Pakistan

Maternal Mortality Survey

2019

Key Indicators

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Key Indicators Report

National Institute of Population Studies
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The DHS Program
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The 2019 Pakistan Maternal Mortality Survey (2019 PMMS) was implemented by the National Institute of Population Studies (NIPS), Islamabad, Pakistan. ICF provided technical assistance through The DHS Program, a project funded by the United States Agency for International Development (USAID) that provides support and technical assistance in the implementation of population and health surveys in countries worldwide.

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TABLES AND FIGURES

ACRONYMS AND ABBREVIATIONS

AJK	Azad Jammu and Kashmir
CAFE	computer-assisted field editing
CI	confidence interval
CSPro	Censuses and Surveys Processing
DFID	Department for International Development
DHS	Demographic and Health Survey
FATA	Federally Administered Tribal Areas
GB	Gilgit Baltistan
GFR	general fertility rate
ICD	International Classification of Diseases
ICT	Islamabad Capital Territory
IFSS	Internet File Streaming System
IT	information technology
KPK	Khyber Pakhtunkhwa
MDG	Millennium Development Goals
MMR	maternal mortality ratio
NCMNH	National Committee for Maternal and Neonatal Health
NIH	National Institute of Health
NIPS	National Institute of Population Studies
PBS	Pakistan Bureau of Statistics
PDHS	Pakistan Demographic and Health Survey
PMMS	Pakistan Maternal Mortality Survey
PRMR	pregnancy-related mortality ratio
PSU	primary sampling unit
SDG	Sustainable Development Goals
TAC	technical advisory committee
TFR	total fertility rate
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
VA	verbal autopsy
WHO	World Health Organization

FOREWORD

The Pakistan Maternal Mortality Survey (PMMS) was undertaken successfully with the efforts of several stakeholders. The National Institute of Population Studies (NIPS) implemented the 2019 PMMS under the aegis of the Ministry of National Health Services, Regulations and Coordination. Financial assistance was provided by the United States Agency for International Development (USAID), the United Nations Population Fund (UNFPA), the Department for International Development (DFID), and the Bill and Melinda Gates Foundation. The Pakistan Bureau of Statistics (PBS) provided support for the sample design and weights. The survey was also facilitated by a number of other organisations at the national and provincial levels. The planning and implementation of the 2019 PMMS involved consultative efforts of more than 45 national experts from the fields of population, development, and health with their representation on the Technical Advisory Committee (TAC).

The Sustainable Development Goals (SDGs) provide a transformative new agenda for maternal health with the objective of reducing the global maternal mortality ratio (MMR) to less than 70 per 100,000 live births by 2030. Planning and implementation processes for improving maternal health to keep up with the SDG targets require accurate and internationally comparable indicators of maternal mortality. The primary objective of the 2019 PMMS project is to provide the latest estimates of mortality levels and awareness regarding maternal mortality. Reliable national estimates of the MMR for Pakistan and information on the direct and indirect causes of maternal deaths using verbal autopsy instruments, presented in this report, are instrumental in determining strategic directions for policy makers and in helping concerned individuals and organisations to address the implementation gaps.

To provide accurate data and findings, the study involved survey design, listing, training, fieldwork, data processing, and analysis. It is my privilege to lead a professional and enthusiastic PMMS core team. It included Dr. Tauseef Ahmed, Principal Investigator; Ms. Azra Aziz, Director (R&S), Team Leader; Dr. Aysha Sheraz, Deputy Project Director/Senior Fellow (R&S); Mr. Ali Anwar Buriro, Fellow; Ms. Rabia Zafar, Fellow; Mr. Zafar Zahir, Advisor Operations, Mr. Mohammad Ali Raza, Data Processing Manager/Data Analyst, and all project staff. Dr. Amna Urooba, Research Associate, Aga Khan University, Karachi, is also appreciated for revisiting VA reviews. We are thankful to NCMNCH for their support in reviewing verbal autopsies and ICD-10 coding.

The challenges of the fieldwork were comprised of some reluctance to participate in the survey, severe weather, and security issues in a few areas. Despite such challenges, the survey teams as well as the NIPS research and monitoring team travelled to different areas of the country and demonstrated resilience in collecting data without compromising its quality. The Provincial Coordinators and Quality Control Interviewers efficiently monitored the field activities. I am confident that the key indicators are authentic on the basis of the extraordinary quality control measures.

Besides the advisory, core, and field teams, NIPS is indebted to Mr. Khizar Hayat Khan, the former Executive Director, NIPS, whose support made the execution of PMMS possible and to Dr. Farid Midhet who initiated the task with the stakeholders, helped in study design, sampling strategy and questionnaire development, and continued to work with NIPS in the whole process voluntarily. We are obligated to Ms. Anjushree Pradhan, ICF, Senior Survey Coordinator, for providing immense technical support at all stages of the project. We extend our thanks to Dr. Ruilin Ren, Sampling Statistician, for his valuable advice on sample design; Mr. Ruben Hume, Data Processing Specialist, for his contribution on data processing and tabulation; and to all other technical experts of ICF who provided suggestions on the final version of this report. Finally, on behalf of NIPS, let me convey special appreciation to the Ministry of National Health Services, Regulations and Coordination, Pakistan Bureau of Statistics, UNFPA, USAID, DFID, and the Bill and Melinda Gates Foundation for their commitment and support for the 2019 PMMS.

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1 INTRODUCTION

1.1 BACKGROUND, RATIONALE, AND OBJECTIVES

The 2019 Pakistan Maternal Mortality Survey (PMMS) is the first exclusive nation-wide survey implemented by the National Institute of Population Studies (NIPS), Ministry of National Health Services, Regulations and Coordination. Pakistan was a signatory to the United Nations Millennium Declaration in September 2000 and was committed to achieve the Millennium Development Goals (MDGs) by 2015. Out of these, Goal 5 (to Improve Maternal Health) had set a target for significantly reducing the maternal mortality ratio (MMR) to 140 by 2015 by increasing the proportion of births attended by skilled birth attendants and achieving universal access to reproductive health care. The MDG progress assessment found Pakistan on track for Goal 5 but was not close to achieving the target in 2015 (Government of Pakistan 2013). More recently, Pakistan has endorsed the UN's Sustainable Development Goals (SDGs), making a commitment to reducing the MMR to less than 70 per 100,000 live births by 2030 (SDG 3.1) through increased skilled birth attendance, access to modern contraception, and expanded coverage of community health workers as an essential component of Universal Health Coverage.

Pursuing these targets, the Government of Pakistan launched a series of initiatives during the last decade and made good progress in maternal health indicators (PDHS 2012-13 and PDHS 2017-18). Indirect estimates of MMR through modelling have suggested a substantial decline in MMR, from 276 (PDHS 2006-07) to 178 (Pakistan Economic Survey 2017-18). However, the only direct estimate of MMR was available from the PDHS 2006-07. The Pakistan Maternal Mortality Survey (PMMS) was carried out in 2019 with the purpose of assessing where Pakistan stands on maternal health indicators and how well the country is moving toward the relevant SDG targets. The survey results will guide the Ministry and the provincial departments of Health and Population Welfare, as well as the private sector, local and international NGOs, and donor organisations to plan and implement interventions to improve the delivery and coverage of maternal health services, in order to achieve the SDGs.

NIPS received technical assistance for designing the proposal, imparting training, and developing the research modules/questionnaires, up to the analysis stage from The Demographic and Health Surveys Program at ICF (supported by USAID). Financial assistance to conduct the survey was provided by USAID, UNFPA, DFID, and the Bill & Melinda Gates Foundation, which supported field operations and management of the project.

This key indicators report presents a first look at selected findings of PMMS 2019. A comprehensive analysis of data will be presented in the final report.

2 SURVEY METHODOLOGY AND IMPLEMENTATION

2.1 SAMPLE DESIGN

The 2019 PMMS used a multistage cluster sampling methodology, based on the updated sampling frames derived from the 6th Population & Housing Census 2017, Pakistan Bureau of Statistics (PBS). The sampling universe consisted of urban and rural areas of the four provinces of Pakistan (Balochistan, Khyber Pakhtunkhwa, Punjab, and Sindh), Azad Jammu and Kashmir (AJK), Gilgit-Baltistan (GB), and the Islamabad Capital Territory (ICT). The sampling frame was provided to select a total of 153,560 households (81,400 rural and 72,160 urban) using the two-stage and two-phase stratified systematic sampling approach for the selection of PSUs in 11 domains (four provinces [urban and rural], Azad Jammu and Kashmir [urban and rural] and Gilgit Baltistan). The restricted military and protected areas were excluded from the sample. The final number of PSUs came to 1,396 (740 rural and 656 urban). Each PSU had 110 randomly selected households to administer various questionnaires (Household, Woman's, and Verbal Autopsy). In each cluster, 10 households were randomly selected to gather detailed information from all eligible ever-married women age 15-49. All 110 selected households in each cluster were asked about births and deaths during the previous 3 years, including female deaths in the reproductive ages (15-49 years). Households that identified at least one death of a female in the reproductive ages were then visited to conduct detailed verbal autopsies to determine the causes and circumstances of these deaths, which resulted in the identification of maternal deaths.

2.2 QUESTIONNAIRES

Six questionnaires were used for the 2019 PMMS: the Short Household Questionnaire, the Long Household Questionnaire, the Woman's Questionnaire, the Verbal Autopsy Questionnaire, the Fieldworker Questionnaire, and the Community Questionnaire. The first 3 questionnaires, based on The DHS Program's standard Demographic and Health Survey (DHS-7) questionnaires, were adapted to reflect population and health issues relevant to Pakistan. The Verbal Autopsy Questionnaire was based on the 2016 WHO standardised instruments. The Community Questionnaire was based on the instrument used in the previous rounds of the Pakistan DHS. Comments were solicited from various stakeholders representing government ministries and agencies, nongovernmental organisations, and international donors. The survey protocol was reviewed and approved by the National Bioethics Committee, Pakistan Health Research Council, and ICF Institutional Review Board. After all questionnaires were finalised in English, they were translated into Urdu and Sindhi. The 2019 PMMS used paper-based questionnaires for data collection, while computer-assisted field editing (CAFE) was used to edit the questionnaires in the field.

The Household Questionnaires (both short and long) listed all members of and visitors to the selected households. Basic demographic information was collected on each person listed, including age, sex, marital status, education, and relationship to head of household. The data on age, sex, and marital status of household members were used to identify women who were eligible for individual interviews. The household questionnaires also collected information on births and deaths in the household in the 3 years prior to the survey. The long Household Questionnaire also collected information on characteristics of the household's dwelling unit, such as source of drinking water; type of toilet facilities; materials used for flooring, external walls, and roofing; and ownership of various durable goods.

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

- Background characteristics (including age and education)
- Pregnancy history and child mortality
- Use of family planning methods
- Antenatal, delivery, and postnatal care
- Maternal morbidity
- Health service provision

The Verbal Autopsy Questionnaire recorded the circumstances surrounding the event that led to death, the cause of death, and the health services sought.

The Fieldworker Questionnaire recorded background information from the interviewers that serves as a tool in conducting analyses of data quality. Each interviewer completed a self-administered Fieldworker Questionnaire after the final selection of interviewers and before the fieldworkers entered the field. No personal identifiers are attached to the 2019 PMMS fieldworkers' data file.

The Community Questionnaire was administered during the fieldwork to collect information on basic infrastructure in the clusters and access to health facilities and services. The Community Questionnaire was only implemented in rural clusters. Community representatives who provided information for the questionnaire included, among others, village leaders, counsellors, religious leaders, local teachers, lady health visitors, and lady health workers.

2.3 PRETEST

Thirty enumerators, eight members of the core team of the project, and two data processing personnel from NIPS participated in the training to pretest the PMMS survey protocol that was held from November 19 to December 6, 2018. Most participants had previous experience carrying out the PDHS surveys and other household surveys. The data processing staff participated in the pretest to make them familiar with the survey instruments. ICF provided technical support for the training.

Along with discussion on the technical aspects of the survey, the pretest training was designed to train the trainers for the main survey training. The training focused on key components such as age probing, interviewing techniques, and procedures for completing the PMMS questionnaires. The participants worked in groups using various training techniques, for example, interactive question-and-answer sessions, case studies, and role plays. Along with the enumerators, the trainers administered the questionnaires in the field, provided feedback on the content and language of the questionnaires, and learned the various techniques of training.

The fieldwork for the pretest was carried out in two languages (Urdu and Sindhi). Following the fieldwork, a debriefing session was held with the pretest field staff, and modifications to the questionnaires were made based on lessons drawn from the exercise.

2.4 TRAINING OF FIELD STAFF

The training for the household listers and mappers was organised for 67 teams consisting of listers/mappers in November 2018 to prepare them for identifying precise PSUs and preparing the household listing in the PSUs.

The main training for the field staff was held from December 17, 2018 to January 6, 2019 in Islamabad. Separate training was arranged for interviewers selected for conducting verbal autopsies for deceased women. The participants in the main training included 158 enumerators, selected through a strict selection process. These included 10% extra candidates to cater for attrition and the quality control staff. Prior to the training, NIPS staff visited the provincial headquarters to screen, interview, and select the participants. Attendees came from different parts of Pakistan and represented major language groups within the country. Most of the candidates had previous fieldwork experience, and some had experience gained through previous rounds of the Pakistan DHS.

The training sessions included discussion of concepts, procedures, and methodology for conducting the survey. Participants were guided through the questionnaires. In-class exercises were carried out, keeping in mind that involving participants in the training process gives them a better understanding of the training content. Various techniques were used to facilitate the training. These included role-playing on filling a household schedule, age probing in pairs, consistency checking for age and date of birth, correcting errors

in the pregnancy history table, and training the field editors on using the CAFE system. Special training was organised for interviewers who were selected to implement the verbal autopsy questionnaires.

2.5 FIELDWORK

Data collection took place from January 20 to September 30, 2019 in all provinces/regions, except in Balochistan and Gilgit Baltistan, where fieldwork was completed in October 2019. Forty-one teams consisting of a supervisor, a field editor, and four interviewers were deployed for data collection. Quality of data was ensured through the engagement of 10 quality control teams (comprising one male and one female evaluator), a proactive IT team, and senior management keeping an oversight on all matters.

Fieldwork monitoring was an integral part of the 2019 PMMS, and several rounds of monitoring were carried out by the core team and the provincial coordinators. The monitors were provided with guidelines for overseeing the fieldwork. The quality and progress of data collection were also monitored through weekly field check tables that were generated from completed interviews that were sent to the central office, and regular feedback was sent out to the teams.

The focus of PMMS was to identify adult female deaths to estimate maternal mortality. Special efforts were made to trace back PSUs to ensure that female deaths were not missed out by the teams; a total of 182 clusters were revisited for tracking 20% of households to verify the accuracy of the birth and death information.

2.6 DATA PROCESSING

The processing of the 2019 PMMS data began simultaneously with the fieldwork. As soon as data collection was completed in each cluster, all electronic data files were transferred via the Internet File Streaming System (IFSS) to the NIPS central office in Islamabad. These data files were registered and checked for inconsistencies, incompleteness, and outliers. The field teams were alerted about any inconsistencies and errors. Secondary editing was carried out in the central office and involved resolving inconsistencies and coding the open-ended questions. The NIPS data processing manager coordinated the exercise at the central office. The PMMS core team members assisted with the secondary editing. Data entry and editing were carried out using the CSPro software package. The concurrent processing of the data offered a distinct advantage because it maximised the likelihood of the data being error-free and accurate.

Similarly, the verbal autopsy questionnaires were reviewed and coded based on the International Classification of Diseases (ICD-10) coding classification to determine the cause of death. The workshop on ICD-10 coding was organised by NIPS from July 29 to August 2, 2019, to provide an orientation to the reviewers, which was supported by ICF. The ICD-10 coding was carried out by experts from the National Committee for Maternal and Neonatal Health (NCMNH), Pakistan.

3 KEY FINDINGS

3.1 RESPONSE RATES

Table 3.1 shows response rates for the 2019 PMMS. In the four provinces, the sample contained a total of 116,169 households. All households were visited by the field teams, and 110,483 households were found to be occupied. Of these, 108,766 households were successfully interviewed, giving a household response rate of 98%. The subsample selected for the long household questionnaire covered 11,080 households in which all eligible ever-married women age 15-49 were eligible to be interviewed. In the 10,479 households that were interviewed with the long questionnaire, there were 12,217 ever-married women age 15–49 years, of whom 11,859 were successfully interviewed (for a response rate of 97%). In Azad Jammu and Kashmir, of the 16,755 households that were occupied, interviews were successfully carried out in 16,588 households (99%). A total of 1,707 ever-married women were eligible for the woman's interview, of whom 1,666 were successfully interviewed (98%). In Gilgit Baltistan, of the 11,005 households that were occupied, interviews were conducted in 10,872 households (99%). A total of 1,219 ever-married women were eligible for the interview, of whom 1,178 were successfully interviewed (97%).

Table 3.1 Results of the household and women's interviews

Number of households, women's and verbal autopsy interviews, according to residence (unweighted), Pakistan, MMS 2019

	Pakistan			Azad Jammu and Kashmir			Gilgit Baltistan		
Result	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Household interviews (total)									
Households selected	57,510	58,659	116,169	8,558	8,952	17,510	3,293	8,460	11,753
Households occupied	54,649	55,834	110,483	8,159	8,596	16,755	3,071	7,934	11,005
Households interviewed	53,510	55,256	108,766	8,064	8,524	16,588	3,061	7,811	10,872
Household response rate[1]	97.9	99.0	98.4	98.8	99.2	99.0	99.7	98.4	98.8
Household interviews (short questionnaire)									
Households selected	52,120	52,969	105,089	7,758	8,102	15,860	2,993	7,620	10,613
Households occupied	49,495	50,344	99,839	7,396	7,781	15,177	2,789	7,135	9,924
Households interviewed	48,474	49,813	98,287	7,307	7,721	15,028	2,779	7,025	9,804
Household response rate[1]	97.9	98.9	98.4	98.8	99.2	99.0	99.6	98.5	98.8
Household interviews (long questionnaire)									
Households selected	5,390	5,690	11,080	800	850	1,650	300	840	1,140
Households occupied	5,154	5,490	10,644	763	815	1,578	282	799	1,081
Households interviewed	5,036	5,443	10,479	757	803	1,560	282	786	1,068
Household response rate[1]	97.7	99.1	98.4	99.2	98.5	98.9	100.0	98.4	98.8
Interviews with ever-married women									
Number of eligible women	5,747	6,470	12,217	803	904	1,707	317	902	1,219
Number of eligible women interviewed	5,540	6,319	11,859	777	889	1,666	309	869	1,178
Eligible women response rate[2]	96.4	97.7	97.1	96.8	98.3	97.6	97.5	96.3	96.6
Interviews for verbal autopsy on deceased women age 15-49									
Number of verbal autopsies/ deceased women selected	416	528	944	67	83	150	18	70	88
Number of verbal autopsy interviews	412	528	940	67	82	149	18	70	88
Eligible verbal autopsy response rate[3]	99.0	100.0	99.6	100.0	98.8	99.3	100.0	100.0	100.0

[1] Households interviewed/households occupied
[2] Women interviewed/eligible women
[3] Verbal autopsies selected/verbal autopsies conducted

3.2 CHARACTERISTICS OF RESPONDENTS

Table 3.2 shows that in Pakistan, 42% of ever-married women in the PMMS sample are under age 30. Almost all ever-married women (95%) are currently married, and 37% are in urban areas. Fifty-two

percent of ever-married women have no education, while 10% have attended or completed the secondary level and 12% have attended or completed a higher level of education.

In Azad Jammu and Kashmir, 34% of ever-married women in the sample are under age 30, 95% are currently married, 16% are in urban areas, 28% have no education, and 17% each have attended or completed the secondary and higher level of education. One third of the respondents in Azad Jammu and Kashmir are in households in the middle wealth quintile, while only 6% fall in the lowest wealth quintile.

In Gilgit Baltistan, 42% of ever-married women in the sample are under age 30 and almost all ever-married women (97%) are currently married. Only 2% are widowed and less than 1% are divorced or separated. Seventeen percent of the respondents are in urban areas, 50% have no education, and 14% each have attended or completed the secondary and higher level of education. Twenty-three percent of women fall in the lowest wealth quintile. Only 9% of respondents fall in the upper two wealth quintiles (fourth and highest).

Table 3.2 Background characteristics of respondents

Percent distribution of ever-married women age 15-49 by selected background characteristics, Pakistan MMS 2019

Background characteristic	Pakistan			Azad Jammu and Kashmir			Gilgit Baltistan		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age									
15-19	5.1	604	633	2.5	41	37	4.7	55	47
20-24	15.5	1,839	1,828	12.9	215	196	15.6	183	190
25-29	21.0	2,486	2,459	18.3	305	310	21.8	257	248
30-34	18.0	2,139	2,176	19.0	317	321	17.0	200	197
35-39	16.8	1,987	1,963	18.3	304	319	15.3	181	190
40-44	12.1	1,432	1,411	15.0	249	248	13.5	159	162
45-49	11.6	1,373	1,389	14.1	234	235	12.2	143	144
Marital status									
Married	95.2	11,290	11,382	95.2	1,586	1,581	97.0	1,143	1,142
Divorced/separated	1.8	214	156	2.3	38	32	0.6	7	7
Widowed	3.0	355	321	2.5	42	53	2.4	28	29
Residence									
Urban	37.0	4,386	5,540	16.1	269	777	17.2	203	309
Rural	63.0	7,473	6,319	83.9	1,397	889	82.8	975	869
Education									
No education	51.7	6,131	6,477	28.3	471	405	50.1	590	573
Primary[1]	17.8	2,108	1,770	19.0	317	296	11.3	133	140
Middle[2]	7.7	912	823	18.5	308	296	10.9	129	127
Secondary[3]	10.4	1,239	1,222	16.9	282	298	13.5	159	156
Higher[4]	12.4	1,469	1,567	17.3	288	371	14.2	167	182
Wealth quintile									
Lowest	18.0	2,139	2,395	5.9	98	64	22.5	265	260
Second	19.3	2,289	2,286	22.2	370	289	44.9	529	509
Middle	19.7	2,333	2,231	32.5	541	497	23.4	276	293
Fourth	21.1	2,501	2,267	27.6	460	523	6.7	79	89
Highest	21.9	2,597	2,680	11.9	198	293	2.4	28	27
Region									
Punjab[5]	53.2	6,308	4,387	na	na	na	na	na	na
Urban	20.1	2,379	2,089	na	na	na	na	na	na
Rural	33.1	3,929	2,298	na	na	na	na	na	na
Sindh	22.7	2,697	2,857	na	na	na	na	na	na
Urban	12.5	1,488	1,356	na	na	na	na	na	na
Rural	10.2	1,209	1,501	na	na	na	na	na	na
Khyber Pakhtunkhwa[6]	19.2	2,271	2,836	na	na	na	na	na	na
Urban	2.9	342	1,259	na	na	na	na	na	na
Rural	16.3	1,929	1,577	na	na	na	na	na	na
Balochistan	4.9	582	1,779	na	na	na	na	na	na
Urban	1.5	177	836	na	na	na	na	na	na
Rural	3.4	406	943	na	na	na	na	na	na
Total 15-49	100.0	11,859	11,859	100.0	1,666	1,666	100.0	1,178	1,178

na = Not applicable
[1] Primary refers to classes 1-5
[2] Middle refers to classes 6-8
[3] Secondary refers to classes 9-10
[4] Higher refers to classes 11 and above
[5] Punjab includes ICT
[6] Khyber Pakhtunkhwa includes the merged districts of former FATA

3.3 EDUCATIONAL ATTAINMENT OF RESPONDENTS

Educational attainment remains a key factor in determining behaviours, especially when it comes to reproductive health, particularly maternal health. In the 2019 PMMS sample, more than half of the respondents (52%) are uneducated (Table 3.3). The highest proportion of women with no education is in Balochistan (76%), followed by Khyber Pakhtunkhwa (67%), Sindh (57%), and Punjab (42%). Women falling in the lowest wealth quintile have the highest percent with no education (91%). Women in higher wealth quintiles have much higher educational attainment. A high percentage of older women have little or no education (81%), while most younger women have at least some education. Almost 30 percent of women age 25-29 have attended or completed at least the secondary level of education. Sixty-two percent of rural women have no education, compared with 34% of urban women. Almost two in five (39%) urban women have secondary or higher education, compared with only 14% of rural women. Four in five rural women in Sindh (82%) and Balochistan (80%) have no education. Two in five urban women in Punjab (41%) and Sindh (40%) have a secondary or higher level of education.

In Azad Jammu and Kashmir, about half of urban women (51%) have attained secondary or higher education. The median years of education in Azad Jammu and Kashmir is 6.2 years, which is higher than other provinces and Gilgit Baltistan.

Table 3.3 Educational attainment

Percent distribution of ever-married women age 15-49 by highest level of schooling completed, and median years completed, according to background characteristics, Pakistan MMS 2019

Background characteristic	Highest level of schooling					Total	Median years completed	Number of women
	No education	Primary[1]	Middle[2]	Secondary[3]	Higher[4]			
Age								
15-24	48.8	20.4	9.4	11.7	9.7	100.0	1.1	2,443
15-19	51.3	23.7	12.0	9.8	3.1	100.0	0.0	604
20-24	48.0	19.3	8.5	12.3	11.9	100.0	1.4	1,839
25-29	44.3	16.7	9.9	12.0	17.2	100.0	3.6	2,486
30-34	45.2	21.3	7.6	10.3	15.5	100.0	2.7	2,139
35-39	55.6	16.4	7.1	9.6	11.3	100.0	0.0	1,987
40-44	59.1	15.0	4.7	10.9	10.3	100.0	0.0	1,432
45-49	66.9	14.4	4.8	6.5	7.3	100.0	0.0	1,373
Residence								
Urban	33.6	17.4	10.4	16.9	21.7	100.0	4.9	4,386
Rural	62.3	18.0	6.1	6.6	6.9	100.0	0.0	7,473
Wealth quintile								
Lowest	91.2	6.9	1.1	0.6	0.2	100.0	0.0	2,139
Second	73.8	18.3	3.9	2.4	1.5	100.0	0.0	2,289
Middle	57.1	25.3	7.5	5.9	4.2	100.0	0.0	2,333
Fourth	32.0	23.6	12.8	18.6	12.9	100.0	4.6	2,501
Highest	13.7	13.9	11.7	21.8	38.8	100.0	9.4	2,597
Region								
Punjab[5]	41.7	22.0	9.8	11.4	15.0	100.0	3.8	6,308
Urban	27.2	20.4	11.9	16.7	23.9	100.0	6.5	2,379
Rural	50.5	23.0	8.6	8.3	9.6	100.0	0.0	3,929
Sindh	57.1	13.4	5.4	11.9	12.2	100.0	0.0	2,697
Urban	36.5	14.7	8.4	19.8	20.5	100.0	4.9	1,488
Rural	82.4	11.8	1.7	2.2	1.9	100.0	0.0	1,209
Khyber Pakhtunkhwa[6]	66.8	13.3	5.0	7.5	7.4	100.0	0.0	2,271
Urban	48.5	11.9	9.5	12.3	17.8	100.0	1.8	342
Rural	70.0	13.6	4.3	6.6	5.6	100.0	0.0	1,929
Balochistan	76.2	9.6	5.2	4.5	4.5	100.0	0.0	582
Urban	66.5	10.0	7.9	5.4	10.2	100.0	0.0	177
Rural	80.4	9.5	4.1	4.0	2.0	100.0	0.0	406
Total[7]	51.7	17.8	7.7	10.4	12.4	100.0	0.0	11,859
Region								
Azad Jammu and Kashmir	28.3	19.0	18.5	16.9	17.3	100.0	6.2	1,666
Urban	16.3	16.0	17.2	18.6	32.1	100.0	8.2	269
Rural	30.6	19.6	18.8	16.6	14.4	100.0	5.0	1,397
Gilgit Baltistan	50.1	11.3	10.9	13.5	14.2	100.0	0.0	1,178

[1] Primary refers to classes 1-5
[2] Middle refers to classes 6-8
[3] Secondary refers to classes 9-10
[4] Higher refers to classes 11 and above
[5] Punjab includes ICT
[6] Khyber Pakhtunkhwa includes the merged districts of former FATA
[7] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

3.4 CHARACTERISTICS OF DECEASED WOMEN

The prime focus of PMMS was to identify female deaths in households in the survey to seek detailed information regarding causes of death and to estimate maternal mortality. A total of 856 verbal autopsies were conducted across Pakistan to collect information on women age 15-49 who died in the 3 years preceding the survey, compared with 140 in Azad Jammu and Kashmir and 77 in Gilgit Baltistan. In Pakistan, 38% of deceased women were 40 years old or above at the time of their death and 72% were married. A majority were rural residents (69%), had no education (63%), and were not working (82%). One in ten (11%) deceased women had secondary or higher education. Twenty-one percent of deceased women had never been married. The female deaths are distributed almost uniformly across the five wealth quintiles.

In Azad Jammu and Kashmir, 37% of deceased women were 40 years or older at the time of their death, 73% were married, 85% were in rural areas, 33% had no education, and 91% were not working. Forty-four percent of the husbands of deceased women in Azad Jammu and Kashmir had secondary or higher level of education. In Gilgit Baltistan, 31% of the deceased women were 40 years or older at the time of their death, 69% were married, 87% were rural, 64% had no education, and almost all were not working (98%). Twenty-nine percent of their husbands had no education (Table 3.4).

Table 3.4 Background characteristics of deceased women

Percent distribution of women age 15-49 who died in the 3 years before the survey by selected background characteristics at the time of her death, Pakistan MMS 2019

	Pakistan			Azad Jammu and Kashmir			Gilgit Baltistan		
Background characteristic	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age									
15-19	10.2	89	98	10.3	15	12	11.7	9	7
20-24	12.3	107	105	13.0	19	15	12.9	10	12
25-29	11.1	97	98	13.8	20	16	16.8	13	11
30-34	11.8	103	96	12.3	18	17	11.1	9	7
35-39	16.4	144	135	13.4	19	18	16.8	13	14
40-44	15.5	135	133	12.7	18	21	9.6	7	10
45-49	22.7	198	191	24.5	35	41	21.1	16	16
Marital status									
Married	72.1	629	617	73.2	105	100	68.7	52	51
Divorced/separated	2.8	24	26	2.2	3	3	3.4	3	3
Widowed	4.4	38	38	6.4	9	9	1.9	1	1
Never married	20.8	181	175	18.2	26	28	25.9	20	22
Residence									
Urban	31.5	275	376	14.9	21	62	13.3	10	17
Rural	68.5	598	480	85.1	122	78	86.7	66	60
Diseased women's education									
No education	63.3	552	544	33.4	48	48	63.5	49	46
Primary[1]	16.0	140	132	17.5	25	25	8.3	6	9
Middle[2]	9.2	80	68	22.4	32	26	7.7	6	4
Secondary[3]	5.4	48	55	18.8	27	27	11.3	9	8
Higher[4]	6.0	53	54	7.9	11	14	9.2	7	10
Don't know	0.0	0	3	0.0	0	0	0.0	0	0
Husband's education									
Woman was never married	20.8	181	175	18.2	26	28	25.9	20	22
No education	32.9	287	257	11.7	17	15	29.1	22	21
Primary[1]	14.9	130	128	15.6	22	22	15.0	11	7
Middle[2]	8.4	73	81	10.6	15	19	10.3	8	9
Secondary[3]	13.5	118	126	33.1	47	36	12.5	10	9
Higher[4]	9.2	80	84	10.7	15	19	7.1	5	9
Don't know	0.3	3	5	0.2	0	1	0.0	0	0
Employment status									
Working	17.3	151	152	8.9	13	13	2.5	2	1
Not working	82.4	719	702	91.1	130	127	97.5	74	76
Don't know	0.3	3	2	0.0	0	0	0.0	0	0
Wealth quintile									
Lowest	21.0	183	186	5.8	8	6	31.3	24	22
Second	21.6	189	170	27.2	39	25	37.5	29	25
Middle	21.4	187	171	29.7	42	41	20.6	16	21
Fourth	18.4	160	163	21.9	31	40	8.9	7	7
Highest	17.6	154	166	15.4	22	28	1.6	1	2

Continued…

Table 3.4—*Continued*

Background characteristic	Pakistan			Azad Jammu and Kashmir			Gilgit Baltistan		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Region									
Punjab[5]	55.7	487	330	na	na	na	na	na	na
Sindh	23.4	204	232	na	na	na	na	na	na
Khyber Pakhtunkhwa[6]	15.9	139	181	na	na	na	na	na	na
Balochistan	5.0	43	113	na	na	na	na	na	na
Total 15-49	100.0	873	856	100.0	143	140	100.0	76	77

na = Not applicable
[1] Primary refers to classes 1-5
[2] Middle refers to classes 6-8
[3] Secondary refers to classes 9-10
[4] Higher refers to classes 11 and above
[5] Punjab includes ICT
[6] Khyber Pakhtunkhwa includes the merged districts of former FATA

3.5 RESPONDENTS TO THE VERBAL AUTOPSY QUESTIONNAIRES

Verbal Autopsy (VA) interviews were conducted with the deceased woman's next of kin—one or more members of her household who were present during the fatal illness and/or at the time of death and who knew the most about the deceased woman's personal life. The VAs were conducted for all deaths of women age 15-49 identified during the first round of the survey, to ascertain the cause of death and to identify maternal deaths as per the ICD-10 classification. Table 3.5 shows the characteristics of the respondents for the VA interviews.

Table 3.5 Respondents to the verbal autopsy questionnaires

Percent of respondents by their relationship to the deceased woman in the verbal autopsy questionnaire, Pakistan MMS 2019

Relationship	Relationship to deceased woman last 3 years		
	Pakistan	Azad Jammu and Kashmir	Gilgit Baltistan
Husband	38.2	35.9	42.4
Son or daughter	38.4	27.4	22.9
Son-in-law or daughter-in-law	10.5	3.7	9.4
Grandchild	0.2	1.4	0.0
Parent	27.5	22.5	36.3
Parent-in-law	20.8	17.8	25.3
Brother or sister	27.4	23.9	32.0
Brother-in-law/sister-in-law	52.3	64.8	68.6
Niece/nephew	5.4	10.3	6.0
Grand parent	0.7	2.5	4.0
Aunt/uncle	10.5	9.3	7.3
Other relative	12.3	11.1	29.1
Adopted/foster/stepchild	0.3	0.0	0.0
Not related	4.0	0.5	0.9
Domestic servant	0.3	0.0	0.0
Percentage with more than one respondent	81.8	82.6	93.7
Percentage with at least one respondent who was present when the deceased fell ill	96.1	95.0	93.7
Percentage with at least one respondent who was present when the deceased died	94.1	90.9	95.1
Number of deceased women	873	143	76

At the national level, 82% of the VAs were conducted with more than one respondent, and in 94% of cases at least one respondent was present at the time of death. In Azad Jammu and Kashmir, these percentages were 83% and 91%, respectively; whereas in Gilgit Baltistan, in 94% of cases there was more than one respondent and in 95% of cases at least one respondent was present at the time of death.

Brothers-in-law or sisters-in-law were the most common respondents for the VA interviews (52% in Pakistan, 65% in Azad Jammu and Kashmir, and 69% in Gilgit Baltistan). The other common relationships were husband, son or daughter, parents, and brother or sister.

3.6 AGE-SPECIFIC MORTALITY RATES

A mortality rate, also known as a death rate, is a measure of the number of deaths in a particular population during a particular period of time divided by the number of persons at the risk of dying. Typically, it is calculated as the number of deaths per one thousand people per year. The mortality rates given in Table 3.6 are based on deaths of usual residents recorded in the household questionnaire as occurring in the 3 years preceding the interview.

Table 3.6 Mortality rates by age-group and sex

Direct estimates of mortality rates (per 1,000 persons) from the PMMS household listing of usual members who died in the 3 years preceding the survey, according to sex, Pakistan MMS 2019

	Females			Males		
Age group	Deaths	Exposure	Mortality rate	Deaths	Exposure	Mortality rate
<1	1,855	31,442	59.00	2,233	33,248	67.17
1-4	343	116,917	2.94	279	125,440	2.22
5-9	88	139,430	0.63	145	148,800	0.97
10-14	67	123,614	0.54	100	128,370	0.78
15-19	90	117,365	0.77	169	115,300	1.46
20-24	110	100,449	1.10	124	89,522	1.39
25-29	101	90,591	1.12	146	79,032	1.85
30-34	103	68,283	1.51	134	64,327	2.09
35-39	150	61,286	2.45	115	57,463	2.00
40-44	136	44,828	3.03	221	44,956	4.91
45-49	200	41,395	4.83	303	40,846	7.41
50-54	255	32,958	7.74	423	33,427	12.67
55-59	381	26,629	14.31	503	28,756	17.51
60-64	535	19,538	27.40	639	23,469	27.22
65-69	472	14,078	33.52	605	17,415	34.76
70-74	509	8,248	61.66	737	10,793	68.26
75-79	347	5,300	65.44	399	6,341	62.86
80+	1,215	6,891	176.38	1,279	7,760	164.86
Total age 15-49	890	524,197	1.70	1,212	491,445	2.47
Total, all ages	6,959	1,049,243	6.63	8,554	1,055,263	8.11
Probability of dying						
$_{35}q_{15}$[1]			71			100
$_{45}q_{15}$[2]			168			226

Note: Table excludes Azad Jammu and Kashmir and Gilgit Baltistan. Deaths from the household listing of usual members who died in the 3 years preceding the survey (excluding month of interview); exposure from usual members in the household and applicable exposure of members who died; deaths with missing age at death have been redistributed proportionately; missing age in the household schedule (assumed exposure) redistributed.

[1] The probability of dying between exact ages 15 and 50, expressed per 1,000 persons at age 15

[2] The probability of dying between exact ages 15 and 60, expressed per 1,000 persons at age 15

Table 3.6 shows the deaths, exposure time, and mortality rates from the 2019 PMMS for the 3 years preceding the survey. Figure 3.1 depicts the mortality rates for men and women. As expected, a high risk of death is observed in early childhood, dropping to a minimum at age 10–14 years, and then rising steadily into older ages. As a general rule, mortality rates start to increase exponentially beyond age 40 or so. At progressively older adult ages, mortality tends to rise. In this case, mortality rates increase rapidly after age 65. Male mortality rates are generally slightly higher than female mortality rates, and the most prominent differences are between age groups 15-19 and 55-59. Table 3.6 also presents the probability of dying between ages 15 and 50 ($_{35}q_{15}$) and the probability of dying between ages 15 and 60 ($_{45}q_{15}$). Females had a lower probability of dying on both measurements.

Figure 3.1 **Age-specific mortality rates in the 3 years preceding the survey by sex (log scale), Pakistan MMS 2019**

Table 3.7 shows mortality rates by age, residence, and region. Two summary measures of adult mortality are also highlighted. The overall mortality rate for Pakistan was 7.37 per thousand persons and 2.07 for the age group 15-49. With regard to patterns by residence (Figure 3.2), mortality rates are higher in rural areas than in urban areas through age 40-44, and the reverse is true at all older ages.

Table 3.7 Age-specific mortality rates by residence and region

Direct estimates of mortality rates (per 1,000 persons) from the PMMS household listing of usual members who died in the 3 years preceding according to residence and region, Pakistan MMS 2019

	Residence		Region						
Age group	Urban	Rural	Punjab[1]	Sindh	Khyber Pakhtunkhwa[2]	Balochistan	Total[3]	Azad Jammu and Kashmir	Gilgit Baltistan
<1	56.34	66.39	66.62	68.14	55.23	47.59	63.20	47.20	54.97
1-4	1.91	2.87	2.69	2.51	2.10	3.34	2.57	2.11	2.07
5-9	0.56	0.93	0.81	0.86	0.81	0.65	0.81	0.47	1.12
10-14	0.52	0.74	0.57	0.87	0.68	0.62	0.66	0.26	0.32
15-19	1.04	1.16	0.98	1.25	1.34	0.90	1.11	1.15	1.39
20-24	1.08	1.34	1.35	1.19	0.98	1.19	1.23	2.05	1.34
25-29	1.14	1.67	1.37	1.37	1.98	1.06	1.46	2.00	1.58
30-34	1.74	1.82	1.87	1.53	1.91	1.69	1.79	1.84	1.78
35-39	1.66	2.61	2.28	2.41	2.06	1.62	2.23	2.10	1.90
40-44	3.64	4.20	4.18	3.82	3.92	2.55	3.97	3.12	2.07
45-49	6.44	5.89	6.97	6.53	3.53	3.70	6.11	6.72	3.76
50-54	12.37	8.83	11.42	11.42	5.98	5.65	10.22	7.11	4.90
55-59	17.84	14.84	17.11	16.93	12.85	10.99	15.97	16.22	6.00
60-64	32.33	24.36	28.76	29.10	22.13	22.98	27.30	24.60	13.38
65-69	41.15	30.63	36.08	33.77	33.19	18.67	34.21	32.07	17.73
70-74	72.33	61.68	66.19	69.75	59.53	60.72	65.40	57.88	35.51
75-79	68.66	61.66	63.72	66.45	67.80	41.23	64.03	47.71	23.48
80+	181.92	164.79	162.58	184.36	192.78	141.22	170.28	148.86	118.11
Total age 15-49	1.92	2.17	2.18	2.08	1.91	1.50	2.07	2.33	1.77
Total, all ages	7.06	7.55	8.13	6.91	6.70	4.82	7.37	8.07	5.72
Probability of dying									
$_{35}q_{15}$	80	89	91	87	76	62	86	91	67
$_{45}q_{15}$	210	191	212	208	159	137	198	191	116

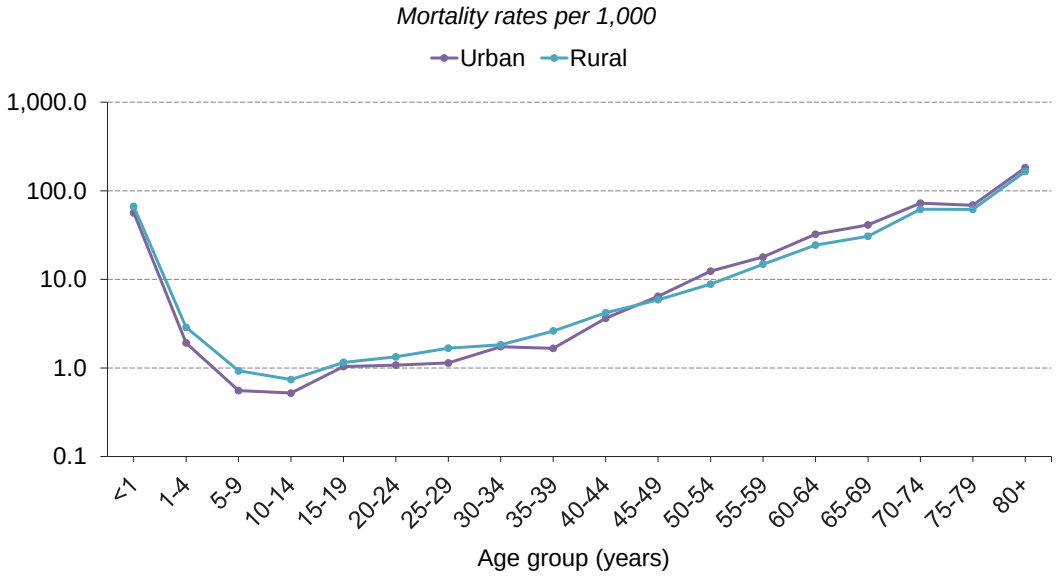
Note: Deaths from the household listing of usual members who died in the 3 years before the survey (excluding the month of interview); exposure of usual members in the household and applicable exposure of members who died; deaths with missing age at death have been redistributed proportionately; cases with missing age in the household schedule (assumed exposure) redistributed

[1] Punjab includes ICT

[2] Khyber Pakhtunkhwa includes the merged districts of former FATA

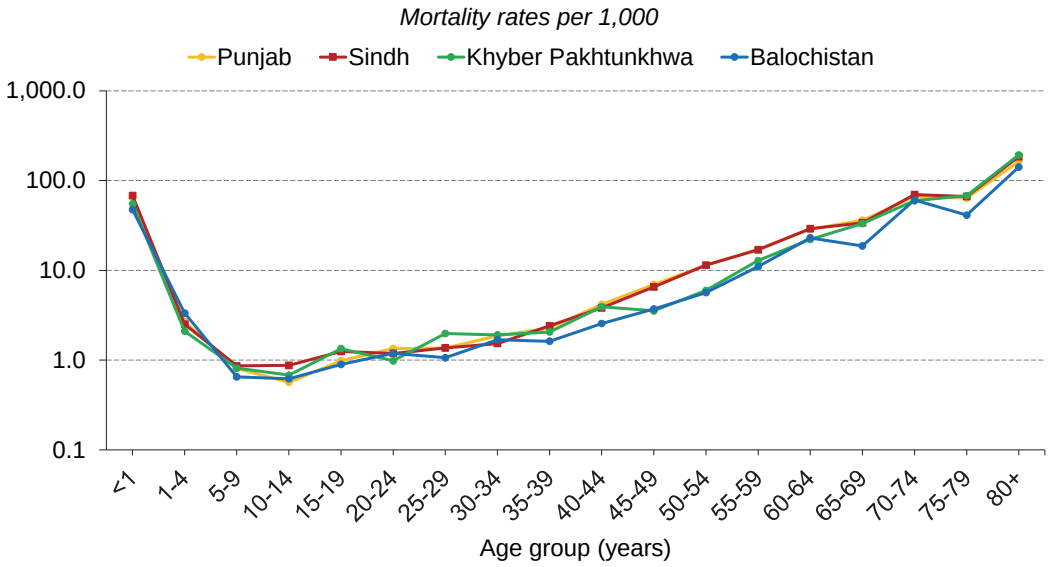
[3] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

Figure 3.2 **Age-specific mortality rates in the 3 years preceding the survey by residence (log scale), Pakistan MMS 2019**



Infant mortality rates are higher in Punjab and Sindh than Khyber Pakhtunkhwa. Punjab and Sindh mortality rates are similar across age groups, while those for Khyber Pakhtunkhwa are generally lower at ages 45 and above. Balochistan has somewhat lower mortality rates for infants and also at ages 40 and above (Figure 3.3).

Figure 3.3 **Age-specific mortality rates in the 3 years preceding the survey by region (log scale), Pakistan MMS 2019**



The infant mortality rate is higher in Gilgit Baltistan than in Azad Jammu and Kashmir. Lower mortality rates in Gilgit Baltistan than in Azad Jammu and Kashmir are pronounced from age 40-79. The rapid increase in the mortality rate beyond age 50 reflects not only the health status of persons in Gilgit Baltistan, but also the availability of health services in remote areas of the region (Figure 3.4).

Figure 3.4 **Age-specific mortality rates in the 3 years preceding the survey in AJK and GB (log scale), Pakistan MMS 2019**

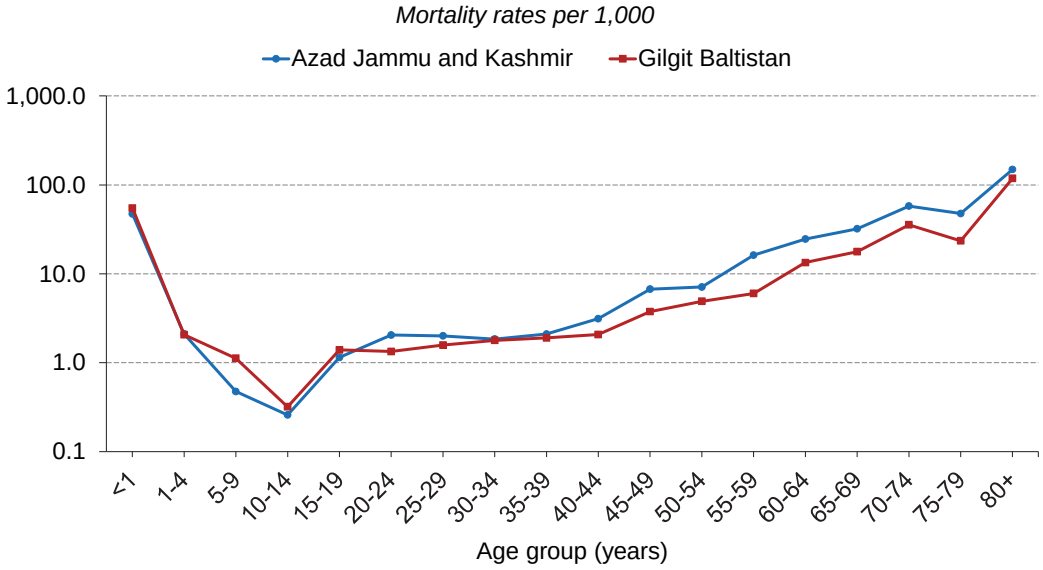


Table 3.8.1 and Table 3.8.2 show male and female mortality rates by age, residence, and region, and two summary measures of adult mortality. In Pakistan, mortality is higher among males than females in almost every age group. Rural females had a higher mortality rate than urban females up to age 49, but the differential was reversed for the risk of dying at age 50 and above (Figure 3.5). Rural males had a higher probability of dying below age 30 years than their urban counterparts, but the differential was reversed for the probability of dying at ages 30 and above (Figure 3.6). By regions, mortality is higher among males than females in all the regions, the difference being highest in Azad Jammu and Kashmir (Figure 3.7). The probability of dying calculated for the indicators ${}_{35}q_{15}$ and ${}_{45}q_{15}$ was found to be lower in females than males in both urban and rural areas.

Table 3.8.1 Mortality rates by residence and region: Male

Direct estimates of mortality rates (per 1,000 persons) from the PMMS household listing of usual members who died in the 3 years preceding the survey, according to residence and region, Pakistan MMS 2019

	Residence		Region						
Age group	Urban	Rural	Punjab[1]	Sindh	Khyber Pakhtunkhwa[2]	Balochistan	Total[3]	Azad Jammu and Kashmir	Gilgit Baltistan
<1	64.79	68.29	72.35	69.80	57.77	50.00	67.17	49.63	57.71
1-4	1.63	2.49	2.22	2.08	1.92	3.54	2.22	2.24	1.94
5-9	0.59	1.16	0.88	1.12	1.05	0.88	0.97	0.49	1.20
10-14	0.72	0.81	0.68	0.98	0.71	1.04	0.78	0.27	0.22
15-19	1.34	1.54	1.36	1.39	1.97	1.01	1.46	1.53	2.14
20-24	1.22	1.50	1.54	1.17	1.28	1.23	1.39	3.15	1.85
25-29	1.55	2.07	1.58	1.73	2.82	1.87	1.85	2.79	1.87
30-34	2.26	1.97	2.20	1.79	2.40	1.33	2.09	2.17	2.44
35-39	1.21	2.55	2.23	1.55	2.51	0.45	2.00	2.11	1.78
40-44	5.07	4.79	5.39	4.54	4.49	2.81	4.91	3.87	2.42
45-49	8.34	6.74	8.21	9.08	3.67	3.49	7.41	9.24	3.53
50-54	13.35	12.21	15.07	12.26	6.79	5.89	12.67	10.34	6.65
55-59	20.01	15.95	18.39	20.34	13.14	11.71	17.51	18.21	4.31
60-64	32.74	23.91	30.25	28.48	19.40	17.41	27.22	26.37	13.79
65-69	38.57	32.69	37.35	33.90	32.19	19.98	34.76	33.98	15.45
70-74	74.26	65.04	70.92	67.84	62.60	55.92	68.26	52.65	33.22
75-79	72.51	58.17	63.37	68.92	58.52	51.82	62.86	45.96	22.26
80+	168.35	163.21	157.44	177.22	191.82	124.74	164.86	152.42	128.84
Total age 15-49	2.41	2.51	2.62	2.38	2.44	1.50	2.47	3.08	2.19
Total, all ages	7.84	8.26	9.13	7.33	7.28	5.11	8.11	9.42	6.48
Probability of dying									
${}_{35}q_{15}$	100	100	106	101	91	59	100	117	77
${}_{45}q_{15}$	238	219	244	236	178	138	226	235	126

Note: Deaths from the household listing of usual members who died in the 3 years before the survey (excluding the month of interview); exposure of usual members in the household, and applicable exposure of members who died; deaths with missing age at death have been redistributed proportionately; cases with missing age in the household schedule (assumed exposure) redistributed

[1] Punjab includes ICT

[2] Khyber Pakhtunkhwa includes the merged districts of former FATA

[3] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

Table 3.8.2 Mortality rates by residence and region: Female

Direct estimates of mortality rates (per 1,000 persons) from the PMMS household listing of usual members who died in the 3 years preceding the survey, according to residence and region, Pakistan MMS 2019

	Residence		Region						
Age group	Urban	Rural	Punjab[1]	Sindh	Khyber Pakhtunkhwa[2]	Balochistan	Total[3]	Azad Jammu and Kashmir	Gilgit Baltistan
<1	47.34	64.39	60.54	66.35	52.65	45.01	59.00	44.61	51.95
1-4	2.21	3.28	3.19	2.99	2.28	3.12	2.94	1.97	2.21
5-9	0.52	0.69	0.72	0.59	0.56	0.39	0.63	0.46	1.05
10-14	0.31	0.67	0.45	0.76	0.65	0.16	0.54	0.24	0.42
15-19	0.72	0.79	0.63	1.11	0.73	0.78	0.77	0.81	0.72
20-24	0.94	1.20	1.18	1.21	0.73	1.15	1.10	1.26	0.94
25-29	0.75	1.34	1.19	1.01	1.30	0.29	1.12	1.48	1.35
30-34	1.21	1.69	1.56	1.26	1.49	2.04	1.51	1.62	1.21
35-39	2.11	2.67	2.32	3.27	1.68	2.83	2.45	2.09	2.02
40-44	2.14	3.63	2.99	3.02	3.38	2.29	3.03	2.58	1.74
45-49	4.43	5.08	5.76	3.89	3.41	3.91	4.83	4.73	3.99
50-54	11.35	5.48	7.72	10.52	5.22	5.40	7.74	4.28	3.36
55-59	15.40	13.68	15.72	13.30	12.53	10.16	14.31	14.31	7.74
60-64	31.82	24.89	27.02	29.89	25.41	29.81	27.40	22.57	12.92
65-69	44.61	28.19	34.55	33.61	34.44	16.91	33.52	29.82	20.37
70-74	69.80	57.30	60.11	72.32	55.40	67.24	61.66	64.41	38.87
75-79	64.40	66.00	64.15	63.51	78.29	26.22	65.44	49.80	25.11
80+	197.11	166.56	168.53	191.44	193.85	162.77	176.38	144.86	103.26
Total age 15-49	1.42	1.87	1.78	1.78	1.44	1.50	1.70	1.77	1.40
Total, all ages	6.25	6.85	7.14	6.46	6.13	4.52	6.63	6.87	4.98
Probability of dying									
$_{35}q_{15}$	60	79	75	71	62	64	71	70	58
$_{45}q_{15}$	178	163	178	176	141	134	168	153	109

Note: Deaths from the household listing of usual members who died in the 3 years before the survey (excluding the month of interview); exposure of usual members in the household and applicable exposure of members who died; deaths with missing age at death have been redistributed proportionately; cases with missing age in the household schedule (assumed exposure) redistributed.

[1] Punjab includes ICT

[2] Khyber Pakhtunkhwa includes the merged districts of former FATA

[3] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

Figure 3.5 **Age-specific female mortality rates in the 3 years preceding the survey by residence (log scale), Pakistan MMS 2019**

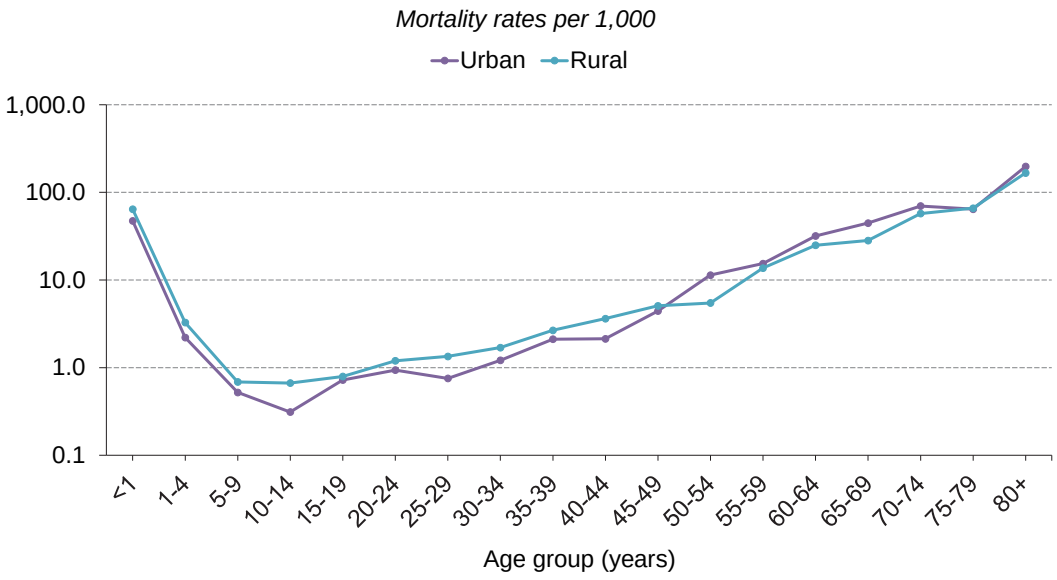


Figure 3.6 **Age-specific male mortality rates in the 3 years preceding the survey by residence (log scale), Pakistan MMS 2019**

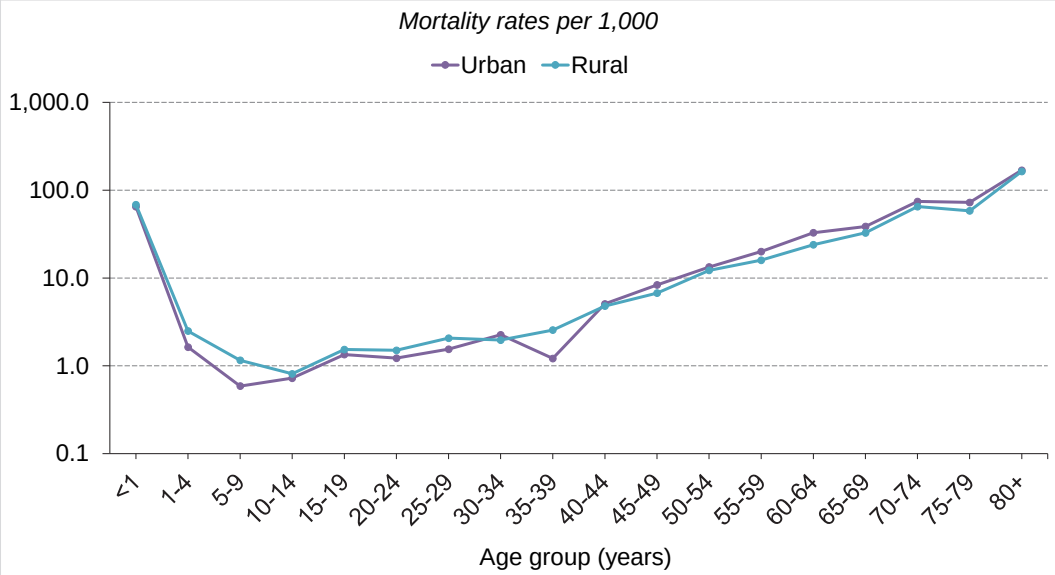
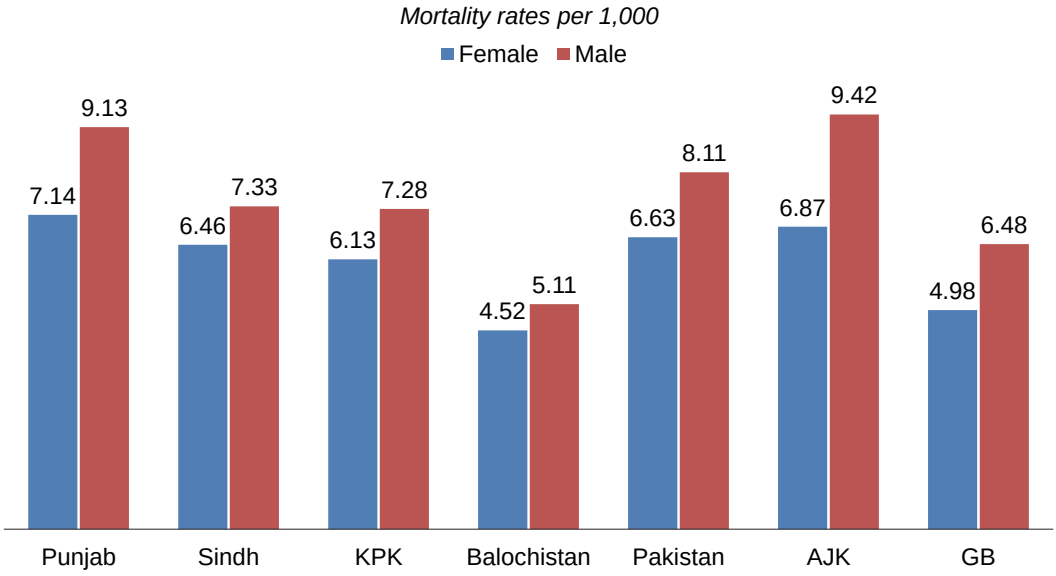


Figure 3.7 **Crude mortality rates in the 3 years preceding the survey by sex and region, Pakistan MMS 2019**



3.7 ALL-CAUSE ADULT MORTALITY RATES FOR MEN AND WOMEN AGE 15-49

The mortality rates given in Table 3.9 are based on deaths of usual residents recorded in the household questionnaire occurring in the 36 months prior to interview.

Table 3.9 Adult mortality rates (15-49 years)

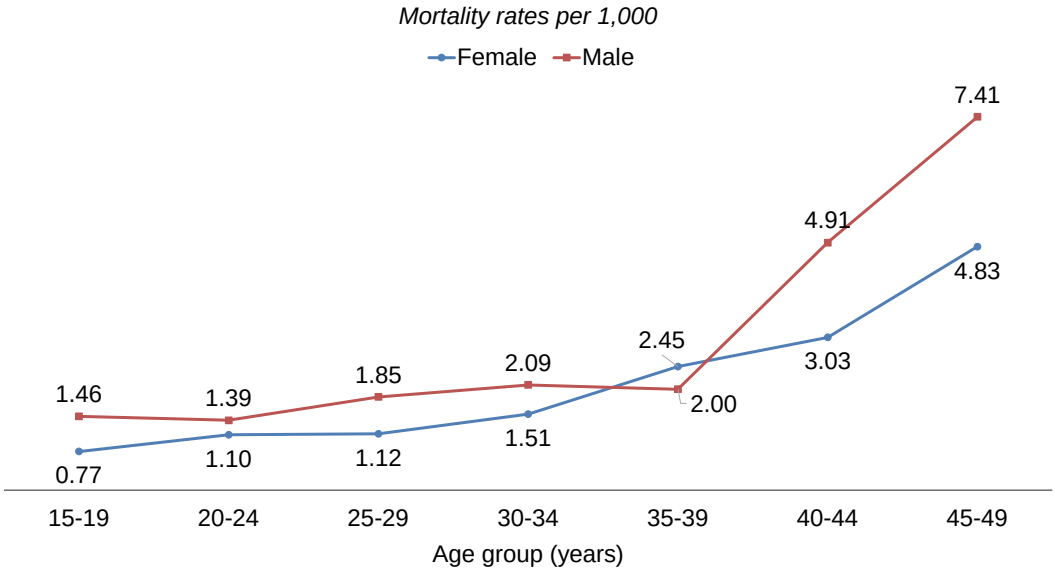
Direct estimates of female and male mortality rates for the 3 years preceding the survey, by 5-year age groups, residence, and region, Pakistan MMS 2019

Background characteristic	Deaths	Exposure years	Mortality rates[1]
FEMALE			
Age			
15-19	90	117,365	0.77
20-24	110	100,449	1.10
25-29	101	90,591	1.12
30-34	103	68,283	1.51
35-39	150	61,286	2.45
40-44	136	44,828	3.03
45-49	200	41,395	4.83
Residence			
Urban	284	199,897	1.45
Rural	606	324,300	1.89
Region			
Punjab[2]	496	278,770	1.81
Sindh	208	117,149	1.79
Khyber Pakhtunkhwa[3]	143	99,292	1.45
Balochistan	43	28,987	1.52
Total 15-49[4]	890	524,197	1.72[a]
Azad Jammu and Kashmir	143	81,048	1.79
Gilgit Baltistan	79	56,225	1.41
MALE			
Age			
15-19	169	115,300	1.46
20-24	124	89,522	1.39
25-29	146	79,032	1.85
30-34	134	64,327	2.09
35-39	115	57,463	2.00
40-44	221	44,956	4.91
45-49	303	40,846	7.41
Residence			
Urban	483	200,512	2.43
Rural	729	290,933	2.51
Region			
Punjab[2]	670	255,548	2.64
Sindh	286	120,069	2.39
Khyber Pakhtunkhwa[3]	213	87,431	2.43
Balochistan	43	28,397	1.50
Total 15-49[4]	1,212	491,445	2.48[a]
Azad Jammu and Kashmir	185	60,144	3.06
Gilgit Baltistan	108	49,419	2.19

[1] Expressed per 1,000 population
[2] Punjab includes ICT
[3] Khyber Pakhtunkhwa includes the merged districts of former FATA
[4] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan
[a] Age-adjusted rate

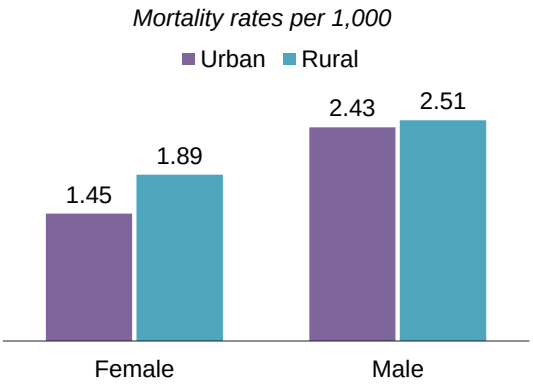
Table 3.9 shows the deaths, exposure time, and mortality rates by five-year age groups, residence, and region from the PMMS 2019 for the 3 years preceding the survey. In Pakistan, mortality in the age group 15-49 is 44% higher among males than females. The overall mortality rate for females age 15-49 is 1.72 per 1,000 persons and for males age 15-49 is 2.48 per 1,000 persons. Male mortality rates are much higher than female mortality rates in every age group except age 35-39, and the most pronounced difference is observed in the age group 15-19 in which the male mortality rate is 90% higher than the female mortality rate (Figure 3.8). Mortality rates among women increase from 0.77 in the age group 15-19 to 4.83 in the age group 45-49; for men, mortality rates increase from 1.46 in the age group 15-19 to 7.41 in the age group 45-49. The higher mortality among men could be attributed to some extent to men being more involved in activities outside of the house in Pakistan and being exposed to more risks.

Figure 3.8 **All-cause adult mortality rates in the 3 years preceding the survey by sex and age, Pakistan MMS 2019**



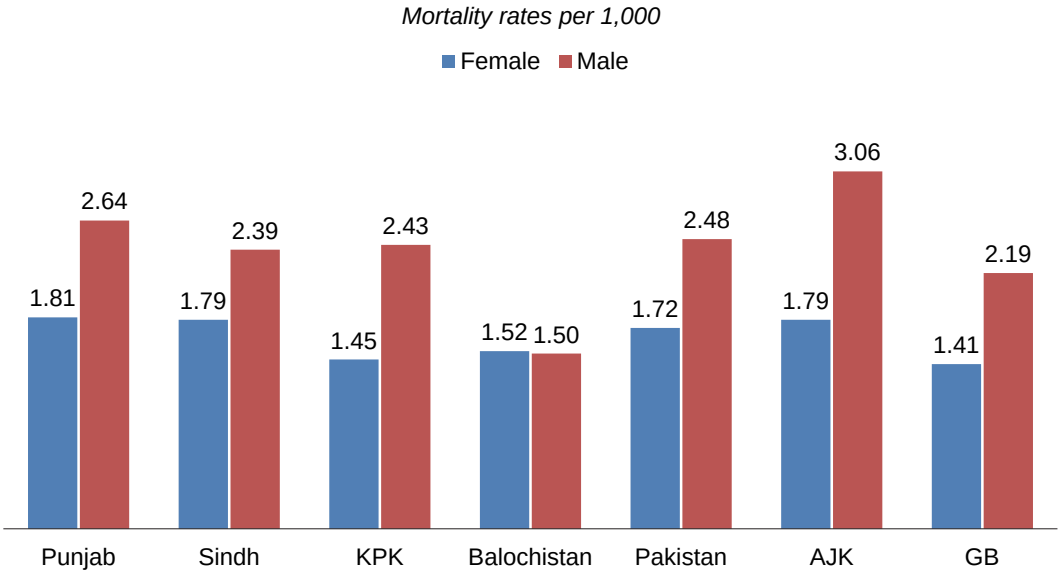
With regard to patterns by residence, mortality rates are higher in rural areas than in urban areas. Rural females have higher mortality rates than urban females (1.89 versus 1.45). Similarly, rural males have a higher probability of dying than their urban counterparts (2.51 versus 2.43) (Figure 3.9).

Figure 3.9 **All-cause adult mortality rates (15-49 years) in the 3 years preceding the survey by sex and residence, Pakistan MMS 2019**



It is also interesting to compare male and female mortality rates by province. In Punjab, Sindh, and Khyber Pakhtunkhwa, men age 15-49 years have higher mortality rates than women age 15-49 years, while in Balochistan, mortality among women and men in this age group is almost the same (Figure 3.10). Mortality rates for males and females are higher in Azad Jammu and Kashmir than in Gilgit Baltistan.

Figure 3.10 **All-cause adult mortality rates (15-49 years) in the 3 years preceding the survey by sex and region, Pakistan MMS 2019**



3.8 PREGNANCY-RELATED MORTALITY RATES AND RATIOS

According to WHO, a maternal death is defined as a death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of pregnancy, from any cause related to or aggravated by pregnancy or its management, but not from accidental or incidental causes. There are two methods available to estimate the contribution that deaths related to pregnancy and childbirth make to the overall level of adult female mortality in the 2019 PMMS. One indicator is calculated from the data collected in the Household Questionnaire on deaths to usual members of the household since January 2016. For any death to a woman age 15-49, interviewers asked whether the woman was pregnant when she died and if not, whether she died during childbirth, and if not, whether she died within 6 weeks after delivery. A "yes" answer to any of these three questions resulted in the death being classified as a "pregnancy-related" death. Although not all deaths occurring during pregnancy or within 6 weeks after delivery are due to maternal causes, the vast majority are, and these questions have been widely used to identify pregnancy-related deaths.

However, as the reliability of such data is low, the 2019 PMMS did not apply this method to identify maternal and pregnancy-related deaths. PMMS classified female deaths as pregnancy-related (with a subset of maternal deaths) and non-maternal deaths, using verbal autopsies for causes that were either directly or indirectly related to pregnancy or childbirth. Direct maternal deaths are those resulting from obstetric complications of the pregnant state (pregnancy, labour, and puerperium) from interventions, omissions, incorrect treatment, or from a chain of events resulting from any of the above. Indirect maternal deaths are those resulting from a previously existing disease, or a disease that developed during pregnancy and which was not due to direct obstetric causes, even when it was aggravated by the physiologic effects of pregnancy.

As shown in Table 3.10, the overall pregnancy-related mortality ratio (PRMR) for Pakistan is 251 pregnancy-related deaths per 100,000 live births. As expected, the overall maternal mortality ratio (MMR) is lower since it excludes non-maternal deaths occurring during pregnancy and 6 weeks postpartum. The PMMS estimated a slightly higher PRMR than expected, with a wide difference between the PRMR and the MMR. Regional differences show the lowest PRMR of 175 in Khyber Pakhtunkhwa and the highest of 358 in Balochistan. An in-depth analysis is currently going on to investigate the causes of this difference and will be presented in the final report.

Table 3.10 Pregnancy-related mortality

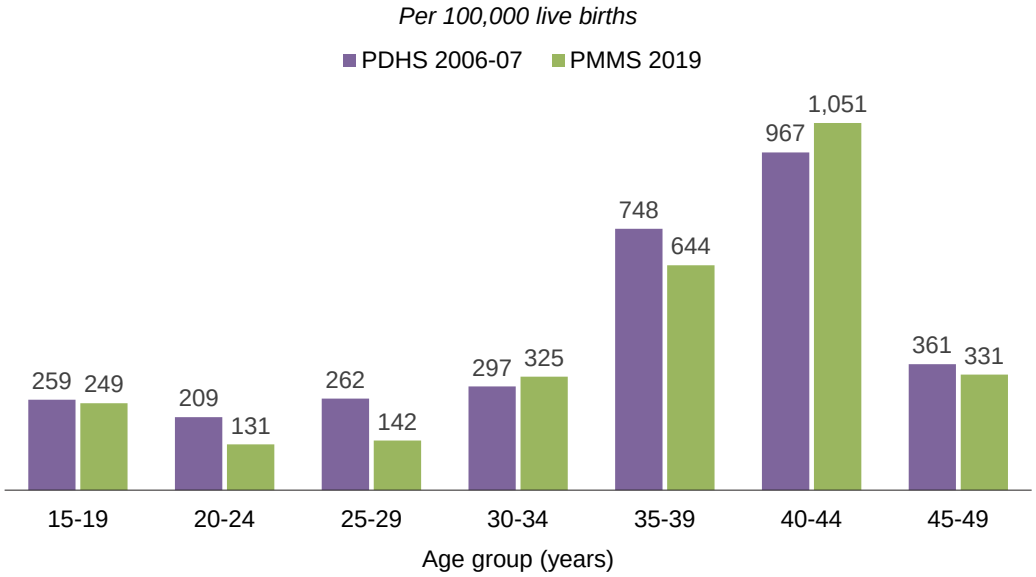
Direct estimates of pregnancy-related mortality for the 3 years preceding the survey, by 5-year age groups, residence, and region, Pakistan MMS 2019

Background characteristic	Percentage of female deaths that are pregnancy-related	Number of pregnancy-related deaths[1]	Weighted number of woman-years[2]	Pregnancy-related mortality rate[3]	Pregnancy-related mortality ratio[4]
Age					
15-19	16.7	15	117,365	0.13	249
20-24	23.1	25	100,449	0.25	131
25-29	28.7	29	90,591	0.32	142
30-34	36.0	37	68,283	0.54	325
35-39	27.5	41	61,286	0.67	644
40-44	9.8	13	44,828	0.30	1,051
45-49	0.6	1	41,395	0.03	331
Residence					
Urban	15.7	45	199,897	0.22	218
Rural	19.4	118	324,300	0.37	267
Region					
Punjab[5]	14.7	73	278,770	0.26	219
Sindh	24.1	50	117,149	0.43	345
Khyber Pakhtunkhwa[6]	16.7	24	99,292	0.24	175
Balochistan	35.4	15	28,987	0.54	358
Total 15-49[7]	18.2	162	524,197	0.31[a]	251[a]
Azad Jammu and Kashmir	11.1	16	81,048	0.20	179
Gilgit Baltistan	19.8	16	56,225	0.28	196

[1] A pregnancy-related death is defined as the death of a woman while pregnant or during childbirth or within 42 days after delivery, regardless of the cause of death
[2] Woman-years lived in that age group during the 36 months before the survey. For example, for the age group 15-19, it is calculated by taking ½ of the number of women age 15, plus 1½ times the number age 16, plus 2½ times the number age 17, plus 3 times the number age 18, plus 3 times the number age 19, plus 2½ times the number age 20, plus 1½ times the number age 21, plus ½ times the number age 22, plus 1½ times the number of deaths to women 15-49 in the previous 36 months.
[3] Expressed per 1,000 woman-years of exposure
[4] Expressed per 100,000 live births; calculated as the age-adjusted pregnancy mortality rate times 100 divided by the age-adjusted general fertility rate
[5] Punjab includes ICT
[6] Khyber Pakhtunkhwa includes the merged districts of former FATA
[7] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan
[a] Age-adjusted rate

The age-specific pregnancy-related mortality ratios show an expected pattern of being low in the younger age groups, increasing in the early reproductive years to reach a peak in the age group 40-44, and then decreasing at age 45-49, as pregnancy and childbirth taper off. It is notably higher in the age group 15-19 than in age group 20-24. Although the probability of pregnancy decreases substantially at older ages, pregnancies at that age are also relatively riskier, resulting in higher mortality rates among women who become pregnant in older reproductive ages (Figure 3.11).

Figure 3.11 **Age-specific pregnancy-related mortality ratio trends, Pakistan DHS 2006-07 & MMS 2019**



Among the four provinces, the pregnancy-related mortality ratio is highest in Balochistan and lowest in Khyber Pakhtunkhwa (358 and 175, respectively). Azad Jammu and Kashmir and Gilgit Baltistan also have relatively low rates (Figure 3.12).

Figure 3.12 **Pregnancy-related mortality ratio by region, Pakistan MMS 2019**

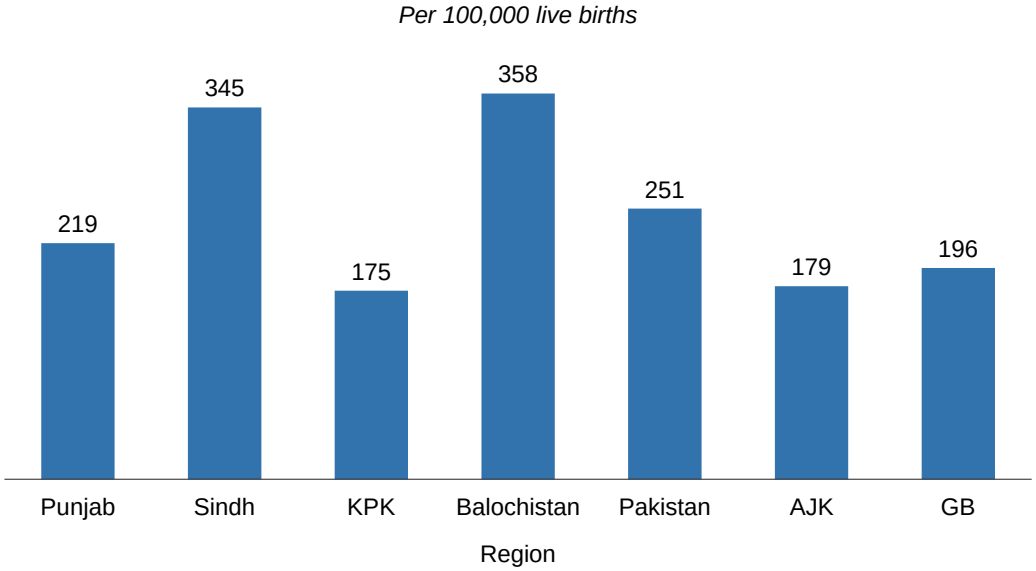


Table 3.11 shows the pregnancy-related mortality ratios (PRMR) using live births from the household survey in the denominator (pregnancy-related deaths divided by live births from household survey). The PRMR is 255 deaths per 100,000 live births. Compared by residence, there is a substantial difference (of over 50 points) between urban areas (220 pregnancy-related deaths per 100,000 live births) and rural areas (272 pregnancy-related deaths per 100,000 live births). Azad Jammu and Kashmir has a pregnancy-related mortality ratio of 188 and the PRMR in Gilgit Baltistan is 202. The PRMR is lowest in Khyber Pakhtunkhwa (170), followed by Punjab (230) and Sindh (364), and it is highest in Balochistan (383).

Table 3.11 Pregnancy-related mortality ratio (PRMR) using live births as the denominator (pregnancy-related deaths divided by live births reported in the household survey)

Pregnancy-related mortality ratio for the 3 years preceding the survey, by residence and region, Pakistan MMS 2019

Characteristic	Pregnancy-related deaths[1]	Live births	Pregnancy-related mortality ratio[2]
Residence			
Urban	45	20,333	220
Rural	118	43,290	272
Region			
Punjab[3]	73	31,753	230
Sindh	50	13,786	364
Khyber Pakhtunkhwa[4]	24	14,075	170
Balochistan	15	4,010	383
Total[5]	162	63,623	255
Azad Jammu and Kashmir	16	8,501	188
Gilgit Baltistan	16	7,712	202

[1] A pregnancy-related death is defined as the death of a woman while pregnant or during childbirth or within 42 days after delivery, regardless of the cause of death
[2] Expressed per 100,000 live births
[3] Punjab includes ICT
[4] Khyber Pakhtunkhwa includes the merged districts of former FATA
[5] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

3.9 MATERNAL MORTALITY RATES AND RATIOS

Table 3.12 shows direct estimates of maternal mortality rates and ratios for the 3 years preceding the survey by five-year age groups. The MMR is 186 for Pakistan, 104 in Azad Jammu and Kashmir, and 157 in Gilgit Baltistan. It is almost twice as high in Balochistan (298) as in Punjab (157). The maternal mortality ratio is 26% higher in rural areas than in urban areas. Figure 3.13 also shows the maternal mortality ratio for the PMMS, as well as for the PDHS 2006-07. The MMR in the PMMS is highest at age 35-39 (481) and lowest at age 20-24 (99). Between the PDHS 2006-07 and the PMMS 2019, the maternal mortality ratio decreased substantially in five of the seven age groups. There was a slight increase between the two surveys at age 30-34 and a more substantial increase in the oldest age group (age 45-49). In general, there is an overall decrease in the MMR between PDHS 2006-07 and PMMS 2019.

Table 3.12 Maternal mortality

Direct estimates of maternal mortality rates and ratios for the 3 years preceding the survey, by 5-year age groups, residence, and region, Pakistan MMS 2019

Background characteristic	Percentage of female deaths that are maternal	Number of maternal deaths[1]	Weighted number of woman-years[2]	Maternal mortality rate[3]	Maternal mortality ratio[4]
Age					
15-19	13.0	12	117,365	0.10	194
20-24	17.4	19	100,449	0.19	99
25-29	23.4	24	90,591	0.26	115
30-34	29.1	30	68,283	0.44	263
35-39	20.5	31	61,286	0.50	481
40-44	2.7	4	44,828	0.08	286
45-49	0.6	1	41,395	0.03	331
Residence					
Urban	11.4	32	199,897	0.16	158
Rural	14.5	88	324,300	0.27	199
Region					
Punjab[5]	10.5	52	278,770	0.19	157
Sindh	15.7	33	117,149	0.28	224
Khyber Pakhtunkhwa[6]	15.8	23	99,292	0.23	165
Balochistan	29.2	13	28,987	0.45	298
Total 15-49[7]	13.5	120	524,197	0.23[a]	186[a]
Azad Jammu and Kashmir	6.4	9	81,048	0.11	104
Gilgit Baltistan	15.8	12	56,225	0.22	157

[1] A maternal death is defined as the death of a woman while pregnant or during childbirth or within 42 days after delivery, for which there was a verbal autopsy that classified deaths as being either a direct or indirect maternal death
[2] Woman-years lived in that age group during the 36 months before the survey. For example, for the age group 15-19, it is calculated by taking ½ of the number of women age 15, plus 1½ times the number age 16, plus 2½ times the number age 17, plus 3 times the number age 18, plus 3 times the number age 19, plus 2½ times the number age 20, plus 1½ times the number age 21, plus ½ times the number age 22, plus 1½ times the number of deaths to women 15-49 in the previous 36 months.
[3] Expressed per 1,000 woman-years of exposure
[4] Expressed per 100,000 live births; calculated as the age-adjusted maternal mortality rate times 100 divided by the age-adjusted general fertility rate
[5] Punjab includes ICT
[6] Khyber Pakhtunkhwa includes the merged districts of former FATA
[7] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan
[a] Age-adjusted rate

Figure 3.13 Age-specific maternal mortality ratio trends, Pakistan DHS 2006-07 and MMS 2019

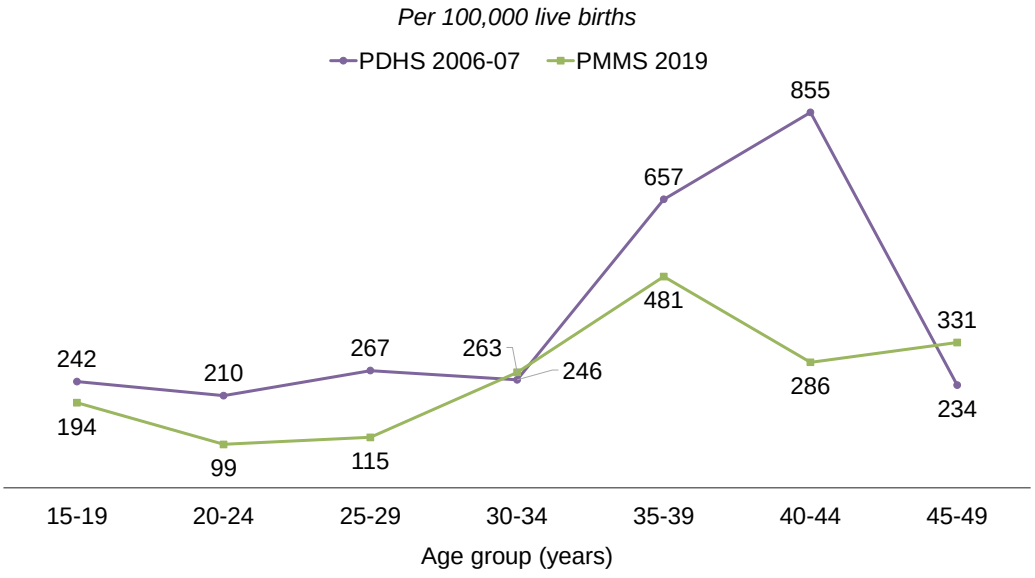


Table 3.13 shows the total fertility rate, general fertility rate, maternal mortality ratio (with upper and lower confidence interval bounds), and lifetime risk of maternal death for the 3 years preceding the survey by urban-rural residence and region. The maternal mortality ratios (with 95% confidence intervals) are also shown in Figure 3.14. As is typical with maternal mortality ratios, the confidence intervals are quite wide, especially for the regions.

The urban-rural estimates of the MMR show a difference of 41 deaths per 100,000 live births. The MMR is lowest in Punjab (157 per 100,000 live births), followed by Khyber Pakhtunkhwa (165 per 100,000 live births), Sindh (224 per 100,000 live births), and Balochistan (298 per 100,000 live births). However, the 95% confidence intervals for all regions indicate that the differences in MMR between provinces are not statistically significant (Figure 3.14).

Table 3.13 Maternal mortality ratio

Total fertility rate, general fertility rate, maternal mortality ratio, and lifetime risk of maternal death for the 3 years preceding the survey, by residence and region, Pakistan MMS 2019

	Residence		Region						
	Urban	Rural	Punjab[1]	Sindh	Khyber Pakhtun-khwa[2]	Balochistan	Total[3]	Azad Jammu and Kashmir	Gilgit Baltistan
Total fertility rate (TFR)	3.2	4.3	3.7	3.9	4.4	5.1	3.9	3.6	4.8
General fertility rate (GFR)[4]	102	137	120	124	139	152	124	110	141
Maternal mortality ratio (MMR)[5]	158	199	157	224	165	298	186	104	157
MMR (95% CI, lower bound)	91	136	79	148	84	130	138	23	53
MMR (95% CI, upper bound)	225	263	235	299	246	466	234	185	261
Lifetime risk of maternal death[6]	0.005	0.009	0.006	0.009	0.007	0.015	0.007	0.004	0.007

CI: Confidence interval
[1] Punjab includes ICT
[2] Khyber Pakhtunkhwa includes merged districts of former FATA
[3] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan
[4] Age-adjusted rate expressed per 1,000 women age 15-49
[5] Expressed per 100,000 live births; calculated as the age-adjusted maternal mortality rate times 100 divided by the age-adjusted general fertility rate
[6] Calculated as $1-(1-MMR)^{TFR}$ where TFR represents the total fertility rate for the 3 years preceding the survey

Figure 3.14 **Maternal mortality ratio by region, Pakistan MMS 2019**

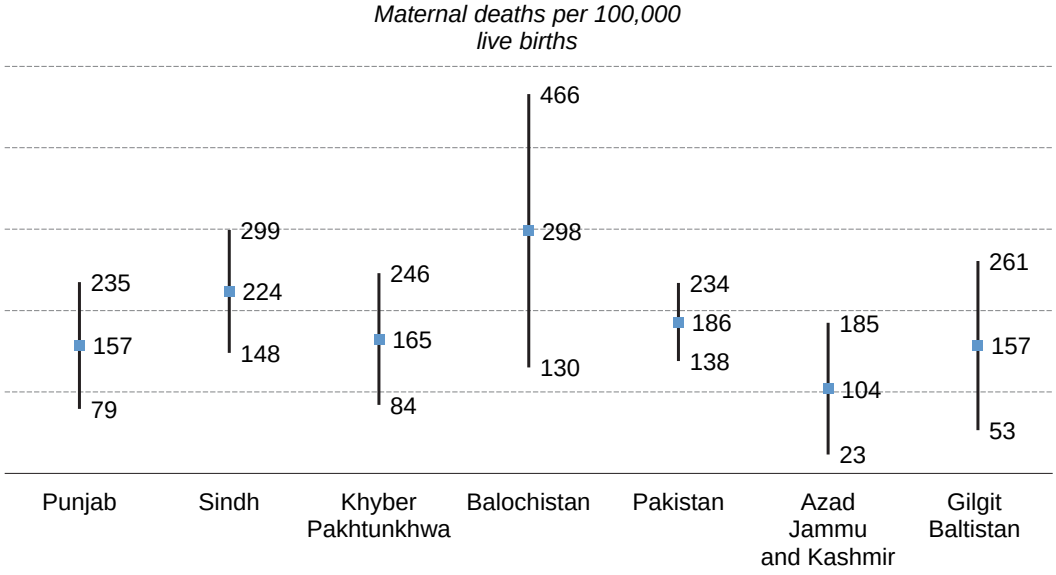


Table 3.14 shows the maternal mortality ratios using the direct method (maternal deaths divided by live births from the household birth records, as reported in the entire sample). The estimated maternal mortality ratio (MMR) is 189 maternal deaths per 100,000 live births. The MMR is higher in rural areas (203 per 100,000 live births) than in urban areas (159 per 100,000 live births). Azad Jammu and Kashmir has a lower MMR of 108 per 100,000 live births, while Gilgit Baltistan has an MMR of 162 per 100,000 live births. Regional variations in the MMR are substantial, ranging from 161 per 100,000 live births in Khyber Pakhtunkhwa to 317 per 100,000 live births in Balochistan.

Table 3.14 Maternal mortality ratio using direct method

Maternal mortality ratios for the 3 years preceding the survey, by residence and region, Pakistan MMS 2019

	Maternal deaths[1]	Live births	Maternal mortality ratio
Residence			
Urban	32	20,333	159
Rural	88	43,290	203
Region			
Punjab[2]	52	31,753	165
Sindh	33	13,786	237
Khyber Pakhtunkhwa[3]	23	14,075	161
Balochistan	13	4,010	317
Total[4]	120	63,623	189
Azad Jammu and Kashmir	9	8,501	108
Gilgit Baltistan	12	7,712	162

[1] A maternal death is defined as the death of a woman while pregnant or during childbirth or within 42 days after delivery, for which there was a verbal autopsy which was classified as being either a direct or indirect maternal death
[2] Punjab includes ICT
[3] Khyber Pakhtunkhwa includes the merged districts of former FATA
[4] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

3.10 PREGNANCY-RELATED MORBIDITY

The 2019 PMMS asked women of reproductive ages for information about any major or minor morbidities or complications they experienced during pregnancy, delivery, or the postpartum period (up to 42 days after termination of the pregnancy), as well as their treatment-seeking behaviour for these complications. This section presents the findings on pregnancy-related morbidity as reported by women. The focus is on women's self-reported symptoms and on any illnesses about which their healthcare provider informed them. We also asked what treatment the women sought for these problems, and if they had any illnesses before the pregnancy. These questions were asked about the woman's most recent pregnancy that occurred during the 3 years prior to the survey.

3.10.1 Women's Reporting on Complications during Pregnancy, Childbirth, and the Postpartum Period

Maternal health complications include any health problems reported by the woman during pregnancy or within 42 days of its termination for the most recent pregnancy occurring in the 3 years preceding the survey. The percentage of self-reported symptoms during pregnancy are shown in Table 3.15.

The most common complications that women experienced during pregnancy were: Feeling of extreme weakness, body aches, severe headache, lower abdominal pain, shortness of breath after physical activity, fever, and excessive vomiting. For the most part, urban-rural differences were not major. However, blurring of vision, severe headache, and fever were more common in rural areas, and swelling of the ankles/feet was more common in urban areas. Provincial differences exist in the following complications: Khyber Pakhtunkhwa had the highest percentage of women reporting a feeling of extreme weakness during pregnancy, body aches, lower abdominal pain, and excessive vomiting. Reports of shortness of breath after physical activity were most common in Punjab, and the highest proportion of women reporting fever was in Sindh. Balochistan had the highest proportion of women reporting severe headache and blurring of vision.

Table 3.15 Maternal complications or morbidities reported by women during the last pregnancy

Percentage of self-reported maternal health complications or morbidities during the last pregnancy among ever-married women age 15-49 who had a live birth/stillbirth/miscarriage/abortion during the 3-year period preceding the survey by residence and region, Pakistan MMS 2019

	Residence		Region						
Health complications and morbidities	Urban	Rural	Punjab[1]	Sindh	Khyber Pakhtun-khwa[2]	Balochistan	Total[3]	Azad Jammu and Kashmir	Gilgit Baltistan
Feeling of extreme weakness	56.1	59.0	56.9	55.4	62.9	59.9	58.0	61.0	47.6
Body aches	47.5	42.9	45.1	37.1	51.3	40.6	44.4	59.7	56.8
Lower abdominal pain	39.2	42.7	39.7	40.1	47.8	40.4	41.5	45.7	58.8
Severe headache	36.2	44.2	41.8	41.8	39.5	45.1	41.5	44.4	45.8
Fever	34.6	40.9	36.2	46.3	38.0	35.7	38.8	39.0	27.0
Shortness of breath after exercise/working	41.9	37.3	43.1	34.8	34.4	31.9	38.8	41.7	34.4
Excessive vomiting	34.5	38.2	33.2	33.9	48.8	39.8	37.0	44.0	37.3
Severe anaemia	29.8	34.6	36.4	29.0	31.1	23.5	33.0	36.7	25.7
Swelling of ankles/feet	38.3	32.1	36.5	32.1	31.7	29.4	34.1	39.7	20.0
General abdominal pain	23.6	28.1	22.1	24.4	37.6	36.1	26.6	39.5	40.2
Burning micturition	22.6	23.3	23.9	21.1	24.1	19.3	23.1	41.6	29.5
Cough	21.2	20.0	20.4	27.2	14.0	17.8	20.4	25.2	11.9
High blood pressure	20.6	18.6	22.1	15.4	16.5	18.9	19.3	28.2	11.0
Blurring of vision	13.7	21.4	16.6	21.7	19.4	25.6	18.8	16.6	13.5
Shortness of breath even at rest	14.9	17.8	16.7	18.9	15.1	16.5	16.8	17.7	15.4
Difficulty in breathing	14.3	14.5	12.1	20.0	13.8	16.0	14.4	14.4	12.0
Loss of weight	10.6	10.5	8.1	12.8	13.5	12.7	10.5	10.6	15.4
Chest pain	8.3	10.4	9.4	10.9	8.7	11.3	9.7	10.9	16.0
Vaginal bleeding	8.8	7.8	8.7	8.0	8.0	3.7	8.1	6.8	7.8
Fits/seizures	0.5	1.0	0.7	1.4	0.5	0.6	0.8	0.6	0.3
Jaundice	3.0	2.8	3.0	3.5	1.4	4.3	2.8	2.0	2.5
Unconsciousness/coma	1.9	3.8	3.3	3.4	2.7	2.8	3.2	3.7	2.4
High sugar level diagnosed as diabetes	2.6	1.8	1.9	2.3	2.1	2.2	2.0	3.9	1.9
Unusually high weight gain	9.7	5.7	7.9	5.7	6.1	8.2	7.1	12.1	5.6
Blood or pus in urine	2.7	3.4	2.5	1.6	6.7	2.9	3.2	7.0	5.0
Swelling over face	20.6	20.4	21.8	20.1	16.8	23.2	20.4	24.0	11.7
Number of women	1,826	3,674	2,836	1,212	1,147	305	5,500	743	640

[1] Punjab includes ICT
[2] Khyber Pakhtunkhwa includes the merged districts of former FATA
[3] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

Four most common complications that women report they experienced during delivery are prolonged labour pains, laceration in the vagina, the baby did not breathe, and the baby's presentation was breech (Table 3.16). Lacerations in the vagina were more common in urban areas than rural areas, but there were not any other major urban-rural differences. Prolonged labour pains were twice as common in Balochistan than in the other provinces.

Table 3.16 Maternal complications or morbidities reported by women during the last delivery

Percentage of self-reported maternal health complications or morbidities during the last delivery among ever-married women age 15-49 who had a live birth/stillbirth during the 3-year period preceding the survey, by residence and region, Pakistan MMS 2019

	Residence		Region						
Health complications and morbidities	Urban	Rural	Punjab[1]	Sindh	Khyber Pakhtun-khwa[2]	Balochistan	Total[3]	Azad Jammu and Kashmir	Gilgit Baltistan
Prolonged labour pains	10.5	12.1	11.4	10.3	10.3	23.2	11.6	17.5	13.3
Laceration in vagina	12.9	6.8	9.3	7.5	10.3	4.2	8.8	11.5	8.3
Baby did not breathe	6.0	5.6	6.5	7.0	3.6	2.2	5.8	11.1	2.0
Baby's presentation was breech	5.7	5.7	7.4	4.1	3.9	4.0	5.7	11.9	4.6
Excessive bleeding before baby came out	4.1	4.1	3.9	4.7	3.6	5.4	4.1	8.7	4.4
Excessive bleeding after baby came out	3.2	3.3	2.7	4.2	2.9	6.2	3.3	8.7	8.0
Excessive bleeding after delivery of placenta	4.7	4.1	3.8	5.7	3.5	6.2	4.3	8.3	12.5
Retained placenta	1.9	1.8	1.8	1.7	2.2	0.8	1.8	4.1	1.4
Umbilical cord was wrapped around baby's neck	4.4	4.6	4.8	5.3	2.9	4.7	4.5	10.2	1.5
Baby was premature	5.0	4.2	4.4	6.5	2.9	2.2	4.4	9.5	4.7
Baby's presentation was hand first	0.9	0.8	0.5	1.6	0.9	0.4	0.8	1.8	0.3
Number of women	1,593	3,276	2,470	1,095	1,020	284	4,869	660	575

[1] Punjab includes ICT
[2] Khyber Pakhtunkhwa includes the merged districts of former FATA
[3] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

Complications during the first 40 days after delivery, as reported in Table 3.17, include a feeling of extreme weakness, pallor, fever, and increased frequency of urine. Almost half of all women (48%) report feeling extreme weakness, with the highest percentage reported by women in Khyber Pakhtunkhwa (56%), followed by women in Balochistan (50%).

Table 3.17 Maternal complications or morbidities reported by women during postpartum period

Percentage of self-reported maternal health complications or morbidities during the first 40 days after delivery among ever-married women age 15-49 who had a live birth/stillbirth/miscarriage/abortion during the 3-year period preceding the survey, by residence and region, Pakistan MMS 2019

	Residence		Region						
Health complications and morbidities	Urban	Rural	Punjab[1]	Sindh	Khyber Pakhtun-khwa[2]	Balochistan	Total[3]	Azad Jammu and Kashmir	Gilgit Baltistan
Feeling of extreme weakness	45.9	49.1	47.7	41.3	55.5	49.6	48.0	54.7	40.0
Pallor	31.0	33.3	34.3	17.4	45.3	28.1	32.5	45.3	39.6
Fever	30.0	33.1	32.0	39.6	25.1	29.0	32.0	28.4	15.7
Breast tenderness	17.1	14.1	18.5	11.0	11.8	12.5	15.1	20.9	18.6
Increased frequency of urine	14.4	17.9	16.8	10.6	22.4	19.7	16.7	23.8	20.2
Burning micturition	12.3	15.7	14.6	11.1	18.0	15.1	14.6	24.4	14.1
Shortness of breath	15.0	14.5	15.6	14.9	11.3	17.6	14.7	20.1	5.6
Swelling and pain in one or both legs	12.2	12.8	12.1	9.3	18.0	10.1	12.6	13.8	5.5
Vaginal discharge of foul-smelling material	9.9	12.3	12.8	11.2	7.5	16.4	11.5	14.2	5.8
Cough with difficulty in breathing	8.3	7.4	8.0	11.7	3.2	5.5	7.7	11.3	2.6
Heavy bleeding/excessive bleeding	6.8	7.0	7.5	7.6	4.2	9.1	6.9	13.8	17.5
Breast swelling	7.6	5.7	7.5	4.4	5.4	6.6	6.3	12.4	5.6
Seizures/fits	0.6	0.7	0.6	0.9	0.5	0.8	0.7	0.7	0.3
Jaundice	2.3	2.4	2.4	2.8	1.5	3.7	2.4	0.4	0.8
Breast infection	1.2	1.5	1.4	0.6	1.9	2.4	1.4	4.1	0.6
Tear/ulcer in breast	2.4	1.2	2.0	0.9	1.4	0.9	1.6	1.9	1.7
Fever related with wound (C-section)	6.2	4.3	6.0	4.7	3.2	2.3	4.9	8.3	2.8
Number of women	1,826	3,674	2,836	1,212	1,147	305	5,500	743	640

[1] Punjab includes ICT
[2] Khyber Pakhtunkhwa includes the merged districts of former FATA
[3] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

3.10.2 Complications and Morbidities about which Women were Informed by their Healthcare Provider

Table 3.18 shows the percentage of last live births, stillbirths, miscarriage, or abortions in the 3 years preceding the survey for which were informed about complications by a healthcare provider at any time during pregnancy, during delivery, or within the first 40 days after delivery.

Maternal health complications most often informed by a healthcare provider to women during pregnancy, delivery, or in the first 40 days after delivery include high blood pressure, problems associated with the position of the baby, and slow growth of the baby inside the womb. There were no major urban-rural differences in the complications informed to women by a healthcare provider.

Table 3.18 Maternal health complications informed by healthcare provider

Percentage of last live births/stillbirths/miscarriages/abortions in the last 3 years for which women were informed by a healthcare provider about complications during pregnancy, delivery, or after delivery, by residence and region, Pakistan MMS 2019

	Residence		Region						
Health complications and morbidities	Urban	Rural	Punjab[1]	Sindh	Khyber Pakhtun-khwa[2]	Balochistan	Total[3]	Azad Jammu and Kashmir	Gilgit Baltistan
High blood pressure	14.8	13.6	16.9	11.3	11.5	7.0	14.0	20.7	7.9
Problems associated with the position of baby	7.8	7.3	10.2	4.2	4.8	4.3	7.4	12.4	6.5
Slow growth of baby inside the womb	6.6	4.9	7.8	3.6	2.3	3.1	5.5	5.6	2.8
Uterine prolapse	4.2	4.3	4.1	3.7	4.8	5.7	4.3	5.8	6.6
Jaundice and/or hepatitis	2.8	3.0	3.2	3.3	1.7	3.4	2.9	2.2	1.2
Problems associated with placenta	3.0	2.7	3.8	2.7	1.2	0.6	2.8	3.6	2.1
Blood deficiency	3.0	2.7	4.4	1.7	0.7	0.0	2.8	0.5	0.0
Postpartum infection/sepsis	3.0	2.0	2.5	1.6	3.2	0.6	2.4	8.2	0.9
Pneumonia	0.4	0.5	0.7	0.2	0.4	0.4	0.5	2.5	0.9
Embolism	0.4	0.6	0.6	0.3	0.1	1.6	0.5	4.0	4.7
Diabetes	1.1	1.1	1.1	1.3	1.0	0.0	1.1	2.3	1.0
Preeclampsia	1.3	1.7	1.3	0.8	2.9	1.2	1.5	4.3	0.7
Allergy	0.8	1.7	2.1	0.3	1.0	0.0	1.4	0.6	0.3
Low blood pressure	1.0	1.0	1.2	1.1	0.7	0.0	1.0	0.4	0.1
Weakness	0.3	0.6	0.4	0.0	1.6	0.0	0.5	0.0	0.0
Number of women	1,807	3,626	2,802	1,201	1,131	299	5,433	739	624

[1] Punjab includes ICT
[2] Khyber Pakhtunkhwa includes the merged districts of former FATA
[3] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

3.10.3 Treatment-seeking Behaviour

Women were asked whether during the last pregnancy, childbirth, or postpartum period they were treated for any health conditions. Table 3.19 shows that treatment seeking for anaemia, severe nausea and vomiting during pregnancy, and high blood pressure were relatively high for all women age 15-49 in Pakistan. Though the prevalence of high blood pressure is similar in urban and rural areas, urban women were more likely to receive treatment (17%) than rural women (14%). More than one-fourth of all women (27%) received treatment for anaemia, with the highest percentage of women treated for anaemia in Azad Jammu and Kashmir (34%), followed by Punjab (31%).

Table 3.19 Seeking treatment for maternal complications informed by healthcare provider

Percentage of last live births, stillbirths, miscarriages, or abortions in the last 3 years for which women were informed by a healthcare provider about complications during pregnancy, delivery, or after delivery and for which treatment was sought, by residence and region, Pakistan MMS 2019

	Residence		Region						
Health complications and morbidities	Urban	Rural	Punjab[1]	Sindh	Khyber Pakhtun-khwa[2]	Balochistan	Total[3]	Azad Jammu and Kashmir	Gilgit Baltistan
Anaemia	27.5	27.4	31.1	21.8	26.7	17.5	27.4	34.3	19.8
High blood pressure	16.5	13.9	17.8	11.4	11.9	11.2	14.8	23.5	6.6
Severe nausea and vomiting during pregnancy	19.3	18.0	17.8	17.8	23.0	9.7	18.5	22.2	10.3
Diabetes	1.1	1.2	1.3	1.1	1.0	0.6	1.2	1.6	0.4
Chest infection	2.3	2.3	1.9	1.4	4.4	2.3	2.3	3.3	2.3
Any other infection	3.0	3.7	2.2	2.0	8.8	0.5	3.5	6.7	1.3
Preeclampsia	1.2	1.4	0.9	1.1	2.7	1.0	1.3	5.0	0.4
Premature foetus	3.0	2.0	3.2	2.1	0.8	0.6	2.3	1.9	1.6
Preterm labour	2.3	1.7	2.4	1.8	1.0	1.0	1.9	4.6	1.7
Urinary tract infection	3.5	2.8	1.6	2.7	7.5	1.3	3.0	6.5	5.9
Jaundice	1.2	1.9	1.4	2.3	1.6	1.9	1.7	1.8	1.5
Protein/albumin in urine	0.8	0.7	0.7	0.6	0.9	0.8	0.7	2.6	0.2
Uterus related issues	0.2	0.4	0.5	0.2	0.1	0.0	0.3	0.1	0.3
Low blood pressure	1.3	1.9	1.9	1.3	2.0	0.0	1.7	0.8	0.3
Blood deficiency	0.2	0.2	0.5	0.0	0.0	0.0	0.2	0.0	0.0
Weakness	1.7	1.3	1.6	1.1	1.7	0.0	1.4	0.2	0.0
Fever	3.8	3.8	5.9	1.7	1.8	0.1	3.8	3.0	0.4
Other	4.3	3.7	5.2	3.1	2.5	0.3	3.9	1.8	1.4
Number of women	1,826	3,674	2,836	1,212	1,147	305	5,500	743	640

[1] Punjab includes ICT
[2] Khyber Pakhtunkhwa includes the merged districts of former FATA
[3] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

3.10.4 Reporting of Morbidities before Last Pregnancy

The PMMS also collected information about complications and conditions experienced by women before their last pregnancy. Table 3.20 shows that women in Pakistan most often experienced the following complications before the conception of their last pregnancy: severe anaemia and high blood pressure (17% and 11%, respectively). Severe anaemia is somewhat higher among rural women (18%) than urban women (14%). Surgical operations are more prevalent in urban areas (8%) than rural areas (5%). There are provincial differences in the prevalence of severe anaemia, high blood pressure, kidney problems, and surgical operations. Severe anaemia was reported by the highest proportion of women in Khyber Pakhtunkhwa (18%), followed by Punjab (17%), and Baluchistan and Sindh (14% each). Women in Azad Jammu and Kashmir reported a much higher experience of severe anaemia, high blood pressure, and kidney problems (24%, 15%, and 14%) than women elsewhere.

Table 3.20 Morbidities reported by women before last pregnancy

Maternal health complications or morbidities before the last pregnancy among ever-married women age 15-49 who had a live birth/stillbirth/miscarriage/ abortion during the 3 year period preceding the survey, by residence and region, Pakistan MMS 2019

	Residence		Region						
Health conditions and morbidities	Urban	Rural	Punjab[1]	Sindh	Khyber Pakhtun-khwa[2]	Balochistan	Total[3]	Azad Jammu and Kashmir	Gilgit Baltistan
Severe anaemia	14.1	17.7	17.0	14.1	18.2	14.2	16.5	24.4	17.3
High blood pressure	11.2	10.5	12.2	8.4	9.6	10.4	10.7	15.4	5.5
Kidney problem	4.1	7.3	5.1	3.1	12.1	7.3	6.3	14.0	11.3
Varicose veins	2.8	3.9	2.8	3.0	5.1	6.5	3.5	11.3	1.4
Diabetes	0.6	0.4	0.3	0.8	0.5	0.0	0.5	1.4	0.7
Obesity	4.7	2.2	3.8	1.0	3.2	2.9	3.0	6.3	1.4
Chest infection other than tuberculosis	0.5	0.4	0.6	0.3	0.3	0.3	0.4	1.0	0.3
Tuberculosis	0.6	0.6	0.3	1.1	0.9	0.5	0.6	1.8	2.4
Hepatitis	1.7	1.8	1.6	3.1	1.0	0.9	1.7	1.4	0.3
Epilepsy	0.1	0.2	0.1	0.3	0.2	0.1	0.1	0.5	0.2
Sexually transmitted diseases	0.2	0.8	0.1	0.9	0.9	2.8	0.6	0.0	0.4
Low blood pressure	1.6	1.5	2.1	0.6	1.6	0.0	1.6	1.2	0.7
Other	2.2	1.9	2.1	1.7	2.2	1.0	2.0	1.2	1.4
Surgical operation (other than C-section operation)	8.1	5.4	7.1	4.3	6.1	7.4	6.3	11.8	8.1
Number of women	1,826	3,674	2,836	1,212	1,147	305	5,500	743	640

[1] Punjab includes ICT
[2] Khyber Pakhtunkhwa includes the merged districts of former FATA
[3] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

3.10.5 One or More Maternal Complications or Morbidities

Table 3.21 shows the percentage of women who reported one or more maternal complications or morbidities during pregnancy, during delivery, or during the postpartum period (up to 42 days after the termination of a pregnancy), complications diagnosed by a healthcare provider, treatment seeking behaviour for these complications, and the experience of one or more complications before the last pregnancy among ever-married women age 15-49 who had a live birth, stillbirth, miscarriage, or abortion during the 3-year period preceding the survey by background characteristics.

Almost all women (93%) reported one or more complications during pregnancy, followed by in the first 40 days after delivery (73%), and during delivery (34%). Considerable variation in the experience of one or more complications is noted across the provinces. The experience of one or more complications during pregnancy and in the postpartum period was highest among women in Khyber Pakhtunkhwa (95% and 76%, respectively) and lowest in Sindh (88% and 69%, respectively). Complications during delivery were highest in Punjab (37%) and lowest in Khyber Pakhtunkhwa (29%). In Azad Jammu and Kashmir and Gilgit Baltistan, one or more complications were reported most often during pregnancy, followed by the first 40 days after delivery and then during delivery.

Table 3.21 Percentage distribution of one or more than one maternal complication or morbidity

Maternal health complications reported by women during pregnancy, delivery, or after delivery, complications diagnosed by a healthcare provider, treatment seeking and the experience of complications before the last pregnancy among ever-married women age 15-49 who had a live birth/stillbirth/miscarriage/abortion during the 3 year period preceding the survey, by background characteristics, Pakistan MMS 2019

Background characteristic	Percentage who had one or more complications during last pregnancy	Percentage who had one or more complications within the first 40 days of delivery	Percentage who sought treatment for one or more complications	Percentage who had one or more complications before the last pregnancy	Total number of women who had a live birth/stillbirth/ miscarriage/ abortion	Percentage who had one or more complications during last delivery	Total number of women who had a live birth/stillbirth	Percentage who had one or more complications diagnosed by a healthcare provider	Total number of women informed by a healthcare provider
Age at birth									
<20	92.4	73.3	47.0	27.1	518	39.2	462	30.7	515
20-34	92.7	72.0	52.5	36.8	4,210	33.8	3,764	33.4	4,164
35-49	92.7	76.2	52.0	43.6	771	32.1	644	37.1	753
Birth order									
1	90.5	68.4	52.6	24.4	1,023	40.6	917	32.9	1,016
2-3	92.5	73.5	50.1	36.3	1,855	31.3	1,680	33.1	1,830
4-5	94.1	74.3	53.4	41.9	1,417	32.7	1,253	34.7	1,403
6+	93.2	73.4	52.4	42.2	1,204	34.5	1,019	34.1	1,185
Education									
No education	92.1	73.9	47.6	37.2	2,799	31.9	2,520	29.8	2,764
Primary	93.7	72.7	58.8	39.2	969	34.3	843	35.1	957
Middle	94.5	71.0	56.9	38.7	475	41.9	416	40.6	463
Secondary	91.1	69.9	51.8	32.5	575	37.1	508	39.1	571
Higher	93.6	71.4	56.5	34.1	683	35.1	581	38.1	678
Wealth quintile									
Lowest	93.1	77.2	44.0	33.2	1,176	33.9	1,063	28.0	1,162
Second	93.7	73.9	52.5	39.1	1,090	32.4	983	31.6	1,077
Middle	90.9	72.4	52.4	41.2	1,130	34.9	985	34.6	1,113
Fourth	92.6	71.8	56.3	39.1	1,127	33.9	991	36.0	1,110
Highest	93.2	67.7	55.1	30.9	977	35.5	847	39.0	972
Residence									
Urban	92.2	72.7	53.2	36.3	1,826	35.8	1,593	35.8	1,807
Rural	92.9	72.8	51.3	37.1	3,674	33.2	3,276	32.6	3,626
Region									
Punjab[1]	93.7	73.6	56.7	38.4	2,836	36.7	2,470	40.7	2,802
Urban	95.1	78.9	60.0	41.6	989	38.0	842	44.2	982
Rural	93.0	70.8	55.0	36.7	1,846	36.0	1,628	38.9	1,820
Sindh	88.4	68.5	43.7	29.1	1,212	33.4	1,095	26.1	1,201
Urban	86.7	62.6	43.0	26.2	578	31.5	515	24.7	571
Rural	90.0	73.9	44.2	31.7	634	35.0	580	27.3	629
Khyber Pakhtunkhwa[2]	95.4	76.1	54.3	41.8	1,147	28.5	1,020	28.3	1,131
Urban	95.4	73.4	57.7	40.1	170	35.7	156	32.6	167
Rural	95.4	76.6	53.7	42.1	977	27.2	863	27.6	964
Balochistan	89.7	68.8	31.0	34.5	305	33.8	284	18.6	299
Urban	90.0	66.6	34.9	36.2	88	39.7	79	20.5	87
Rural	89.6	69.7	29.4	33.8	217	31.5	205	17.8	212
Total[3]	92.7	72.7	51.9	36.8	5,500	34.1	4,869	33.7	5,433
Region									
Azad Jammu and Kashmir	96.0	75.3	58.7	48.2	743	48.0	660	44.6	739
Urban	94.9	68.6	53.9	49.2	107	44.3	92	41.9	106
Rural	96.2	76.4	59.5	48.0	636	48.6	568	45.0	633
Gilgit Baltistan	93.2	69.5	36.4	36.4	640	36.7	575	25.4	624

[1] Punjab includes ICT
[2] Khyber Pakhtunkhwa includes the merged districts of former FATA
[3] Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

More than one-third (34%) of women experienced one or more complications about which their healthcare provider informed them at any time during their pregnancy, delivery, or the postpartum period. Forty-one percent of women with middle level education were informed about one or more complications during pregnancy, delivery, or the postpartum period, compared with only 30% of women with no education. Women in the lowest wealth quintile were less likely (28%) to be informed about maternal complications than women in the highest wealth quintile (39%). Among the provinces, only 19% of women in Balochistan were informed about complications by a healthcare provider, compared with 41% of women in Punjab.

Half of the women in Pakistan sought treatment for one or more complications they had during pregnancy, delivery, or the postpartum period. The proportion of women who sought treatment for one or more

complications was lowest among women with no education (48%), women in the lowest wealth quintile (44%), and women in Balochistan (31%).

More than one-third (37%) of women age 15-49 experienced at least one maternal complication or morbidity before conception. Older women age 35-49 (44%) were more likely than women under age 20 (27%) to report one or more complications before pregnancy. The experience of one or more complications before pregnancy increases with the birth order, from 24% of first births to 42% of births of order four and higher.

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