaction with the health services run in the country, and the second question enquired about the patients' perception of the way the health care system in Saudi Arabia involves patients in deciding what services it provides and where it provides them. Response options for both questions ranged from "Very satisfied" to "Very dissatisfied" on a five-point-Likert scale. The results are shown in **Table 9.14**. The majority of respondents (89%) report being either satisfied or very satisfied with the health care services. Also, 85% of respondents report being satisfied and very satisfied with the way the health care system involves the patients in deciding what and where services are provided. Male respondents report being satisfied with the health care services in general more than female respondents (91% vs 87%).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Respondents between the age of 70 and 79 have the highest levels of satisfaction with the services and the involvement of patients in services related decisions.
- Although satisfaction with healthcare services in general is equal among Saudi and non-Saudi respondents, Saudi respondents are more likely to be satisfied with the way patients are involved in decisions affecting their care than non-Saudi respondents (86% vs 81%, respectively).
- Level of satisfaction is influenced by wealth, with the lowest levels of satisfaction with the health care system recorded for respondents in the lowest quintile and the highest level of satisfaction seen in respondents in the richest quintile.
- General satisfaction with the health care system varies across regions. The regions with the highest satisfaction levels are Bahah (99%), Tabuk (99%), Jawf (98%), Najran (96%), Riyadh (95%), Hail (94%) and Qasim (93%). The lowest satisfaction rate is recorded in the region of Jizan (67%).

9.5 PATIENT ASSESSED DISCRIMINATION IN THE HEALTH CARE SYSTEM

To gauge exposure to discrimination in the Saudi Arabian healthcare system, respondents were asked whether during the year prior to the survey they felt that they were treated worse by health care providers for reasons such as gender, money, social class or nationality. **Table 9.15** shows the percentage of respondents who reported feeling discriminated against for any of the reasons mentioned earlier. 6% of respondents report feeling discriminated against due to their nationality, while 2% report discrimination because of their social class. Furthermore, 1% experience sex discrimination and 0.3% say they felt discrimination related to their financial status. It is worth mentioning that one third of the population (31%) refused to respond to questions about discrimination.

LIST OF TABLES

For more information on household population and housing characteristics, see the following tables:

Table 9.1: Frequency of health care utilisation

The mean number of visits by type of provider visited and the percent distribution of unmet need for services the last time care was needed, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	HEALTH CARE USE (NUMBER OF VISITS IN THE LAST 12 MONTHS)						UNMET NEED FOR SERVICES[1]	NUMBER OF RESPONDENTS[2]
	GENERAL PRACTITIONER		CONSULTANT/SPECIALIST		DENTISTS			
	MEAN	NUMBER OF RESPONDENTS	MEAN	NUMBER OF RESPONDENTS	MEAN	NUMBER OF RESPONDENTS		
Age								
15-29	0.9	3,267	0.4	3,329	0.5	3,326	3.7	1,824
30-44	1.2	3,651	0.5	3,703	0.5	3,714	5.6	2,078
45-59	1.9	1,225	1.0	1,239	0.5	1,238	8.2	726
60-69	2.9	344	1.5	351	0.5	352	2.0	244
70-79	4.3	131	2.3	134	0.3	134	0.0	96
80+	3.7	50	2.4	52	0.8	52	0.0	41
Sex								
Male	1.2	4,555	0.5	4,626	0.4	4,638	5.5	2,582
Female	1.4	4,113	0.8	4,181	0.6	4,179	4.3	2,427
Nationality								
Saudi	1.3	7,582	0.6	7,681	0.5	7,688	4.2	4,391
Non-Saudi	1.1	1,086	0.6	1,126	0.3	1,129	10.2	618
Residence								
Urban	1.3	7,484	0.7	7,610	0.5	7,613	5.4	4,231
Rural	1.6	1,184	0.4	1,197	0.5	1,204	2.4	777
Marital Status								
Never married	0.8	2,178	0.3	2,207	0.5	2,209	4.7	1,127
Currently married	1.4	5,817	0.6	5,923	0.5	5,931	5.4	3,429
Formerly married	2.4	673	1.5	678	0.7	677	2.4	453
Education								
No formal education	2.5	461	0.9	474	0.4	473	3.9	310
Less than secondary	1.5	1,285	0.8	1,317	0.6	1,321	8.4	728
Secondary completed	1.1	3,359	0.5	3,403	0.5	3,406	5.8	1,753
More than secondary completed	1.3	3,564	0.7	3,613	0.5	3,617	3.3	2,217
Wealth Quintile								
Lowest	1.0	2,076	0.4	2,122	0.3	2,128	6.6	1,061
Second	1.5	1,855	0.6	1,899	0.5	1,902	3.7	1,107
Middle	1.2	1,658	0.7	1,675	0.5	1,674	4.2	893
Fourth	1.3	1,595	0.6	1,609	0.5	1,613	5.1	933
Highest	1.7	1,484	1.0	1,501	0.6	1,500	5.1	1,015
Region								
Riyadh	1.4	2,293	0.7	2,324	0.5	2,324	2.6	1,598
Makkah	1.3	2,237	0.8	2,248	0.6	2,255	6.4	1,170
Madinah	0.4	610	0.3	647	0.3	647	10.3	209
Qasim	0.5	319	0.3	340	0.2	342	22.3	148
Eastern Province	1.4	1,124	0.7	1,144	0.4	1,144	6.4	516
Asir	0.8	628	0.4	632	0.6	634	4.0	437
Tabuk	1.1	297	0.3	300	0.5	300	2.1	190
Hail	1.3	177	0.4	179	0.3	178	8.9	63
Northern Borders	1.6	86	0.6	86	0.5	87	5.8	61
Jizan	1.3	384	0.4	395	0.5	393	3.2	276
Najran	2.3	194	0.7	194	0.6	194	2.4	156
Bahah	4.7	153	0.6	153	0.4	153	0.4	131
Jawf	1.2	165	0.4	165	0.5	165	0.7	53
Total	1.3	8,668	0.6	8,807	0.5	8,817	4.9	5,008

1 Defined as the percentage of respondents who did not receive health care among those who indicated need in the past three years.

2 Includes only respondents who indicated needing health care in the last three years.

Table 9.2: Reasons for seeking health care

Percentage distribution of health reasons for utilisation of health services the last time care was needed by sex [Saudi Arabia, 2019].

REASONS FOR SEEKING HEALTH CARE	MALE		FEMALE		TOTAL	
	PERCENTAGE	NUMBER	PERCENTAGE	NUMBER	PERCENTAGE	NUMBER
Communicable disease (infections, malaria, TB, HIV)	0.4	10	0.2	5	0.3	16
Maternal and perinatal conditions (pregnancy)	na	na	12.0	291	12.0	291
Nutritional deficiencies	2.0	52	3.3	81	2.7	133
Acute conditions	30.5	788	22.2	539	26.5	1,327
Injury (not work related)	2.2	56	0.6	15	1.4	72
Surgery	1.8	47	1.4	35	1.6	82
Sleep problems	0.5	13	0.7	18	0.6	32
Occupation /work related condition/ injury	0.7	19	0.0	-	0.4	19
Chronic pain in joints / arthritis (joints, back, neck)	3.5	90	4.2	103	3.9	193
Diabetes or related complications	6.9	177	6.1	147	6.5	324
Problems with heart including unexplained pain in chest	0.9	24	0.5	13	0.7	36
Problems with mouth or teeth	12.8	330	14.5	353	13.6	683
Problems with breathing	1.8	47	1.5	35	1.7	83
High blood pressure/ hypertension	4.6	119	3.4	81	4.0	201
Stroke/ sudden paralysis of one side of body	0.2	6	0.0	1	0.1	7
Generalised pain (stomach, muscle or other nonspecific pain)	7.1	184	6.4	156	6.8	340
Depression or anxiety	0.7	18	0.4	10	0.6	29
Cancer	0.1	2	0.2	6	0.2	8
Immunisation	2.6	68	2.1	51	2.4	119
Other	20.4	527	19.8	481	20.1	1,008
Missing	0.1	2	0.2	4	0.1	6
Total	100.0	2,582	100.0	2,427	100.0	5,008

Table 9.3: Reasons for not receiving health care

Percentage distribution of reasons for not receiving health care[1] the last time care was needed, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	COULD NOT AFFORD THE COST OF VISIT	NO TRANSPORT AVAILABLE	COULD NOT AFFORD THE COST OF TRANSPORT	HEALTH CARE PROVIDER'S DRUGS OR EQUIPMENT ARE INADEQUATE	HEALTH CARE PROVIDER'S SKILLS WERE INADEQUATE	PREVIOUSLY BADLY TREATED	COULD NOT TAKE TIME OFF WORK OR HAD OTHER COMMITMENTS	DID NOT KNOW WHERE TO GO	TRIED BUT DENIED HEALTH CARE	DID NOT BELIEVE WERE SICK ENOUGH	OTHER	NUMBER OF RESPONDENTS
Age												
15-29	15.7	12.3	0.0	3.8	0.0	1.1	0.2	5.5	3.3	16.9	35.3	68
30-44	11.1	14.4	2.4	0.9	0.2	3.6	2.3	3.0	0.5	37.7	24.8	115
45-59	20.4	17.0	2.7	4.1	5.4	0.0	0.0	2.8	4.1	12.2	35.2	59
60-69	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5
70-79	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
80+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Sex												
Male	16.0	12.3	1.2	3.6	1.0	2.1	1.2	2.7	2.7	25.3	31.5	143
Female	12.1	16.6	2.5	1.0	1.9	1.7	1.0	4.9	1.4	25.9	30.9	105
Nationality												
Saudi	9.7	11.9	1.4	0.6	1.9	2.6	1.5	2.5	0.7	28.7	36.5	185
Non-Saudi	28.0	20.7	2.7	8.0	0.0	0.0	0.0	6.8	6.3	16.3	15.8	63
Residence												
Urban	13.3	15.3	1.9	2.2	1.3	1.1	0.7	3.9	2.3	26.2	31.6	229
Rural	28.2	0.0	0.0	5.9	2.8	13.3	5.9	0.0	0.0	17.3	26.7	19
Marital Status												
Never married	15.1	12.7	3.2	4.9	0.0	0.0	2.3	5.1	0.0	18.2	32.1	53
Currently married	12.8	13.7	1.5	1.9	1.6	2.7	0.8	3.3	2.9	28.3	31.2	184
Formerly married	37.7	29.2	0.0	0.0	4.8	0.0	0.0	1.5	0.0	13.6	27.2	11
Education												
No formal education	17.9	0.0	0.0	0.0	0.0	0.0	0.0	5.2	0.0	11.9	58.8	12
Less than secondary	9.6	12.3	2.8	8.3	3.1	2.2	0.2	4.7	6.2	20.5	35.1	61
Secondary completed	16.7	22.7	2.6	0.0	1.5	0.0	1.1	1.0	1.5	23.2	28.8	101
More than secondary completed	14.5	6.3	0.0	1.5	0.0	4.8	2.1	6.0	0.0	35.2	26.9	73
Wealth Quintile												
Lowest	7.3	7.1	0.0	0.0	1.3	1.1	0.0	6.4	0.8	27.8	50.6	70
Second	13.8	5.6	0.0	0.0	0.3	3.3	2.6	3.9	5.5	26.4	28.2	41
Middle	15.9	26.6	4.4	0.0	0.2	4.2	4.2	0.4	0.0	36.2	15.8	37
Fourth	11.1	18.5	3.6	7.8	1.1	2.6	0.0	2.2	0.0	20.0	29.8	47
Highest	26.1	17.6	2.0	4.7	3.5	0.0	0.2	3.2	4.7	19.3	20.2	52
Region												
Riyadh	3.6	7.2	0.0	0.0	0.0	0.0	0.0	3.9	0.0	66.1	13.1	41
Makkah	25.0	33.5	4.5	6.8	2.4	3.1	2.1	0.0	5.3	12.1	6.2	75
Madinah	26.0	0.0	0.0	0.0	6.4	0.0	0.0	14.9	3.5	36.7	23.5	22
Qasim	14.2	6.3	3.2	0.0	0.0	0.0	0.0	6.3	0.0	31.5	38.6	33
Eastern Province	0.0	2.5	0.0	0.0	0.0	4.2	0.0	0.0	0.0	5.5	87.8	33
Asir	10.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	16.7	60.9	18
Tabuk	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.6	14.8	15.2	54.4	4
Hail	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.2	69.9	6
Northern Borders	0.0	11.7	0.0	0.0	6.4	3.4	3.4	9.3	0.0	10.8	52.3	4
Jizan	35.7	0.0	0.0	12.2	0.0	12.2	12.2	0.0	0.0	11.4	16.2	9
Najran	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4
Bahah	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0
Jawf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0
Total	14.4	14.2	1.8	2.5	1.4	2.0	1.1	3.6	2.1	25.5	31.2	248

1 Respondents may report multiple reasons for not receiving health care, therefore the sum of reasons may exceed 100%.

Table 9.4: Type of health care utilisation

Percentage distribution of self-reported utilisation of health services and the mean number of visits/in hospital stays by type of health care received, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	OUTPATIENT CARE				INPATIENT CARE				
	RECEIVED IN THE LAST 12 MONTHS	NUMBER OF RESPONDENTS	MEAN NUMBER OF VISITS	NUMBER OF RESPONDENTS[1]	RECEIVED IN THE LAST THREE YEARS	RECEIVED IN THE LAST 12 MONTHS	NUMBER OF RESPONDENTS	MEAN NUMBER OF ADMISSIONS	NUMBER OF RESPONDENTS[2]
Age									
15-29	42.2	3,353	3.6	1,131	6.1	4.0	3,353	1.8	205
30-44	46.5	3,755	3.5	1,415	7.6	4.5	3,755	1.5	287
45-59	51.7	1,256	5.2	562	9.2	5.6	1,256	1.8	111
60-69	62.8	362	5.8	196	20.6	13.8	362	1.9	74
70-79	71.1	135	6.2	90	26.3	20.6	135	1.3	35
80+	78.1	52	5.9	37	18.5	11.7	52	1.4	10
Sex									
Male	46.1	4,694	3.8	1,720	6.5	4.3	4,694	1.5	300
Female	47.7	4,218	4.3	1,713	10.0	6.0	4,218	1.8	423
Nationality									
Saudi	46.7	7,777	4.0	3,003	8.5	5.5	7,777	1.7	658
Non-Saudi	47.7	1,135	4.2	429	5.7	2.7	1,135	1.1	64
Residence									
Urban	45.6	7,687	4.1	2,875	8.2	5.2	7,687	1.7	629
Rural	54.6	1,225	3.6	558	7.7	4.7	1,225	1.8	94
Marital Status									
Never married	39.4	2,250	3.5	706	3.0	2.4	2,250	1.7	68
Currently married	48.3	5,982	4.1	2,365	9.5	5.6	5,982	1.6	563
Formerly married	58.4	680	4.8	362	13.5	10.1	680	2.1	92
Education									
No formal education	52.8	490	5.7	213	13.9	8.6	490	1.7	68
Less than secondary	46.0	1,338	4.3	501	9.2	5.8	1,338	2.1	124
Secondary completed	42.9	3,449	3.7	1,198	7.4	4.7	3,449	1.6	254
More than secondary completed	50.1	3,635	4.0	1,520	7.7	4.8	3,635	1.6	277
Wealth Quintile									
Lowest	37.5	2,169	3.9	612	6.2	3.8	2,169	2.2	134
Second	49.1	1,918	4.5	752	8.9	4.7	1,918	1.5	171
Middle	45.9	1,694	3.8	631	9.4	6.3	1,694	1.6	158
Fourth	48.5	1,626	3.9	652	8.0	5.4	1,626	1.5	128
Highest	56.7	1,505	4.1	787	8.9	5.9	1,505	1.7	132
Region									
Riyadh	58.6	2,345	3.8	1,175	7.7	5.0	2,345	1.5	181
Makkah	38.9	2,257	5.2	796	7.0	4.1	2,257	2.1	154
Madinah	18.9	664	3.7	103	8.7	4.7	664	1.3	58
Qasim	20.5	364	4.6	44	9.3	8.1	364	1.4	34
Eastern Province	31.6	1,149	4.5	299	7.8	5.2	1,149	1.9	90
Asir	89.1	644	2.7	290	12.5	7.9	644	1.3	80
Tabuk	63.5	300	2.5	174	15.2	11.0	300	1.5	46
Hail	34.5	179	4.2	58	6.3	3.2	179	1.1	11
Northern Borders	79.4	87	3.1	55	13.8	7.3	87	1.6	12
Jizan	35.1	410	3.5	132	4.6	2.0	410	3.3	19
Najran	67.3	194	3.4	130	14.1	7.3	194	1.6	27
Bahah	97.0	153	5.5	137	3.7	2.4	153	1.0	6
Jawf	24.9	165	3.8	40	3.9	2.3	165	3.3	6
Total	46.9	8,912	4.1	3,433	8.2	5.1	8,912	1.7	723

1 Includes respondents who indicated receiving outpatient health care service in the last 12 months and excludes those with missing number of visits.

2 Includes respondents who indicated receiving inpatient health care service in the last three years and excludes those with missing number of visits.

Table 9.5 Health care facilities providing outpatient care services

Percentage distribution of the main health care facilities providing outpatient care services in the most recent visit in the last 12 months, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	PRIVATE POLYCLINIC	PRIVATE SINGLE DOCTOR CLINIC	PRIVATE HOSPITAL	GOVERNMENT PRIMARY HEALTH CARE CLINIC	GOVERNMENT HOSPITAL	PHARMACY	OTHER	MISSING	TOTAL	NUMBER OF RESPONDENTS
Age										
15-29	11.5	6.0	15.9	31.8	20.2	3.0	3.2	8.4	100.0	1,415
30-44	12.3	2.3	19.1	36.9	17.1	3.1	2.3	6.8	100.0	1,748
45-59	10.4	1.3	19.0	34.2	26.4	2.0	1.7	5.0	100.0	649
60-69	2.8	1.4	11.5	42.8	27.9	0.4	2.4	10.6	100.0	227
70-79	3.5	0.5	5.6	37.8	35.7	0.0	0.0	16.9	100.0	96
80+	2.6	0.0	3.8	64.6	19.3	0.0	0.0	9.7	100.0	40
Sex										
Male	10.6	2.8	16.3	35.1	20.8	3.5	2.6	8.3	100.0	2,164
Female	11.2	3.7	18.1	35.6	20.4	1.8	2.3	6.7	100.0	2,011
Nationality										
Saudi	8.6	2.9	14.4	39.4	22.4	2.2	2.4	7.7	100.0	3,634
Non-Saudi	26.1	6.0	35.6	8.1	8.7	5.9	3.1	6.4	100.0	541
Residence										
Urban	11.1	3.7	18.8	31.9	22.6	3.0	2.0	6.8	100.0	3,506
Rural	9.7	0.7	8.8	53.8	10.4	0.7	4.8	11.2	100.0	669
Marital Status										
Never married	14.7	7.5	15.5	28.5	20.0	3.0	2.8	8.0	100.0	887
Currently married	10.4	2.2	16.8	38.3	19.1	2.9	2.5	7.9	100.0	2,891
Formerly married	6.4	1.6	23.5	29.1	33.1	0.5	1.6	4.2	100.0	397
Education										
No formal education	7.0	1.3	6.0	55.1	17.5	0.7	3.3	9.1	100.0	259
Less than secondary	11.2	2.2	7.6	45.7	20.7	1.5	3.4	7.7	100.0	615
Secondary completed	11.3	2.9	11.5	41.5	19.3	3.2	2.6	7.7	100.0	1,479
More than secondary completed	11.0	4.2	26.5	24.1	22.2	2.9	1.9	7.1	100.0	1,823
Wealth Quintile										
Lowest	15.7	3.0	9.0	40.8	15.4	3.9	4.2	8.0	100.0	814
Second	11.0	1.7	17.9	37.0	18.8	3.2	1.8	8.6	100.0	941
Middle	9.6	2.6	13.3	40.5	17.4	3.0	3.8	9.7	100.0	778
Fourth	9.5	5.1	16.5	35.1	23.5	2.4	2.0	6.0	100.0	789
Highest	8.7	4.1	28.3	24.0	27.9	0.9	0.7	5.3	100.0	853
Region										
Riyadh	7.7	3.5	28.7	20.6	29.4	4.4	1.8	4.0	100.0	1,375
Makkah	13.3	8.1	27.0	14.2	23.0	2.0	1.0	11.5	100.0	877
Madinah	6.0	5.5	2.7	61.2	8.9	0.4	0.0	15.2	100.0	125
Qasim	13.5	0.0	0.7	60.2	8.8	1.2	2.3	13.3	100.0	75
Eastern Province	8.2	0.5	8.4	58.2	13.3	0.0	3.1	8.2	100.0	363
Asir	19.8	0.5	4.5	43.0	14.2	5.1	7.5	5.3	100.0	574
Tabuk	8.0	1.2	2.7	54.9	21.1	0.3	0.9	10.9	100.0	191
Hail	25.9	0.7	10.2	44.0	6.6	0.1	0.0	12.4	100.0	62
Northern Borders	7.4	0.6	0.5	66.6	10.3	1.2	5.2	8.1	100.0	69
Jizan	12.6	0.9	6.5	63.1	13.6	0.8	0.0	2.5	100.0	144
Najran	10.6	0.7	2.3	52.9	22.4	0.0	0.7	10.4	100.0	130
Bahah	0.3	0.0	0.0	85.9	3.4	0.1	4.6	5.7	100.0	149
Jawf	8.3	0.0	0.0	58.9	8.2	0.0	0.0	24.6	100.0	41
Total	10.9	3.3	17.2	35.4	20.6	2.7	2.5	7.5	100.0	4,175

Table 9.6: Health care providers providing outpatient care services

Percentage distribution of the main health care providers of outpatient care services in the most recent visit in the last 12 months, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	GENERAL PRACTITIONER AT PRIMARY HEALTH CARE CENTRE	SPECIALISED GENERAL PRACTITIONER/ FAMILY PHYSICIAN[1]	SPECIALISED DOCTOR/ CONSULTANT/ SPECIALIST	NURSE / MIDWIFE	DENTIST	PHYSIOTHERAPIST OR CHIROPRACTOR	HOME HEALTH CARE WORKER	PHARMACIST	OTHER	TOTAL	NUMBER OF RESPONDENTS
Age											
15-29	36.1	21.4	14.9	0.5	17.0	0.4	0.1	3.3	6.4	100.0	1,415
30-44	38.6	20.6	18.2	0.5	13.2	0.5	0.0	3.5	4.8	100.0	1,748
45-59	35.6	21.7	23.6	0.0	8.5	0.7	0.0	3.6	6.2	100.0	649
60-69	33.1	31.3	23.5	0.8	3.2	0.3	0.0	1.3	6.5	100.0	227
70-79	33.4	36.0	23.3	0.0	0.0	2.3	0.8	1.2	3.0	100.0	96
80+	56.4	18.0	18.1	0.0	0.0	0.0	7.5	0.0	0.0	100.0	40
Sex											
Male	38.3	21.9	16.9	0.2	12.0	0.6	0.2	4.3	5.6	100.0	2,164
Female	35.7	22.0	19.9	0.6	13.6	0.4	0.0	2.2	5.5	100.0	2,011
Nationality											
Saudi	40.0	21.3	18.1	0.5	12.5	0.5	0.1	2.6	4.4	100.0	3,634
Non-Saudi	17.1	26.5	19.7	0.1	14.7	0.5	0.0	8.0	13.4	100.0	541
Residence											
Urban	34.0	21.9	20.4	0.4	13.3	0.5	0.2	3.8	5.5	100.0	3,506
Rural	53.0	22.2	7.7	0.4	10.0	0.2	0.0	0.7	5.9	100.0	669
Marital Status											
Never married	35.6	21.8	14.3	0.2	19.3	0.6	0.1	3.0	5.0	100.0	887
Currently married	38.7	21.5	18.3	0.5	10.9	0.5	0.1	3.7	5.7	100.0	2,891
Formerly married	28.1	25.3	27.5	0.4	12.4	0.0	0.0	0.7	5.5	100.0	397
Education											
No formal education	46.5	23.3	15.3	1.2	6.0	0.1	1.7	1.6	4.2	100.0	259
Less than secondary	47.2	18.5	15.9	0.0	8.2	0.7	0.1	2.4	7.1	100.0	615
Secondary completed	42.6	19.2	15.0	0.8	13.5	0.4	0.0	3.3	5.1	100.0	1,479
More than secondary completed	27.8	25.1	22.3	0.1	14.7	0.6	0.0	3.8	5.6	100.0	1,823
Wealth Quintile											
Lowest	42.6	18.7	12.9	1.1	10.4	0.7	0.0	5.0	8.7	100.0	814
Second	40.7	22.5	13.7	0.4	10.9	0.2	0.2	3.9	7.5	100.0	941
Middle	40.8	19.2	20.8	0.2	11.4	0.2	0.0	3.4	4.1	100.0	778
Fourth	34.0	23.9	18.9	0.4	14.8	0.8	0.5	2.4	4.4	100.0	789
Highest	27.1	25.2	25.9	0.1	16.6	0.6	0.0	1.6	2.9	100.0	853
Region											
Riyadh	27.5	24.8	20.8	0.3	16.0	1.0	0.0	5.0	4.7	100.0	1,375
Makkah	20.8	26.5	28.0	0.3	14.2	0.2	0.0	3.0	6.9	100.0	877
Madinah	62.6	18.2	5.5	0.5	6.5	1.2	3.3	0.4	1.8	100.0	125
Qasim	77.4	6.2	6.5	3.1	4.2	0.0	0.0	2.8	0.0	100.0	75
Eastern Province	55.2	11.4	14.3	1.1	9.3	0.3	0.0	0.5	7.8	100.0	363
Asir	40.3	16.4	15.2	0.0	12.0	0.3	0.0	5.8	10.0	100.0	574
Tabuk	52.4	24.7	9.0	0.3	10.2	0.0	0.0	1.0	2.3	100.0	191
Hail	53.5	10.6	19.9	0.0	14.3	0.0	0.0	0.0	1.6	100.0	62
Northern Borders	64.4	7.5	14.1	1.2	6.5	0.2	0.0	1.5	4.6	100.0	69
Jizan	63.9	19.7	1.8	1.5	8.4	0.0	0.0	0.8	4.0	100.0	144
Najran	32.2	25.9	27.3	0.0	14.3	0.0	0.0	0.0	0.3	100.0	130
Bahah	59.1	30.7	2.9	0.0	5.7	0.0	0.0	0.1	1.4	100.0	149
Jawf	45.7	32.6	3.2	0.0	8.7	0.6	3.1	0.0	6.0	100.0	41
Total	37.1	21.9	18.3	0.4	12.8	0.5	0.1	3.3	5.6	100.0	4,175

1 Includes family physicians

Table 9.7: Patient assessed characteristics of outpatient care services

Percentage of patients who reported adequate skills, equipment and drug supplies, mean cost of an outpatient visit and type of vehicle used to reach the facility in the most recent visit in the last 12 months, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	PATIENTS RATING CHARACTERISTICS OF HEALTH CARE SERVICES AS ADEQUATE			PATIENTS USING A PRIVATE CAR OR VEHICLE TO REACH FACILITY	NUMBER OF RESPONDENTS
	SKILLS	EQUIPMENT	DRUG SUPPLIES		
Age					
15-29	96.0	95.4	95.7	94.9	1,415
30-44	96.6	95.4	93.7	94.6	1,748
45-59	97.2	95.1	94.0	95.2	649
60-69	98.4	95.9	97.1	93.8	227
70-79	100.0	97.5	94.4	94.7	96
80+	97.4	97.4	97.4	77.7	40
Sex					
Male	96.6	94.9	94.0	93.6	2,164
Female	96.8	96.0	95.5	95.7	2,011
Nationality					
Saudi	96.9	95.3	94.7	95.5	3,634
Non-Saudi	95.3	96.2	94.9	88.4	541
Residence					
Urban	96.5	95.8	94.7	95.0	3,506
Rural	97.4	93.6	94.9	92.4	669
Marital Status					
Never married	95.9	95.4	94.3	93.6	887
Currently married	96.8	95.3	94.6	95.1	2,891
Formerly married	97.9	96.8	96.0	93.5	397
Education					
No formal education	98.2	96.0	95.7	85.4	259
Less than secondary	96.6	94.2	94.4	92.0	615
Secondary completed	96.0	95.2	94.3	94.8	1,479
More than secondary completed	97.1	96.0	95.0	96.6	1,823
Wealth Quintile					
Lowest	95.6	93.2	93.2	88.5	814
Second	95.6	93.9	93.5	95.2	941
Middle	97.0	96.3	94.8	95.2	778
Fourth	97.8	96.8	95.7	96.7	789
Highest	97.6	97.3	96.3	97.2	853
Region					
Riyadh	97.2	95.3	94.0	95.7	1,375
Makkah	94.9	96.6	95.4	98.7	877
Madinah	95.4	94.2	95.9	87.9	125
Qasim	100.0	96.8	98.8	96.2	75
Eastern Province	95.7	95.2	93.6	96.1	363
Asir	97.2	95.5	94.9	90.3	574
Tabuk	98.8	97.5	97.9	84.6	191
Hail	99.4	100.0	100.0	98.2	62
Northern Borders	96.4	94.7	93.2	90.9	69
Jizan	94.0	77.9	79.8	93.4	144
Najran	97.5	98.7	99.2	95.8	130
Bahah	99.6	99.6	99.3	93.3	149
Jawf	98.5	98.5	98.5	89.0	41
Total	96.7	95.4	94.7	94.6	4,175

1 Saudi Riyal (local currency).

Table 9.8: Patient assessment of responsiveness of outpatient care services

Percentage of patients perceiving poor[1] responsiveness in outpatient care services in the most recent visit in the last 12 months, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	PROMPT ATTENTION	DIGNITY		COMMUNICATION		AUTONOMY	CHOICE	CONFIDENTIALITY		BASIC AMENITIES		NUMBER OF RESPONDENTS
	WAIT TIME	TALKED RESPECTFULLY	PRIVACY	CLEAR EXPLANATION	TIME FOR QUESTIONS	INVOLVEMENT	EASE OF ACCESSING HEALTH CARE PROVIDER	TALK PRIVATELY	CONFIDENTIALITY OF RECORDS	CLEANLINESS	SPACE	
Age												
15-29	10.4	11.3	9.4	10.3	10.1	12.3	10.4	9.1	9.8	19.5	17.0	1,415
30-44	9.7	10.3	7.4	8.3	8.4	8.2	7.7	8.0	7.9	14.5	15.0	1,748
45-59	5.7	6.3	5.7	4.9	6.5	6.4	5.1	6.4	6.1	14.1	13.9	649
60-69	13.0	8.3	7.2	9.1	7.2	6.9	12.7	9.5	9.6	13.2	17.0	227
70-79	7.1	4.3	3.0	4.3	2.5	5.8	3.2	7.5	6.5	13.7	14.0	96
80+	2.5	2.8	2.8	2.5	2.5	6.0	6.0	2.8	5.1	2.8	5.4	40
Sex												
Male	8.1	9.2	7.2	7.9	8.4	8.7	8.4	7.9	8.3	15.8	16.4	2,164
Female	10.6	10.2	8.1	8.7	8.6	9.7	8.2	8.4	8.2	16.0	14.6	2,011
Nationality												
Saudi	9.2	9.7	7.7	8.5	8.7	9.6	8.4	8.2	8.4	16.5	15.9	3,634
Non-Saudi	10.3	9.8	7.5	6.9	6.5	6.6	7.6	7.6	7.3	11.7	13.0	541
Residence												
Urban	9.0	9.5	7.2	7.9	8.0	8.9	7.8	8.1	7.6	16.1	15.4	3,506
Rural	11.0	10.6	10.0	10.3	10.6	10.5	11.2	8.3	11.8	14.8	16.3	669
Marital Status												
Never married	10.8	9.7	7.8	9.3	8.0	11.6	9.0	6.1	8.3	17.5	16.0	887
Currently married	9.3	10.6	8.0	8.6	9.2	9.1	8.8	9.2	8.8	16.0	15.8	2,891
Formerly married	6.4	3.3	4.5	4.1	3.7	4.2	3.9	4.9	4.8	11.8	12.7	397
Education												
No formal education	8.1	7.6	7.5	9.2	7.1	8.3	10.0	7.9	7.2	9.6	10.1	259
Less than secondary	8.2	7.4	6.0	5.7	6.3	7.8	7.3	7.0	7.2	13.9	17.1	615
Secondary completed	11.0	11.1	8.9	9.5	9.6	10.4	8.6	9.9	8.4	18.6	17.2	1,479
More than secondary completed	8.5	9.6	7.2	8.1	8.4	8.8	8.3	7.1	8.8	15.3	14.4	1,823
Wealth Quintile												
Lowest	14.8	12.7	11.7	12.1	12.1	11.4	11.6	11.9	11.9	20.6	21.3	814
Second	10.5	11.6	8.6	10.3	10.1	11.0	11.1	9.4	11.1	16.6	18.1	941
Middle	10.4	9.6	7.4	6.9	8.4	8.7	6.3	6.8	7.9	17.1	14.8	778
Fourth	6.1	8.4	5.5	5.6	5.7	6.9	6.1	6.9	5.3	12.5	12.3	789
Highest	4.8	6.1	4.9	6.4	5.8	7.6	6.1	5.6	4.8	12.8	10.7	853
Region												
Riyadh	5.6	10.0	8.9	7.3	8.1	7.0	7.4	9.2	6.6	12.7	14.2	1,375
Makkah	12.9	10.4	5.2	8.3	7.8	11.6	8.4	4.4	10.3	21.4	20.9	877
Madinah	12.1	10.4	10.2	12.3	12.3	11.7	12.2	15.6	14.7	13.7	15.3	125
Qasim	7.4	3.2	2.5	2.0	2.7	6.0	6.0	6.8	4.5	13.6	6.3	75
Eastern Province	9.9	2.4	1.4	4.7	3.6	4.8	3.6	1.0	4.7	12.8	8.8	363
Asir	12.3	9.9	9.4	11.7	10.0	11.6	10.5	10.0	10.2	19.0	15.0	574
Tabuk	8.3	15.0	11.4	12.5	10.4	9.7	9.9	15.1	10.5	22.3	20.2	191
Hail	2.6	0.9	3.4	1.5	1.5	1.9	0.9	-	0.6	4.4	6.9	62
Northern Borders	13.1	16.5	13.5	10.0	12.3	13.3	12.3	18.1	12.2	24.4	25.7	69
Jizan	25.9	22.6	22.0	19.9	24.3	19.9	22.7	15.5	20.8	25.3	35.2	144
Najran	3.0	14.7	6.8	4.1	9.5	8.7	9.8	15.8	3.3	11.7	7.0	130
Bahah	1.2	1.2	1.5	1.4	1.5	1.4	1.4	1.4	1.2	1.7	1.5	149
Jawf	5.1	3.0	3.3	12.2	15.2	27.5	11.4	7.3	4.9	5.7	11.4	41
Total	9.3	9.7	7.6	8.3	8.5	9.2	8.3	8.2	8.3	15.9	15.5	4,175

1 Includes answer categories: moderate, bad, very bad, do not know and refused.

Table 9.9: Patient satisfaction with the quality of outpatient care services

Percentage distribution of patient satisfaction with outpatient care services, and percentage distribution of likelihood of recommending heath care facility to family and friends in the most recent visit in the last 12 months, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	SATISFACTION WITH CARE RECEIVED								RECOMMEND CARE RECEIVED							NUMBER OF RESPONDENTS
	VERY SATISFIED	SATISFIED	NEUTRAL	DISSATISFIED	VERY DISSATISFIED	DON'T KNOW	REFUSED TO ANSWER	TOTAL	DEFINITELY YES	PROBABLY YES	PROBABLY NOT	DEFINITELY NOT	DON'T KNOW	REFUSED TO ANSWER	TOTAL	
Age																
15-29	40.0	50.6	4.6	1.3	0.1	2.9	0.5	100.0	37.0	52.5	4.6	2.1	3.6	0.2	100.0	1,415
30-44	42.0	47.7	5.3	1.3	0.7	2.6	0.5	100.0	39.1	49.2	5.1	2.7	3.3	0.6	100.0	1,748
45-59	44.1	48.1	4.4	1.4	0.4	1.0	0.6	100.0	40.6	52.3	3.2	2.1	1.8	0.0	100.0	649
60-69	56.0	32.6	7.6	0.6	0.0	2.7	0.7	100.0	42.6	47.4	3.1	2.9	3.6	0.4	100.0	227
70-79	47.5	42.7	1.5	5.1	0.0	3.2	0.0	100.0	43.8	45.9	5.1	0.0	5.1	0.0	100.0	96
80+	64.8	25.8	5.1	0.0	0.0	4.4	0.0	100.0	62.7	26.5	0.0	5.0	2.6	3.2	100.0	40
Sex																
Male	42.2	48.3	4.6	1.3	0.3	2.7	0.6	100.0	40.3	49.8	4.7	2.2	2.6	0.3	100.0	2,164
Female	43.3	46.9	5.3	1.4	0.4	2.2	0.4	100.0	37.9	51.0	4.2	2.6	3.9	0.5	100.0	2,011
Nationality																
Saudi	43.1	47.4	4.8	1.5	0.3	2.4	0.5	100.0	40.2	49.2	4.6	2.5	3.0	0.5	100.0	3,634
Non-Saudi	40.6	48.8	5.9	0.1	0.9	3.5	0.2	100.0	32.3	58.4	3.4	1.4	4.5	0.0	100.0	541
Residence																
Urban	40.9	50.0	4.8	1.2	0.4	2.1	0.5	100.0	38.4	52.2	4.3	2.0	2.8	0.3	100.0	3,506
Rural	52.6	35.0	5.6	1.8	0.0	4.5	0.5	100.0	43.1	41.1	5.5	4.2	5.3	0.7	100.0	669
Marital Status																
Never married	42.9	48.6	3.9	1.1	0.0	2.8	0.8	100.0	37.6	52.3	4.5	2.3	3.3	0.1	100.0	887
Currently married	41.4	48.2	5.5	1.4	0.4	2.6	0.5	100.0	38.0	50.8	5.0	2.4	3.3	0.5	100.0	2,891
Formerly married	52.3	41.2	3.5	1.2	0.7	1.0	0.0	100.0	51.2	43.4	0.7	2.3	2.4	0.0	100.0	397
Education																
No formal education	51.2	36.6	7.1	2.4	0.0	2.7	0.0	100.0	38.8	50.1	2.6	2.5	5.6	0.4	100.0	259
Less than secondary	47.5	43.1	4.2	1.5	0.4	1.9	1.3	100.0	40.5	50.3	4.0	1.8	2.5	1.0	100.0	615
Secondary completed	37.0	52.6	5.4	1.6	0.2	2.7	0.6	100.0	35.7	52.9	5.3	2.1	3.7	0.3	100.0	1,479
More than secondary completed	44.6	46.6	4.5	1.0	0.6	2.5	0.3	100.0	41.5	48.4	4.3	2.8	2.8	0.3	100.0	1,823
Wealth Quintile																
Lowest	32.8	53.1	6.7	2.1	0.2	4.6	0.6	100.0	32.7	54.4	4.7	0.6	6.8	0.8	100.0	814
Second	38.3	49.6	7.0	2.1	0.6	1.9	0.4	100.0	35.0	55.0	5.8	2.0	1.9	0.3	100.0	941
Middle	42.1	48.8	4.9	1.6	0.6	1.3	0.7	100.0	35.7	50.7	4.7	5.0	3.3	0.7	100.0	778
Fourth	50.4	42.4	3.8	0.9	0.0	2.3	0.3	100.0	41.5	49.1	4.5	1.9	2.9	0.1	100.0	789
Highest	50.6	43.9	2.1	0.0	0.5	2.4	0.5	100.0	50.7	42.5	2.7	2.4	1.5	0.2	100.0	853
Region																
Riyadh	45.4	47.0	3.7	0.5	0.2	3.0	0.1	100.0	48.9	44.6	3.2	1.0	2.1	0.3	100.0	1,375
Makkah	39.2	51.3	6.0	1.6	0.6	1.3	0.0	100.0	24.0	67.8	3.2	3.4	1.6	0.0	100.0	877
Madinah	56.3	32.6	5.3	1.3	3.3	0.0	1.2	100.0	36.5	42.0	9.5	1.2	8.8	2.1	100.0	125
Qasim	47.3	39.2	2.6	0.0	0.0	2.0	8.8	100.0	29.8	29.0	15.1	19.7	6.4	0.0	100.0	75
Eastern Province	42.9	44.7	4.8	3.5	0.7	2.1	1.4	100.0	40.6	47.0	8.1	2.2	1.3	0.8	100.0	363
Asir	39.7	47.0	5.9	1.4	0.0	5.8	0.3	100.0	29.1	54.4	4.6	3.3	7.7	0.9	100.0	574
Tabuk	19.0	77.6	2.4	0.4	0.0	0.4	0.3	100.0	28.5	61.8	3.5	0.0	6.2	0.0	100.0	191
Hail	71.2	25.2	2.2	0.9	0.0	0.6	0.0	100.0	43.0	49.1	1.2	4.2	2.5	0.0	100.0	62
Northern Borders	51.8	39.6	3.0	1.9	0.2	2.3	1.3	100.0	54.4	31.7	4.7	4.2	3.8	1.2	100.0	69
Jizan	16.0	50.2	21.8	7.4	0.0	2.8	1.8	100.0	25.7	52.2	14.8	3.1	3.5	0.6	100.0	144
Najran	36.7	62.4	0.8	0.2	0.0	0.0	0.0	100.0	49.1	44.7	2.9	0.8	2.2	0.3	100.0	130
Bahah	88.6	8.6	0.8	0.0	0.0	1.6	0.4	100.0	92.8	5.5	0.0	0.6	1.1	0.0	100.0	149
Jawf	20.1	74.9	3.6	0.0	0.0	1.4	0.0	100.0	28.4	65.3	0.8	0.6	4.9	0.0	100.0	41
Total	42.7	47.6	4.9	1.3	0.4	2.5	0.5	100.0	39.1	50.4	4.5	2.4	3.2	0.4	100.0	4,175

Table 9.10 Health care facilities providing inpatient care services

Percentage distribution of the main health care facilities providing inpatient care services in the most recent stay in the last three years, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MINISTRY OF HEALTH HOSPITAL	NATIONAL GUARD HOSPITAL	MINISTRY OF DEFENSE HOSPITAL	MINISTRY OF INTERIOR HOSPITAL	MINISTRY OF EDUCATION HOSPITAL	KING FAISAL SPECIALIST HOSPITAL	PRIVATE HOSPITAL	OTHER	TOTAL	NUMBER OF RESPONDENTS
Age										
15-29	65.9	6.4	1.4	0.0	0.8	0.8	22.5	2.3	100.0	206
30-44	64.5	4.4	1.8	0.5	0.6	1.7	22.4	4.1	100.0	287
45-59	63.9	10.8	0.9	0.0	1.3	3.0	14.4	5.8	100.0	115
60-69	72.1	8.1	1.4	0.0	0.0	3.4	13.4	1.7	100.0	74
70-79	50.8	24.1	1.4	0.0	0.0	3.8	9.9	10.0	100.0	35
80+	54.8	0.0	25.6	0.0	0.0	0.0	19.6	0.0	100.0	10
Sex										
Male	59.0	10.5	1.8	0.5	0.5	1.8	21.9	4.0	100.0	303
Female	69.0	4.9	1.7	0.0	0.8	2.0	18.0	3.7	100.0	424
Nationality										
Saudi	67.6	7.8	1.9	0.2	0.7	1.8	16.2	3.7	100.0	662
Non-Saudi	36.1	1.4	0.0	0.0	0.0	2.5	54.6	5.3	100.0	64
Residence										
Urban	64.3	7.6	1.9	0.2	0.8	2.0	19.1	4.1	100.0	633
Rural	68.0	4.4	0.7	0.0	0.0	1.6	23.4	2.0	100.0	94
Marital Status										
Never married	64.3	8.2	1.1	0.0	0.0	0.0	24.6	1.7	100.0	68
Currently married	64.3	5.9	1.7	0.3	0.9	2.2	21.3	3.5	100.0	567
Formerly married	68.2	14.5	2.7	0.0	0.0	1.8	5.6	7.3	100.0	92
Education										
No formal education	73.3	4.0	5.7	0.0	0.0	2.4	6.0	8.6	100.0	68
Less than secondary	75.7	3.5	0.8	0.0	1.2	0.4	14.5	3.8	100.0	124
Secondary completed	64.7	8.9	1.7	0.0	0.7	1.1	20.2	2.7	100.0	256
More than secondary completed	57.9	8.2	1.2	0.5	0.6	3.2	24.7	3.7	100.0	279
Wealth Quintile										
Lowest	77.0	1.7	0.0	0.0	0.0	1.2	17.1	3.0	100.0	134
Second	66.2	2.3	1.7	0.8	1.0	0.9	22.0	5.0	100.0	171
Middle	61.7	5.8	2.6	0.0	0.0	3.8	20.0	6.1	100.0	159
Fourth	61.6	11.1	1.6	0.0	1.2	1.4	19.7	3.3	100.0	130
Highest	57.5	16.9	2.7	0.0	1.3	2.2	18.5	0.9	100.0	134
Region										
Riyadh	53.7	20.1	0.8	0.0	1.9	1.6	20.1	1.8	100.0	181
Makkah	55.0	1.9	0.6	0.0	0.0	2.7	33.3	6.5	100.0	157
Madinah	67.2	8.9	1.3	0.0	0.0	4.8	15.9	1.9	100.0	58
Qasim	76.6	3.0	0.0	0.0	0.0	0.0	14.6	5.8	100.0	34
Eastern Province	63.6	4.6	3.6	1.6	1.7	0.6	17.8	6.5	100.0	90
Asir	69.2	0.0	3.7	0.0	0.0	0.0	24.8	2.3	100.0	80
Tabuk	85.7	2.2	7.2	0.0	0.0	0.0	0.0	4.9	100.0	46
Hail	81.9	0.0	0.0	0.0	0.0	0.0	18.1	0.0	100.0	11
Northern Borders	95.7	0.0	0.0	0.0	0.0	0.0	4.3	0.0	100.0	12
Jizan	71.7	0.0	0.0	0.0	0.0	16.5	5.4	6.5	100.0	19
Najran	92.3	6.9	0.8	0.0	0.0	0.0	0.0	0.0	100.0	27
Bahah	96.9	0.0	0.0	0.0	0.0	0.0	3.1	0.0	100.0	6
Jawf	94.6	0.0	0.0	0.0	0.0	5.4	0.0	0.0	100.0	6
Total	64.8	7.2	1.8	0.2	0.7	1.9	19.6	3.8	100.0	727

Table 9.11: Patient assessed characteristics of inpatient care services

Percentage of patients who reported adequate skills, equipment and drug supplies, mean time taken to reach the health facility, mean cost of an inpatient hospital stay, mean time to be admitted, and type of vehicle used to reach the facility in the most recent stay in the last three years, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	PATIENTS RATING CHARACTERISTICS OF HEALTH CARE PROVIDER AS ADEQUATE			NUMBER OF RESPONDENTS[1]	PATIENTS USING A PRIVATE CAR OR VEHICLE TO REACH FACILITY	NUMBER OF RESPONDENTS	PATIENTS WAITING MORE THAN A MONTH TO BE ADMITTED	NUMBER OF RESPONDENTS
	SKILLS	EQUIPMENT	DRUG SUPPLIES					
Age								
15-29	96	98	98	161	95.4	206	29.6	190
30-44	94	91	95	236	93.9	287	36.8	269
45-59	96	98	97	99	92.6	115	36.4	103
60-69	100	100	95	67	92.6	74	28.5	70
70-79	100	100	100	28	90.2	35	30.8	28
80+	100	100	100	7	100.0	10	36.0	10
Sex								
Male	97	96	96	265	89.5	303	29.9	271
Female	95	95	96	334	97.0	424	36.1	399
Nationality								
Saudi	96	96	96	549	93.8	662	34.4	614
Non-Saudi	93	94	94	50	94.7	64	24.9	55
Residence								
Urban	96	96	97	519	94.2	633	34.2	586
Rural	92	92	94	80	91.9	94	29.4	83
Marital Status								
Never married	97	98	100	59	86.5	68	29.2	60
Currently married	95	95	96	461	95.1	567	34.7	524
Formerly married	99	99	96	78	91.8	92	29.6	87
Education								
No formal education	100	100	99	55	95.2	68	43.2	58
Less than secondary	95	93	91	99	93.6	124	33.2	110
Secondary completed	95	94	95	204	96.4	256	30.9	239
More than secondary completed	96	97	98	241	91.4	279	34.1	263
Wealth Quintile								
Lowest	93	91	93	102	94.2	134	33.5	119
Second	92	96	93	133	96.1	171	32.3	157
Middle	98	95	97	130	93.5	159	32.8	149
Fourth	98	98	100	117	97.7	130	38.5	122
Highest	98	98	98	117	87.6	134	31.4	124
Region								
Riyadh	98	97	97	176	90.4	181	28.0	165
Makkah	92	99	96	149	95.3	157	31.6	152
Madinah	86	90	80	18	90.3	58	53.4	45
Qasim	94	87	97	34	96.5	34	55.7	32
Eastern Province	98	92	95	61	98.2	90	18.1	82
Asir	96	94	96	76	96.1	80	20.4	74
Tabuk	100	100	100	24	92.7	46	46.3	46
Hail	100	100	100	9	100.0	11	57.6	10
Northern Borders	89	86	92	10	92.9	12	44.1	11
Jizan	100	81	100	6	83.5	19	44.7	15
Najran	99	100	98	26	100.0	27	58.5	27
Bahah	100	100	100	6	100.0	6	38.0	6
Jawf	100	100	100	2	89.2	6	43.2	6
Total	96	96	96	599	93.9	727	33.6	670

1 Total does not add up to the total number of respondents who reported using inpatient care services in the last 12 months (727) because of an incorrect skip pattern, therefore the total is 599.

Table 9.12: Patient assessment of responsiveness of inpatient care services

Percentage of patients perceiving poor[1] responsiveness in inpatient care services in the most recent stay in the last three years, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	PROMPT ATTENTION	DIGNITY		COMMUNICATION		AUTONOMY	CHOICE	CONFIDENTIALITY		BASIC AMENITIES		SOCIAL SUPPORT		NUMBER OF RESPONDENTS2
	WAIT TIME	TALKED RESPECTFULLY	PRIVACY	CLEAR EXPLANATION	TIME FOR QUESTIONS	INVOLVEMENT	EASE OF ACCESS TO HEALTH CARE PROVIDER	TALK PRIVATELY	CONFIDENTIALITY OF RECORDS	CLEANLINESS	SPACE	FAMILY/ FRIEND VISITATIONS	CONTACT WITH OUTSIDE WORLD	
Age														
15-29	9.4	6.8	8.9	8.9	11.7	6.8	6.3	7.4	7.8	19.2	17.4	14.7	12.4	161
30-44	8.7	8.3	6.1	10.2	6.8	5.7	4.8	2.7	8.9	16.0	18.1	12.7	12.5	236
45-59	10.2	7.6	2.2	6.2	8.9	6.5	3.0	7.7	3.2	23.5	20.6	5.0	5.8	99
60-69	11.2	7.9	6.5	5.7	4.3	11.1	5.3	4.5	3.0	13.0	10.1	11.7	4.4	67
70-79	4.4	6.7	6.7	11.1	4.4	13.3	0.0	6.3	4.4	9.4	11.4	4.4	4.4	28
80+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.9	0.0	0.0	7
Sex														
Male	8.1	8.9	6.0	6.4	6.0	7.8	3.9	4.7	5.5	12.8	13.7	6.0	9.2	265
Female	9.9	6.5	6.4	10.4	9.6	6.4	5.3	5.5	7.6	20.8	19.5	15.6	10.5	334
Nationality														
Saudi	9.4	7.7	6.5	8.3	7.9	7.4	4.8	5.3	6.5	17.9	17.1	11.6	9.7	549
Non-Saudi	5.4	6.1	3.0	11.8	9.3	3.0	3.0	3.6	8.4	10.0	14.7	8.1	12.6	50
Residence														
Urban	8.8	6.8	5.8	8.5	7.8	6.3	3.8	5.4	5.7	17.3	17.0	10.3	10.4	519
Rural	10.9	12.4	9.1	9.4	9.4	11.7	10.2	3.5	12.9	17.2	16.3	17.9	6.7	80
Marital Status														
Never married	9.7	5.7	2.9	2.9	5.7	4.7	2.9	2.5	4.9	8.9	11.5	6.3	12.1	59
Currently married	9.9	8.9	6.9	10.0	8.9	7.6	5.1	5.1	7.8	17.6	16.8	12.5	10.9	461
Formerly married	3.9	1.2	4.8	5.0	4.3	5.0	3.4	7.3	1.6	21.4	21.8	8.0	2.6	78
Education														
No formal education	6.5	1.1	1.3	3.2	3.4	1.1	0.4	4.4	2.8	9.6	9.5	9.0	3.6	55
Less than secondary	6.1	8.5	8.2	16.2	12.1	13.5	11.2	5.1	12.6	25.8	30.4	15.7	9.2	99
Secondary completed	13.5	11.3	9.5	5.7	8.6	7.1	2.3	8.0	6.5	19.1	18.7	14.0	12.3	204
More than secondary completed	7.2	5.4	3.7	9.2	6.9	5.6	5.0	2.9	5.3	14.0	11.6	7.8	9.7	241
Wealth Quintile														
Lowest	11.2	9.4	11.3	11.5	8.3	8.5	11.5	10.0	10.2	25.2	29.1	18.1	15.9	102
Second	14.0	5.8	8.5	14.2	16.3	8.5	6.7	1.7	8.7	21.1	23.2	15.0	13.1	133
Middle	9.1	7.1	3.6	8.2	4.7	6.7	1.5	4.5	5.5	19.4	15.0	11.9	8.3	130
Fourth	9.1	12.9	3.7	7.2	6.0	5.7	3.2	5.7	7.2	14.3	11.0	7.8	7.1	117
Highest	1.7	3.0	4.5	1.7	4.0	5.7	1.5	4.9	2.2	6.7	7.4	4.3	5.9	117
Region														
Riyadh	4.6	5.4	6.1	7.5	5.9	3.6	1.5	7.0	3.1	13.4	9.0	8.5	6.7	176
Makkah	13.4	8.8	5.1	11.2	10.4	10.6	6.5	3.1	10.9	27.8	30.2	12.5	10.5	149
Madinah	17.8	7.2	7.2	21.1	14.1	10.8	10.8	7.2	14.1	7.2	17.8	6.9	14.1	18
Qasim	1.5	3.0	1.8	3.3	3.3	1.8	1.8	1.8	1.8	4.0	1.8	9.2	1.8	34
Eastern Province	20.4	9.3	6.6	8.0	8.0	5.3	2.7	3.3	4.7	21.6	18.7	19.6	14.5	61
Asir	3.8	6.4	6.4	6.1	5.2	5.2	5.2	5.2	6.0	10.5	16.9	9.1	15.1	76
Tabuk	7.2	7.2	7.2	4.8	9.8	4.9	4.8	4.7	2.4	7.3	5.2	11.5	22.0	24
Hail	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	9
Northern Borders	30.7	19.7	13.4	6.5	17.8	26.8	16.8	39.7	20.1	57.4	53.8	25.4	11.5	10
Jizan	24.4	79.5	69.7	74.7	69.7	74.7	69.7	0.0	74.7	79.5	69.7	74.7	24.3	6
Najran	2.6	2.5	1.7	2.2	2.5	4.3	0.8	1.7	0.8	3.9	3.4	1.7	1.7	26
Bahah	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	3.1	3.1	3.1	3.1	0.0	6
Jawf	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.6	0.0	0.0	0.0	2
Total	9.1	7.5	6.2	8.6	8.0	7.0	4.7	5.1	6.7	17.3	16.9	11.3	9.9	599

1 Includes answer categories: moderate, bad, very bad, do not know and refused.

2 Total does not add up to the total number of respondents who reported using inpatient care services in the last 12 months (727) because of an incorrect skip pattern, therefore the total is 599.

Table 9.13: Patient satisfaction with the quality of inpatient care services

Percentage distribution of patient satisfaction with inpatient care services, and percentage distribution of likelihood of recommending heath care facility to family and friends in the most recent stay in the last three years, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	SATISFACTION WITH CARE RECEIVED						TOTAL	NUMBER OF RESPONDENTS	RECOMMEND CARE RECEIVED						TOTAL	NUMBER OF RESPONDENTS[1]
	VERY SATISFIED	SATISFIED	NEUTRAL	DISSATISFIED	VERY DISSATISFIED	DON'T KNOW			DEFINITELY YES	PROBABLY YES	PROBABLY NOT	DEFINITELY NOT	DON'T KNOW	REFUSED TO ANSWER		
Age																
15-29	49.1	40.4	9.1	1.3	0.1	0.0	100.0	161	36.5	48.8	4.5	5.0	5.1	0.0	100.0	206
30-44	48.4	43.1	5.7	2.2	0.6	0.0	100.0	236	30.9	53.0	5.8	5.7	3.7	1.0	100.0	287
45-59	65.7	24.4	1.4	6.4	0.0	2.0	100.0	99	53.0	34.3	2.3	7.3	3.0	0.0	100.0	115
60-69	59.2	35.1	3.6	2.1	0.0	0.0	100.0	67	34.3	54.1	6.6	5.0	0.0	0.0	100.0	74
70-79	53.0	45.8	1.2	0.0	0.0	0.0	100.0	28	41.5	36.2	0.0	3.6	13.8	4.8	100.0	35
80+	58.2	41.8	0.0	0.0	0.0	0.0	100.0	7	14.2	46.1	11.0	28.7	0.0	0.0	100.0	10
Sex																
Male	57.9	36.7	1.9	2.1	0.6	0.8	100.0	265	34.7	49.5	3.6	7.5	4.7	0.0	100.0	303
Female	49.1	39.9	8.2	2.9	0.0	0.0	100.0	334	38.0	47.0	5.6	4.7	3.6	1.1	100.0	424
Nationality																
Saudi	50.9	40.3	5.7	2.5	0.3	0.4	100.0	549	36.7	48.5	4.1	6.2	3.7	0.7	100.0	662
Non-Saudi	76.5	18.8	2.2	2.6	0.0	0.0	100.0	50	35.3	43.0	11.4	2.9	7.3	0.0	100.0	64
Residence																
Urban	51.6	40.2	5.2	2.6	0.0	0.4	100.0	519	36.8	48.2	4.6	6.0	4.2	0.3	100.0	633
Rural	62.4	27.6	6.4	1.8	1.7	0.0	100.0	80	35.5	47.1	6.0	5.3	3.0	3.0	100.0	94
Marital Status																
Never married	61.3	32.2	3.5	2.8	0.2	0.0	100.0	59	37.8	43.5	3.5	5.8	9.4	0.0	100.0	68
Currently married	51.5	39.0	6.5	2.3	0.3	0.4	100.0	461	35.3	49.9	4.8	5.8	3.7	0.5	100.0	567
Formerly married	55.8	40.3	0.0	3.9	0.0	0.0	100.0	78	44.1	40.0	5.2	6.2	2.6	1.9	100.0	92
Education																
No formal education	63.0	33.6	3.2	0.2	0.0	0.0	100.0	55	35.4	42.0	6.9	8.2	5.1	2.5	100.0	68
Less than secondary	52.7	43.2	2.9	1.2	0.0	0.0	100.0	99	41.6	40.3	3.6	9.1	2.9	2.4	100.0	124
Secondary completed	51.2	39.8	3.2	4.2	0.7	1.0	100.0	204	30.8	51.6	6.9	6.2	4.6	0.0	100.0	256
More than seconda ry completed	52.4	36.6	8.7	2.2	0.0	0.0	100.0	241	40.0	49.8	2.8	3.6	3.9	0.0	100.0	279
Wealth Quintile																
Lowest	55.7	30.7	11.1	2.6	0.0	0.0	100.0	102	34.2	45.2	8.4	5.2	4.9	2.1	100.0	134
Second	44.6	44.9	5.9	3.6	1.0	0.0	100.0	133	32.5	53.6	6.7	4.8	1.4	1.0	100.0	171
Middle	48.8	43.7	4.9	2.6	0.0	0.0	100.0	130	34.9	50.1	3.6	3.8	7.6	0.1	100.0	159
Fourth	58.7	32.8	4.3	2.4	0.0	1.7	100.0	117	45.2	43.1	2.7	6.8	2.1	0.0	100.0	130
Highest	59.2	37.9	1.5	1.3	0.1	0.0	100.0	117	37.9	46.3	2.1	9.5	4.3	0.0	100.0	134
Region																
Riyadh	48.5	48.1	1.9	1.5	0.0	0.0	100.0	176	39.8	50.3	5.1	3.0	1.8	0.0	100.0	181
Makkah	65.2	23.4	6.3	5.0	0.0	0.0	100.0	149	42.6	45.9	0.7	8.4	2.4	0.0	100.0	157
Madinah	58.9	33.9	0.0	7.2	0.0	0.0	100.0	18	30.3	28.0	18.1	3.3	20.3	0.0	100.0	58
Qasim	73.1	25.1	1.8	0.0	0.0	0.0	100.0	34	19.1	38.3	4.1	22.7	15.9	0.0	100.0	34
Eastern Province	35.5	37.4	18.7	2.8	2.2	3.3	100.0	61	34.2	53.7	1.5	7.1	1.5	1.9	100.0	90
Asir	54.2	37.9	7.9	0.0	0.0	0.0	100.0	76	40.0	47.0	3.3	3.4	2.7	3.5	100.0	80
Tabuk	22.4	77.6	0.0	0.0	0.0	0.0	100.0	24	15.2	82.4	1.2	0.0	1.3	0.0	100.0	46
Hail	91.2	8.8	0.0	0.0	0.0	0.0	100.0	9	40.0	39.5	5.7	11.3	3.5	0.0	100.0	11
Northern Borders	27.8	60.3	5.5	5.2	1.2	0.0	100.0	10	31.5	45.9	10.8	6.3	4.3	1.2	100.0	12
Jizan	12.9	67.7	0.0	19.4	0.0	0.0	100.0	6	17.9	35.6	30.9	15.6	0.0	0.0	100.0	19
Najran	43.7	53.8	1.8	0.8	0.0	0.0	100.0	26	53.8	45.5	0.0	0.8	0.0	0.0	100.0	27
Bahah	100.0	0.0	0.0	0.0	0.0	0.0	100.0	6	87.9	12.1	0.0	0.0	0.0	0.0	100.0	6
Jawf	83.6	0.0	16.4	0.0	0.0	0.0	100.0	2	31.7	57.8	0.0	4.7	5.8	0.0	100.0	6
Total	53.0	38.5	5.4	2.5	0.3	0.3	100.0	599	36.6	48.1	4.7	5.9	4.1	0.6	100.0	727

[1] Total does not add up to the total number of respondents who reported using inpatient care services in the last 12 months (727) because of an incorrect skip pattern, therefore the total is 599.

Table 9.14: General satisfaction with the health care system

Percentage distribution of patient satisfaction with health care services in general and the way the health care system involves them in deciding what services it provides and where it provides them, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	SATISFACTION WITH HEALTH CARE SERVICES IN GENERAL							TOTAL	SATISFACTION WITH THE WAY THE HEALTH CARE SYSTEM INVOLVES THEM IN DECIDING WHAT AND WHERE SERVICES ARE PROVIDED							TOTAL	NUMBER OF RESPONDENTS[1]
	VERY SATISFIED	SATISFIED	NEUTRAL	DISSATISFIED	VERY DISSATISFIED	DON'T KNOW	REFUSED TO ANSWER		VERY SATISFIED	SATISFIED	NEUTRAL	DISSATISFIED	VERY DISSATISFIED	DON'T KNOW	REFUSED TO ANSWER		
Age																	
15-29	42.6	45.0	8.2	2.5	0.0	1.4	0.3	100.0	37.3	45.9	12.0	3.0	0.3	1.2	0.3	100.0	1,415
30-44	50.0	39.4	7.5	2.4	0.3	0.3	0.1	100.0	44.7	42.3	9.8	2.3	0.4	0.4	0.0	100.0	1,748
45-59	44.5	46.0	5.9	2.5	0.9	0.2	0.0	100.0	40.9	43.6	10.0	3.6	1.4	0.2	0.3	100.0	649
60-69	54.2	33.8	7.8	2.2	0.0	1.7	0.2	100.0	52.0	32.8	9.5	4.0	0.1	1.7	0.0	100.0	227
70-79	57.1	35.6	2.2	3.3	0.0	1.8	0.0	100.0	52.7	38.8	3.3	5.1	0.0	0.1	0.0	100.0	96
80+	69.6	20.8	2.6	0.0	0.0	3.8	3.2	100.0	63.2	23.1	2.6	4.1	0.0	3.8	3.2	100.0	40
Sex																	
Male	47.8	42.7	6.5	2.0	0.4	0.5	0.2	100.0	42.2	42.9	10.8	3.1	0.6	0.3	0.1	100.0	2,164
Female	46.6	40.7	8.2	2.9	0.1	1.2	0.2	100.0	42.5	43.0	9.9	2.7	0.3	1.2	0.3	100.0	2,011
Nationality																	
Saudi	47.2	41.7	7.3	2.5	0.2	0.8	0.2	100.0	42.5	43.5	9.8	3.0	0.4	0.7	0.2	100.0	3,634
Non-Saudi	47.2	41.7	7.8	2.0	0.5	0.8	0.0	100.0	41.8	39.6	14.3	2.2	1.3	0.8	0.1	100.0	541
Residence																	
Urban	45.2	44.0	7.6	2.4	0.3	0.3	0.2	100.0	40.2	44.8	10.9	3.1	0.6	0.3	0.2	100.0	3,506
Rural	58.0	29.8	6.0	2.3	0.1	3.6	0.2	100.0	53.9	33.5	7.6	1.7	0.0	3.0	0.2	100.0	669
Marital Status																	
Never married	44.0	43.6	8.2	3.0	0.1	0.4	0.5	100.0	38.3	44.6	12.2	4.1	0.1	0.1	0.5	100.0	887
Currently married	46.8	41.9	7.7	2.2	0.4	0.9	0.1	100.0	42.0	43.1	10.5	2.6	0.7	1.0	0.1	100.0	2,891
Formerly married	57.6	35.9	3.0	2.4	0.0	1.1	0.0	100.0	53.9	38.3	5.3	2.5	0.0	0.0	0.0	100.0	397
Education																	
No formal education	54.1	34.7	7.3	1.1	0.0	2.8	0.0	100.0	51.3	38.8	6.5	1.1	0.1	2.2	0.0	100.0	259
Less than secondary	49.5	42.5	3.5	3.2	0.6	0.3	0.3	100.0	46.6	42.6	6.6	2.6	0.9	0.4	0.3	100.0	615
Secondary completed	44.8	43.5	7.8	2.2	0.1	1.3	0.4	100.0	38.6	44.8	11.6	3.1	0.1	1.4	0.4	100.0	1,479
More than secondary completed	47.4	41.0	8.3	2.5	0.3	0.3	0.0	100.0	42.7	42.2	11.1	3.1	0.7	0.2	0.0	100.0	1,823
Wealth Quintile																	
Lowest	40.1	45.1	9.3	3.2	0.0	2.2	0.1	100.0	37.0	45.1	12.2	2.7	0.4	2.6	0.1	100.0	814
Second	43.5	44.6	8.1	2.5	0.4	0.8	0.2	100.0	38.2	47.3	10.1	3.3	0.3	0.8	0.0	100.0	941
Middle	47.1	41.5	8.0	2.7	0.3	0.4	0.0	100.0	40.0	45.7	11.3	2.7	0.3	0.1	0.0	100.0	778
Fourth	51.6	38.7	6.7	2.2	0.1	0.6	0.1	100.0	44.5	42.6	9.4	2.5	0.6	0.3	0.1	100.0	789
Highest	54.2	38.3	4.7	1.6	0.5	0.0	0.6	100.0	52.3	34.0	8.9	3.2	0.9	0.0	0.7	100.0	853
Region																	
Riyadh	58.5	37.0	3.5	0.8	0.0	0.2	0.0	100.0	50.3	40.4	6.4	2.5	0.0	0.3	0.1	100.0	1,375
Makkah	24.8	54.5	15.1	4.8	0.8	0.0	0.0	100.0	24.2	47.2	21.1	5.5	1.9	0.1	0.0	100.0	877
Madinah	56.3	26.2	9.0	8.2	0.0	0.0	0.4	100.0	56.3	24.9	8.5	10.0	0.0	0.0	0.4	100.0	125
Qasim	46.4	46.2	2.7	0.0	0.0	0.0	4.7	100.0	36.1	56.9	2.5	0.0	0.0	0.0	4.5	100.0	75
Eastern Province	46.3	41.3	7.1	2.9	0.4	1.2	0.8	100.0	42.3	47.4	7.0	1.9	0.0	1.1	0.4	100.0	363
Asir	49.5	37.4	7.0	1.5	0.4	4.1	0.1	100.0	43.6	41.5	9.6	1.3	0.5	3.3	0.1	100.0	574
Tabuk	38.8	59.8	1.4	0.0	0.0	0.0	0.0	100.0	32.0	62.9	4.7	0.0	0.3	0.0	0.0	100.0	191
Hail	71.6	23.0	4.1	1.3	0.0	0.0	0.0	100.0	72.2	23.6	2.9	1.3	0.0	0.0	0.0	100.0	62
Northern Borders	56.2	32.0	5.6	3.4	0.2	1.9	0.6	100.0	53.8	33.6	5.4	3.9	0.5	2.5	0.2	100.0	69
Jizan	15.0	51.5	23.2	10.3	0.0	0.0	0.0	100.0	11.5	53.6	29.7	5.2	0.0	0.0	0.0	100.0	144
Najran	48.0	48.3	3.7	0.0	0.0	0.0	0.0	100.0	44.9	50.1	4.5	0.5	0.0	0.0	0.0	100.0	130
Bahah	95.2	3.5	0.0	0.0	0.0	1.1	0.3	100.0	94.2	4.9	0.0	0.0	0.0	0.9	0.0	100.0	149
Jawf	22.5	75.2	2.4	0.0	0.0	0.0	0.0	100.0	15.1	78.9	6.0	0.0	0.0	0.0	0.0	100.0	41
Total	47.2	41.7	7.4	2.4	0.3	0.8	0.2	100.0	42.4	42.9	10.3	2.9	0.5	0.8	0.2	100.0	4,175

1 Includes patients who reported using outpatient services in the last 12 months only.

Table 9.15: Patient assessed discrimination in the health care system

Percentage of patients who reported feeling discriminated against because of sex, lack of money, social class or nationality, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	NONE	REASONS FOR DISCRIMINATION					TOTAL	NUMBER OF RESPONDENTS
		SEX	LACK OF MONEY	SOCIAL CLASS	NATIONALITY	REFUSED		
Age								
15-29	63.8	0.9	0.3	1.4	6.0	27.6	100.0	3,353
30-44	60.7	1.2	0.2	1.8	6.9	29.2	100.0	3,755
45-59	55.6	1.1	0.4	1.4	6.9	34.5	100.0	1,256
60-69	44.8	1.3	1.5	2.5	4.8	45.1	100.0	362
70-79	36.8	1.4	0.0	1.9	2.9	57.0	100.0	135
80+	30.5	0.0	0.0	0.0	3.5	66.0	100.0	52
Sex								
Male	61.1	1.0	0.3	1.7	6.6	29.3	100.0	4,694
Female	58.7	1.2	0.4	1.5	6.1	32.1	100.0	4,218
Nationality								
Saudi	59.8	1.1	0.3	1.7	6.0	31.1	100.0	7,777
Non-Saudi	61.1	0.9	0.4	1.0	9.2	27.4	100.0	1,135
Residence								
Urban	61.3	1.0	0.3	1.5	6.7	29.1	100.0	7,687
Rural	51.5	1.4	0.1	2.5	4.6	40.0	100.0	1,225
Marital Status								
Never married	65.5	0.5	0.4	1.0	5.7	26.8	100.0	2,250
Currently married	59.4	1.1	0.3	1.8	6.2	31.1	100.0	5,982
Formerly married	46.3	2.9	0.0	1.8	9.9	39.0	100.0	680
Education								
No formal education	56.6	1.3	2.0	0.5	1.6	38.0	100.0	490
Less than secondary	63.2	0.9	0.2	1.4	4.0	30.3	100.0	1,338
Secondary completed	63.6	0.8	0.1	2.1	5.3	28.1	100.0	3,449
More than secondary completed	55.8	1.4	0.3	1.4	8.9	32.1	100.0	3,635
Wealth Quintile								
Lowest	67.7	0.5	0.6	1.6	3.8	25.7	100.0	2,169
Second	58.0	1.0	0.3	2.4	4.8	33.5	100.0	1,918
Middle	61.3	1.7	0.3	1.7	4.5	30.5	100.0	1,694
Fourth	60.7	0.8	0.2	1.0	6.4	30.9	100.0	1,626
Highest	49.0	1.6	0.1	1.3	14.2	33.9	100.0	1,505
Region								
Riyadh	49.9	1.4	0.3	1.8	19.3	27.3	100.0	2,345
Makkah	61.7	0.7	0.3	1.0	1.4	34.9	100.0	2,257
Madinah	82.8	0.0	0.0	1.4	0.6	15.1	100.0	664
Qasim	79.5	1.1	0.1	0.3	0.0	18.9	100.0	364
Eastern Province	74.6	0.0	0.0	0.2	0.3	24.8	100.0	1,149
Asir	55.1	1.9	1.3	4.6	6.3	30.8	100.0	644
Tabuk	45.2	8.8	1.1	9.9	6.4	28.6	100.0	300
Hail	65.5	0.5	0.2	0.0	0.2	33.7	100.0	179
Northern Borders	20.6	4.7	0.6	2.8	12.8	58.5	100.0	87
Jizan	64.9	0.0	0.0	1.4	1.1	32.6	100.0	410
Najran	32.7	0.0	0.2	0.1	0.0	67.0	100.0	194
Bahah	3.0	0.0	0.0	0.0	0.1	96.9	100.0	153
Jawf	75.1	0.0	0.0	0.0	0.4	24.5	100.0	165
Total	60.0	1.1	0.3	1.6	6.4	30.6	100.0	8,912

10. HEALTH EXPENDITURE AND INSURANCE

KEY FINDINGS

- Mean household health care expenditure: Approximately 4% of household expenditures are spent on health.
- Financial sources for health care services payment: Fifty percent (50%) of households use the current income of household members to pay for health care services, while only 9% depend on payment or reimbursement from health insurance plans. Other sources of health financing include savings (10%), support from relatives or friends (4%), loans from financial institutions or agencies (4%), and selling items such as land, livestock or jewellery (2%).
- Health coverage: Overall, 97% have health coverage and 20% have insurance coverage. 13% are covered by mandatory insurance, and 10% are insured as dependents. 3% purchase insurance independently. 92% of household members are eligible for free governmental health care.

Health care systems provide health care services to populations with the aim of improving health outcomes and providing financial risk protection. All individuals should have access to effective health care. This means removing the possibility that an individual will not be able to pay for the healthcare that they need, or that they will be impoverished because of their healthcare expenses.

This chapter examines household health care expenditures and looks at the areas of health care that place the largest financial burden on households. The chapter presents information about mean household health care expenditure, financial sources households use for health services payment, government and health insurance coverage, and utilisation of outpatient and inpatient health care services.

10.1 HEALTH CARE FINANCING

This section discusses total household and health care expenditure in further detail. Information about expenditure was collected from key informants in households, who were asked about their total household expenditure and spending on outpatient and inpatient health care. Furthermore, key informants were asked about the source of money used to pay for healthcare. The unit of analysis in this section is the household.

10.1.1 HEALTH CARE EXPENDITURE

First, to estimate the general expenditure, key informants were asked about the household's general spending in the thirty days prior to the survey. They were asked about the monetary amount the household spent on housing and utilities, personal items, transportation, recreation, and domestic services. Key informants were also asked about the amount of money spent on food items in the seven days preceding the survey. Additionally, they were asked to provide information about the household's expenses over the past twelve months; the purpose of this question was to shed light on periodic spending or "big purchases" which may be unaccounted for when recalling monthly expenses. These expenses are exemplified by education fees, clothing, maintenance and repair of households or vehicles, vehicle purchases, taxes and gifts or ceremonies such as weddings or funerals.

Second, to allow for calculation of health care expenditure, key informants reported whether or not members of the household have utilised outpatient care services in the past month or inpatient care services in the past twelve months. Households that have members who utilised outpatient care services were asked to report the amount of money paid out of pocket (not covered by insurance) for consultation fees (doctors, nurses, or trained midwives), diagnostic and laboratory tests, medication, dental care, alternative health care and any other health care products or services. Likewise, households with members who reported using inpatient care services were asked similar questions in addition to

questions about the out of pocket cost of health-related items (such as prescription glasses, hearing aids, canes or prosthetic devices), cost of treatment during overnight stays, ambulance cost, and cost associated with long-term care facilitates.

Table 10.1 shows the mean per capita monthly household total expenditure and health expenditure in Saudi Riyals by type of care, according to residence, wealth and region. On average, each household member spends 5,427 Saudi Riyals (SR) per month, about 4% (191 SR) of this is spent on health care alone. This average amount spent on health can be broken down as follows: on average, 126 SR is paid for consultation fees, 19 SR is used to buy medicines, 20 SR is the cost of diagnostic and laboratory tests, 1 SR is spent on transportation, and 13 SR on other products or services. Additionally, members who use inpatient care pay 47 SR for their treatment during overnight stays and 6 SR on health-related items.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Members of rural households spend more money on health on average compared to members of urban households (216 SR and 186 SR, respectively). To elaborate, household members living in rural areas spend more money paying for consultation fees and transportation compared to household members living in urban areas (154 SR and 122 SR, respectively). On the contrary, members of urban households spend more money on overnight stays in hospitals and health-related items than those of rural households. Health care expenditure amounts to 5% of total household expenditure in rural households and 3% in urban households.
- Total household expenditure differs depending on wealth quintile. For example, the lowest quintile spend 3,231 SR on average, while members of households in the highest quintile spend 9,716 SR on average. Yet health spending does not follow the same pattern; the highest percentage of health spending is seen in the first three wealth quintile (lowest 6%, second 5% and middle 6%), while the lowest spending is seen in households in the wealthiest two quintiles (fourth 3% and highest 2%). Furthermore, households in the poorest quintile spend a significantly higher amount of money on inpatient care (219 SR) when compared to other wealth quintiles (less than 18 SR).
- Patterns of health expenditure vary by region, from 0.3% to 7%. Households in Bahah, Najran and Jawf spend less than 1% of their expenditure on health care. Meanwhile, households in the Northern Borders, Jizan and Asir spend approximately 6%, and households in Makkah spend approximately 7% of their expenditure on health care.

10.2 FINANCIAL SOURCES USED BY HOUSEHOLDS FOR PAYMENT OF HEALTH CARE SERVICES

Households' key informants were asked about the source of the money used to pay for previous outpatient and inpatient healthcare according to residence, wealth and region. As can be seen in **Table 10.2**, half of the households state that the current income of household members is their main means of financing health care. 10% of households use their savings to pay for healthcare, and 9% depend on payment or reimbursement from health insurance plans. 4% ask for financial support from relatives or friends from outside their household, and another 4% borrow from financial institutions or agencies to cover the costs of their healthcare. In very few households (2%), items such as land, livestock or jewellery are sold to pay for health care.

PATTERNS BY BACKGROUND CHARACTERISTICS

- The main means of payment for health care services in urban households is the current income of household members (51%), followed by reimbursement from health insurance plans and savings (9%), then relatives/friends and borrowing from financial institutions (4%), and sold items (2%). The most common sources for rural households were current income of household members (49%), savings (11%), relatives/friends (5%), and borrowing from financial institutions and sold items (4%).
- Financial sources used to pay for health care differ according to wealth. Households in the richest quintile have the highest probability of benefitting from health insurance compared to other wealth quintiles (17% vs. 4-7%, respectively). On the other hand, households in the lowest wealth quintile are the most likely to sell their belongings (3%) or ask for financial support from friends and family (7%) to cover health care expenses.
- Means of payment for health care services varies from region to region. Households that mostly use their current income for healthcare payment are in the regions of Asir (75%) and Makkah (68%), with the fewest in Najran and Bahah (9%). The region of Asir also has the largest percentage of households that use their savings for health care payments (27%). Meanwhile, the highest percentage of households benefitting from insurance health plans are in Riyadh (16%). The regions of Qasim, Jizan and Asir have more households reporting selling items or asking for support from relatives and friends to pay for their health care. Qasim also has the largest percentage of households borrowing from financial institutions to cover the cost of health care (7%).

10.3 HEALTH COVERAGE AND UTILISATION OF HEALTH CARE SERVICES

Households' key informants reported whether or not household members were eligible for free governmental health care. They were also asked to provide information about health insurance coverage for each household member. The information obtained included the type of health insurance household members have; whether it is mandatory insurance, provided by their employer, or voluntary insurance which is independently purchased by the individual, or insured as dependents due to their relationship to a household member who has health insurance. The unit of analysis in this section is the household member.

As shown in **Table 10.3**, total coverage is 97% and insurance coverage is 20%. 92% of household members are eligible for free governmental health care. 13% of the household members are covered by mandatory insurance, with higher coverage for males as compared to females (16% and 10%, respectively), and 3% of the household members purchase their insurance plans independently. Finally, 10% of household members are insured as dependents, with a higher percentage among females (13% vs. 7%).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Household members above the age of 80 report the highest percentage of eligibility for free governmental health care (98%) and the lowest percentage of voluntary insurance (0.6%). Moreover, the 30 to 59 age group has the largest percentage of individuals with mandatory insurance provided by employees. Finally, insurance dependents are mostly under the age of 29.
- Household members living in urban areas are less likely to have free governmental health care than those living in rural areas (91 % and 96%, respectively). Also, urban household members are more likely to be covered by mandatory insurance compared with rural residents (14% vs. 7%), and less likely to be insured as dependents (11% vs. 4%).
- Level of education affects insurance coverage among household members. Mandatory coverage is higher in individuals with more than secondary education (21%).
- Total coverage increases with increasing wealth from 95% in the lowest quintile to 99% in the highest quintile. A higher percentage of household members in the richest quintile report free governmental health care services (98%), while members in the lowest and second lowest quintiles report lower rates (83% and 87%, respectively). Mandatory insurance and insurance of dependents is most common in the richest quintile (15% and 14%, respectively).
- The regions of Makkah and Madinah have the lowest percentage of free governmental coverage (86% and 84%, respectively). Madinah also has a higher percentage of individuals purchasing voluntary insurance (6%). Mandatory insurance coverage is significantly higher in the region of Jawf (34%). Finally, insurance as a dependent is reported mainly in Riyadh, Makkah, the Eastern Province and Madinah, the other regions have relatively low percentages of insured dependents.

Information about the utilisation of health care for each household member was also obtained. Key informants were asked about the number of times each member has used outpatient care in the thirty days before the survey, and the number of inpatient admissions for each member in the past twelve months. The mean number of outpatient visits in the last month and inpatient admissions in the last twelve months reported by the dejure household population, according to age, sex, nationality, residence, marital status, education, wealth and region are presented in **Table 10.4.** On average, household members have two outpatient visits monthly and three inpatient admission annually, with no significant differences by background characteristics.

LIST OF TABLES

For more information on health care expenditure, see the following tables:

- **Table 10.1**: Household health care expenditure
- **Table 10.2**: Financial sources for health care services payment
- **Table 10.3**: Governmental and health insurance coverage
- **Table 10.4**: Utilisation of outpatient and inpatient health

Table 10.1: Household health care expenditure in Saudi Riyals

Mean per capita monthly household total expenditure and health care expenditure in Saudi Riyals by type of care, according to residence, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	PER CAPITA HOUSEHOLD EXPENDITURE	PER CAPITA HEALTH EXPENDITURE							PER CAPITA HEALTH SPENDING		NUMBER OF HOUSEHOLDS3
		HOSPITAL INPATIENT TREATMENT[1]	HEALTH-RELATED ITEMS[1]	CONSULTATION FEES[2]	MEDICINES[2]	DIAGNOSTICS AND LAB TESTS[2]	TRANSPORT[1]	OTHER[2]	MEAN	%	
Residence											
Urban	5,625	53	7	122	19	20	0	10	186	3.3	3,736
Rural	4,329	4	4	147	18	21	7	31	216	5.0	672
Wealth Quintile											
Lowest	3,231	219	15	75	18	22	3	10	179	5.5	803
Second	4,099	17	2	126	19	26	0	9	183	4.5	905
Middle	3,873	16	5	156	19	19	1	21	220	5.7	840
Fourth	5,225	10	3	125	17	20	2	10	175	3.4	811
Highest	9,716	12	7	141	20	15	0	15	195	2.0	1,048
Region											
Riyadh	4,373	12	4	108	15	18	0	5	150	3.4	1,435
Makkah	3,067	30	7	151	25	22	0	5	211	6.9	890
Madinah	2,916	1	2	77	10	22	1	7	114	3.9	199
Qasim	7,675	7	13	269	39	52	0	22	382	5.0	111
Eastern Province	15,645	223	6	178	22	16	0	12	303	1.9	560
Asir	3,915	13	12	173	25	29	7	6	237	6.0	263
Tabuk	3,124	2	17	33	6	8	-	4	57	1.8	198
Hail	3,702	38	3	71	14	16	17	5	120	3.2	85
Northern Borders	6,594	1	2	235	44	33	0	49	360	5.5	53
Jizan	6,036	22	9	173	30	45	1	113	353	5.8	270
Najran	2,840	0	1	13	2	2	-	0	18	0.6	149
Bahah	2,115	1	0	2	1	2	-	1	6	0.3	128
Jawf	1,754	-	0	9	3	1	-	0	13	0.7	67
Total	5,427	47	6	126	19	20	1	13	191	3.5	4,409

1 Only asked if household reported using inpatient services in the last 12 months. Also, respondents might not have included the cost of using personal vehicles.

2 Asked if household reported using inpatient services in the last 12 months or outpatient services in the last month.

3 Includes households who reported using inpatient services in the last 12 months or outpatient services in the last month and reported expenditures.

Table 10.2: Financial sources for payment of health care services

Percentage distribution of financial sources used by households for payment of health care services according to residence, wealth, region and insurance [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	CURRENT INCOME OF HOUSEHOLD MEMBERS	SAVINGS	PAYMENT OR REIMBURSEMENT FROM HEALTH INSURANCE PLAN	SOLD ITEMS	RELATIVES OR FRIENDS FROM OUTSIDE HOUSEHOLD	BORROWED FROM FINANCIAL INSTITUTIONS OR AGENCIES	OTHER	NUMBER OF HOUSEHOLDS[1]
Residence								
Urban	50.7	9.2	9.3	1.8	4.1	4.2	0.9	3,798
Rural	48.8	11.1	3.7	4.0	5.3	4.4	2.3	684
Wealth Quintile								
Lowest	47.6	10.9	4.1	3.4	7.4	3.2	1.8	845
Second	48.0	9.7	6.1	1.8	4.6	5.6	0.7	923
Middle	51.4	11.6	6.8	2.0	4.0	4.3	1.2	847
Fourth	54.4	9.4	6.7	2.4	4.0	4.2	1.1	815
Highest	50.9	6.6	16.8	1.1	1.8	3.7	1.0	1,051
Region								
Riyadh	52.1	6.6	16.4	1.1	2.4	3.9	0.5	1,441
Makkah	67.9	11.2	11.0	2.2	4.4	5.7	0.7	894
Madinah	31.2	8.9	1.9	1.5	3.6	1.5	0.9	232
Qasim	34.3	13.7	4.9	8.8	8.1	7.3	4.5	113
Eastern Province	39.8	9.1	1.6	2.1	3.4	5.8	1.9	560
Asir	74.5	26.7	3.8	4.9	11.1	4.1	3.8	263
Tabuk	44.1	11.4	2.5	0.3	6.1	0.3	0.7	198
Hail	57.1	5.5	7.3	2.1	4.7	5.1	1.4	85
Northern Borders	37.2	9.3	2.3	2.5	2.2	4.5	3.8	53
Jizan	59.9	9.9	0.4	5.1	9.6	5.6	1.6	296
Najran	9.1	4.6	1.5	0.6	1.5	0.9	0.2	150
Bahah	9.1	0.7	0.0	0.0	0.0	0.0	0.5	128
Jawf	19.3	7.1	1.0	0.9	3.1	0.5	0.0	67
Total number of households	50.4	9.5	8.5	2.1	4.3	4.2	1.1	4,481

1 Includes households who reported using inpatient services in the last 12 months or outpatient services in the last month.

Table 10.3: Governmental and health insurance coverage

Percentage distribution of the dejure household population by eligibility for free governmental health care, and percentage distribution of respondents by type of health insurance coverage, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	GOVERNMENTAL FREE HEALTH CARE SERVICES	MANDATORY INSURANCE	VOLUNTARY INSURANCE	INSURED AS DEPENDENT	INSURANCE COVERAGE	TOTAL COVERAGE[3]	NUMBER OF HOUSEHOLD MEMBERS
Age							
0-4	94.1	8.6	2.0	13.4	17.3	97.9	3,324
5-9	93.4	9.2	1.9	12.9	17.5	98.0	6,798
15-29	91.2	12.6	2.1	10.6	21.2	96.9	10,373
30-44	89.3	17.2	2.8	6.0	21.5	96.8	8,461
45-59	90.4	15.1	4.6	8.2	23.2	97.5	4,241
60-69	93.3	13.7	3.6	8.4	21.3	97.3	1,173
70-79	94.6	7.9	2.2	6.0	12.3	97.6	395
80+	98.0	5.7	0.6	2.5	6.3	98.0	139
Sex							
Male	90.4	16.1	2.9	6.9	21.3	97.3	17,484
Female	92.6	9.7	2.3	12.6	19.2	97.3	17,418
Residence							
Urban	90.7	13.8	2.7	10.6	22.0	97.0	30,012
Rural	96.2	7.3	1.7	4.3	9.6	98.9	4,891
Marital Status							
Never married	91.6	11.4	2.4	10.2	19.8	97.1	9,899
Currently married	90.0	15.8	3.0	8.0	22.1	96.9	15,330
Formerly married	92.9	13.7	3.3	4.8	18.8	97.5	1,423
Do not know	76.9	38.7	16.7	11.4	38.7	100.0	19
Not applicable1	93.8	9.2	1.9	13.3	17.7	98.2	8,232
Education							
No education	91.0	9.0	3.0	9.0	14.6	97.5	1,776
Less than secondary	92.1	9.4	2.5	10.6	17.0	97.3	9,744
Secondary	91.5	11.4	3.0	8.4	19.2	97.3	10,049
More than secondary	89.8	20.7	2.5	9.0	27.3	97.0	9,174
Do not know	88.6	11.2	7.7	8.0	16.1	94.3	60
Not applicable2	93.8	9.1	1.8	13.1	17.3	97.9	4,101
Wealth Quintile							
Lowest	83.0	13.8	3.9	8.0	19.6	94.6	6,983
Second	87.1	13.2	2.8	9.8	20.2	96.6	7,010
Middle	94.1	10.3	1.3	7.5	16.5	97.9	6,949
Fourth	95.2	12.6	2.1	8.9	20.0	98.6	6,984
Highest	97.9	14.7	2.8	14.4	25.1	98.8	6,977
Region							
Riyadh	91.6	18.0	3.2	14.2	26.9	99.5	7,937
Makkah	85.7	16.6	2.9	13.4	29.2	94.0	10,051
Madinah	84.2	13.4	6.0	8.3	16.8	95.0	2,080
Qasim	94.7	5.2	1.9	2.8	6.8	97.5	1,262
Eastern Province	97.7	9.5	1.3	10.5	16.5	98.7	4,693
Asir	91.7	8.1	2.4	4.3	11.0	98.2	2,478
Tabuk	97.4	2.9	1.1	3.1	5.5	98.9	1,202
Hail	97.7	3.0	1.0	3.3	6.4	99.0	736
Northern Borders	96.5	4.4	0.9	0.7	4.6	99.4	355
Jizan	98.8	1.5	0.9	0.9	2.3	98.8	1,743
Najran	96.1	2.7	3.2	1.7	4.6	99.3	960
Bahah	99.2	1.2	0.1	1.9	2.6	99.6	545
Jawf	94.2	33.6	1.8	1.9	34.7	98.7	860
Total number of household members	91.5	12.9	2.6	9.7	20.3	97.3	34,903

1 Not applicable to household members less than 12 years old.

2 Not applicable to household members less than six years old.

3 Includes governmental free health care services and insurance coverage.

Table 10.4: Utilisation of outpatient and inpatient health care services

Mean number of reported outpatient visits in the last month and inpatient admissions in the last 12 months by the dejure household population, according to age, sex, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MEAN NUMBER OF OUTPATIENT HEALTH CARE VISITS IN THE LAST MONTH	NUMBER OF HOUSEHOLD MEMBERS	MEAN NUMBER OF INPATIENT ADMISSIONS IN THE LAST 12 MONTHS	NUMBER OF HOUSEHOLD MEMBERS
Age				
0-4	1.5	1,088	3.0	466
5-9	1.4	1,486	2.7	578
15-29	1.7	1,829	2.6	843
30-44	1.6	2,019	3.1	846
45-59	1.8	1,325	3.6	530
60-69	1.9	499	3.4	183
70-79	2.3	185	2.9	96
80+	1.8	91	3.1	38
Sex				
Male	1.7	4,190	2.7	1,677
Female	1.7	4,331	3.1	1,903
Residence				
Urban	1.7	6,894	2.9	2,948
Rural	1.6	1,627	3.1	632
Marital Status				
Never married	1.7	1,543	2.7	710
Currently married	1.7	4,163	3.0	1,726
Formerly married	1.9	574	3.8	215
Do not know	1.6	8	2.8	4
Not applicable1	1.4	2,233	2.8	925
Education				
No education	1.9	622	3.5	290
Less than secondary	1.6	2,332	3.1	935
Secondary	1.7	2,070	2.8	972
More than secondary	1.6	2,203	2.8	841
Do not know	1.8	13	1.1	3
Not applicable2	1.5	1,281	3.0	539
Wealth Quintile				
Lowest	1.7	1,536	3.7	640
Second	1.7	1,732	2.8	670
Middle	1.7	1,649	2.9	738
Fourth	1.5	1,573	3.0	844
Highest	1.8	2,031	2.4	687
Region				
Riyadh	1.7	2,710	3.1	618
Makkah	1.6	1,419	2.7	1,088
Madinah	2.0	354	3.1	216
Qasim	2.0	203	3.2	186
Eastern Province	1.7	845	2.7	250
Asir	1.6	482	3.0	350
Tabuk	1.6	556	3.0	120
Hail	2.1	170	4.2	82
Northern Borders	1.8	136	2.4	75
Jizan	1.8	662	5.2	214
Najran	1.3	550	1.9	304
Bahah	1.2	267	1.4	21
Jawf	1.3	166	1.8	56
Total number of household members	1.7	8,521	3.0	3,580

1 Not applicable to household members less than 12 years old.

2 Not applicable to household members less than six years old.

11. MARRIAGE, FAMILY PLANNING, MATERNAL HEALTH AND CHILD IMMUNISATION

KEY FINDINGS

- **Marriage and polygamy**: 4% of women reported their husband having other wives, while 3% of men reported having more than one wife.
- **Family planning**: The contraceptive prevalence rate for any method is 28%, and 24%. for modern methods.
- **Husband violence**[19]: Approximately 2% of currently married women age 15-49 have experienced physical violence and 2% have experienced emotional violence.
- **Women autonomy**: 73% of women have made decisions alone or with their spouse regarding the use of contraception, while 14% report that their husbands made the decision alone.
- **Antenatal care**: 93% of women aged 15-49 who gave birth in the five years preceding the survey receive antenatal care (ANC) from a skilled provider (i.e. at least one ANC visit to a doctor, trained nurse or midwife-ANC 1+) during pregnancy of their most recent birth. 80% had at least four ANC visits (ANC 4+) and 42% had at least eight ANC visits (ANC 8+).
- **Delivery care**: 99% of live births in the five years preceding the survey took place in a health facility. 78% of births were assisted by a skilled provider (i.e. a doctor, midwife or nurse)[20].
- **Postnatal and postpartum care**: Among women who gave birth in the five years preceding the survey, 72% received a postpartum check in the first two days after birth. Among newborns in the five years preceding the survey, 78% received a postnatal check in the first two days after birth.
- **Breastfeeding**: 86% of newborns in the five years preceding the survey were breastfed, with 38% being breastfed within the first hour of birth.

A continuum of maternal and newborn care from pre-pregnancy through pregnancy, childbirth, and the postpartum period is essential for the survival and well-being of women and children. Family planning and contraceptive use helps women limit or space the number of children they have, which in turn promotes maternal and child health. Antenatal care provides an opportunity to detect and manage complications and promote better health outcomes for mothers and their babies. Births require a skilled birth attendant and institutions are needed to manage neonatal and obstetric complications. Timely postnatal care for the mother and her child ensure essential health services are provided and complications are averted and managed.

This chapter presents information on a number of reproductive health, maternal health care and child health topics. The first part focuses on marriage and polygamy. The second part examines husband violence and women's decision-making. The third part presents antenatal care (ANC), including the number and timing of ANC visits, ANC providers and place of provision of ANC. The fourth part focuses on childbirth, including skilled attendants and place of delivery. The fifth part examines postnatal checks for mothers and their children and breastfeeding practices. The final part presents information on the vaccination status of young children. In the first two parts, currently married women aged 15-49 were asked about marriage, violence and decision-making. In the following three parts, ever-married women aged 15-49 who gave birth in the five years preceding the survey were asked about their most recent birth. It is also worth noting that the sources of information on vaccinations were vaccination cards and mother's reports about their children.

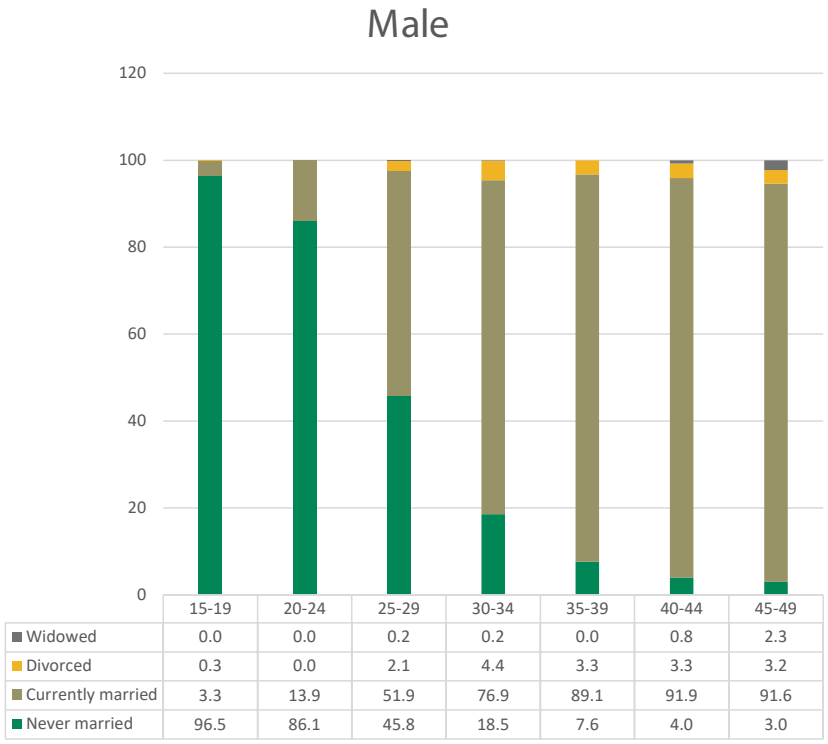
11.1 MARRIAGE AND POLYGAMY

Marriage is a proximate determinant of fertility and the extent to which women are exposed to the risk of pregnancy. Marriage practices such as early marriage affect the sexual and reproductive health of women and men.

19 Lifetime experience of violence not in the last 12 months.
20 The information on births attended by a skilled provider is based on women's self-reports.

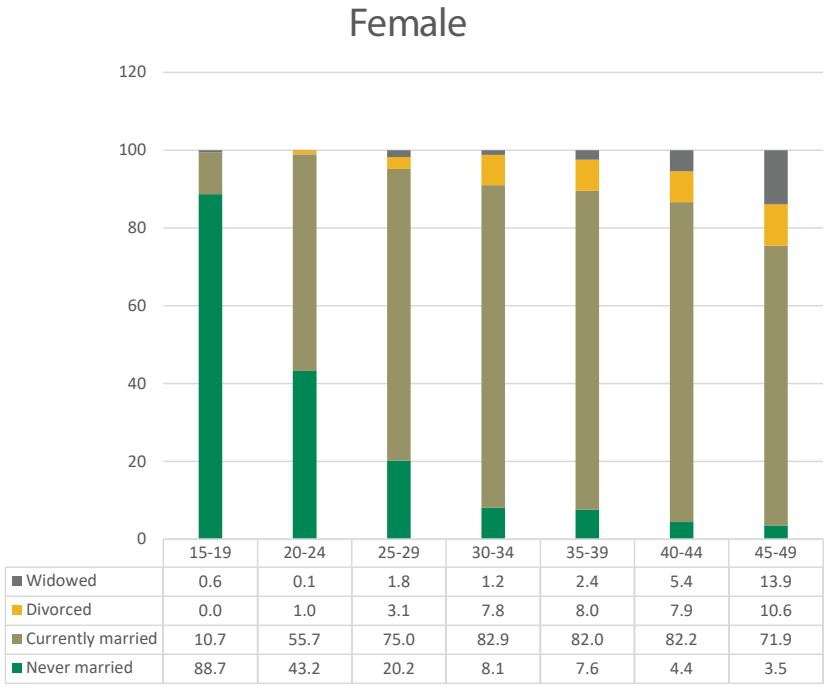
11.1.1 MARITAL STATUS

Table 11.1 and figures 11.1 and 11.2 present the marital status of females and males aged 15-49 according to their age. 68% of males and 67% of females are currently married. 3% of males and 5% of females are divorced or separated, and 1% of males and 7% of females are widowed. 29% of males and 22% of females have never been married. For ages 15 to 19, 97% of males and 89% of females have never been married.



	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Widowed	0.0	0.0	0.2	0.2	0.0	0.8	2.3
Divorced	0.3	0.0	2.1	4.4	3.3	3.3	3.2
Currently married	3.3	13.9	51.9	76.9	89.1	91.9	91.6
Never married	96.5	86.1	45.8	18.5	7.6	4.0	3.0

Figure 11.1: Current marital status by age
Percentage distribution of males by current marital status



	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Widowed	0.6	0.1	1.8	1.2	2.4	5.4	13.9
Divorced	0.0	1.0	3.1	7.8	8.0	7.9	10.6
Currently married	10.7	55.7	75.0	82.9	82.0	82.2	71.9
Never married	88.7	43.2	20.2	8.1	7.6	4.4	3.5

Figure 11.2: Current marital status by age
Percentage distribution of females by current marital status

11.2. POLYGAMY

Polygamy

Defined as women who report their husbands having wives other than themselves and men who report that they have more than one wife.

Table 11.2 presents the data on polygamous marriages where women report their husbands having wives other than themselves. 4% of currently married women reported that their husband has more than one wife. Table 11.3 presents the data on the polygamous marriages where men report having more than one wife. Only 3% of men report having more than one wife.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Polygamy reported by women increases with age. No women aged 15-19 years report polygamy, while approximately 6% and 10%-11% of women aged 35-39 and 40-49 report polygamy, respectively.
- Women and men with no formal education report the highest levels of polygamy (17% and 6%, respectively).
- Women and men in the highest wealth quintiles have the highest percentages of polygamy (10% and 6%, respectively).

11.3 CONTRACEPTIVE USE

Family planning and access to contraceptive methods allow spacing of pregnancies and avoiding unwanted pregnancy and is thus important for the health and wellbeing of women and children.

Contraception prevalence rate

The percentage of women who use any contraceptive method.

Modern methods

Male and female sterilisation, injectables, intrauterine devices (IUDs), oral contraceptive pills, implants, male/female condoms, the lactational amenorrhea method (LAM), and emergency contraception.

Traditional methods

Rhythm and withdrawal.

Table 11.4 and Figure 11.3 provide information on the use of contraception among currently married women aged 15-49 years. The overall contraceptive prevalence rate is 28%. 24% of women use a modern method of contraception, while 4% use a traditional method. Among currently married women, the pill is the most common modern method used (11%), followed by the IUD (9%) and the male condom (5%).

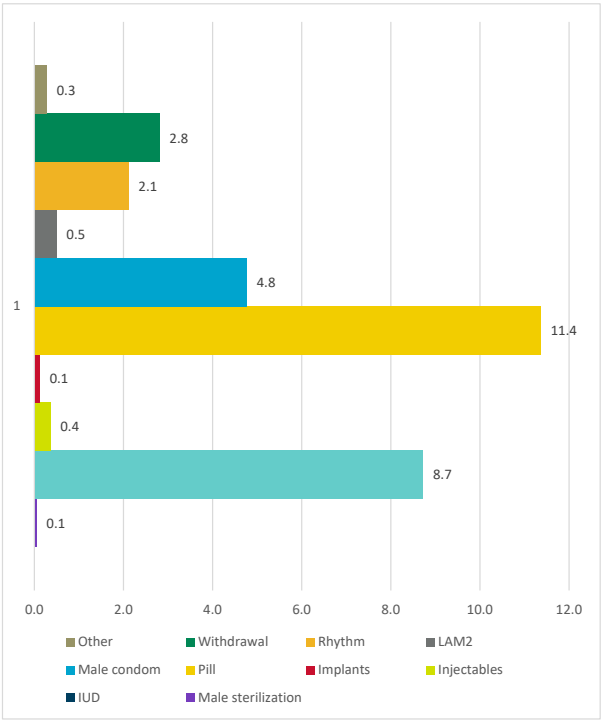


Figure 11.3: Current use of contraception

Percentage of women aged 15-49 currently using a contraceptive method.

PATTERNS BY BACKGROUND CHARACTERISTICS

- 24% of Saudi women currently use modern contraception, compared to 30% of non-Saudi women.
- Urban women are more likely than rural women to use modern methods (25% and 20%, respectively) and also traditional methods (5% vs. 1%, respectively).
- Modern contraceptive use increases with education level. 19% of women with no education use modern contraception, compared to 23% of women with secondary or less than secondary education, and 27% of women with more than secondary school education.
- Similarly, modern contraceptive use increases with wealth. Women in the lowest quintile (20%) are less likely to use modern contraceptives compared to women in the highest quintile (32%).

11.4 HUSBAND VIOLENCE

Husband violence

Percentage of women who have experienced any of the specified acts of physical or emotional violence committed by their current husband.

Table 11.5 provides information on forms of husband violence and **Table 11.6** provides information on husband violence by background characteristics. Approximately 2% of currently married women age 15-49 have ever experienced physical violence and 2% have ever experienced emotional violence. Three percent of women have experienced physical violence and 2% emotional violence. Women experiencing husband physical violence most often report that their husband pushed them, shook them, slapped them or threw something at them (1%). Women who have experienced emotional violence most often report that their husband said something to humiliate them in front of others (2%).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Non-Saudi women are more likely to experience husband violence (7%) compared to Saudi women (3%).
- More women from urban areas have experienced husband violence (4%) compared to women from rural areas (1%).
- Women with higher levels of education are less likely to have experienced husband violence. Eight percent of women with no formal education have experienced husband violence as compared to 5% of women with less than secondary school education, 4% of women with secondary education, and 3% of women with more than secondary education.

11.5 WOMEN'S DECISION-MAKING

Women's participation in decision-making

Women are considered to participate in decision-making if they make decisions alone or jointly with their husband.

Table 11.7 Women are more likely to make decisions alone or in conjunction with her spouse about their children's schooling, discipline and health (74%). 73% percent of women made decisions alone or with their spouse regarding the use of contraception, while 14% report that their husbands made the decision alone. When it comes to work, 70% of women decided alone or participated in the decision, while 26% report that their husbands made the decision.

11.6 ANTENATAL CARE

Antenatal care from a skilled provider

Defined as pregnancy care received from a skilled provider, such as a doctor, midwife or nurse.

Antenatal care from a skilled provider is essential for monitoring pregnancies, early identification of problems, and managing complications effectively so as to improve health outcomes of the mother and child. Recent WHO guidelines recommend at least eight contacts with health care providers to ensure a positive pregnancy experience and reduce perinatal mortality(15).

11.6.1 SKILLED PROVIDERS

A large percentage of women (93%) received ANC from a skilled provider for their most recent birth in the five years preceding the survey (**Table 11.8**). 86% of women received care from a doctor, 7% from a nurse or midwife and 5% received no ANC.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Non-Saudi women received less care from skilled providers (87%), compared to Saudis (94%).
- Women in the lowest two wealth quintiles were less likely to receive ANC care from a skilled provider (Lowest 90%, and second 88%), compared to women in the higher quintiles (middle and fourth 98%, and highest 99%).

11.6.2 NUMBER AND TIMING OF ANC VISITS

Approximately 80% of women report having had at least four ANC visits, and 42% report having had at least eight (**Table 11.9**).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Saudi women were more likely to have a minimum of four and eight ANC visits (80% and 40%, respectively), compared to non-Saudi women (76% and 64%, respectively).
- Women residing in rural areas were less likely to have at least eight ANC visits (31%), compared to women residing in urban areas (44%).
- Education plays a role in determining the number of ANC visits for women (**Figure 11.4**). 45% of women with more than secondary school education had at least eight ANC visits compared to 39% of women with secondary education, 36% of women with less than secondary education, and 10% of women with no education.

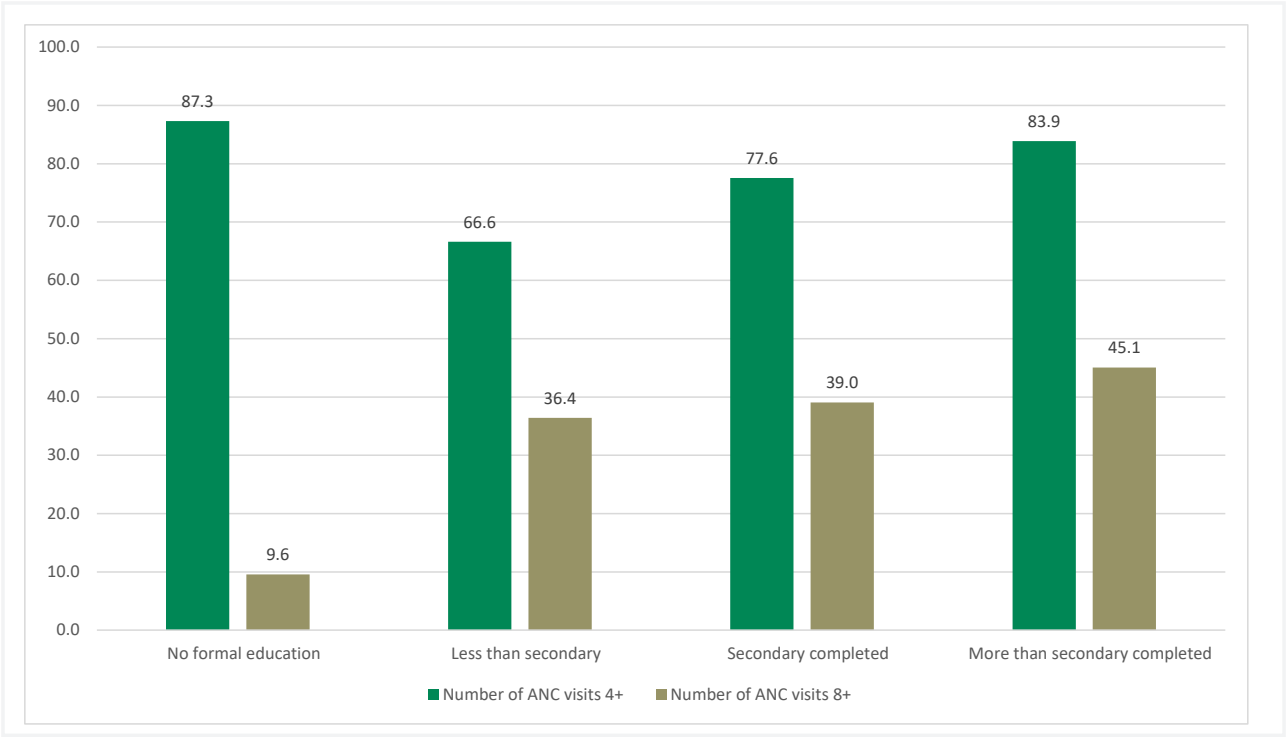


Figure 11.4: Number of antenatal care visits by mother's education level

Percentage of women aged 15-49 who had a live birth in the five years prior to the survey (most recent birth) who had ANC 4+ and 8+

- For household wealth, the percentage of women who had at least four and at least eight ANC visits increased with the increase in household wealth (**Figure 11.5**). 92% of women in the highest wealth quintile had four or more visits, compared to 69% of women in the lowest wealth quintile. Similarly, 65% of women from the highest wealth quintile had more than eight visits, compared to 27% percent of women from the lowest wealth quintile.

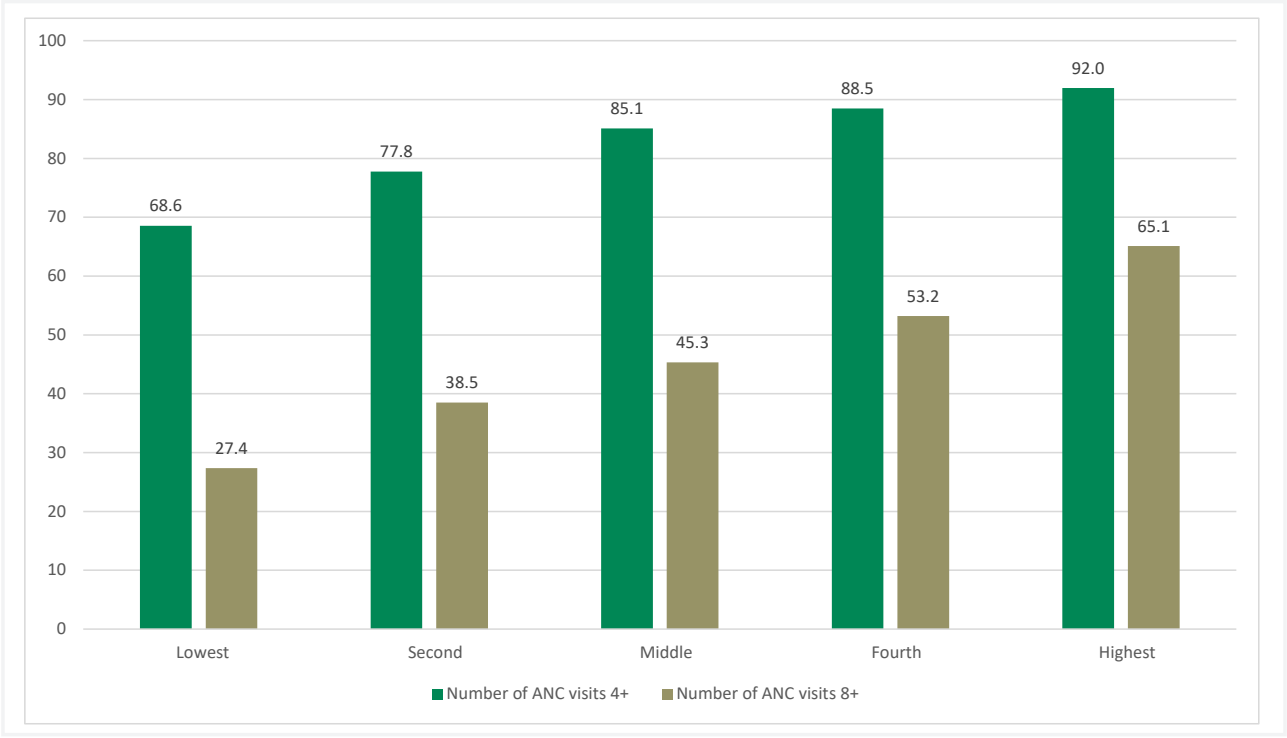


Figure 11.5: Number of antenatal care visits by wealth

Percentage of women aged 15-49 who had a live birth in the five years before the survey (most recent birth) who

11.6.3 TIMING OF ANC VISITS

87% of women received ANC within their first trimester, while 7% delayed their ANC visit to the second trimester or later (**Table 11.10**). The percentage of women who had their first ANC visit in the first, second and third months are 44%, 30% and 13%, respectively.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Saudi women were more likely to receive ANC in their first trimester (87%), compared to non-Saudi women (82%).
- Similarly, urban women were more likely to receive ANC in their first trimester (87%), compared with rural women (83%).

11.6.4 PLACE OF ANC CARE

Table 11.11 presents the place where women receive ANC. 77% of women received care in the government sector (54% in hospitals and 23% in primary health care centres), while 31% received care in the private sector (21% in hospitals and 10% in clinics). 6% of women received care at home.

PATTERNS BY BACKGROUND CHARACTERISTICS

- The most common place to receive ANC among Saudi women was government hospitals (57%), and among non-Saudi women, private hospitals (49%).
- Both urban and rural women were more likely to receive ANC in government hospitals (urban 54%, rural 55%). The second most common place for urban women was private hospitals (22%), then government primary health care centres (20%), and private clinics (10%). While for rural women the second most common place for receiving ANC was government primary health care centres (37%), then private hospitals (17%), and private clinics (6%).
- The percentage of women who received care in government hospitals and clinics decreased with increasing education.

11.7 DELIVERY CARE

Institutional delivery

Defined as a delivery that occurs in a health care facility.

Access to a skilled health care professional during delivery ensures neonatal and obstetric complications are managed. WHO identifies skilled birth attendants as a resource necessary to achieving respectful maternity care(16).

11.7.1 INSTITUTIONAL DELIVERIES

Institutional deliveries are common with about 99% of births in the five years preceding the survey delivered in a health facility (**Table 11.12**). 72% of births were delivered in the government sector, 26% in the private sector, and 1% in other places.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Saudi women were more likely to have delivered in a government sector than non-Saudi women (76% vs. 24%). **Figure 11.6** shows the percentage of births by place of delivery.
- Deliveries in a government sector decreased with increasing education, from 100% in women with no formal education to 67% in women with more than secondary education.
- Similarly, the percentage of government sector deliveries decreased as wealth increased (**Figure 11.6**), decreasing from 80% in women from the lowest wealth quintile to 50% in those within the highest wealth quintile.

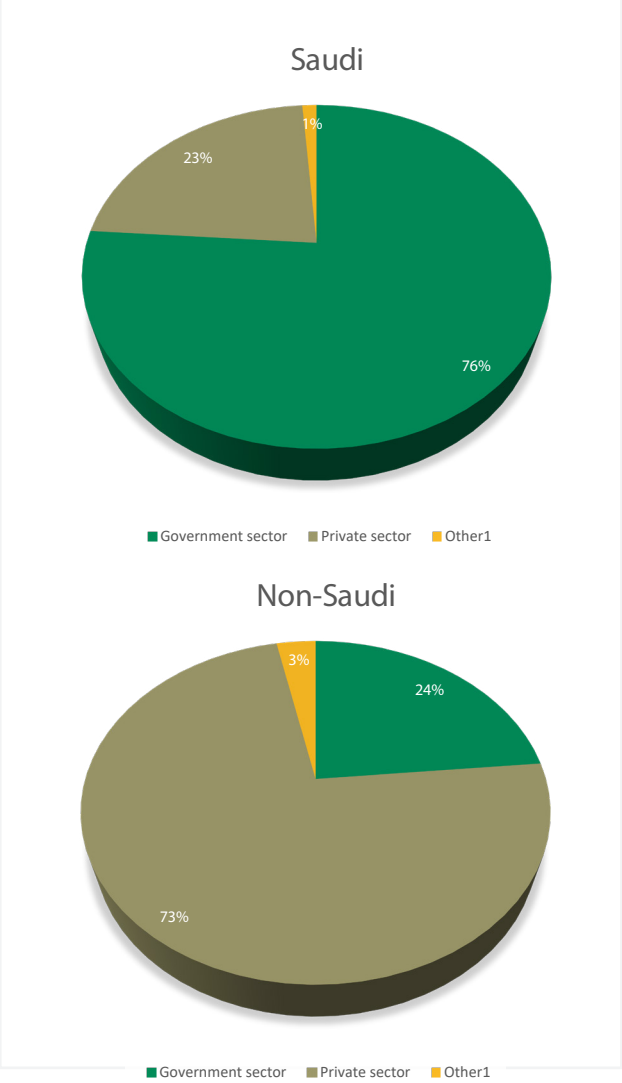


Figure 11.6: Facility delivery by nationality

Percentage distribution of live births in the five years before the survey (most recent birth) by place of delivery.

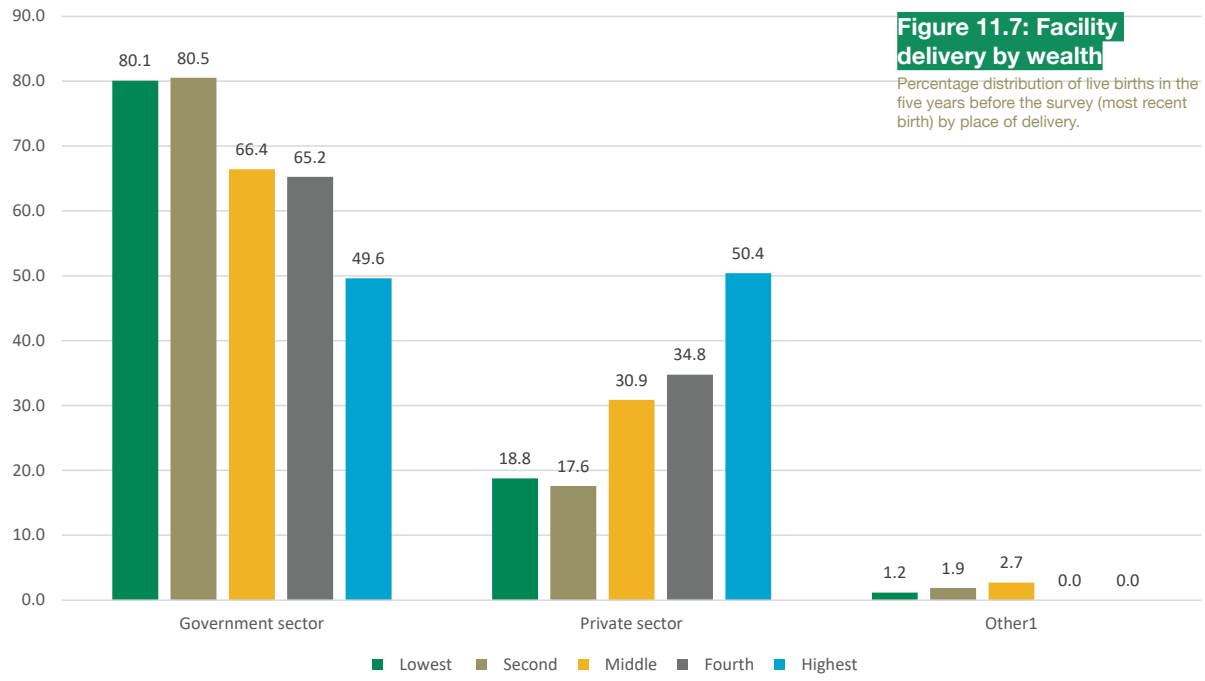


Figure 11.7: Facility delivery by wealth

Percentage distribution of live births in the five years before the survey (most recent birth) by place of delivery.

11.7.2 SKILLED ASSISTANCE DURING DELIVERY

Skilled assistance during delivery

Defined as births delivered with the assistance of a doctor, nurse or a midwife.

95% of births in the five years preceding the survey were delivered by a skilled provider[23]. The most common providers reported to assist during delivery were doctors (78%), and nurses or midwifes (50%) (**Table 11.13**).

PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of births delivered by a skilled provider increased with increasing education, ranging from 21% among women with no education to 83% among women with more than secondary education.
- Births to women in the lowest two wealth quintiles were less likely to be delivered by a skilled provider (75%), compared to births to women in the higher quintiles (middle 82%, fourth 83%, and highest 82%).

11.8 POSTNATAL CARE

Postnatal care, including health checks for mothers and newborns, is essential as it teaches the mother how to take care of herself and her baby as well as how to manage complications early. The WHO recommends that both the mother and child receive a postnatal check within the first two days of delivery(11).

11.8.1 POSTNATAL HEALTH CHECK FOR MOTHERS

71% of women who gave birth in the five years preceding the survey report having had a postnatal check within two days of the delivery, with 48% of women reporting that their first check occurred less than four hours after delivery. Approximately 9% of women did not receive any postnatal check (**Table 11.14**).

PATTERNS BY BACKGROUND CHARACTERISTICS

- Saudi women were less likely to receive postnatal checks within two days of delivery (71%), compared to non-Saudi women (79%).
- The percentage of women who received a checkup within 48 hours is lowest in women of the highest wealth quintile (56%).

23 Information on births attended by a skilled provider is based on women's self-reporting.

11.8.2 POSTNATAL HEALTH CHECK FOR NEWBORNS

The percentage of newborns who received a postnatal health check in the first two days following their birth is 78% (**Table 11.15**).

PATTERNS BY BACKGROUND CHARACTERISTICS

- 77% of babies born to Saudi mothers had a postnatal check in the first two days after their delivery compared to 84% of babies born to non-Saudi mothers.
- The percentage of newborns from urban areas who received a postnatal check within two days of their birth is higher than newborns from rural areas (80% and 68%, respectively).
- In general, percentages of births with a postnatal check within two days of their birth decreased with increasing education, from 87% in newborns born to mothers with less than secondary education, to 79% in newborns born to mothers with more than secondary education.

11.9 BREASTFEEDING

Early breastfeeding

Defined as the initiation of breastfeeding within 1 hour of birth.

The practice of breastfeeding is important to ensure adequate nutrition for infants. The WHO and UNICEF recommend support to all mothers to initiate breastfeeding within the first hour of life after delivery(18).

Table 11.16 shows that breastfeeding is common. Among children born in the five years before the survey, 86% were breastfed, while 38% were breastfed within one hour of birth, and 49% were breastfed within one day of birth.

PATTERNS BY BACKGROUND CHARACTERISTICS

- The percentage of children breastfed within one hour of delivery was higher among Saudi women (39%) compared to non-Saudi women (26%).
- Comparing urban to rural areas, children whose mothers resided in urban areas were more likely to be breastfed within one hour of birth (40% vs. 27%).
- The likelihood that a child was breastfed within the first hour decreased with increasing wealth. Children whose mothers were in the lowest wealth quintile were more likely to be breastfed within one hour of birth (45%) compared to those whose mothers were in the highest quintile (24%).

11.10 CHILD IMMUNISATION

95% of children aged 12-35 months have a vaccination card, while 27% have a vaccination card that was seen by the interviewer (**Table 11.17**). Information on vaccinations by source of information (vaccination card or mother's report) is shown in **Table 11.18.** A total of 15% of children did not receive the MMR vaccine, whereas DTwP was not received in 12% and 7% of those aged 12-23 months and 24-35 months, respectively. It is worth noting again that the sources of information on the vaccinations were vaccination cards and mother's reporting.

Table 11.19 provides information on vaccinations by background characteristics. 87% received the second dose of MMR and 68% received the third dose of DTwP. Comparing male to female children, males are less likely to have received the second dose of MMR vaccine (79% vs. 92%). The same is observed for the DTwP vaccine, where coverage for the third dose was 60% for males and 74% for females.

PATTERNS BY BACKGROUND CHARACTERISTICS

- Children of non-Saudi (56%) and rural mothers (36%) are more likely to have a vaccination card seen than Saudi (24%) and urban mothers (25%).
- The mother's education also plays a role; none of the of children to mothers with no formal education have their card seen, compared to 29% of children to mothers with more than secondary education. Similarly, coverage for the third dose of DTwP increased with increased education to reach 78% in mothers with more than secondary education, compared with 0% among children of mothers with no formal education.
- By region, Asir (71%) had the lowest coverage of the second dose of the MMR vaccine, while Hail (16%) and Najran (20%) had the lowest coverages of the third dose of the DTwP vaccine.

LIST OF TABLES

For more information on trends related to reproductive health, pregnancy, contraceptive use and child immunisation of the survey respondents, see the following tables:

- **Table 11.1:** Current marital status
- **Table 11.2:** Number of women's co-wives
- **Table 11.3:** Number of men's wives
- **Table 11.4:** Current use of contraception
- **Table 11.5:** Forms of husband physical and emotional violence
- **Table 11.6:** Husband violence by background characteristics
- **Table 11.7:** Participation in decision-making
- **Table 11.8:** Antenatal care
- **Table 11.9:** Number of antenatal care visits
- **Table 11.10:** Timing of first antenatal care visit
- **Table 11.11:** Place of antenatal care
- **Table 11.12:** Place of delivery
- **Table 11.13:** Assistance during delivery
- **Table 11.14:** Timing of the first postnatal check for the mother
- **Table 11.15:** Timing of first postnatal check for the newborn
- **Table 11.16:** Initial breastfeeding
- **Table 11.17:** Possession and observation of vaccination cards
- **Table 11.18:** Vaccinations by source of information
- **Table 11.19:** Vaccinations by background characteristics

Table 11.1: Current marital status

Percentage distribution of women and men aged 15-49 by current marital status, according to age.

AGE	MARITAL STATUS				TOTAL	NUMBER OF RESPONDENTS
	NEVER MARRIED	CURRENTLY MARRIED	DIVORCED/ SEPARATED	WIDOWED		
MEN						
15-19	96.5	3.3	0.3	0.0	100.0	303
20-24	86.1	13.9	0.0	0.0	100.0	494
25-29	45.8	51.9	2.1	0.2	100.0	775
30-34	18.5	76.9	4.4	0.2	100.0	934
35-39	7.6	89.1	3.3	0.0	100.0	747
40-44	4.0	91.9	3.3	0.8	100.0	484
45-49	3.0	91.6	3.2	2.3	100.0	317
Total	28.6	67.6	2.7	1.1	100.0	4,053
WOMEN						
15-19	88.7	10.7	0.0	0.6	100.0	401
20-24	43.2	55.7	1.0	0.1	100.0	605
25-29	20.2	75.0	3.1	1.8	100.0	776
30-34	8.1	82.9	7.8	1.2	100.0	806
35-39	7.6	82.0	8.0	2.4	100.0	504
40-44	4.4	82.2	7.9	5.4	100.0	280
45-49	3.5	71.9	10.6	13.9	100.0	199
Total	21.5	66.5	5.2	6.7	100.0	3,571

Table 11.2. Number of women's co-wives

Percentage distribution of currently married women aged 15-49 by number of co-wives, and percentage of currently married women with one or more co-wives, according to age, nationality, residence, marital status, education and wealth [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	NUMBER OF CO-WIVES				TOTAL	NUMBER OF WOMEN[1]
	0	1	2+	DON'T KNOW		
Age						
15-19	98.0	0.0	0.0	2.0	100.0	26
20-24	97.4	1.9	0.3	0.4	100.0	334
25-29	97.0	1.3	0.0	1.7	100.0	580
30-34	96.3	2.3	0.2	1.2	100.0	658
35-39	92.5	5.5	0.4	1.6	100.0	410
40-44	88.5	10.1	0.1	1.3	100.0	229
45-49	85.2	9.7	1.3	3.8	100.0	143
Nationality						
Saudi	94.7	3.7	0.2	1.5	100.0	2,150
Non-Saudi	93.7	4.1	0.8	1.4	100.0	231
Residence						
Urban	94.7	3.4	0.2	1.6	100.0	2,051
Rural	93.7	5.3	0.6	0.4	100.0	330
Education						
No formal education	82.7	13.2	4.1	0.0	100.0	45
Less than secondary	90.3	8.5	0.0	1.2	100.0	269
Secondary completed	96.9	1.8	0.0	1.2	100.0	953
More than secondary completed	94.0	3.8	0.4	1.8	100.0	1,114
Wealth Quintile						
Lowest	94.1	3.6	0.3	2.0	100.0	555
Second	96.1	2.1	0.6	1.1	100.0	620
Middle	95.9	2.4	0.0	1.7	100.0	516
Fourth	95.1	3.5	0.2	1.2	100.0	418
Highest	88.5	10.3	0.1	1.1	100.0	272
Total	94.6	3.7	0.3	1.5	100.0	2,381

1 Includes women who stated that they are currently married in the Reproductive health, Pregnancy and Contraception module.

Table 11.3: Number of men's wives

Percentage distribution of currently married men by number of wives, according to age, nationality, residence, marital status, education and wealth [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	NUMBER OF WIVES		TOTAL	NUMBER OF MEN
	1	2+		
Age				
15-29	100.0	0.0	100.0	480
30-44	98.3	1.7	100.0	1,828
45-59	94.1	5.9	100.0	624
60-69	91.3	8.7	100.0	159
70-79	84.5	15.5	100.0	53
80+	99.3	0.7	100.0	30
Nationality				
Saudi	96.7	3.3	100.0	2,657
Non-Saudi	99.7	0.3	100.0	517
Residence				
Urban	97.3	2.7	100.0	2,682
Rural	96.5	3.5	100.0	493
Education				
No formal education	93.7	6.3	100.0	123
Less than secondary	95.1	4.9	100.0	403
Secondary completed	97.4	2.6	100.0	1,231
More than secondary completed	97.8	2.2	100.0	1,417
Wealth Quintile				
Lowest	97.9	2.1	100.0	895
Second	97.3	2.7	100.0	676
Middle	98.9	1.1	100.0	606
Fourth	96.1	3.9	100.0	562
Highest	94.4	5.6	100.0	434
Total	97.2	2.8	100.0	3,175

Table 11.4: Current use of contraception

Percentage distribution of currently married women aged 15-49 by contraceptive method currently used, according to nationality, residence, marital status, education and wealth [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	ANY METHOD	ANY MODERN METHOD	MODERN METHOD[1]							ANY TRADITIONAL METHOD	TRADITIONAL METHOD		OTHER	NUMBER OF CURRENTLY MARRIED WOMEN3
			MALE STERILISATION	IUD	INJECTABLES	IMPLANTS	PILL	MALE CONDOM	LAM[2]		RHYTHM	WITHDRAWAL		
Age														
15-19	4.8	4.8	0.0	0.0	0.0	0.0	1.1	3.7	0.0	0.0	0.0	0.0	0.0	24
20-24	23.4	18.4	0.0	3.4	0.5	0.0	11.6	4.6	0.1	7.1	2.1	5.6	0.0	308
25-29	26.9	24.3	0.0	7.2	0.1	0.0	13.4	4.9	1.1	4.1	1.4	3.5	0.4	518
30-34	32.4	29.8	0.0	11.4	0.8	0.3	12.3	6.2	0.3	3.6	2.0	1.7	0.6	614
35-39	29.9	25.6	0.3	8.9	0.1	0.3	10.3	5.9	0.9	5.7	3.8	3.0	0.0	391
40-44	26.3	22.2	0.0	10.6	0.4	0.0	11.0	1.2	0.0	4.1	2.4	1.8	0.4	227
45-49	18.8	18.0	0.0	12.3	0.0	0.0	4.6	1.4	0.0	0.7	0.7	0.6	0.0	142
Nationality														
Saudi	26.9	23.8	0.1	8.2	0.4	0.1	11.3	4.5	0.3	4.4	2.2	2.8	0.3	2,004
Non-Saudi	34.0	29.9	0.0	13.1	0.0	0.0	12.2	6.9	2.5	4.1	1.7	2.7	0.4	221
Residence														
Urban	28.7	25.1	0.1	9.1	0.4	0.1	11.3	5.2	0.6	5.0	2.4	3.2	0.3	1,912
Rural	20.9	19.9	0.0	6.8	0.0	0.0	11.8	2.0	0.1	0.9	0.2	0.7	0.3	313
Education														
No formal education	18.6	18.6	0.0	6.9	0.9	0.0	7.3	3.6	0.0	0.0	0.0	0.0	0.0	45
Less than secondary	24.3	22.5	0.0	6.3	1.2	0.0	13.5	1.8	0.0	1.7	0.3	1.7	0.4	254
Secondary completed	26.0	22.5	0.1	6.7	0.2	0.3	10.8	6.2	0.2	4.4	2.0	2.5	0.2	895
More than secondary completed	30.3	26.7	0.0	11.1	0.3	0.0	11.5	4.3	0.9	5.3	2.8	3.5	0.3	1,031
Wealth Quintile														
Lowest	24.2	19.7	0.0	7.7	0.8	0.0	8.8	3.2	0.1	4.4	1.6	3.3	0.6	512
Second	28.8	25.2	0.0	8.5	0.0	0.0	11.8	5.9	0.3	4.8	3.0	2.7	0.4	571
Middle	27.2	23.5	0.0	7.9	0.3	0.0	11.0	4.7	1.7	6.7	3.3	3.8	0.1	487
Fourth	27.3	25.6	0.3	7.9	0.2	0.3	12.4	4.6	0.2	2.7	0.8	2.4	0.0	402
Highest	33.4	31.9	0.0	14.4	0.6	0.7	14.5	5.6	0.0	1.8	1.2	0.6	0.2	253
Total	27.6	24.4	0.1	8.7	0.4	0.1	11.4	4.8	0.5	4.4	2.1	2.8	0.3	2,225

1 Respondents may report multiple contraceptive methods, therefore the sum of methods may exceed 100%.
2 Lactational amenorrhoea method.
3 Includes women who stated that they are currently married in the Reproductive health, Pregnancy and Contraception module and excludes currently pregnant women.

Table 11.5: Forms of husband- committed physical and emotional violence

Percentage of currently married women aged 15-49 who have ever experienced forms of physical and emotional violence committed by their current husband [Saudi Arabia, 2019].

TYPE OF VIOLENCE	EVER EXPERIENCED			TOTAL
	YES	NO	PREFER NOT TO ANSWER	
Emotional violence:				
Say something to humiliate you in front of others	1.8	96.2	2.0	100.0
Threaten you or someone close to you with harm	0.4	98.3	1.3	100.0
Physical violence				
Push, shake, slap or throw something at her	1.4	97.1	1.6	100.0
Punch her with his fist or with something that could hurt her	0.3	98.2	1.4	100.0
Kick her, twist her arm or drag her	0.9	97.9	1.2	100.0
Try to strangle or burn her	0.0	98.9	1.1	100.0
Threaten or attack her with knife, gun or other type of weapon	0.1	99.0	0.9	100.0
Total number of currently married women age 15-49				2,417

Table 11.6: Husband violence by background characteristics

Percentage of currently married women aged 15-49 who have experienced physical or emotional violence committed by their current husband, according to nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	ANY VIOLENCE	NUMBER OF CURRENTLY MARRIED WOMEN
Age		
15-19	0.0	43
20-24	1.3	337
25-29	3.9	582
30-34	3.8	668
35-39	5.0	413
40-44	3.2	230
45-49	6.9	143
Nationality		
Saudi	3.4	2,184
Non-Saudi	6.8	232
Residence		
Urban	4.2	2,072
Rural	1.0	345
Education		
No formal education	7.5	45
Less than secondary	5.0	277
Secondary completed	4.3	976
More than secondary completed	2.8	1,119
Wealth Quintile		
Lowest	2.6	569
Second	4.9	624
Middle	2.2	524
Fourth	4.5	426
Highest	5.5	273
Total	3.8	2,417

Table 11.7: Participation in decision-making

Percentage distribution of currently married women aged 15-49 by person who usually makes decisions about various issues [Saudi Arabia, 2019].

DECISION	RESPONDENT	HUSBAND	RESPONDENT & HUSBAND JOINTLY	SOMEONE ELSE	RESPONDENT & SOMEONE ELSE JOINTLY	DECISION NOT MADE / NOT APPLICABLE	TOTAL
Whether or not she should work to earn money	9.3	26.3	60.2	0.6	0.4	3.2	100.0
Whether or not to use contraception	7.2	13.7	65.9	0.0	0.2	13.0	100.0
Decisions about children's schooling, what to do if they fall sick, and how they should be disciplined	5.1	16.7	69.1	0.0	0.2	9.0	100.0
Total number of currently married women aged 15-49							2,417

Table 11.8: Antenatal care

Percentage distribution of ever-married women aged 15-49 who have had a live birth in the last five years preceding the survey by antenatal care (ANC) provider during pregnancy of the most recent birth, and percentage receiving antenatal care from a skilled provider for the most recent birth, according to age, nationality, residence, marital status, education and wealth [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	ANTENATAL CARE PROVIDER				NO ANC	TOTAL	PERCENTAGE RECEIVING ANTENATAL CARE FROM A SKILLED PROVIDER[2]	NUMBER OF WOMEN
	DOCTOR	NURSE/ MIDWIFE	NON-SKILLED PROVIDER[1]	DON'T KNOW				
Age								
15-19	91.4	8.6	0.0	0.0	0.0	100.0	100.0	6
20-24	86.8	8.2	1.3	0.2	3.6	100.0	94.9	89
25-29	84.4	6.8	0.0	2.1	6.8	100.0	91.2	161
30-34	87.8	8.2	0.1	1.7	2.2	100.0	96.0	164
35-39	82.6	6.9	0.0	0.0	10.5	100.0	89.5	74
40-45	90.1	0.9	0.0	0.0	9.0	100.0	91.0	28
45-49	94.9	0.0	0.0	0.0	5.1	100.0	94.9	9
Nationality								
Saudi	86.4	7.4	0.0	0.7	5.5	100.0	93.7	491
Non-Saudi	83.5	3.3	2.9	7.0	3.2	100.0	86.9	40
Residence								
Urban	85.4	7.8	0.3	0.7	5.9	100.0	93.1	442
Rural	90.0	3.6	0.0	3.6	2.7	100.0	93.7	88
Education								
No formal education	100.0	0.0	0.0	0.0	0.0	100.0	100.0	4
Less than secondary	78.3	12.1	0.2	5.3	4.1	100.0	90.4	61
Secondary completed	84.6	10.5	0.6	0.9	3.4	100.0	95.1	191
More than secondary completed	88.8	3.7	0.0	0.5	7.0	100.0	92.4	275
Wealth Quintile								
Lowest	78.7	11.4	0.9	1.1	7.9	100.0	90.1	149
Second	78.1	10.1	0.0	3.2	8.6	100.0	88.2	146
Middle	94.7	3.7	0.0	0.0	1.6	100.0	98.4	98
Fourth	95.1	2.5	0.0	0.0	2.4	100.0	97.6	82
Highest	99.1	0.0	0.0	0.0	0.9	100.0	99.1	55
Total	86.1	7.1	0.2	1.2	5.4	100.0	93.2	530

1 Non-skilled providers include traditional birth attendants and others.

2 Skilled providers, includes doctor, trained nurse and midwife.

Table 11.9: Number of antenatal care visits

Percentage distribution of ever-married women aged 15-49 who have had a live birth in the last five years preceding the survey by number of antenatal care (ANC) visits during pregnancy for the most recent birth, according to age, nationality, residence, marital status, education and wealth [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	ANC VISITS (%)						TOTAL	ANC VISITS 1+	ANC VISITS 4+	ANC VISITS 8+	NUMBER OF WOMEN
	NO ANC	1-2	3-4	5-6	7-8	> 8					
Age											
15-19	0.0	14.4	4.8	20.8	51.7	8.3	100.0	100.0	85.6	60.0	6
20-24	3.6	7.0	19.0	25.6	20.0	24.7	100.0	96.4	76.1	36.3	89
25-29	6.8	6.5	11.1	33.7	7.8	34.1	100.0	93.2	80.3	38.7	161
30-34	2.2	6.1	19.6	21.3	11.5	39.2	100.0	97.8	82.7	47.8	164
35-39	10.5	6.8	16.5	25.0	15.0	26.2	100.0	89.5	76.0	39.0	74
40-45	9.0	2.4	18.1	20.6	12.7	37.2	100.0	91.0	76.4	45.1	28
45-49	5.1	10.8	3.0	36.7	15.7	28.7	100.0	94.9	84.1	34.2	9
Nationality											
Saudi	5.5	6.7	15.5	28.0	13.9	30.3	100.0	94.5	79.9	39.8	491
Non-Saudi	3.2	2.9	21.4	8.2	1.2	63.0	100.0	96.8	76.1	64.2	40
Residence											
Urban	5.9	5.9	16.7	24.2	13.0	34.4	100.0	94.1	79.7	43.7	442
Rural	2.7	9.3	12.3	38.5	12.4	24.7	100.0	97.3	79.5	31.4	88
Education											
No formal education	0.0	0.0	12.7	57.2	30.1	0.0	100.0	100.0	87.3	9.6	4
Less than secondary	4.1	12.5	22.7	21.9	12.0	26.9	100.0	95.9	66.6	36.4	61
Secondary completed	3.4	6.8	21.8	23.3	16.8	27.8	100.0	96.6	77.6	39.0	191
More than secondary completed	7.0	4.9	10.5	29.4	10.2	37.9	100.0	93.0	83.9	45.1	275
Wealth Quintile											
Lowest	7.9	8.7	23.0	30.4	12.8	17.3	100.0	92.1	68.6	27.4	149
Second	8.6	8.1	12.7	26.7	14.9	28.9	100.0	91.4	77.8	38.5	146
Middle	1.6	6.8	13.8	27.7	15.1	35.1	100.0	98.4	85.1	45.3	98
Fourth	2.4	1.5	16.9	21.9	12.2	45.0	100.0	97.6	88.5	53.2	82
Highest	0.9	2.8	8.0	20.8	5.0	62.5	100.0	99.1	92.0	65.1	55
Total	5.4	6.5	16.0	26.6	12.9	32.8	100.0	94.6	79.7	41.7	530

Table 11.10: Timing of first antenatal care visit

Percentage distribution of ever-married women aged 15-49 who have had a live birth in the last five years preceding the survey by timing of the first antenatal care (ANC) visit during pregnancy for the most recent birth, according to age, nationality, residence, marital status, education and wealth [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	NUMBER OF MONTHS PREGNANT AT TIME OF FIRST ANC VISIT						TOTAL	NUMBER OF WOMEN
	NO ANC	1	2	3	4+	DO NOT KNOW		
Age								
15-19	0.0	48.7	10.9	40.5	0.0	0.0	100.0	6
20-24	3.6	42.4	33.3	13.0	6.2	1.6	100.0	89
25-29	6.8	43.9	26.3	14.9	7.0	1.2	100.0	161
30-34	2.2	47.8	30.5	10.7	7.0	1.7	100.0	164
35-39	10.5	36.8	32.2	9.3	7.4	3.8	100.0	74
40-45	9.0	44.8	25.8	17.9	2.5	0.0	100.0	28
45-49	5.1	22.5	58.3	14.2	0.0	0.0	100.0	9
Nationality								
Saudi	5.5	44.1	29.9	12.8	5.8	1.8	100.0	491
Non-Saudi	3.2	38.0	29.9	14.5	14.2	0.0	100.0	40
Residence								
Urban	5.9	45.9	28.9	12.3	6.1	0.8	100.0	442
Rural	2.7	32.0	35.2	16.0	8.2	5.9	100.0	88
Education								
No formal education	0.0	0.0	58.5	33.2	8.2	0.0	100.0	4
Less than secondary	4.1	35.7	36.5	12.6	6.5	4.7	100.0	61
Secondary completed	3.4	42.0	33.1	12.0	9.1	0.4	100.0	191
More than secondary completed	7.0	47.0	25.9	13.5	4.7	1.9	100.0	275
Wealth Quintile								
Lowest	7.9	30.5	31.0	17.6	9.1	3.9	100.0	149
Second	8.6	48.6	20.6	16.4	3.9	1.8	100.0	146
Middle	1.6	47.9	36.4	7.2	7.0	0.0	100.0	98
Fourth	2.4	44.1	38.2	6.7	8.1	0.4	100.0	82
Highest	0.9	57.3	28.1	10.9	2.8	0.0	100.0	55
Total	5.4	43.6	29.9	13.0	6.5	1.7	100.0	530

Table 11.11: Place of antenatal care

Percentage distribution of ever-married women aged 15-49 who have had a live birth in the last five years preceding the survey by place of antenatal care (ANC) visits during pregnancy for the most recent birth, according to age, nationality, residence, marital status, education and wealth [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	PLACE OF ANC[1] VISITS						NUMBER OF WOMEN
	HOME	GOVERNMENTAL HOSPITAL	GOVERNMENTAL PRIMARY HEALTH CARE CENTRE	PRIVATE CLINIC	PRIVATE HOSPITAL	OTHER PLACE	
Age							
15-19	0.0	59.3	43.8	14.3	29.5	0.0	6
20-24	3.8	48.0	29.5	3.2	27.6	0.0	89
25-29	7.8	54.6	21.7	14.2	17.8	0.0	161
30-34	9.3	49.6	23.5	8.9	24.9	0.9	164
35-39	2.5	66.5	16.2	6.8	11.1	0.5	74
40-45	3.4	59.5	15.6	15.9	23.6	0.0	28
45-49	0.0	61.3	26.3	0.0	19.5	0.0	9
Nationality							
Saudi	5.0	56.9	23.9	9.2	18.9	0.0	491
Non-Saudi	23.5	19.1	10.1	13.7	48.9	4.7	40
Residence							
Urban	7.1	53.8	20.0	10.2	22.1	0.4	442
Rural	2.8	55.2	36.8	6.2	16.6	0.0	88
Education							
No formal education	0.0	100.0	12.7	0.0	0.0	0.0	4
Less than secondary	0.5	56.1	31.9	4.8	26.3	0.0	61
Secondary completed	2.7	59.1	27.1	6.6	17.8	0.7	191
More than secondary completed	10.3	49.5	18.0	12.8	22.6	0.2	275
Wealth Quintile							
Lowest	1.4	52.9	26.4	8.1	15.7	0.0	149
Second	2.8	56.0	25.0	10.2	15.6	1.3	146
Middle	5.6	54.8	21.0	8.6	25.9	0.0	98
Fourth	10.4	54.1	22.9	13.8	28.2	0.0	82
Highest	24.9	50.7	10.3	7.2	31.9	0.0	55
Total	6.4	54.1	22.8	9.5	21.1	0.3	530

1 Respondents may report multiple places of antenatal care, therefore the sum of places may exceed 100%.

Table 11.12: Place of delivery

Percentage distribution of the most recent live birth in the five years preceding the survey by place of delivery, and percentage delivered in a health facility, according to age, nationality, residence, marital status, education and wealth [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	HEALTH FACILITY		OTHER[1]	TOTAL	PERCENTAGE DELIVERED IN A HEALTH FACILITY	NUMBER OF BIRTHS
	GOVERNMENT SECTOR	PRIVATE SECTOR				
Age						
15-19	80.4	19.6	0.0	100.0	100.0	6
20-24	73.1	26.9	0.0	100.0	100.0	89
25-29	75.4	23.5	1.1	100.0	98.9	161
30-34	64.8	33.5	1.7	100.0	98.3	164
35-39	76.0	20.4	3.6	100.0	96.4	74
40-45	84.3	15.7	0.0	100.0	100.0	28
45-49	68.4	31.6	0.0	100.0	100.0	9
Nationality						
Saudi	76.2	22.6	1.2	100.0	98.8	491
Non-Saudi	23.5	73.3	3.2	100.0	96.8	40
Residence						
Urban	70.4	28.0	1.6	100.0	98.4	442
Rural	81.6	18.4	0.0	100.0	100.0	88
Education						
No formal education	100.0	0.0	0.0	100.0	100.0	4
Less than secondary	76.7	23.3	0.0	100.0	100.0	61
Secondary completed	78.4	19.5	2.1	100.0	97.9	191
More than secondary completed	66.6	32.2	1.2	100.0	98.8	275
Wealth Quintile						
Lowest	80.1	18.8	1.2	100.0	98.8	149
Second	80.5	17.6	1.9	100.0	98.1	146
Middle	66.4	30.9	2.7	100.0	97.3	98
Fourth	65.2	34.8	0.0	100.0	100.0	82
Highest	49.6	50.4	0.0	100.0	100.0	55
Total	72.2	26.4	1.3	100.0	98.7	530

1 Other includes home, other and missing.

Table 11.13: Assistance during delivery

Percentage distribution of the most recent live births in the five years preceding the survey by person providing assistance during delivery and percentage of births assisted by a skilled provider, according to age, nationality, residence, marital status, education and wealth [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	PERSON PROVIDING ASSISTANCE DURING DELIVERY (BIRTH ATTENDANT)[1]					PERCENTAGE DELIVERED BY A SKILLED PROVIDER[3]	NUMBER OF BIRTHS
	DOCTOR	NURSE OR MIDWIFE	ASSISTANT NURSE OR ASSISTANT MIDWIFE	OTHER[2]	NONE		
Age							
15-19	70.0	49.0	14.4	0.0	0.0	85.6	6
20-24	74.0	53.7	4.5	2.0	0.0	94.2	89
25-29	79.3	47.7	5.3	2.9	0.0	94.3	161
30-34	83.0	50.6	4.5	0.0	0.7	96.6	164
35-39	76.9	45.5	9.9	1.9	0.0	93.9	74
40-45	62.9	53.9	5.7	3.7	0.0	90.6	28
45-49	80.7	50.6	0.0	0.0	0.0	100.0	9
Nationality							
Saudi	78.3	49.4	5.4	1.8	0.2	94.9	491
Non-Saudi	78.2	52.8	7.5	0.0	0.0	92.5	40
Residence							
Urban	78.8	53.0	5.2	1.3	0.3	95.9	442
Rural	75.8	33.2	7.8	3.7	0.0	88.9	88
Education							
No formal education	20.9	91.8	0.0	0.0	0.0	100.0	4
Less than secondary	61.2	45.4	5.9	1.7	0.0	92.9	61
Secondary completed	78.3	51.5	6.3	1.1	0.0	97.5	191
More than secondary completed	82.8	48.8	5.1	2.1	0.4	93.2	275
Wealth Quintile							
Lowest	75.3	46.6	2.5	2.0	0.8	93.8	149
Second	74.9	40.6	6.9	3.3	0.0	92.9	146
Middle	81.5	57.4	4.7	1.0	0.0	95.8	98
Fourth	83.3	59.5	12.3	0.0	0.0	96.4	82
Highest	81.9	53.5	2.0	0.0	0.0	98.0	55
Total	78.3	49.7	5.6	1.7	0.2	94.8	530

1 Respondents may report multiple birth attendants, therefore the sum of attendants may exceed 100%. Information is based on women's self-reporting.

2 Other includes relatives/friends with no medical training, others and do not know.

3 Skilled provider includes doctors and nurses/midwives.

Table 11.14: Timing of first postnatal check for the mother

Among ever-married women aged 15-49 with a birth in the five years preceding the survey, percentage distribution of the mother's first postnatal check for the most recent birth by time after delivery, and percentage of women with a live birth during the five years preceding the survey who received a postnatal check in the first two days after giving birth, according to age, nationality, residence, marital status, education and wealth [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	TIME AFTER DELIVERY OF MOTHER'S FIRST POSTNATAL CHECK						NO POSTNATAL CHECK[1]	TOTAL	PERCENTAGE OF WOMEN WITH A POSTNATAL CHECK DURING THE FIRST TWO DAYS AFTER BIRTH	NUMBER OF WOMEN
	LESS THAN 4 HOURS	4-23 HOURS	1-2 DAYS	3-6 DAYS	7-41 DAYS	DON'T KNOW/ MISSING				
Age										
15-19	51.9	0.0	0.0	21.4	0.0	0.0	26.7	100.0	51.9	6
20-24	47.3	2.5	21.9	10.8	5.1	0.0	12.3	100.0	71.8	89
25-29	49.2	5.0	17.1	12.4	4.2	1.1	11.0	100.0	71.3	161
30-34	46.6	5.6	20.9	16.3	4.3	0.9	5.5	100.0	73.0	164
35-39	51.2	2.6	16.2	12.0	8.5	0.0	9.5	100.0	70.0	74
40-45	44.0	1.1	23.9	27.4	0.0	0.0	3.7	100.0	68.9	28
45-49	64.6	0.0	10.8	5.1	19.5	0.0	0.0	100.0	75.4	9
Nationality										
Saudi	48.8	3.2	18.8	14.0	5.3	0.7	9.3	100.0	70.8	491
Non-Saudi	43.2	15.0	21.1	15.1	1.3	0.0	4.4	100.0	79.3	40
Residence										
Urban	48.4	4.2	19.2	13.2	4.6	0.7	9.8	100.0	71.8	442
Rural	48.5	3.4	17.8	18.4	7.0	0.0	4.8	100.0	69.7	88
Education										
No formal education	69.9	9.6	20.6	0.0	0.0	0.0	0.0	100.0	100.0	4
Less than secondary	48.1	8.8	18.4	9.8	10.1	0.0	4.8	100.0	75.3	61
Secondary completed	45.5	3.7	18.3	17.3	8.1	0.0	7.2	100.0	67.5	191
More than secondary completed	50.2	3.2	19.6	12.9	1.8	1.2	11.2	100.0	72.9	275
Wealth Quintile										
Lowest	56.5	4.0	11.4	10.7	5.5	1.2	10.8	100.0	71.9	149
Second	46.2	3.7	25.7	7.4	2.1	1.0	13.9	100.0	75.6	146
Middle	45.0	4.6	22.8	14.4	7.0	0.0	6.2	100.0	72.4	98
Fourth	47.9	5.0	19.6	23.8	2.0	0.0	1.6	100.0	72.5	82
Highest	38.8	2.9	14.0	25.7	12.4	0.0	6.4	100.0	55.6	55
Total	48.4	4.1	19.0	14.0	5.0	0.6	8.9	100.0	71.4	530

1 Includes women who received a check up after 41 days

Table 11.15: Timing of first postnatal check for the newborn

Among most recent live births in the five years preceding the survey, percentage distribution of the newborn's first postnatal check for the most recent birth by time after delivery, and percentage of births/newborns with a live birth during the five years preceding the survey who received a postnatal check in the first two days after giving birth, according to age, nationality, residence, marital status, education and wealth [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	TIME AFTER DELIVERY OF NEWBORN'S FIRST POSTNATAL CHECK						NO POSTNATAL CHECK[1]	TOTAL	PERCENTAGE OF BIRTHS WITH A POSTNATAL CHECK DURING THE FIRST 2 DAYS AFTER BIRTH	NUMBER OF BIRTHS
	LESS THAN 4 HOURS	4-23 HOURS	1-2 DAYS	3-6 DAYS	7-41 DAYS	DON'T KNOW/ MISSING				
Age										
15-19	51.9	0.0	0.0	7.0	0.0	0.0	41.1	100.0	51.9	6
20-24	53.4	8.5	15.1	13.2	3.0	0.0	6.8	100.0	77.0	89
25-29	51.0	3.5	19.9	11.1	4.4	1.1	9.1	100.0	74.3	161
30-34	58.5	5.4	15.5	15.2	2.1	0.9	2.5	100.0	79.4	164
35-39	68.7	0.5	11.1	5.5	5.4	0.0	8.7	100.0	80.3	74
40-45	59.2	0.0	22.6	11.5	1.4	0.0	5.3	100.0	81.8	28
45-49	84.1	0.0	10.8	5.1	0.0	0.0	0.0	100.0	94.9	9
Nationality										
Saudi	57.5	4.5	15.1	11.7	3.5	0.7	7.0	100.0	77.1	491
Non-Saudi	53.0	0.0	31.2	13.3	1.0	0.0	1.5	100.0	84.2	40
Residence										
Urban	58.1	4.5	17.0	9.6	3.1	0.7	6.9	100.0	79.6	442
Rural	52.6	2.6	12.6	22.8	4.3	0.0	5.2	100.0	67.7	88
Education										
No formal education	66.8	0.0	20.6	0.0	0.0	0.0	12.7	100.0	87.3	4
Less than secondary	58.7	5.0	18.2	10.0	3.2	0.0	4.8	100.0	81.9	61
Secondary completed	53.9	5.4	15.4	13.5	5.8	0.0	6.0	100.0	74.7	191
More than secondary completed	59.0	3.3	16.4	11.2	1.7	1.2	7.3	100.0	78.6	275
Wealth Quintile										
Lowest	66.6	3.7	10.4	6.3	3.9	1.2	8.0	100.0	80.6	149
Second	53.4	3.3	18.5	11.3	0.8	1.0	11.6	100.0	75.3	146
Middle	59.1	3.4	15.8	12.7	5.7	0.0	3.3	100.0	78.4	98
Fourth	54.4	2.3	21.1	16.4	2.4	0.0	3.3	100.0	77.9	82
Highest	42.5	12.2	19.7	19.7	5.6	0.0	0.3	100.0	74.4	55
Total	57.2	4.2	16.3	11.8	3.3	0.6	6.6	100.0	77.7	530

1 Includes newborns who received a check up after 41 days

Table 11.16: Initiation of breastfeeding

Among most recent live births in the five years preceding the survey, percentage who were ever breastfed, and percentage who started breastfeeding within one hour and within one day of birth , according to age, mother's nationality, residence, mother's marital status, mother's education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	PERCENTAGE EVER BREASTFED	PERCENTAGE WHO STARTED BREASTFEEDING WITHIN ONE HOUR OF BIRTH	PERCENTAGE WHO STARTED BREASTFEEDING WITHIN ONE DAY OF BIRTH[1]	NUMBER OF BIRTHS
Age				
15-19	61.9	37.6	37.6	6
20-24	79.8	33.7	46.0	89
25-29	84.5	40.8	51.6	161
30-34	89.1	34.8	51.7	164
35-39	89.2	41.8	44.6	74
40-45	81.9	38.3	43.8	28
45-49	100.0	37.1	59.7	9
Nationality				
Saudi	85.0	38.6	49.9	491
Non-Saudi	93.1	25.6	42.2	40
Residence				
Urban	84.8	39.7	51.3	442
Rural	89.9	27.3	39.4	88
Education				
No formal education	79.1	9.6	58.5	4
Less than secondary	93.1	42.1	52.2	61
Secondary completed	83.7	36.3	44.9	191
More than secondary completed	85.5	38.0	51.6	275
Wealth Quintile				
Lowest	79.7	44.5	57.8	149
Second	84.9	44.8	53.2	146
Middle	90.3	34.8	46.7	98
Fourth	90.8	24.8	36.8	82
Highest	88.1	24.4	38.8	55
Total	85.7	37.7	49.3	530

1 Includes children who started breastfeeding within one hour of birth.

Table 11.17: Possession and observation of vaccination cards

Percentage of children aged 12-35 months who have ever had a vaccination card, and percentage with a vaccination card seen according to sex, birth order, mother's nationality, residence, mother's education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	PERCENTAGE WHO HAVE EVER HAD A VACCINATION CARD[1]	PERCENTAGE WITH A VACCINATION CARD SEEN	NUMBER OF CHILDREN
Sex			
Male	94.8	26.8	202
Female	95.0	26.3	224
Mother's Nationality			
Saudi	94.9	24.4	397
Non-Saudi	95.5	55.7	29
Residence			
Urban	94.3	24.5	350
Rural	97.9	35.8	75
Mother's Education			
No formal education	75.2	0.0	2
Less than secondary	100.0	21.8	53
Secondary completed	95.1	24.7	158
More than secondary completed	93.7	29.3	213
Wealth Quintile			
Lowest	93.8	26.2	122
Second	94.0	21.0	128
Middle	93.7	32.6	79
Fourth	98.9	24.9	64
Highest	98.2	37.9	32
Region			
Riyadh	98.1	28.1	77
Makkah	94.8	29.6	121
Madinah	84.7	13.3	33
Qasim	100.0	0.0	4
Eastern Province	92.4	30.6	48
Asir	100.0	4.8	41
Tabuk	84.1	35.9	15
Hail	97.2	10.5	14
Northern Borders	100.0	0.0	7
Jizan	95.1	38.1	39
Najran	100.0	15.9	8
Bahah	96.7	77.3	14
Jawf	100.0	13.4	5
Total	94.9	26.5	425

1Vaccination card, booklet or other record.

Table 11.18: Vaccinations by source information

Percentage of children aged 12-23 months and children aged 24-35 months who received specific vaccines at any time before the survey, percentage with measles/MMR and DTwP vaccination, by source of information (vaccination card or mother's report) [Saudi Arabia, 2019].

VACCINE	CHILDREN AGED 12-23 MONTHS VACCINATED AT ANY TIME BEFORE THE SURVEY ACCORDING TO:			CHILDREN AGED 24-35 MONTHS VACCINATED AT ANY TIME BEFORE THE SURVEY ACCORDING TO:		
	VACCINATION CARD[1]	MOTHER'S REPORT	EITHER SOURCE[2]	VACCINATION CARD[1]	MOTHER'S REPORT	EITHER SOURCE[2]
MMR vaccine dose						
No vaccination		15.4			15.4	
1	100.0	81.9	87.5	100.0	84.4	90.4
2	100.0	80.5	86.5	100.0	80.0	87.7
Number of children	29	65	94	39	62	101
DTwP vaccine dose						
0		12.4			6.7	
1	100.0	84.5	89.3	100.0	93.3	95.9
2	100.0	70.2	79.5	100.0	66.9	80.0
3	100.0	53.5	68.0	100.0	56.2	73.5
4	0.0	41.8	28.8	0.0	47.2	28.5
Number of children	29	64	93	39	60	99

1 Vaccination card, booklet or other record.

2 Excludes children with no information on vaccination from the vaccination card or from the mother's report.

Table 11.19: Vaccinations by background characteristics

Percentage of children aged 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), percentage according to sex, whether vaccination card is seen or not seen, mother's nationality, residence, mother's education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MMR VACCINE		NUMBER OF CHILDREN	DTWP VACCINE				NUMBER OF CHILDREN
	1	2		1	2	3	4	
Sex								
Male	81.5	79.2	41	91.0	74.6	60.1	24.3	40
Female	92.2	92.2	53	88.0	83.2	74.0	32.2	53
Vaccination card								
Seen	81.9	80.5	65	84.5	70.2	53.5	41.8	64
Not seen/no card	100.0	100.0	29	100.0	100.0	100.0	0.0	29
Mother's nationality								
Saudi	86.6	85.6	88	89.8	79.8	68.5	29.2	87
Non-Saudi	100.0	100.0	6	81.8	75.2	59.7	23.4	6
Residence								
Urban	86.5	86.5	75	88.1	80.9	70.2	27.9	71
Rural	91.2	86.4	19	93.2	74.8	60.7	31.9	22
Mother's education								
No formal education	100.0	100.0	1	100.0	0.0	0.0	0.0	1
Less than secondary	93.2	93.2	12	91.5	71.5	56.6	28.7	16
Secondary completed	85.2	85.2	39	80.6	71.5	63.3	12.8	35
More than secondary completed	87.7	85.5	42	95.8	90.9	77.6	43.2	41
Wealth Quintile								
Lowest	77.0	77.0	27	86.2	66.9	66.9	27.4	25
Second	100.0	97.4	27	96.5	86.5	71.3	35.2	30
Middle	90.3	89.2	18	79.0	73.6	54.7	23.8	16
Fourth	73.6	73.6	14	85.3	83.7	77.8	22.2	14
Highest	100.0	100.0	8	100.0	97.9	68.1	30.8	8
Region								
Riyadh	85.5	85.5	12	83.6	64.1	38.8	10.9	11
Makkah	88.7	88.7	27	82.0	75.5	63.7	14.1	25
Madinah	84.4	84.4	9	88.3	65.6	65.6	39.4	9
Qasim			0					0
Eastern Province	100.0	100.0	7	100.0	100.0	67.4	0.0	7
Asir	74.9	71.1	19	89.8	89.8	80.7	69.4	18
Tabuk	100.0	100.0	4	100.0	100.0	100.0	29.0	4
Hail	100.0	100.0	1	100.0	100.0	16.4	16.4	1
Northern Borders	100.0	100.0	1	44.8	44.8	44.8	22.4	1
Jizan	89.8	89.8	7	97.3	83.4	83.4	38.6	10
Najran	90.5	81.1	2	90.5	20.2	20.2	20.2	2
Bahah	100.0	100.0	5	100.0	92.5	88.7	6.5	5
Jawf	100.0	100.0	1	100.0	100.0	100.0	0.0	1
Total	87.5	86.5	94	89.3	79.5	68.0	28.8	93

ANNEXES

ANNEX A: SAMPLING PROBABILITIES AND SAMPLING WEIGHTS

Due to the non-proportional allocation of the sample to the different regions and the possible differences in response rates, sampling weights are required for any analysis using the KSA 2019 data to ensure the survey results are actually representative at the national level as well as the regional level. Since the KSA 2019 sample is a three-stage stratified cluster sample selected from the sampling frame, sampling weights were calculated based on sampling probabilities separately for each sampling stage and for each cluster. The following notations were used:

P_{1hi}: first-stage sampling probability of the i^{th} cluster (EAs) in stratum h

P_{2hij}: second-stage sampling probability within the i^{th} cluster (of the j^{th} households)

P_{3hijk}: third -stage sampling probability within the ij^{th} households (of k^{th} individual)

Let a_h be the number of clusters selected in stratum h, M_{hi} the number of households according to the sampling frame in the i^{th} cluster, and the $\sum M_{hi}$ umber of households in the stratum. The probability of selecting the i^{th} cluster in the KSA sample is calculated as follows:

$$P_{1hi} = \frac{a_h M_{hi}}{\sum M_{hi}} = a_h \left(\frac{M_{hi}}{\sum M_{hi}} \right)$$

Given that the total number of households in each stratum is not provided, we instead use the following equation to calculate the probability of EAs selecting the i^{th} cluster, where A is the total number of clusters in the stratum.

$$P_{1hi} = \frac{a_h}{A}$$

Let L_{hi} be the number of households in cluster i in stratum h, and let ghi be the number of households selected in the cluster (in this survey a fixed size of eight households per cluster was used). The second stage's selection probability for each household j in the cluster i is calculated as follows:

$$P_{2hij} = \frac{g_{hi}}{L_{hi}} = \frac{8}{L_{hi}}$$

Let K_{hij} be the number of eligible persons in the selected household j in cluster i in stratum h, and the third stage's selection probability of an individual from each selected household in the cluster is calculated as follows:

$$P_{3hijk} = \frac{1}{K_{hij}}$$

The overall selection probability of each household in cluster i of stratum h is therefore the product of the selection probabilities:

$$P_{hi} = P_{1hi} \times P_{2hij}$$

The design weight for each household in cluster i of stratum h is the inverse of its overall selection probability:

$$HW_{hi} = {}^{1}/_{P_{hi}}$$

To obtain the sampling weights for households and for individuals, non-response rates were used to adjusted design weights at the cluster level. For the household sampling weight, the household design weight is divided by the household response rates R_{hi}:

$$HW^{r}_{hi} = HW_{hi} \div R_{hi}$$

For individual sampling weight, the household sampling weight is divided by the individual's probability of selection and the response rate R_{hij} is:

$$IW^{r}_{hi} = HW^{r}_{hi} \times K_{hij} \div R_{hij}$$

The sampling weights are normalised to obtain the final standard weights that are included in the final data files. The normalisation process is carried out in order to obtain a total number of unweighted respondents equal to the total number of weighted respondents at the national level for the total number of households and individuals. Normalisation is achieved by multiplying the sampling weight by the estimated sampling fraction obtained from the survey for the household weight and individual weights. The normalised weights are relative weights that are valid for estimating means, percentages, ratios and rates, but are not valid for estimating population totals or for pooled data.

ANNEX B: LESSONS LEARNED FROM THE PRE-TEST

First, the response rate to the household interview was 78%, and 10% of the questionnaires remained partially completed. Approximately 80% of individual interviews were completed once started. The interviewers reported facing difficulty convincing the household members of their credibility (even after showing them their identification cards and official documentation). Household members generally found it difficult to speak to strangers and share information with them. Respondents also often reported lack of time and scheduling difficulties as reasons for their refusal to take part in an interview. In addition, although uncommon, in some areas in the Western and Southern regions, male family members interfered with the female respondent's interview and ended the interview abruptly.

Second, response to specific sections was low. The response rates were moderate for blood pressure, height and weight (approximately 85%). The response rates were lower for waist and hip circumference, vision acuity tests and the mobility tests, and especially low for the lung function test and grip strength test, where the response rates did not exceed 25%. Respondents in many cases found these measurements and tests to be an invasion of their privacy and refused to take part in them.

Third, in regard to missing data, the highest percentage of missing data was in sections enquiring about household expenditures as well as outpatient and inpatient health care expenditures, followed by data on risk factors and preventive health behaviours. Household members expressed reluctance when asked to about their expenditures, income, tobacco use etc. Even when they shared such information, it seemed that respondents were more inclined to give "fictitious" or "socially desirable" answers.

Fourth, the household and individual interview were long in duration (HH median, individual median). This was due to a number of reasons, among which were respondents requesting breaks, requesting to pray, offering a gesture of hospitality (i.e. tea/coffee or a meal), and asking general questions outside the questionnaire. Because of the length of the interview, interviewers became restless at times and either ended the interview or lost focus on the questions asked. However, as the interviewers gained experience they became more efficient.

Fifth, although individual interviews were to be conducted with the respondents only in the absence of anyone else to ensure confidentiality, in many instances other family members were either casually or formally present during the interview. Interviewers found it difficult to enforce the one-on-one interview setting and had to allow other family members to be present, a factor which might have also led to misreporting and desirability bias.

Sixth, the timing of the pre-test was challenging for interviewers and respondents. It was conducted during the summer vacation and the holy month of Ramadan. This meant there was no general routine and many families preferred late night visits which made it challenging for interviewers to work efficiently.

Finally, after carefully analysing the pre-test data, problems in the CAPI system were identified. For example, skip sequencing for a number of questions was not programmed in the CAPI system. All mistakes and data errors were identified and fixed.

ANNEX C: STANDARD ERRORS AND 95% CONFIDENCE INTERVALS FOR SURVEY INDICATORS

Sampling errors for the main survey indicators were calculated. Calculation of the standard errors took into account the complex survey design.

SURVEY INDICATOR	ESTIMATE (%)	STANDARD ERROR[1]	95% CONFIDENCE INTERVALS	
			LOWER LIMIT	UPPER LIMIT
Access to electricity	99.8	0.0	99.7	99.9
Households with a car	90.6	0.5	89.5	91.6
Households with an air conditioner	98.5	0.2	98.0	98.9
Households with a television	98.9	0.2	98.5	99.2
Households with a refrigerator	100.0	-	-	-
Households with a mobile phone	98.1	0.2	97.7	98.4
Households with a computer	72.6	1.0	70.7	74.5
Households with internet	80.6	0.9	78.8	82.3
Households with domestic help	22.1	0.8	20.5	23.7
Use of improved drinking water sources	99.3	0.2	98.9	99.6
Use of basic drinking water services	93.0	0.7	91.6	94.2
Use of improved sanitation facilities	99.8	0.1	99.5	99.9
Use of basic sanitation services	95.5	0.5	94.4	96.3
Primary reliance on clean fuels and technologies for cooking	99.9	0.0	99.7	99.9
Primary reliance on clean fuels and technologies for heating	96.4	0.6	95.0	97.4
Primary reliance on clean fuels and technologies for cooking and heating	97.7	0.4	96.9	98.3
Exposure to indoor incense smoke (daily)	32.4	1.0	30.5	34.4
Exposure to indoor smoking (daily)	18.6	0.7	17.4	20.0
Household monthly per capita total OOP health care expenditure SR (mean)	191	19	153	228
Household spending on health (mean)	4.1	0.3	3.6	4.7
Financial resources other than income used to pay for health services	22.3	1.3	19.8	24.9
Mandatory health insurance coverage	12.9	0.7	11.6	14.4
Voluntary health insurance coverage	2.6	0.2	2.1	3.1
Dependent health insurance coverage	9.7	0.6	8.7	10.9
Health insurance coverage	20.3	0.9	18.5	22.1
Free governmental health services coverage	91.5	0.6	90.3	92.5
Use of computer	60.0	1.0	58.1	61.8
Use of internet	79.8	0.9	78.0	81.5
Current employment	50.5	0.8	48.9	52.1
Perceived general health status (excellent, very good, good)	99.1	0.1	98.9	99.3
Difficulty with work or household activities	6.4	0.4	5.7	7.3
Difficulty with mobility	13.1	0.7	11.9	14.5
Difficulty with self-care	3.7	0.3	3.2	4.3
Difficulty with pain and discomfort	10.5	0.6	9.4	11.7
Difficulty with cognition	7.5	0.4	6.7	8.3
Difficulty with interpersonal activities	12.4	0.6	11.2	13.7
Difficulty with sleep and energy	12.2	0.7	10.9	13.7
Difficulty with affect	10.8	0.7	9.6	12.2
Difficulty with vision	8.0	0.5	7.1	8.9
Current use of any tobacco	11.8	0.5	10.8	12.9
Tobacco consumption-units/day (median)	4.0	0.3	3.0	5.0
Non-smokers	88.2	0.5	87.1	89.2
Current use of smoked tobacco	11.7	0.4	10.7	12.7

Current use of smokeless tobacco	0.7	0.1	0.5	1.0
Current use of electronic cigarettes	0.5	0.1	0.3	0.8
Insufficient fruit and vegetable intake	93.1	0.6	91.9	94.2
Physical activity minutes/day (mean)	85.7	3.6	78.7	92.7
Insufficient physical activity	80.3	0.9	78.4	82.1
Angina need	0.8	0.1	0.6	1.0
Angina coverage	71.3	7.2	55.1	83.5
Stroke need	0.3	0.1	0.2	0.5
Stroke coverage	82.7	8.6	57.6	94.3
Hypertension need	8.2	0.4	7.4	9.1
Hypertension coverage	82.8	2.0	78.6	86.3
Dyslipidaemia need	7.5	0.5	6.7	8.5
Dyslipidaemia coverage	59.6	2.5	54.5	64.5
Asthma need	5.0	0.3	4.4	5.7
Asthma coverage	53.7	3.2	47.3	60.0
Chronic lung disease need	0.4	0.1	0.3	0.6
Chronic lung disease coverage	41.6	9.6	24.2	61.4
Diabetes need	8.2	0.4	7.4	9.0
Diabetes coverage	82.7	8.6	57.6	94.3
Chronic kidney disease need	0.4	0.1	0.2	0.7
Chronic kidney disease coverage	65.2	9.1	45.1	81.1
Arthritis need	6.3	0.4	5.6	7.1
Arthritis coverage	67.9	2.6	62.5	72.9
Alzheimer's disease need	1.5	0.7	0.6	3.5
Alzheimer's disease coverage	53.2	25.5	9.2	92.8
Cataracts need	22.8	2.4	18.4	28.0
Cataracts coverage	66.3	5.1	55.5	75.6
Glaucoma need	1.7	0.4	1.1	2.6
Glaucoma coverage	41.8	10.1	23.3	63
Depression need	1.4	0.2	1.1	1.8
Depression coverage	29.1	5.8	18.9	41.9
Oral health need	15.7	0.8	14.3	17.3
Oral health coverage	90.1	1.2	87.4	92.3
Edentulism	6.2	1.0	4.5	8.5
Road traffic accident injury- need	2.6	0.3	2.1	3.2
Road traffic accident injury- coverage	21.5	3.7	15.1	29.6
Road traffic accident injury- time to care in minutes (mean)	180	37	106	254
Road traffic accident injury- physical disability	8.3	3.8	3.3	19.6
Other injury- need	1.7	0.2	1.4	2.2
Other injury- coverage	25.3	5.0	16.7	36.3
Other injury- time to care in minutes (mean)	314	78	158	469
Other injury- physical disability	8.3	3.8	3.3	19.6
Pap smear (cervical cancer screening) need	97.0	0.4	96.2	97.6
Pap smear (cervical cancer screening) coverage	10.0	0.8	8.5	11.8
Mammography (breast cancer screening) need	52.6	1.0	50.5	54.6
Mammography (breast cancer screening) coverage	4.2	0.5	3.3	5.4
Raised blood pressure	13.5	0.6	12.3	14.8
Overweight	38.2	0.8	36.7	39.7
Obesity	20.2	0.7	18.8	21.6
Abnormal waist circumference	30.1	1.2	27.7	32.6
Abnormal waist-hip ratio	91.3	0.7	89.7	92.6

Raised blood glucose	4.3	0.4	3.5	5.2
Raised serum cholesterol	42.6	1.1	40.4	44.9
Low haemoglobin levels	50.2	1.1	48.0	52.3
Unmet need for health services	4.9	0.6	3.8	6.3
Outpatient visits in the last 30 days	46.9	1.4	44.2	49.5
Outpatient visits in the last 30 days (mean)	4.1	0.1	3.8	4.3
Quality of outpatient care - health care provider skills	96.7	0.4	95.9	97.4
Quality of outpatient care - equipment	95.4	0.5	94.4	96.3
Quality of outpatient care - drug supplies	94.7	0.5	93.6	95.6
Private transportation to facility for outpatient care	94.6	0.6	93.2	95.7
Satisfaction with outpatient care	90.3	0.8	88.7	91.8
Recommend outpatient care	89.5	0.8	87.9	90.9
Inpatient hospital stay in the last 3 years	8.2	0.5	7.3	9.1
Inpatient hospital stays in the last 3 years (mean)	1.7	0.1	1.4	1.9
Quality of inpatient care - health care provider skills	95.8	1.1	93.1	97.5
Quality of inpatient care - equipment	95.7	1.1	92.8	97.4
Quality of inpatient care - drug supplies	96.2	1.0	93.7	97.8
Private transportation to facility for inpatient care	93.9	1.2	91.2	95.8
Time to admission in days (mean)	1.6	0.2	1.2	2.0
Satisfaction with inpatient care	91.5	1.6	91.2	95.8
Recommend inpatient care	84.7	1.7	81.0	87.7
Discrimination	9.4	0.9	7.8	11.3
Antenatal care coverage (4+)	79.7	2.4	74.6	84.0
Antenatal care coverage (8+)	41.7	3.0	36.0	47.6
Content of antenatal care (blood pressure measured and gave urine and blood samples at least once)	91.9	1.7	87.9	94.7
Institutional deliveries	98.7	0.7	96.4	99.5
Skilled attendant at delivery	94.8	1.3	91.6	96.8
Children weighed at birth	90.0	1.9	85.6	93.2
Postpartum care coverage - women	71.4	2.6	66.1	76.3
Postnatal care coverage - newborn	77.7	2.4	72.5	82.0
Children ever breastfed	85.7	2.0	81.2	89.2
Breast feeding initiation	49.3	3.0	43.5	55.1
Polygyny	5.4	0.6	4.4	6.8
Contraceptive prevalence rate	27.6	1.4	25.0	30.5
Modern contraceptive prevalence rate	24.4	1.3	21.9	27.1
Young people aged 15-19 years currently married	7.5	2.1	4.3	112.9
Husband violence (physical and emotional)	3.8	0.5	2.9	4.9
Women's decision-making (contraceptive use)	73.4	1.5	70.2	76.3

1 Standard error=0.0 indicates that the standard error is < 0.0.

ANNEX D: DATA QUALITY

Sample deviation index (SDI)

The age distribution of the sample is an important indicator of sample representativeness. The sample deviation index (SDI) measures how much the sample deviates from the general population in terms of the main characteristics, such as sex and age. The SDI was calculated for each five-year age group by dividing the percentage of each age group in the sample by that in the population (the GASTAT 2019 mid-year population was used). The ratio is interpreted as follows: 1 indicates a perfect match between the sample of household members in that age group and the GASTAT population; < 1 indicates that the GASTAT population in that age group are underrepresented in the sample household members, and >1 indicates that the GASTAT population in that age group is overrepresented in the sample of household members.

Figure D.1 displays the SDI for males, females and the total household members. For some age groups the SDI values were close to 1, indicating that the sample of the household members was generally representative of the population by age. However, for males the SDI is greater than 1 in younger age groups, whereas for females the SDI is less than 1 in older age groups. Furthermore, mid-age groups show SDI of less than 1 for both sexes.

Missing data

Complete survey data are ideally required for the survey estimates to be valid and representative of the target population. Therefore, the overall level of missing data in a survey is a strong indicator of its quality. The percentage of missing data on certain items is a simple indicator of the inability of the respondent (e.g., respondent fails to answer question due to fatigue, sensitivity of the question or lack of knowledge) and the interviewer (e.g., interviewer skips question or records the incorrect code) to provide the required data and is called item non-response.

Percentage of missing data per section by number of items missing is presented in **Table D.1**. In the household questionnaire, in all sections >97% of respondents had no missing items except for the household expenditures section, where 81% of respondents had no missing items, 12% had 1-4 items missing, and 4% had 5-10 and >10 items missing. In the individual questionnaire, in most sections the majority of respondents had less than 5 items missing. The exceptions were the section on chronic conditions, where 89% of respondents had 5-10 items missing, and the section on inpatient care and expenditures, where 45% and 22% of respondents had 5-10 items missing and >10 items missing, respectively.

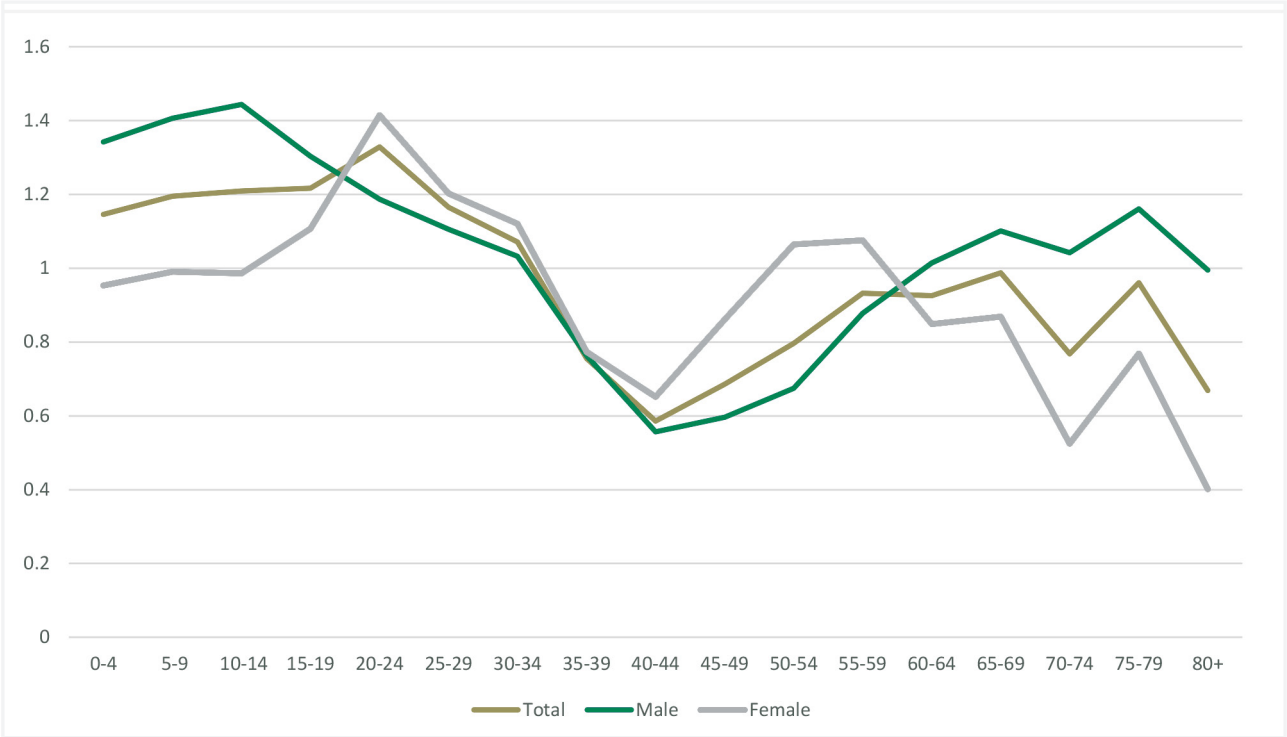


Figure D.1:
Sample deviation index (SDI) for males, females and the total household population [Saudi Arabia, 2019].

Table D.1: Missing data per section

Percentage of missing data per section by number of items missing [Saudi Arabia, 2019].

SECTION	NUMBER OF ITEMS MISSING[1]			
	0	1-4	5-10	>10
Household Questionnaire				
Housing (19 items)	100.0	0.0	0.0	0.0
Assets and household income (19 items)	97.6	2.4	0.0	0.0
Household expenditure (64 items)	80.8	11.7	4.0	3.5
Household roster (16 items)	98.5	1.4	0.1	0.0
Individual Questionnaire				
Socio-demographic characteristics (18 items)	98.5	1.4	0.1	0.0
Work history and ICT use (9 items)	100.0	0.0	0.0	0.0
Health state descriptions (37 items)[2]	25.7	74.1	0.2	0.0
Risk factors and preventive health behaviours (31 items)[3]	69.1	28.6	1.2	1.0
Chronic conditions and health services coverage				
Chronic conditions (67 items)[4,5,6]	0.0	10.6	89.4	0.0
Road traffic and other injuries (14 items)[7,8]	93.11	6.89	0.0	0.0
Health care utilisation and system responsiveness				
General health care utilisation (11 items)	96.0	4.0	0.0	0.0
Inpatient health care & expenditure (32 items)[10]	12.9	20.1	45.4	21.5
Outpatient health care & expenditure (29 items)	66.7	30.8	1.9	0.7
Reproductive health, pregnancy and contraception				
Antenatal, delivery and postnatal care (24 items)	73.9	25.3	0.8	0.0
Contraception & fertility preferences (14 items)	99.0	1.1	0.0	0.0
Husband violence and women's decision-making (10 items)	97.0	2.6	0.4	0.0

1 Items missing include answers "I don't know", "refused" and not answered

2 An incorrect skip in question A2010 (Difficulty learning new task-30 days), where only 2,445 respondents answered instead of the total of 8,912 is present

3 An incorrect skip in question A3018 (Fruit consumption- servings/day), where only 6,525 respondents answered instead of the total of 8,912 is present

4 A number of incorrect skips are present in this section where a subset of respondents answered the questions instead of the total of 8,912: in question A4005 (Joint stiffness after long rest-12 months), only 8,851 respondents answered; in question A3034 (Woke-up with tightness in chest-12 months), only 501 respondents answered; in question A3035 (Shortness of breath-12 months), only 499 respondents answered; in question A4036 (Tuberculosis), only 499 respondents answered; in question A4037 (Tuberculosis medications-2 weeks), 0 respondents answered; in questions A4074 (oral health problems), A4078 (Road traffic accident injury-12 months) and A4085 (Other injury-12 months), only 8,430 respondents answered

5 An incorrect skip in questions A4069 (Cloudy/blurry vision-12 months) and A4070 (Vision problem with light-12 months) only 96 respondents answered instead of the total respondents ages 60+ (578) is present

6 An incorrect skip in question A4071 (Cataract) only 218 respondents answered instead of the total respondents 40+ (2650) is present

7 An incorrect skip in question A4078 (RTA: Physical disability) only 86 respondents answered instead of the total respondents who reported suffering an injury due to a road traffic accident in the past 12 months (164) is present

8 An incorrect skip in question A4092 (Other injury: Physical disability) only 81 respondents answered instead of the total respondents who reported suffering an injury in the past 12 months (136) is present

9 An incorrect skip in question A5007 (Last time in need of health care being more than 3 years ago), where only 8,478 respondents answered instead of the total of 8,912 is present

10 An incorrect skip in questions A5027 (Last inpatient care costs) to A5042 (Last inpatient care assessment of ease of seeing health care provider), where only 578 respondents answered instead of the total respondents who reported using inpatient health care services in the last 12 months (735)

APPENDIX E: MEANS AND STANDARD DEVIATIONS

Table E.1: Standard deviations for risk factors

(Chapter 6: Tables 6.1, 6.3, 6.4, 6.6, 6.7 & 6.8) [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	SYSTOLIC BLOOD PRESSURE (MMHG)	DIASTOLIC BLOOD PRESSURE (MMHG)	PULSE RATE (BEASTS /MINUTE)	BODY MASS INDEX (KG/M2)	WASIT CIRCUMFERENCE (CM)	HIP CIRCUMFEREMCE (CM)	RANDOM BLOOD GLUCOSE (MMOL/L)	TOTAL CHOLESTEROL (MMOL/L)	HIGH-DENSITY LIPOPROTEIN (MMOL/L)	LOW-DENSITY LIPOPROTEIN (MMOL/L)	HEMOGLOBIN (G/L)
Age											
15-29	119.9 (9.7)	79.0 (9.3)	79.9 (9.6)	24.5 (4.9)	63.3 (27.2)	46.5 (24.4)	6.0 (2.0)	3.3 (1.7)	2.6 (1.8)	1.3 (2.6)	119.8 (26.7)
30-44	122.3 (10.5)	80.0 (8.5)	80.0 (9.4)	27.1 (4.9)	70.4 (29.3)	51.2 (26.2)	6.0 (1.9)	3.4 (1.8)	2.5 (1.9)	1.3 (2.5)	122.3 (25.8)
45-59	129.3 (13.4)	83.6 (10.0)	81.1 (9.7)	28.4 (5.7)	73.3 (30.1)	50.9 (27.1)	6.3 (2.1)	3.3 (1.9)	2.5 (1.8)	1.3 (2.5)	121.5 (25.7)
60-69	135.0 (17.3)	83.6 (9.6)	81.4 (10.2)	28.2 (5.5)	76.6 (32.8)	55.5 (32.2)	6.5 (2.2)	3.2 (2.0)	2.4 (1.8)	1.3 (2.4)	116.1 (26.2)
70-79	135.2 (18.0)	82.5 (11.2)	79.8 (9.4)	28.2 (5.1)	79.2 (29.4)	54.5 (29.4)	6.3 (2.4)	3.4 (2.3)	2.5 (1.9)	1.3 (2.5)	116.8 (25.4)
80+	138.0 (14.3)	86.2 (15.3)	81.5 (11.0)	27.1 (5.0)	83.4 (25.1)	65.2 (36.9)	6.5 (2.1)	3.4 (2.1)	1.7 (1.4)	0.8 (1.7)	108.1 (26.4)
Sex											
Male	124.6 (11.3)	81.1 (9.3)	80.0 (9.4)	26.6 (5.1)	70.5 (29.7)	50.1 (26.7)	6.1 (2.0)	3.3 (1.8)	2.5 (1.8)	1.3 (2.5)	124.6 (26.4)
Female	121.6 (12.6)	79.6 (9.3)	80.4 (9.8)	26.2 (5.5)	66.3 (28.2)	49.1 (25.5)	6.0 (2.0)	3.4 (1.8)	2.5 (1.9)	1.3 (2.5)	116.6 (25.2)
Nationality											
Saudi	123.1 (12.0)	80.3 (9.4)	80.3 (9.6)	26.4 (5.3)	69.0 (28.8)	50.3 (26.2)	6.1 (2.0)	3.4 (1.8)	2.5 (1.9)	1.3 (2.5)	120.9 (26.2)
Non-Saudi	124.0 (12.1)	80.9 (8.9)	79.5 (9.2)	26.6 (5.2)	66.5 (30.9)	45.4 (25.4)	6.0 (2.0)	3.3 (1.9)	2.6 (1.8)	1.3 (2.6)	119.9 (26.1)
Residence											
Urban	123.1 (12.0)	80.2 (9.5)	80.3 (9.7)	26.4 (5.3)	68.1 (29.1)	49.0 (25.7)	6.1 (2.0)	3.4 (1.8)	2.5 (1.9)	1.3 (2.5)	120.8 (26.2)
Rural	123.6 (12.6)	81.5 (8.2)	79.6 (8.8)	26.5 (5.2)	72.2 (28.7)	54.0 (28.8)	5.9 (1.6)	3.4 (1.6)	2.4 (1.6)	1.3 (2.4)	120.8 (26.3)
Marital Status											
Never married	120.3 (10.7)	79.1 (8.2)	80.2 (9.5)	24.4 (4.9)	63.0 (26.8)	46.5 (25.2)	6.0 (2.0)	3.2 (1.8)	2.7 (1.8)	1.3 (2.7)	120.2 (27.1)
Currently married	123.7 (12.0)	80.6 (9.6)	80.2 (9.5)	27.0 (5.2)	71.0 (29.5)	51.2 (26.2)	6.1 (1.9)	3.4 (1.8)	2.5 (1.8)	1.3 (2.5)	121.7 (25.6)
Formerly married	128.5 (14.1)	82.0 (9.6)	80.4 (10.3)	27.7 (5.4)	67.5 (30.5)	47.2 (28.3)	6.3 (2.2)	3.6 (1.9)	2.7 (2.0)	1.3 (2.7)	114.8 (27.2)
Education											
No formal education	132.2 (16.4)	82.7 (9.5)	80.9 (9.4)	27.8 (5.2)	75.8 (30.7)	54.6 (31.1)	6.1 (1.8)	3.4 (1.8)	2.1 (1.6)	1.1 (2.1)	114.8 (24.2)
Less than secondary school	125.0 (14.0)	80.8 (9.3)	81.1 (9.4)	26.7 (5.8)	67.6 (29.6)	49.5 (25.0)	6.0 (2.0)	3.3 (1.9)	2.4 (1.8)	1.3 (2.4)	121.6 (25.0)
Secondary school	122.6 (11.5)	80.2 (9.3)	80.6 (9.8)	26.2 (5.4)	67.6 (29.0)	49.8 (25.8)	6.0 (2.0)	3.3 (1.7)	2.5 (1.8)	1.3 (2.5)	121.6 (26.6)
More than secondary school	121.9 (10.4)	80.1 (9.3)	79.4 (9.4)	26.3 (4.9)	69.1 (28.7)	49.0 (26.2)	6.1 (2.0)	3.4 (1.8)	2.7 (1.9)	1.3 (2.7)	120.5 (26.3)
Wealth Quintile											
Lowest	123.8 (11.9)	79.9 (9.0)	79.6 (9.6)	26.1 (5.1)	69.2 (28.8)	49.8 (25.4)	6.0 (1.9)	3.3 (1.7)	2.4 (1.8)	1.3 (2.4)	124.2 (24.8)
Second	122.3 (12.6)	79.6 (8.8)	80.1 (9.8)	26.5 (5.1)	73.3 (29.7)	52.8 (25.8)	6.0 (2.0)	3.4 (1.8)	2.7 (1.9)	1.4 (2.7)	119.4 (26.1)
Middle	122.2 (11.8)	80.5 (10.2)	80.5 (9.4)	26.2 (5.3)	68.5 (29.2)	51.2 (26.5)	6.0 (1.9)	3.3 (1.8)	2.5 (1.9)	1.3 (2.5)	120.9 (25.6)
Fourth	123.4 (12.1)	80.9 (9.9)	80.5 (9.8)	26.7 (5.6)	69.1 (29.2)	50.9 (26.8)	6.1 (1.9)	3.3 (1.8)	2.4 (1.8)	1.3 (2.4)	120.2 (26.4)
Highest	124.4 (11.5)	81.2 (8.6)	80.3 (9.2)	26.4 (5.3)	61.7 (27.3)	42.8 (25.4)	6.2 (2.2)	3.5 (1.8)	2.6 (1.9)	1.3 (2.6)	118.2 (27.9)
Region											
Riyadh	124.4 (8.9)	80.3 (6.2)	79.2 (8.8)	26.3 (4.8)	60.6 (26.7)	42.9 (27.8)	6.2 (2.3)	3.9 (2.0)	2.8 (1.9)	1.2 (2.8)	118.3 (29.8)
Makkah	122.5 (12.5)	81.8 (10.6)	79.5 (11.1)	25.8 (5.8)	69.0 (29.3)	50.5 (24.6)	6.4 (1.9)	3.0 (1.7)	3.7 (2.0)	1.2 (3.7)	119.0 (25.6)
Madinah	123.4 (11.5)	80.9 (14.9)	80.3 (8.9)	26.2 (5.5)	55.0 (28.2)	40.7 (24.2)	5.9 (2.0)	3.4 (1.6)	2.6 (1.8)	1.2 (2.6)	123.3 (23.0)
Qasim	125.5 (11.8)	83.6 (12.4)	80.8 (12.3)	26.9 (5.1)	61.7 (24.5)	54.2 (25.9)	6.0 (2.0)	3.1 (1.0)	1.5 (1.2)	0.8 (1.5)	134.5 (22.1)
Eastern Province	122.6 (14.0)	78.1 (8.8)	82.7 (8.7)	27.4 (5.7)	67.9 (29.3)	51.3 (20.9)	5.6 (1.8)	3.3 (1.9)	2.1 (1.8)	1.2 (2.1)	128.3 (18.3)
Asir	126.1 (15.0)	81.2 (8.7)	79.4 (8.4)	27.0 (5.0)	92.8 (19.9)	45.2 (12.7)	5.5 (1.3)	3.1 (1.3)	2.1 (1.0)	0.9 (2.1)	118.0 (24.7)
Tabuk	119.2 (13.6)	76.7 (5.8)	83.5 (8.2)	26.3 (4.5)	68.3 (22.1)	62.6 (29.6)	7.2 (2.3)	3.1 (2.6)	2.6 (2.5)	1.3 (2.6)	115.0 (31.8)
Hail	121.4 (11.2)	80.5 (8.1)	77.0 (8.6)	25.8 (4.4)	90.2 (26.6)	40.8 (14.9)	6.0 (1.7)	3.3 (1.5)	2.3 (1.5)	1.2 (2.3)	142.0 (16.9)
Northern Borders	112.1 (17.3)	77.9 (9.1)	80.8 (10.7)	25.9 (4.8)	53.7 (20.8)	47.0 (23.2)	5.8 (1.6)	4.5 (2.4)	1.6 (2.5)	0.3 (1.6)	137.3 (26.4)
Jizan	119.7 (10.1)	80.6 (6.0)	82.3 (9.1)	25.3 (4.5)	56.3 (25.3)	48.5 (27.6)	5.8 (1.5)	4.1 (1.5)	3.0 (2.1)	1.5 (3.0)	126.7 (19.1)
Najran	122.9 (10.5)	78.5 (5.8)	81.9 (5.7)	27.2 (4.6)	99.8 (24.2)	50.4 (11.5)	6.0 (1.2)	2.3 (1.2)	1.4 (1.2)	0.8 (1.4)	102.4 (25.9)
Bahah	121.5 (12.8)	76.8 (8.8)	79.6 (5.6)	28.7 (6.2)	94.8 (13.8)	103.1 (15.8)	5.4 (1.6)	2.5 (1.1)	1.2 (1.0)	0.3 (1.2)	96.9 (21.6)
Jawf	127.0 (10.5)	78.7 (6.3)	77.6 (6.8)	26.8 (3.8)	87.9 (17.9)	79.7 (22.1)	5.2 (1.3)	2.3 (0.9)	1.5 (0.9)	0.4 (1.5)	128.4 (20.7)
Total	123.2 (12.0)	80.4 (9.3)	80.2 (9.6)	26.4 (5.3)	68.6 (29.1)	49.7 (26.2)	6.1 (2.0)	3.4 (1.8)	2.5 (1.9)	1.3 (2.5)	120.8 (26.2)

Table E.2: Standard deviations for number of health care visits

(Chapter 9: Tables 9.1& 9.4) [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	HEALTH CARE USE (NUMBER OF VISITS IN THE LAST 12 MONTHS)			NUMBER OF OUTPATIENT VISITS	NUMBER OF INPATIENT STAYS
	GENERAL PRACTITIONER	CONSULTANT/ SPECIALIST	DENTIST		
Age					
15-29	0.9 (3.0)	0.4 (2.6)	0.5 (2.6)	3.6 (3.8)	3.6 (3.4)
30-44	1.2 (3.4)	0.5 (3.7)	0.5 (2.6)	3.5 (2.1)	3.5 (3.6)
45-59	1.9 (5.1)	1.0 (5.7)	0.5 (4.7)	5.2 (2.5)	5.2 (5.8)
60-69	2.9 (4.4)	1.5 (7.3)	0.5 (1.5)	5.8 (3.5)	5.8 (4.4)
70-79	4.3 (7.2)	2.3 (8.0)	0.3 (1.4)	6.2 (0.7)	6.2 (4.5)
80+	3.7 (4.1)	2.4 (4.4)	0.8 (1.6)	5.9 (0.8)	5.9 (4.0)
Sex					
Male	1.2 (3.9)	0.5 (4.1)	0.4 (2.1)	3.8 (1.8)	3.8 (3.9)
Female	1.4 (4.0)	0.8 (4.9)	0.6 (3.6)	4.3 (3.4)	4.3 (4.4)
Nationality					
Saudi	1.3 (3.9)	0.6 (4.6)	0.5 (3.0)	4.0 (3.0)	4.0 (4.0)
Non-Saudi	1.1 (4.7)	0.6 (4.5)	0.3 (2.3)	4.2 (0.3)	4.2 (4.9)
Residence					
Urban	1.3 (4.1)	0.7 (4.8)	0.5 (3.2)	4.1 (2.8)	4.1 (4.3)
Rural	1.6 (3.3)	0.4 (2.0)	0.5 (1.6)	3.6 (2.9)	3.6 (3.2)
Marital Status					
Never married	0.8 (3.1)	0.3 (3.2)	0.5 (2.9)	3.5 (2.1)	3.5 (3.5)
Currently married	1.4 (3.9)	0.6 (4.3)	0.5 (2.5)	4.1 (2.8)	4.1 (4.2)
Formerly married	2.4 (5.0)	1.5 (6.3)	0.7 (5.2)	4.8 (3.4)	4.8 (4.7)
Education					
No formal education	2.5 (4.9)	0.9 (2.6)	0.4 (1.4)	5.7 (2.2)	5.7 (4.5)
Less than secondary	1.5 (4.2)	0.8 (6.7)	0.6 (5.5)	4.3 (3.5)	4.3 (4.5)
Secondary completed	1.1 (3.7)	0.5 (3.8)	0.5 (2.5)	3.7 (2.5)	3.7 (4.0)
More than secondary completed	1.3 (3.8)	0.7 (4.4)	0.5 (2.1)	4.0 (2.9)	4.0 (4.0)
Wealth Quintile					
Lowest	1.0 (4.0)	0.4 (3.6)	0.3 (2.5)	3.9 (4.8)	3.9 (4.2)
Second	1.5 (3.9)	0.6 (4.2)	0.5 (2.0)	4.5 (2.0)	4.5 (4.5)
Middle	1.2 (3.7)	0.7 (5.7)	0.5 (3.9)	3.8 (2.2)	3.8 (3.9)
Fourth	1.3 (4.5)	0.6 (4.2)	0.5 (2.6)	3.9 (1.4)	3.9 (4.3)
Highest	1.7 (3.7)	1.0 (4.6)	0.6 (3.5)	4.1 (2.8)	4.1 (3.8)
Region					
Riyadh	1.4 (3.3)	0.7 (2.7)	0.5 (2.0)	3.8 (1.5)	3.8 (3.5)
Makkah	1.3 (4.9)	0.8 (6.2)	0.6 (4.2)	5.2 (4.3)	5.2 (5.5)
Madinah	0.4 (2.4)	0.3 (2.7)	0.3 (2.2)	3.7 (1.4)	3.7 (2.6)
Qasim	0.5 (5.6)	0.3 (5.8)	0.2 (1.7)	4.6 (1.9)	4.6 (4.4)
Eastern Province	1.4 (4.9)	0.7 (8.2)	0.4 (2.9)	4.5 (3.0)	4.5 (4.9)
Asir	0.8 (2.6)	0.4 (2.7)	0.6 (4.5)	2.7 (1.7)	2.7 (3.4)
Tabuk	1.1 (2.3)	0.3 (1.9)	0.5 (1.1)	2.5 (2.8)	2.5 (2.0)
Hail	1.3 (4.9)	0.4 (2.6)	0.3 (1.7)	4.2 (0.4)	4.2 (4.4)
Northern Borders	1.6 (2.0)	0.6 (2.2)	0.5 (1.2)	3.1 (1.4)	3.1 (2.2)
Jizan	1.3 (3.6)	0.4 (1.8)	0.5 (1.6)	3.5 (4.2)	3.5 (3.3)
Najran	2.3 (2.1)	0.7 (1.4)	0.6 (1.1)	3.4 (2.5)	3.4 (2.0)
Bahah	4.7 (3.8)	0.6 (1.5)	0.4 (1.1)	5.5 (0.2)	5.5 (3.9)
Jawf	1.2 (2.6)	0.4 (2.9)	0.5 (1.4)	3.8 (8.2)	3.8 (2.5)
Total	1.3 (3.9)	0.6 (4.6)	0.5 (3.0)	4.1 (2.8)	4.1 (4.2)

Table E.3: Means and (standard deviations) for monthly per capita household expenditures

(Chapter 10: Table 10.1) [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	TOTAL HOUSEHOLD EXPENDITURE	HEALTH EXPENDITURES							TOTAL HEALTH SPENDING
		HOSPITAL INPATIENT TREATMENT	HEALTH-RELATED ITEMS	CONSULTATION FEES	MEDICINES	DIAGNOSTICS AND LAB TESTS	TRANSPORT	OTHER	
Residence									
Urban	26,109	1,071	35	644	102	119	6	120	926
Rural	10,184	42	33	952	60	65	60	155	1,018
Wealth Quintile									
Lowest	8,589	2,477	70	329	80	105	42	164	1,304
Second	12,335	99	8	589	63	165	4	72	720
Middle	12,146	78	28	1,163	76	65	11	123	1,204
Fourth	15,262	52	13	557	66	143	31	74	619
Highest	44,733	72	28	588	151	49	4	159	716
Region									
Riyadh	8,731	71	15	465	47	118	3	58	527
Makkah	3,297	114	24	888	88	152	0	33	977
Madinah	4,449	5	9	298	41	99	5	58	341
Qasim	21,540	49	59	686	76	97	0	80	780
Eastern Province	63,701	2,522	30	1,186	184	80	5	194	1,918
Asir	3,995	66	68	649	74	100	67	37	724
Tabuk	1,866	21	78	156	23	59	-	29	201
Hail	6,126	89	10	259	55	72	57	40	389
Northern Borders	32,384	5	9	1,384	393	187	2	560	1,701
Jizan	14,636	136	46	442	59	100	7	290	754
Najran	2,368	1	3	56	13	12	-	6	69
Bahah	1,317	4	0	27	13	15	-	10	48
Jawf	2,165	-	2	51	17	15	-	3	73
Total	24,357	1,000	35	699	97	112	22	126	940

Table E.4: Means and (standard deviations) for number of health care visits

(Chapter 10: Table 10.4) [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	NUMBER OF OUTPATIENT HEALTH CARE VISITS IN THE LAST MONTH	NUMBER OF INPATIENT ADMISSIONS IN THE LAST 12 MONTHS
Age		
0-4	1.4	3.1
5-9	0.8	3.9
15-29	2.7	4.3
30-44	2.1	4.3
45-59	1.5	7.4
60-69	2.3	3.9
70-79	3.6	2.9
80+	1.6	3.4
Sex		
Male	1.9	3.5
Female	2.1	5.4
Residence		
Urban	1.8	4.6
Rural	2.6	4.8
Marital Status		
Never married	2.2	4.1
Currently married	2.3	4.7
Formerly married	2.0	8.3
Do not know	0.7	1.9
Not applicable1	1.1	3.6
Education		
No education	2.2	5.3
Less than secondary	1.7	6.1
Secondary	2.8	4.4
More than secondary	1.6	3.4
Do not know	1.0	0.4
Not applicable2	1.3	3.2
Wealth Quintile		
Lowest	1.4	6.2
Second	2.9	3.1
Middle	1.5	4.3
Fourth	1.1	5.0
Highest	2.3	4.0
Region		
Riyadh	1.7	4.9
Makkah	1.6	3.5
Madinah	1.7	2.8
Qasim	2.5	4.9
Eastern Province	2.8	7.3
Asir	1.2	6.2
Tabuk	0.9	3.5
Hail	2.6	8.3
Northern Borders	1.4	2.3
Jizan	3.7	5.0
Najran	1.5	1.8
Bahah	1.0	1.2
Jawf	1.4	1.5
Total	2.0	4.6

APPENDIX F: RISK FACTORS BY AGE AND SEX

Table F.1: Hypertension by age and sex

Percentage of respondents with raised blood pressure, according to age and sex [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MALE		FEMALE		TOTAL	
	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS
Age						
15-29	6.1	1,715	6.4	1,526	6.2	3,240
30-44	8.9	1,544	11.2	2,087	10.2	3,632
45-59	26.9	570	27.4	663	27.2	1,233
60-69	38.3	173	54.7	180	46.7	353
70-79	38.4	68	57.9	66	48.0	134
80+	48.1	18	60.1	34	56.0	52

Table F.2: Overweight by age and sex

Percentage of respondents with overweight, according to age and sex [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MALE		FEMALE		TOTAL	
	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS
Age						
15-29	24.0	1,371	37.0	1,351	30.4	2,722
30-44	39.0	1,440	46.0	2,079	43.2	3,519
45-59	35.5	527	43.9	648	40.1	1,176
60-69	38.0	160	38.4	168	38.2	328
70-79	37.2	52	56.6	53	47.0	106
80+	52.5	13	35.5	27	41.0	40

Table F.3: Obesity by age and sex

Percentage of respondents with obesity, according to age and sex [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MALE		FEMALE		TOTAL	
	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS
Age						
15-29	24.0	1,371	1,351	1,351	30.4	2,722
30-44	39.0	1,440	2,079	2,079	43.2	3,519
45-59	35.5	527	648	648	40.1	1,176
60-69	38.0	160	168	168	38.2	328
70-79	37.2	52	53	53	47.0	106
80+	52.5	13	27	27	41.0	40

Table F.4: Abnormal waist circumference by age and sex

Percentage of respondents with abnormal waist circumference, according to age and sex [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MALE		FEMALE		TOTAL	
	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS
Age						
15-29	25.5	1,347	19.4	1,424	22.4	2,771
30-44	35.0	1,302	30.1	1,889	32.1	3,191
45-59	46.3	483	32.4	603	38.6	1,086
60-69	50.1	143	30.6	150	40.1	293
70-79	60.0	49	38.1	51	48.8	100
80+	72.2	12	51.4	27	57.7	38

Table F.5: Abnormal waist hip ratio by age and sex

Percentage of respondents with abnormal waist hip ratio, according to age and sex [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MALE		FEMALE		TOTAL	
	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS
Age						
15-29	89.9	1,316	89.5	1,349	89.7	2,666
30-44	92.5	1,259	91.7	1,780	92.0	3,039
45-59	92.5	460	93.1	556	92.8	1,016
60-69	94.2	128	93.2	140	93.7	268
70-79	98.6	46	84.0	51	90.9	96
80+	82.7	12	84.6	25	84.0	37

Table F.6: Raised blood glucose by age and sex

Percentage of respondents with raised blood glucose, according to age and sex [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MALE		FEMALE		TOTAL	
	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS
Age						
15-29	3.7	1,528	5.0	1,379	4.3	2,907
30-44	3.1	1,318	3.8	1,796	3.5	3,114
45-59	8.5	507	2.8	569	5.5	1,076
60-69	2.5	159	8.4	159	5.4	318
70-79	3.5	63	10.7	56	6.9	119
80+	6.2	17	6.7	33	6.5	50

Table F.7: Raised serum cholesterol by age and sex

Percentage of respondents with raised serum cholesterol, according to age and sex [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MALE		FEMALE		TOTAL	
	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS
Age						
15-29	40.1	1,307	38.3	1,131	39.3	2,438
30-44	42.8	1,100	43.4	1,512	43.1	2,611
45-59	48.7	419	44.0	462	46.3	881
60-69	48.3	136	48.3	138	48.3	273
70-79	44.5	56	60.4	50	52.1	106
80+	74.0	17	63.2	26	67.5	43

Table F.8: Low Haemoglobin by age and sex

Percentage of respondents with low haemoglobin, according to age and sex [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MALE		FEMALE		TOTAL	
	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS	PERCENTAGE	NUMBER OF RESPONDENTS
Age						
15-29	47.6	1,500	53.2	1,337	50.2	2,837
30-44	49.7	1,299	48.7	1,757	49.1	3,056
45-59	45.8	493	54.0	558	50.1	1,051
60-69	49.2	160	63.0	157	56.0	317
70-79	44.6	60	60.3	56	52.2	116
80+	77.4	17	66.2	33	70.0	50

APPENDIX G: BACKGROUND CHARACTERISTICS OF RESPONDENTS

Table G.1: Background characteristics of respondents

Percentage distribution of sex by age, nationality, residence, marital status, education, wealth and region [Saudi Arabia, 2019].

BACKGROUND CHARACTERISTIC	MALE RESPONDENTS		FEMALE RESPONDENTS		TOTAL RESPONDENTS	
	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER
Age						
15-29	46.9	1,571	53.1	1,781	100.0	3,352
30-44	57.6	2,164	42.4	1,590	100.0	3,754
45-59	53.9	677	46.1	578	100.0	1,255
60-69	49.9	180	50.1	181	100.0	361
70-79	49.3	66	50.7	68	100.0	134
80+	66.0	33	34.0	17	100.0	50
Nationality						
Saudi	50.6	3,935	49.4	3,841	100.0	7,776
Non-Saudi	66.8	758	33.2	376	100.0	1,134
Residence						
Urban	52.3	4,019	47.7	3,666	100.0	7,685
Rural	55.0	674	45.0	551	100.0	1,225
Marital Status						
Never married	59.6	1,341	40.4	908	100.0	2,249
Currently married	53.1	3,174	46.9	2,806	100.0	5,980
Formerly married	26.1	177	73.9	502	100.0	679
Education						
No formal education	35.8	175	64.2	314	100.0	489
Less than secondary school	49.6	663	50.4	673	100.0	1,336
Secondary school	54.0	1,861	46.0	1,587	100.0	3,448
More than secondary school	54.8	1,992	45.2	1,642	100.0	3,634
Wealth Quintile						
Lowest	59.8	1,297	40.2	871	100.0	2,168
Second	49.7	952	50.3	965	100.0	1,917
Middle	50.5	855	49.5	838	100.0	1,693
Fourth	50.3	817	49.7	808	100.0	1,625
Highest	51.3	771	48.7	733	100.0	1,504
Region						
Riyadh	56.4	1,322	43.6	1,023	100.0	2,345
Makkah	47.7	1,077	52.3	1,180	100.0	2,257
Madinah	57.9	384	42.1	279	100.0	663
Qasim	55.4	201	44.6	162	100.0	363
Eastern Province	47.5	545	52.5	603	100.0	1,148
Asir	58.9	379	41.1	265	100.0	644
Tabuk	55.3	166	44.7	134	100.0	300
Hail	58.4	104	41.6	74	100.0	178
Northern Borders	53.5	46	46.5	40	100.0	86
Jizan	49.1	201	50.9	208	100.0	409
Najran	52.3	101	47.7	92	100.0	193
Bahah	47.7	73	52.3	80	100.0	153
Jawf	54.9	90	45.1	74	100.0	164
Total	52.7	4,693	47.3	4,218	100.0	8,911

REFERENCES

1. Division for Sustainable Development Goals, Department of Economic and Social Affairs, United Nations. Sustainable Development Goals. Available from: https://sustainabledevelopment.un.org/sdgs.
2. World Health Organization. Global Reference List of 100 Core Health Indicators (plus health-related SDGs), 2018. Available from: https://apps.who.int/iris/bitstream/handle/10665/259951/WHO-HIS-IER-GPM-2018.1eng.pdf?sequence=1.
3. Ministry of Health Tunisia. Tunisian Health Examination Survey 2016. Available from: http://www.santetunisie.rns.tn/fr/toutes-les-actualites/912-rapport-de-l.
4. World Health Organization. New health examination survey to strengthen health information in the Region. Available from: http://www.emro.who.int/entity/statistics/life-expectancy-at-birth.html.
5. Demographic and Health Surveys. Wealth Index Construction. Available from: https://www.dhsprogram.com/topics/wealth-index/Wealth-Index-Construction.cfm.
6. United States Agency for International Development. Sampling and Household Listing Manual: Demographic and Health Surveys Methodology, 2012. Available from: https://dhsprogram.com/pubs/pdf/DHSM4/DHS6_Sampling_Manual_Sept2012_DHSM4 .pdf. 7. World Health Organization. The WHO STEPwise approach to noncommunicable disease risk factor surveillance,2017. Available from: https://www.who.int/ncds/surveillance/steps/STEPS_Manual.pdf.
8. World Health Organization. Global Physical Activity Questionnaire (GPAQ) Analysis Guide. Available from: https://www.who.int/ncds/surveillance/steps/resources/GPAQ_Analysis_Guide.pdf.
9. World Health Organization, UNICEF. Core questions on water, sanitation and hygiene for household surveys, 2018. Available from: https://washdata.org/sites/default/files/documents/reports/2019-05/JMP-2018-corequestions-forhousehold-surveys.pdf.
10. World Health Organization. WHO Collaborating Centre on NCD Surveillance and Epidemiology. Available from: http://apps.who.int/whocc/Detail.aspx?cc_ref=UNK265&cc_city=london&.
11. World Health Organization. Haemoglobin concentrations for the diagnosis of anaemia and assessment of severity. Available from: https://www.who.int/vmnis/indicators/haemoglobin.pdf.
12. World Health Organization. WHO Disability Assessment Schedule 2.0. Available from: https://www.who.int/classifications/icf/more_whodas/en/.
13. World Health Organization. International Classification of Functioning, Disability and Health (ICF). Available from: https://www.who.int/classifications/icf/en/.
14. World Health Organization. The World Health Report 2000: Health Systems - Improving Performance. Available from: https://www.who.int/whr/2000/en/whr00_en.pdf?ua=1.
15. World Health Organization. WHO recommendations on antenatal care for a positive pregnancy experience, 2016. Available from: https://apps.who.int/iris/bitstream/handle/10665/250796/9789241549912eng.pdf?sequence=1.
16. World Health Organization. WHO recommendations Intrapartum care for a positive childbirth experience, 2018. Available from: https://apps.who.int/iris/bitstream/handle/10665/260178/9789241550215eng.pdf?sequence=1.
17. World Health Organization. WHO recommendations on Postnatal care of the mother and newborn, 2014. Available from: https://apps.who.int/iris/bitstream/handle/10665/97603/9789241506649_eng.pdf?seq uence=1.
18. World Health Organization. Protecting, promoting and supporting Breastfeeding in facilities providing maternity and newborn services, 2017. Available from: https://apps.who.int/iris/bitstream/handle/10665/259386/9789241550086eng.pdf?sequence=1.

وزارة الصحة

Ministry of Health