



Pakistan

2019 Maternal Mortality Survey Summary Report





The 2019 Pakistan Maternal Mortality Survey (2019 PMMS) was implemented by the National Institute of Population Studies (NIPS) under the aegis of the Ministry of National Health Services, Regulations and Coordination, 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. Support for the survey was also provided by the Department for International Development (DFID), the United Nations Population Fund (UNFPA), and Bill and Melinda Gates Foundation (BMGF).

Additional information about the 2019 PMMS may be obtained from the National Institute of Population Studies, Ministry of National Health Services, Regulations and Coordination, National Institute of Health (NIH), Park Road, Chak Shahzad, Islamabad, Pakistan; telephone: +92-51-9255937; fax: +92-51-9255932; internet: www.nips.org.pk.

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ABOUT THE 2019 PAKISTAN MMS

The 2019 Pakistan Maternal Mortality Survey (PMMS) is designed to provide data for monitoring maternal health in Pakistan. The 2019 PMMS is the first nationwide survey on maternal mortality in Pakistan, along with four Demographic and Health Surveys conducted in Pakistan since 1990-91. The objective of the survey was to provide reliable estimates of maternal health, morbidity, and mortality indicators that can be used by programme managers and policymakers to evaluate and improve existing programmes.



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What is the sample design of the survey?

The 2019 PMMS used a multistage and multiphase cluster sampling methodology based on the updated sampling frames from the 2017 Population and Housing Census. The sample design for the 2019 PMMS provides estimates at the national level; for urban and rural areas separately; for four provinces including Punjab (combined with Islamabad Capital Territory), Sindh, Khyber Pakhtunkhwa (combined with FATA), and Balochistan; and for two regions including Azad Jammu and Kashmir (AJK) and Gilgit Baltistan (GB). In total, there are 11 survey domains. The national total for indicators excludes AJK and GB.

In the first phase, all households were asked about births and deaths during the three year period before the survey, including deaths among ever-married women age 15-49. Detailed verbal autopsies were conducted among households that reported at least one death of a woman age 15-49. In the second phase, a subsample of households was randomly selected to provide information on women age 15-49 including a complete pregnancy history.

Who participated in the survey?

A nationally representative sample of 11,859 ever-married women age 15-49 in 108,766 households were interviewed. This represents a response rate of 97% of ever-married women. Overall, 940 verbal autopsy interviews were conducted, representing a response rate greater than 99%. Results of the household, individual, and verbal autopsy interviews for Pakistan, AJK, and GB are presented in the table below.

Results of Household, Individual, and Verbal Autopsy Interviews in the 2019 Pakistan Maternal Mortality Survey			
Households	Pakistan	AJK	GB
Households selected	116,169	17,510	11,753
Households occupied	110,483	16,755	11,005
Households interviewed	108,766	16,588	10,872
Response rate	98%	99%	99%
Ever-married women age 15-49			
Eligible women	12,217	1,707	1,219
Women interviewed	11,859	1,666	1,178
Response rate	97%	98%	97%
Verbal autopsies			
Number of verbal autopsies/deceased women selected	944	150	88
Number of verbal autopsy interviews	940	149	88
Response rate	>99%	99%	>99%

CHARACTERISTICS OF HOUSEHOLDS AND RESPONDENTS

Household Composition

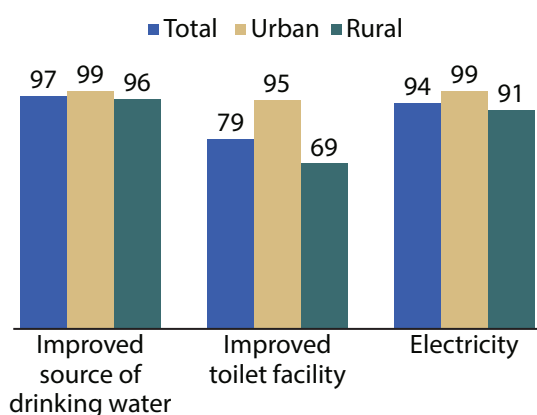
The average household size in Pakistan is 6.7 members. Less than 1 in 10 households are headed by women. Forty percent of the Pakistani population is under age 15.

Water, Sanitation, and Electricity

Nearly all households (97%) have access to an improved source of drinking water. Ninety-nine percent of urban households and 96% of rural households have access to an improved source of drinking water. Nearly 8 in 10 households in Pakistan use an improved toilet facility. Urban households are more likely than rural households to use improved toilet facilities (95% versus 69%). Just 5% of households use an unimproved facility, while 16% have no toilet facility. The majority of Pakistani households have electricity (94%). Nearly all urban households have electricity, compared to 91% of rural households.

Water, Sanitation, and Electricity by Residence

Percent of households with:



NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan



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Ownership of Goods

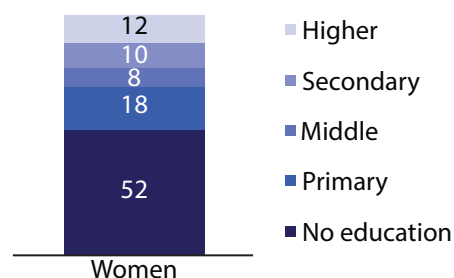
Most Pakistani households have a mobile phone (95%), 62% have a television, and 5% have a radio. Urban households are more likely than rural households to own a mobile telephone or television, and rural households are more likely to own a radio.

Education

Half of ever-married women age 15-49 have no education. About 1 in 5 women (18%) have attended only primary school (classes 1-5), while 8% of women have attended middle school (classes 6-8). Only 10% of women have secondary education (classes 9-10), while 12% of women have higher education (class 11 and above). Three in four women in Balochistan and two-thirds of women in Khyber Pakhtunkhwa have no education.

Education among Women

Percent distribution of ever-married women age 15-49 by highest level of education attended



NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan

CAUSE OF DEATH

Verbal Autopsy

The Verbal Autopsy Questionnaire was adapted from the 2016 World Health Organization (WHO) verbal autopsy instrument. The questionnaire was used to collect information on the deaths of women who died since January 2016 from caretakers of the deceased. Overall, 1,177 questionnaires were completed for women who died in the 3 years before the survey at age 15-49 at the time of death.

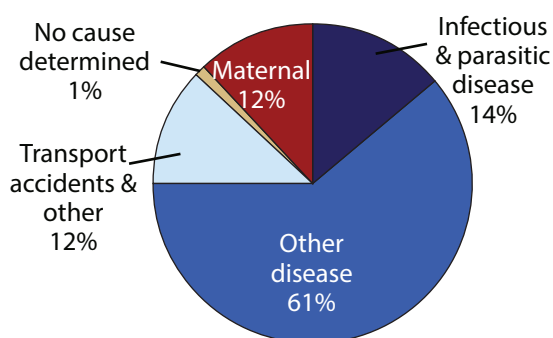
Nine physicians were trained to review the verbal autopsy questionnaires, fill out WHO-style death certificates, and code the cause of death using the International Classification of Diseases, 10th revision (ICD-10). Each questionnaire was reviewed by a panel of 3 physicians. If the physicians disagreed on the cause of death, discordant cases were reviewed by at least 2 of the original reviewers plus 1 lead reviewer who arrived at a consensus on the underlying cause of death.

All-cause Mortality

The most common causes of death included other disease such circulatory disease, neoplasms, and conditions of the nervous, digestive, and respiratory systems (61%), followed by infectious and parasitic disease (14%). Maternal deaths accounted for 12% of all deaths. Twelve percent of deaths were caused by transport accidents and other external causes. The cause of 1% of deaths could not be determined.

All-cause Mortality

Percent distribution of causes of death among women age 15-49 in the 3 years before the survey



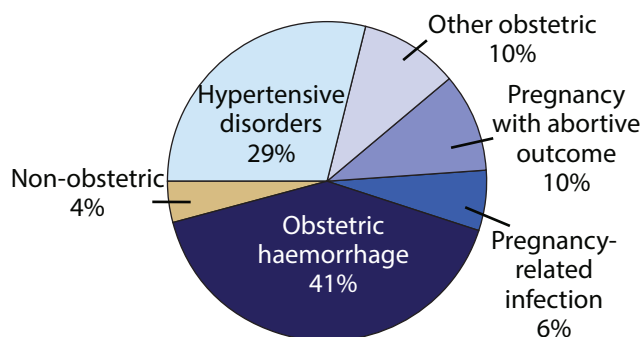
NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan

Maternal Causes of Death

Maternal deaths are divided into two categories. Direct maternal deaths refer to deaths resulting from obstetric complications during pregnancy, labour, or 42 days after delivery or end of pregnancy. Indirect maternal deaths result from non-obstetric complications aggravated by pregnancy, while unspecified maternal deaths have an unknown underlying cause that took place during pregnancy, childbirth, or 42 days after delivery. The majority (96%) of deaths were direct maternal deaths, while 4% of deaths were indirect maternal deaths. Obstetric haemorrhage (41%) is the most common cause of death, followed by hypertensive disorders (29%).

Maternal Causes of Death

Percent distribution of maternal causes of death among women age 15-49 in the 3 years before the survey



NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan

ANTENATAL CARE

Skilled Providers

Nine in ten ever-married women age 15-49 who had a live birth in the 3 years before the survey received antenatal care (ANC) from a skilled provider including an obstetrician/specialist, doctor, nurse/midwife/lady health visitor (LHV), or community midwife (CMW); obstetrician/specialists were the most commonly used providers (46%). Over the past three decades, ANC coverage by a skilled provider has improved dramatically from 26% in 1990-91 to 91% in 2019.

Among women who had a miscarriage or abortion, two-thirds (68%) received ANC from a skilled provider. Ninety percent of women who had a stillbirth received ANC from a skilled provider.

The timing and number of ANC visits are also important. More than half (56%) of ever-married women age 15-49 had their first ANC visit in the first trimester for their most recent live birth or stillbirth, as recommended. Half of women (52%) made four or more ANC visits.

More than two-thirds (68%) of women took iron tablets or syrup during pregnancy. Seventy percent of women's most recent births or stillbirths were protected against neonatal tetanus.

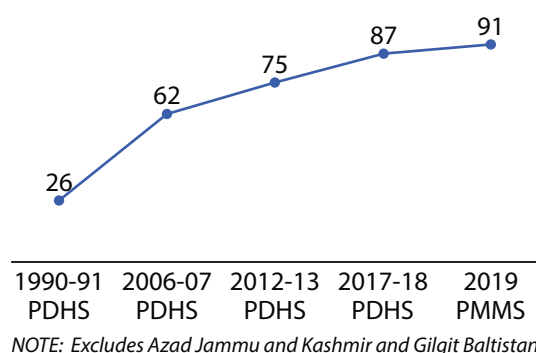
Among women who received ANC for their most recent birth or stillbirth, 89% had their blood pressure measured, 65% had a urine sample taken, and 71% had a blood sample taken. Urban women are more likely to have received these services than rural women. Additionally, two-thirds of women (67%) received advice on the importance of maintaining a balanced diet during pregnancy, and more than half received advice on the importance of exclusive breastfeeding and early initiation of breastfeeding (53% each).



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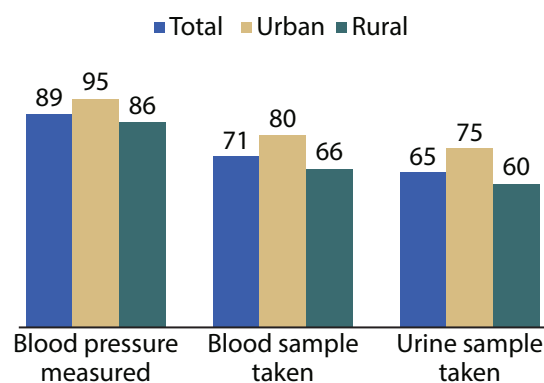
Trends in Antenatal Care Coverage

Among ever-married women age 15-49 who had a live birth in the 3 years before the survey, percent who received ANC from a skilled provider (for most recent live birth)



Components of Antenatal Care by Residence

Among ever-married women age 15-49 with a live birth or stillbirth in the 3 years before the survey, percent who received selected services (for most recent live birth)



DELIVERY CARE



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Delivery Care

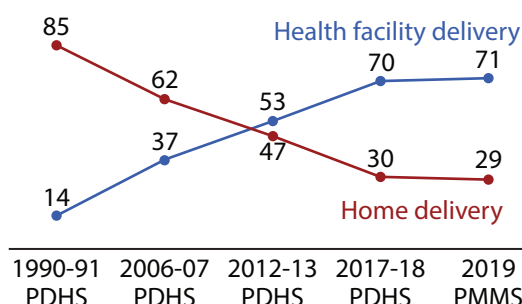
Seventy-one percent of live births are delivered in a health facility, primarily in private sector facilities, while 3 in 10 births are delivered at home. Births to women with higher education (93%) and those in the wealthiest households (90%) are more likely to be delivered at a health facility. Regionally, health facility deliveries range from 51% in Balochistan to 75% in Punjab. Health facility deliveries have dramatically increased since 1990-91 when only 14% of live births were delivered in a health facility. Home deliveries have declined from 85% in 1990-91 to 29% in 2019.

Overall, 74% of live births are assisted by a skilled provider, the majority by an obstetrician/specialist. One in five live births is assisted by a dai or traditional birth attendant (TBA). Women in urban areas (85%), those with higher education (94%), and those living in the wealthiest households (92%) are most likely to receive delivery assistance from a skilled provider.

Nearly one-quarter (23%) of live births are delivered by caesarean section (C-section). C-sections are most common among ever-married women with higher education (46%) and those from the wealthiest households (43%).

Trends in Place of Birth

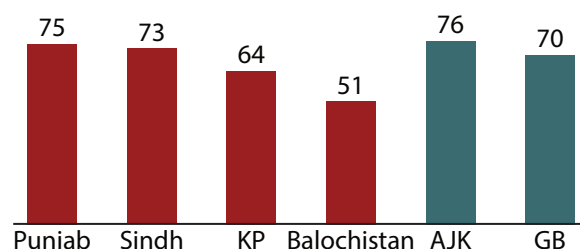
Percent of most recent live births in the 3 years before the survey



NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan

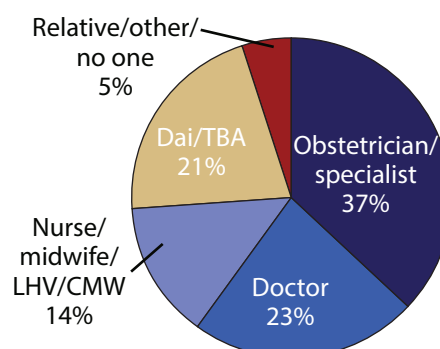
Health Facility Delivery by Region

Percent of most recent live births in the 3 years before the survey delivered in a health facility



Delivery Assistance

Percent distribution of most recent live births in the 3 years before the survey by person providing assistance during delivery



NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan

Pregnancy Outcomes

Among all pregnancies in the 3 years before the survey, 84% resulted in a live birth, 12% in miscarriage, 3% in stillbirth, and 2% in abortion.

Postnatal Care for Mothers

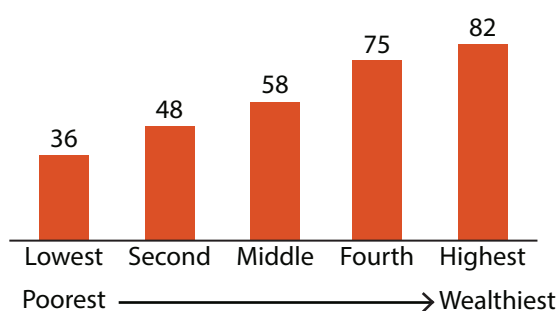
Postnatal care helps prevent complications after childbirth. Nearly 7 in 10 (69%) ever-married women age 15-49 with a live birth or stillbirth in the 2 years before the survey received a postnatal check within 2 days of delivery, while 29% did not have a postnatal check within 41 days of delivery.

Women who delivered in a health facility are twice as likely to have received a postnatal check within 2 days of delivery as women who delivered elsewhere (81% versus 39%). Regionally, postnatal checks within 2 days of delivery range from a low of 31% in Balochistan to a high of 81% in Punjab. Women with no education (58%) and those in the poorest households (53%) are least likely to have received a postnatal check within 2 days of delivery.

The majority of postnatal checks for mothers are performed by a skilled provider (59%). Among women who did not deliver in a health facility, one-third received a postnatal check from a dai/TBA. Postnatal care from a skilled provider increases steadily with household wealth: 82% of ever-married women from the wealthiest households had postnatal care from a skilled provider compared with only 36% of women from the poorest households.

Postnatal Care by Household Wealth

Among ever-married women age 15-49 with a live birth or stillbirth in the 2 years before the survey, percent who received postnatal care from a skilled provider



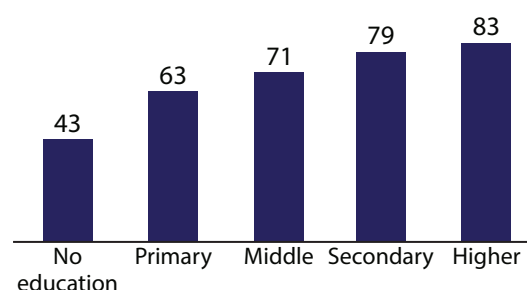
NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan

Complete Maternity Care

Complete maternity care includes ANC, assistance at delivery, and postnatal care from skilled providers. Overall, 57% of live births or stillbirths received complete maternity care, while 5% received none of the three maternal health services. Births to women with higher education (83%) are more likely to receive complete maternity care than births to women with no education (43%).

Skilled Assistance during ANC, Delivery, and Postnatal Care by Education

Percent of most recent live births or stillbirths in the 3 years before the survey assisted by a skilled provider



NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan



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MATERNAL MORBIDITIES

Morbidities during Pregnancy , Delivery, or the Postpartum Period

Maternal health complications include any health problems reported by ever-married women during pregnancy, during childbirth, or within 42 days of the end of the pregnancy. The most common complications women reported during pregnancy were a feeling of extreme weakness (58%), body aches (44%), and lower abdominal pain and severe headache (42% each).

Regionally, health complications vary. More than one-third of women in Punjab reported severe anaemia, compared to 24% of women in Balochistan. About 1 in 5 women in Punjab and Balochistan reported high blood pressure.

Maternal health complications and morbidities were more common during pregnancy than during delivery. The most common complications during delivery were prolonged labour pains (12%), laceration in the vagina (9%), the baby not breathing and breech presentation of the baby (6% each).

Lacerations in the vagina are twice as common in urban areas as rural areas (13% versus 7%). Nearly 1 in 4 women experienced prolonged labour pains in Balochistan. Seven percent of deliveries in Sindh and 4% in Punjab had a premature baby.

Women self-reported health complications within the first 40 days after delivery. A feeling of extreme weakness (48%), pallor (33%), and fever (32%) were the most common complications reported during the postpartum period.

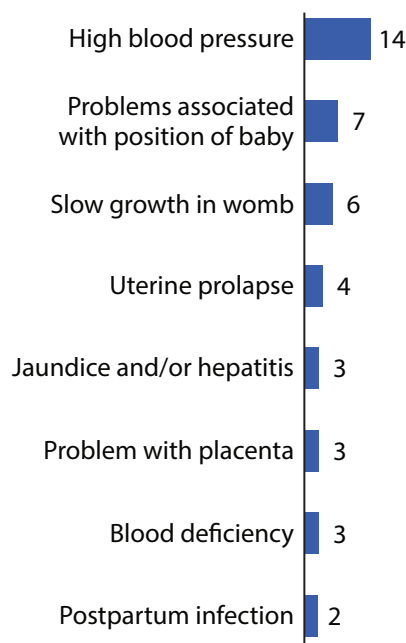
Other conditions were diagnosed by health care providers. Women were most likely to be informed by health providers about high blood pressure (14%) and problems with the position of the baby (7%). Six percent were informed about the slow intrauterine growth of the baby, 4% uterine prolapse, and 3% were informed of jaundice and/or hepatitis, problem with placenta, or blood deficiency.



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Major Maternal Health Complications Diagnosed by a Health Care Provider

Percent of last live births, stillbirths, miscarriages, and abortions in the 3 years before the survey for which women were informed by a health care provider



NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan



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Maternal Morbidities and Treatment

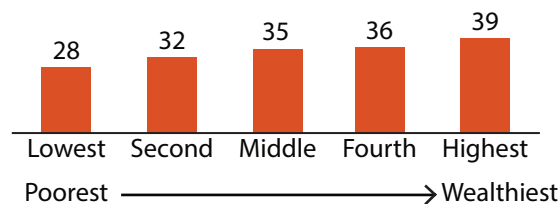
The majority of ever-married women reported one or more complications during pregnancy (93%), delivery (34%), or the postpartum period (73%).

Half of women in Pakistan received treatment for one or more maternal morbidities experienced during pregnancy, delivery or the postpartum period. Treatment seeking is lowest in Balochistan, where 31% of women sought treatment for one or more maternal morbidities and highest in Punjab (57%).

More than one-third of women who experienced complications were diagnosed by a health care provider. Diagnosis of one or more maternal morbidities slightly increases with household wealth, from 28% of women in the poorest households to 39% of women in the wealthiest households.

Maternal Morbidities Diagnosed by a Health Care Provider by Household Wealth

Percent of ever-married women age 15-49 who had a live birth, stillbirth, miscarriage or abortion in the 3 years before the survey who had one or more complications diagnosed by a health care provider



NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan

TREATMENT FOR COMPLICATIONS



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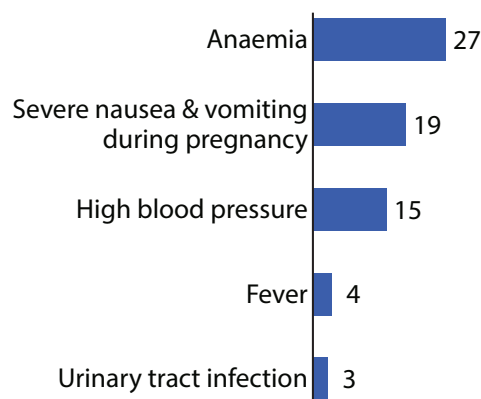
Treatment during Pregnancy

The most common complications during pregnancy identified by health care providers for which women received treatment include anaemia (27%), severe nausea and vomiting during pregnancy (19%), and high blood pressure (15%). Treatment for anaemia ranges from a low of 18% in Balochistan to a high of 31% in Punjab. Treatment for severe nausea and vomiting during pregnancy was highest in Khyber Pakhtunkhwa (23%) and lowest in Balochistan (10%).

Among ever-married women who received ANC for a pregnancy in the 3 years before the survey, 3 in 4 received ANC from a private facility, while 1 in 3 received care from a public facility. Nationally, 9% of women who experienced complications during pregnancy did not receive any antenatal care. ANC treatment among pregnant women with complications was especially rare in Balochistan, where 22% of women with complications did not receive any ANC.

Treatment for Maternal Health Complications

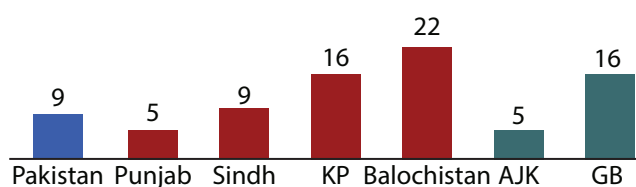
Percent of last live births, stillbirths, miscarriages, and abortions in the 3 years before the survey for which women were informed of complications by a health care provider and received treatment



NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan

Pregnancy Complications among Women with no ANC by Region

Percent of ever-married women age 15-49 with a pregnancy in the 3 years before the survey who reported pregnancy complications and did NOT receive ANC



NOTE: Total excludes Azad Jammu and Kashmir and Gilgit Baltistan

Complications during Delivery

More than 8 in 10 women who reported delivery complications for the most recent live birth or stillbirth were assisted by a skilled provider. Urban women are more likely to receive care for delivery complications from a skilled provider than rural women (92% versus 74%). Skilled assistance during delivery complications was lowest in Balochistan (58%) and highest in Punjab (82%).

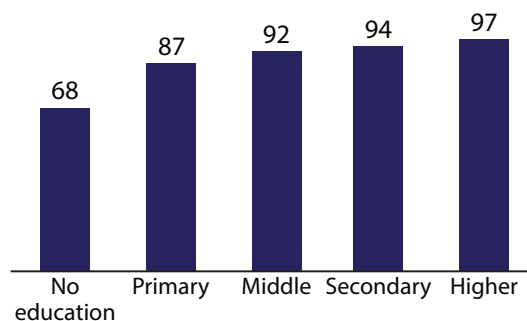
Women with a higher education (97%) are more likely than women with no education (68%) to receive care for delivery complications from a skilled provider. Skilled assistance during delivery complications also increases with household wealth, from 55% in the poorest households to above 90% in the fourth and wealthiest households.

Postpartum Care

Among ever-married women who reported complications during the postpartum period for their most recent live birth, stillbirth, or abortion/miscarriage, 63% received postnatal care from a skilled provider, while 27% received no postnatal care. Obstetrician/specialist was the most common type of provider (24%), followed by nurse/midwife/lady health visitor (20%). Skilled assistance during postpartum complications is twice as high among the wealthiest households as in the poorest households (84% versus 42%).

Skilled Assistance during Delivery Complications by Education

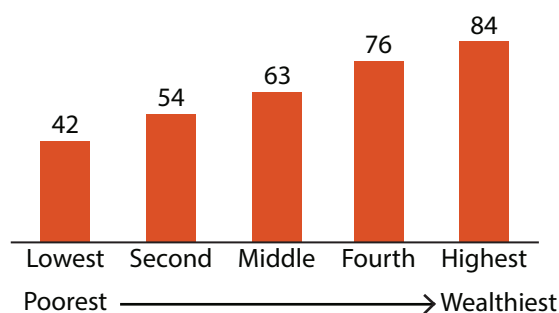
Percent of ever-married women age 15-49 who reported skilled assistance during delivery complications for most recent live birth or stillbirth in the 3 years before the survey



NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan

Skilled Assistance for Postpartum Complications by Household Wealth

Percent of ever-married women age 15-49 who received skilled assistance for postpartum complications for most recent live birth, stillbirth, or abortion/miscarriage in the 3 years before the survey



NOTE: Excludes Azad Jammu and Kashmir and Gilgit Baltistan



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INDICATORS

Adult Mortality Rates	Residence ¹		
	Pakistan ¹	Urban	Rural
Female mortality rate among women age 15-49 per 1,000 persons for the 3-year period before the survey	1.72 ^a	1.45	1.89
Male mortality rate among men age 15-49 per 1,000 persons for the 3-year period before the survey	2.48 ^a	2.43	2.51
Maternal Mortality (in the 3 years before the survey)			
Maternal mortality rate (maternal deaths per 1,000 woman-years)	0.23 ^a	0.16	0.27
Maternal mortality ratio (maternal deaths per 100,000 live births) (Confidence intervals)	186 ^a (138, 234)	158	199
Maternal Health Care (among ever-married women age 15-49)			
ANC visit with a skilled provider ^{2,3} (%)	91	95	89
Births delivered in a health facility ³ (%)	71	83	65
Births assisted during delivery ^{2,3} (%)	74	85	68
Births delivery by caesarean section (C-section) ³ (%)	23	34	18
Postnatal check during first 2 days after birth ^{2,4} (%)	69	80	64
Complete maternity care ^{2,5} (%)	57	72	51
Health Care Seeking (among ever-married women age 15-49 in the 3 years before the survey)			
Women with a pregnancy who reported pregnancy complications and received care during ANC visit with a skilled provider for most recent pregnancy (%)	90	94	88
Women who reported delivery complications during most recent live birth or stillbirth who received assistance from a skilled provider (%)	81	92	74
Women who reported postpartum complications and received postnatal care from a skilled provider for most recent live birth, stillbirth, or abortion/miscarriage (%)	63	76	56

¹Excludes Azad Jammu and Kashmir (AJK) and Gilgit Baltistan (GB).

²Skilled provider includes obstetrician/specialist, doctor, nurse/midwife/lady health visitor, or community midwife.

³Includes only the most recent live birth in the 3 years before the survey.

⁴Includes only the most recent live birth or stillbirth in the 2 years before the survey.

⁵Percent of most recent live births or stillbirths in the 3 years before the survey ANC, assistance at delivery, and postnatal check by a skilled provider.

^aAge-adjusted rate.

	Region					
	Punjab	Sindh	Khyber Pakhtunkhwa	Balochistan	Azad Jammu & Kashmir	Gilgit Baltistan
	1.81	1.79	1.45	1.52	1.79	1.41
	2.64	2.39	2.43	1.50	3.06	2.19
	0.19	0.28	0.23	0.45	0.11	0.22
	157 (79, 235)	224 (148, 299)	165 (84, 246)	298 (130, 466)	104 (23, 185)	157 (53, 261)
	96	89	85	76	97	86
	75	73	64	51	76	70
	78	72	70	55	78	69
	31	25	7	8	32	11
	81	75	44	31	73	41
	66	62	40	25	66	39
	94	89	83	76	95	84
	82	81	84	58	84	79
	70	67	48	36	72	43

