

Chapter 5

# Maternal Health



Pakistan has one of the highest maternal mortality rates in South Asia, with large variations between and within the provinces. Maternal morbidities are high, estimated at 30-50 mothers living with disabilities, often severe, for each maternal death.<sup>75</sup>

Studies have shown that maternal deaths and morbidities are often the result of obstetric complications easily addressed at an emergency obstetric clinic requiring little financial outlay. Government and international donor support has focused on the provision of such facilities, as well as on building technical capacities of the first level of health care providers, including Lady Health Visitors (LHVs) and midwives to identify and manage potential complications. Research has shown that a minimum four ante-natal visits and one postnatal visit to a trained health provider can successfully avert and manage obstetric complications. The Lady Health Workers (LHWs) have been particularly successful in increasing the number of antenatal visits by pregnant women, but their training does not include childbirth and postnatal care. A national maternal and neonatal health (MNCH) program aims to train 12000 community midwives, thereby increasing the number of births attended by skilled birth attendants (SBAs) and reducing dependence on untrained traditional birth attendants or *dais*. However, women, especially in rural areas still depend on *dais*, trained or untrained, for their home-based deliveries (PSLM 2010-11). Health activists have argued that experienced *dais* are not “unskilled” and excluding *dais* from training programs is a disservice to

poor women. Initiatives to train *dais* to manage postpartum hemorrhage (PPH) through home based administration of misoprostol, is cost effective and increases access of women to a lifesaving service.<sup>76</sup>

Global research has shown that social determinants of health influence health disparities and health seeking behavior. While poverty is the most visible cause of poor maternal and reproductive health of women, social and cultural norms lead to delays in health seeking behavior. Delays are caused when complications are not identified in time (lack of education of patient and provider), or in the decision to seek care—the decision to leave the house resides not with the pregnant woman but with her spouse or a family elder, who may draw on custom to deny permission. Costs (of transport, of care), distance to facility, reaching the appropriate facility (lack of transport or its cost, no roads or distance to clinic), and finally delays at the health facility that may be short on staff, supplies of essential drugs, blood, and equipment, can lead to a life lost. Poverty, illiteracy, unequal gender relations, discriminatory cultural practices, and malnutrition among mothers result in maternal deaths and morbidities as well as low birth weight babies, infant mortality and frequent childbearing, punctuated with abortions. Improving MNCH entails recognition of the influence of macroeconomic policies on access to health services, health systems reform, and household and community based interventions.

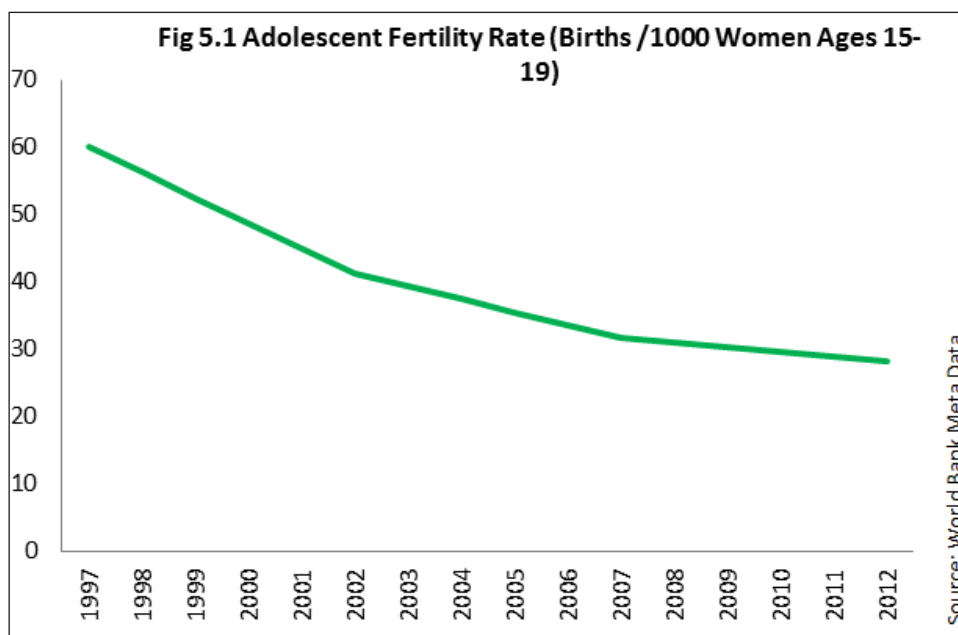
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75 UNICEF Regional Report on Maternal Mortality South Asia.2004 cited in Unicef Situation Analysis 2012, pg51

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76 Madhavan, Supriya, and David Bishai. 2010. Private Sector Engagement in Sexual and Reproductive Health and Maternal and Neonatal Health -A Review of the Evidence. Johns Hopkins Bloomberg School of Public Health.

## Teenage Pregnancies<sup>77</sup>



9% of women ages 15-19 have begun childbearing  
Majority of teenage mothers are ages 18-19

**Table 5.1: Teenage Mothers**

Age of Mother	% Who Have begun Childbearing
15-16	4
17	7
18	13
19	23
Place of residence	
Rural	11
Urban	7

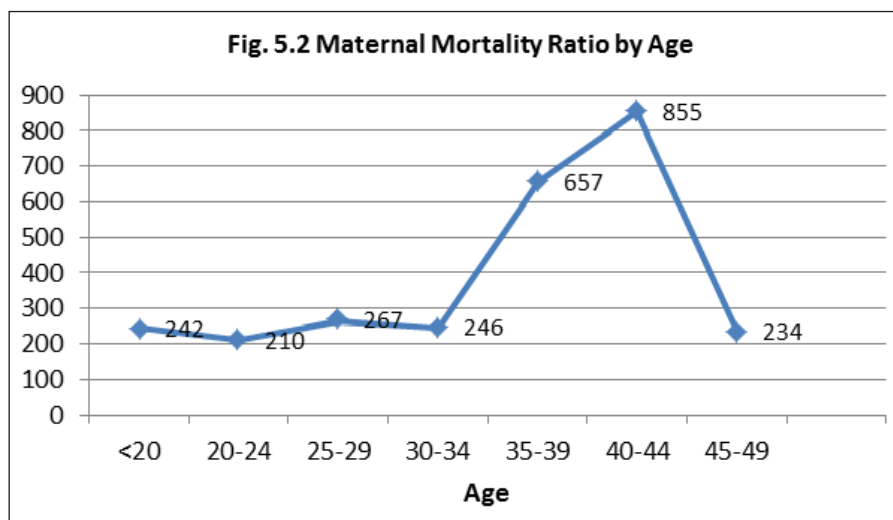
Source: PDHS, 2006-7 Report

The highest percentage of teenagers who had begun childbearing had no education (16%) and lived in poor households (16%).

11% of teenagers in Sindh had begun childbearing compared to 7% in Punjab, 8% in Khyber Pakhtunkhwa and 9% in Balochistan.

77 PDHS 2006-7

## Maternal Mortality and Morbidity

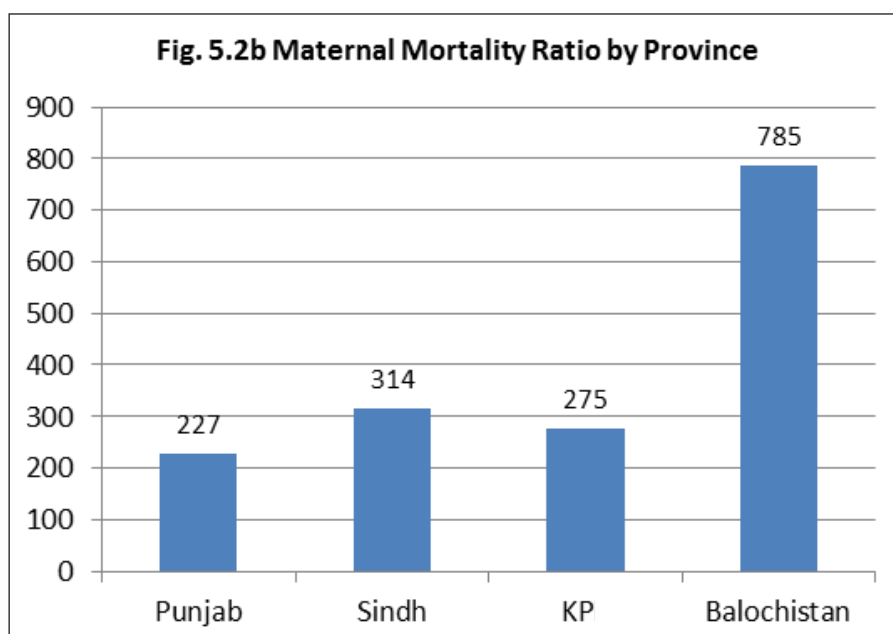


Source: PDHS 2006-7 Report

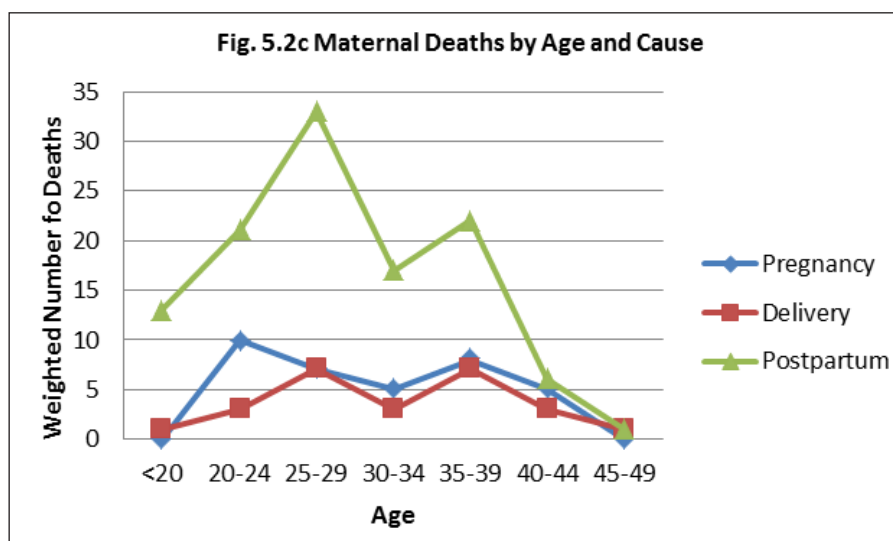
The declining maternal mortality ratio (MMR) in Pakistan, down to 276 per 100,000 is far short of the MDG target ratio of 140 per 100,000. MMR is higher in rural areas at 319 compared to 175 in urban areas. Maternal deaths account for 22% of all adult women's deaths in the rural areas and for 14% in urban areas.

Women in their prime i.e. ages 35-44 years, are most at risk of dying due to childbearing related causes. Pregnancy and childbirth account for one-fifth of all deaths of women in the reproductive age group of 15-49 years.

One woman out of every 89 Pakistani women is likely to die due to pregnancy related complications during her lifetime

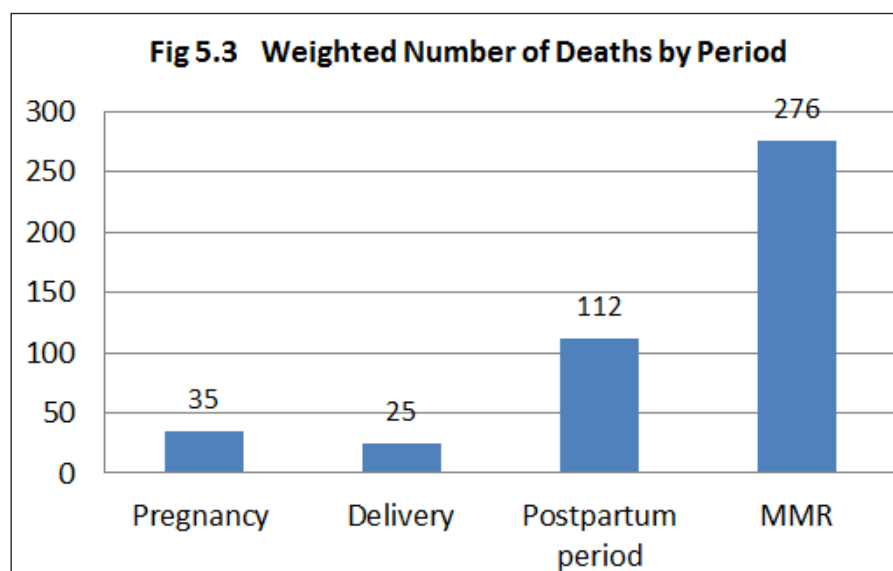


Source: PDHS 2006-7 Report



Source: PDHS 2006-7

More than one-third deaths of women ages 25-29 were due to maternal causes.



Source: PDHS 2006-7 Report

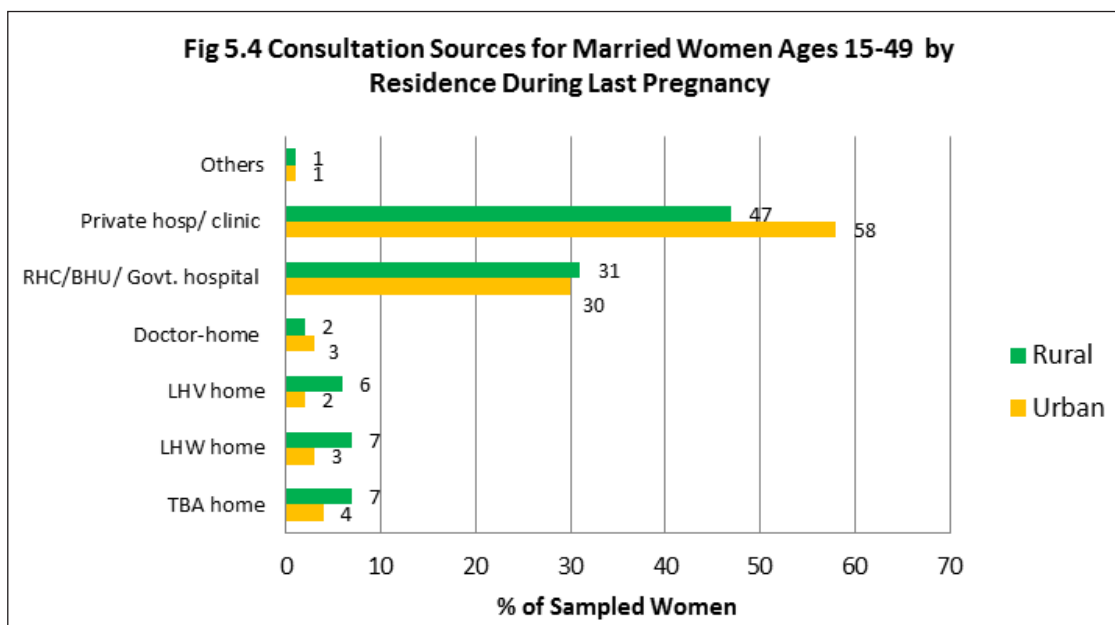
One third of maternal deaths are caused by obstetric bleeding - primarily postpartum hemorrhage (27%) .<sup>78</sup> Yet postpartum care coverage is less as compared to ante-partum coverage.

Other causes are puerperal sepsis (14%) and eclampsia (10%).

13 % of maternal deaths are due to indirect causes, such as hepatitis, cancer, and gastrointestinal disorders.

3 % of ever-married women 15-49 who have ever given birth have experienced symptoms of fistula.

## Seeking Care during Pregnancy



There are regional and provincial differences in who women consult during pregnancy (Annex 2 Table 5.3 and 5.4). Women in urban Sindh are more likely to consult a private hospital or clinic, with a government facility as their second preference. Private healthcare is favored by 56% of women in urban Punjab, 43% in urban Khyber Pakhtunkhwa and 42% in urban Balochistan.

In all the provinces, the likelihood of rural women consulting someone is lower than their urban counterparts, but when they do their preference is also for a private hospital or clinic.

Consultation with providers who are willing to visit women at their homes – doctors, LHV, LHW, and TBAs— is the third preference.

## Prenatal Coverage

- Prenatal consultations increased from 53% in 2006 to 58% 2008/09.<sup>79</sup>
- Prenatal consultations in urban areas were higher at 64-84% and 56% in rural areas.
- Prenatal consultations in FATA were a low 28%.<sup>80</sup>

## Antenatal care coverage (ANC)

Only 0.2 per cent of pregnant women reported no knowledge of antenatal care, yet almost 36% women reported no intention to seek such care.

61% of pregnant women reported at least one antenatal visit, and 28% reported at least 4 visits. In Balochistan only 39% of pregnant women visited a skilled provider for ANC at least once, and only 11% went four times.<sup>81</sup>

62% of pregnant women in Pakistan consult a gynecologist for ANC, 12% consult nurses, 4% consult LHVs and 2% consult LHWs.<sup>82</sup>

38 % of pregnant women nationwide did not receive any supplementation, 46% in rural areas and 24% in urban.

**Table 5.6: Tetanus Immunization for Targeted Pregnant women 2010-11 Coverage %**

Province	TT1	TT2
Punjab	81	83
Sindh	60	60
KP	68	61
Balochistan	42	45
AJK	98	97
FANA*	35	44
FATA	78	86

Source: PRSP II Progress Report 2010-11

\*Federally Administered Northern Areas (FANA) is now a self-governed area known as Gilgit-Baltistan

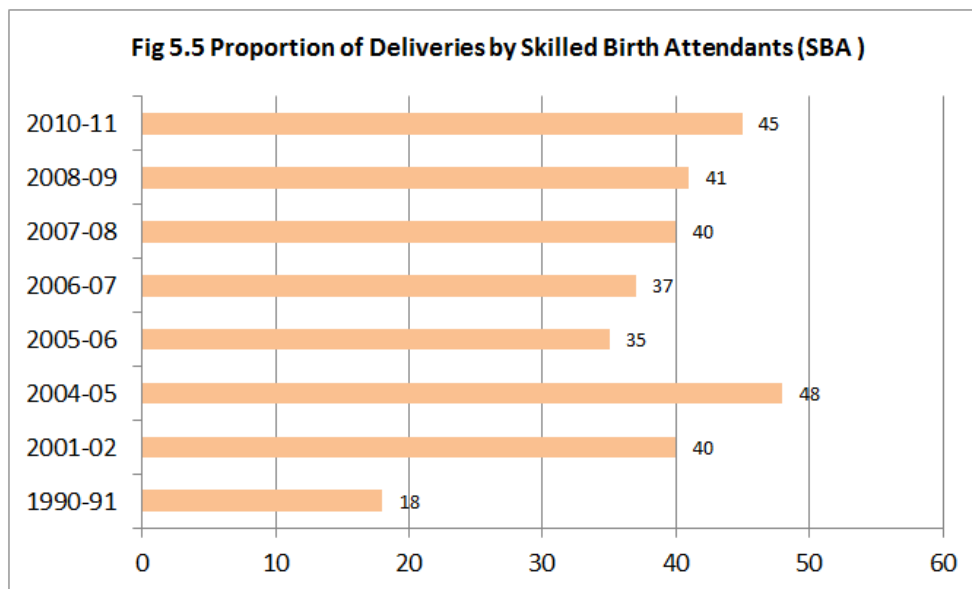
79 PSLM 2006-7 and 2008-9

80 National Nutrition Survey 2011

81 MICS Balochistan Report 2012

82 *ibid*

## Births Attended by Skilled Birth Attendants



Source: Pakistan Millennium Development Goals Report 2010; WHO Pakistan Health Profile

The increase in births attended by SBAs over the period 1990 to 2010 has been quite significant. However the slight decrease in 2005/6 and 2006/7 can be partially attributed to the aftermath of the 2005 earthquake which recorded a loss in trained human resources, as well as a diversion of funds to meet the health needs of the displaced populations (Fig 5.5).

75% of rural childbirths take place at home.

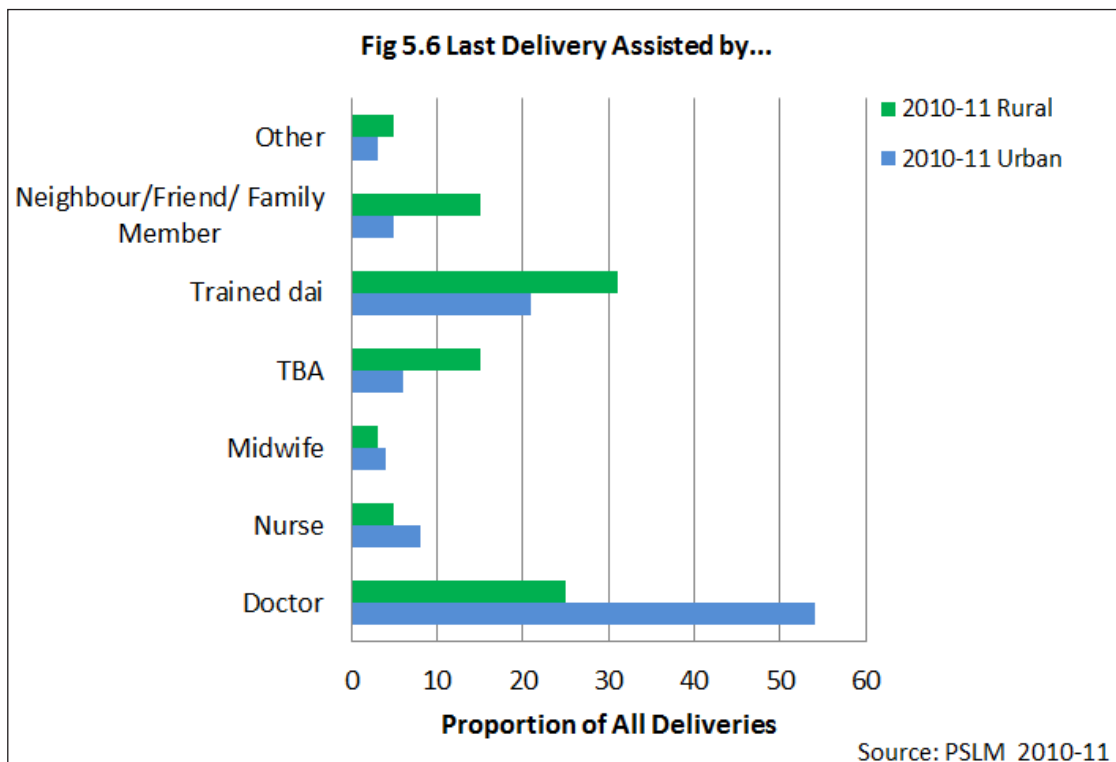
50% of urban childbirths take place in private hospitals and clinics.

Untrained traditional birth attendants (*dais*) assist 54% of rural deliveries and 30% of urban deliveries.

A skilled birth attendant (SBA) attends 25% of births in poor households, compared to 63% in rich households.<sup>83</sup>

83 Alam, A.Y., Nishtar, S., Amjad, S. and Bile, K.M., "Impact of wealth status on health outcomes in Pakistan", Eastern Mediterranean Health Journal, vol. 16, Supplement 2010; PDS 2007





Over 30% of rural deliveries and 20% of urban deliveries are assisted by trained *dai*'s (Traditional Birth Attendants-TBAs) .

25% of rural and 54% of urban babies are delivered by doctors.

15% of rural babies are delivered with the help of *dai*'s (TBAs) and another 15% by family members or neighbors.

There are provincial variations (Annex 5.3 Table 5.5). Urban Sindh has the highest percentage of deliveries assisted by doctors, (64 %), followed by Khyber Pakhtunkhwa (54%) and Punjab (49%). In Balochistan 29% of deliveries were attended by an SBA and 24% took place in a health facility. <sup>84</sup>

Rural Khyber Pakhtunkhwa has the highest number of deliveries assisted by doctors as compared to the rural areas of the other provinces.

84 MICS Balochistan, 2012 Report

## Determinants of Births attended by a Skilled Birth Attendant

The PSLM/HIES data lists childbirth attendants into nine categories. To ascertain the factors which have a significant influence on choice of birth attendants, a multivariate analysis was used that classified them into two categories while adhering to the nomenclature of skilled and unskilled birth attendants. The first group of Skilled Birth Attendants (SBA) includes midwives, trained *dais*, doctors, LHVs, LHWs, and nurses. The second group, unskilled birth attendants includes family members, neighbors, friends and *dai's* (TBA). These were regressed against age, education and work status of married women (ages 15-49), household characteristics (sex of head of household, income of household), distance to health facilities, province and place of residence (urban/rural) (Annex 5.4 Table 5.5).

The results indicate that education is one of the most important determinants in selection of SBAs. As compared to an illiterate woman, even a primary education increases the likelihood of using an SBA by 70%, a middle school education raises the likelihood by 150% while an education of grade 11 and above increases it by almost three times. This comes as no surprise since the link between female education and improved reproductive health choices is well established.

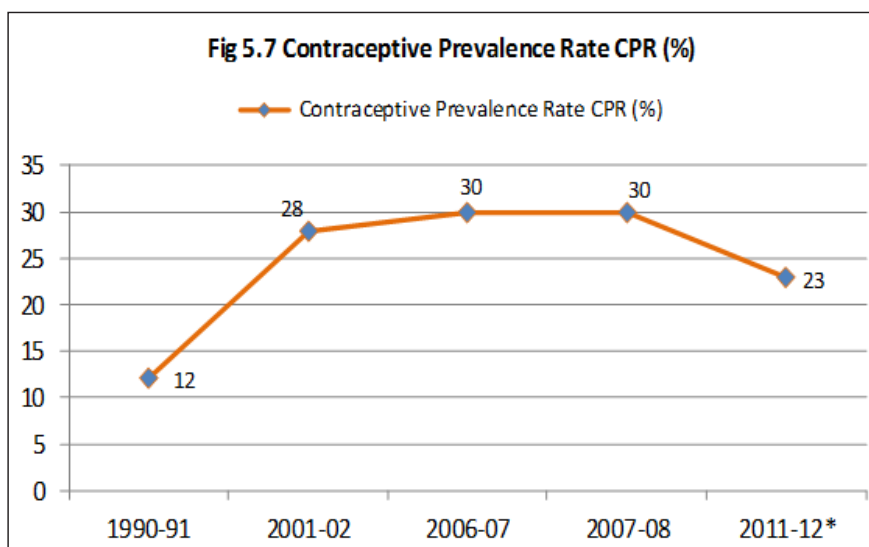
What is surprising is that the women's work status, paid or unpaid, is less likely to influence the choice between an SBA and a non-SBA. If the head of household is a male, the delivery is less likely to be assisted by an SBA, but the finding is not significant.

Households in the higher quintiles are significantly more likely to utilize the services of an SBA. Households in quintile 3 are 38% more likely to choose an SBA than those in quintile 1. The probability increases to 58% for households in quintile 4, and by 133% in quintile 5.

If the pregnant woman has to travel between 15 to 44 minutes to a health facility it has a significant but negative effect on using the services of an SBA during childbirth.

Urban women are 115% more likely to use an SBA for childbirth, while women in provinces other than Punjab are less likely to use the services of an SBA.

## Contraceptive Prevalence Rates



Source: Pakistan MDGs Report 2010; CPR Report 2011-12, Pakistan Bureau of Statistics<sup>85</sup>

Contraceptive Prevalence rates (CPR) remained at 30% for most of the period between 2001-2008. The emphasis on social marketing of contraceptives in the mid-1990s seems to have paid off in increasing the rate to a certain level but not moving beyond that.

Access to services, social barriers and economic condition of the household, all influence the adoption of modern methods.

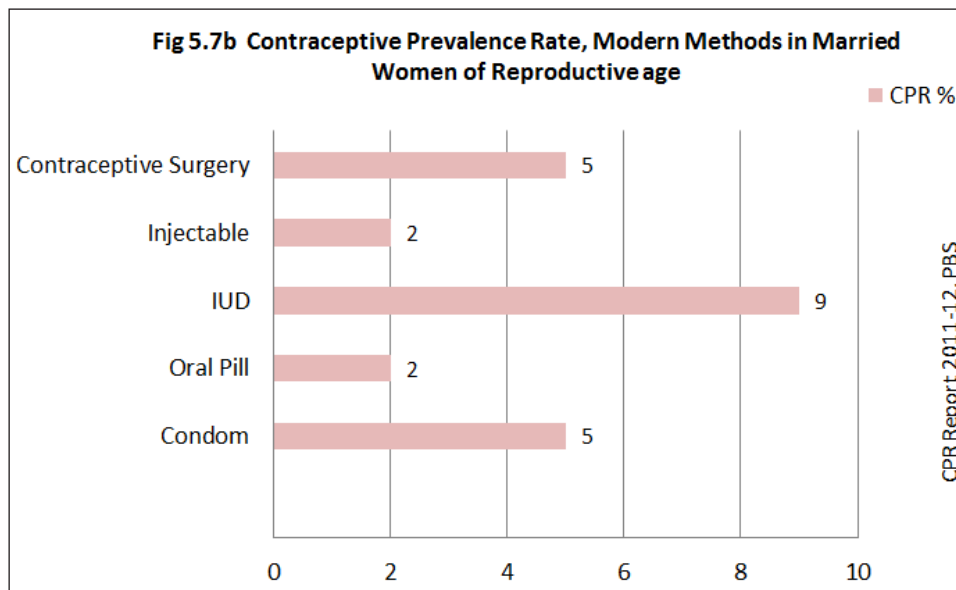
Contraceptive use only begins after the birth of the first child, in deference to social norms that value female fertility.

43% of currently married women with higher education practice contraception in contrast to 25% among women who have no schooling.

43% of women in the highest quintiles use contraceptives compared to only 16% in the lowest quintile.

CPR among married women who are currently working does not differ much from those married women who are not working, and is slightly higher among those who worked *before* marriage. Contraceptive use is the highest among women who worked *after* marriage, signifying that women join the workforce after the family is complete, or those women with family *need* to work and hence practice contraception.

<sup>85</sup> Note: definition for 1990 to 2007/08 is proportion of eligible couples for family planning programmes using one of the contraceptive methods and for 2011-12 the CPR is based on modern methods only



Contraceptive prevalence rates for modern methods, noted in Fig.5.7b above, were only 23% in 2011-12.

One fourth of currently married women use any specific method.

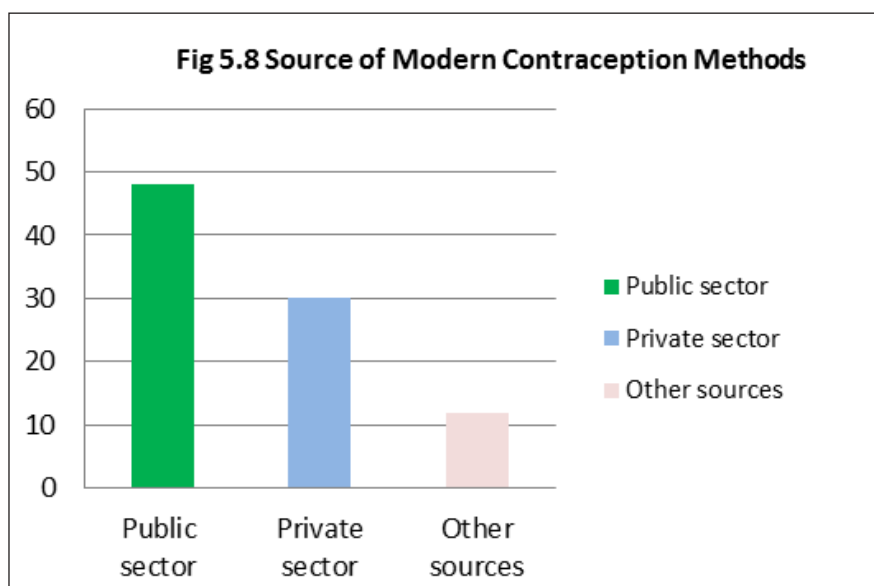
Use of traditional methods is 8% for 2006-7.<sup>86</sup>

41% of urban married women and 24% of rural married women use contraceptives.

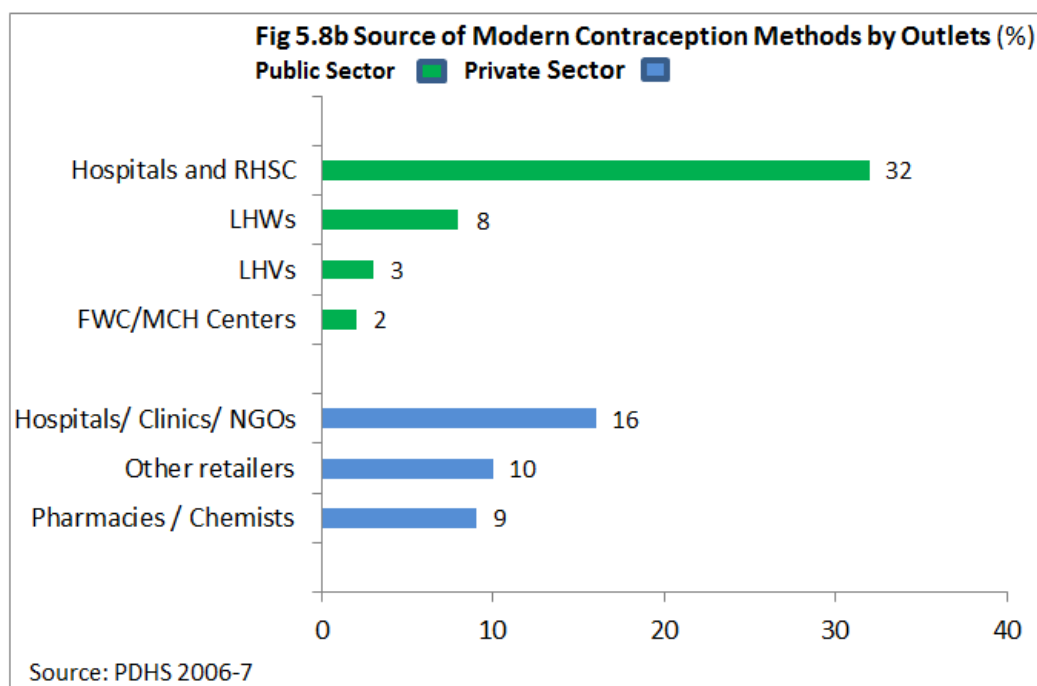
33% of married women in Punjab use contraceptives, compared to only 14% in Balochistan, 25% in Khyber Pakhtunkhwa and 27% in Sindh.

<sup>86</sup> Not shown in Fig 5.7b Taken from PDHS 2006-7

## Access to Contraceptive Services and Information



48% of modern method users access contraceptives at public sector institutions, the majority from hospitals and Reproductive Health Centers (RHSC).



LHWs provide modern contraceptives to only 8% of users.

Private hospitals and clinics provide services to 16 % users of modern methods who utilize non-government sources.

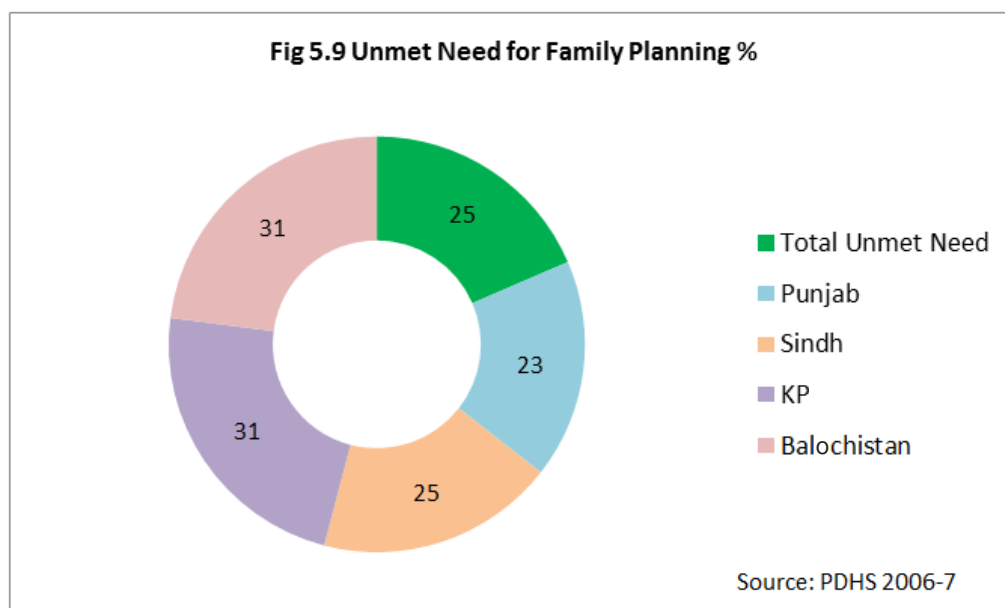
## Access to Family planning information

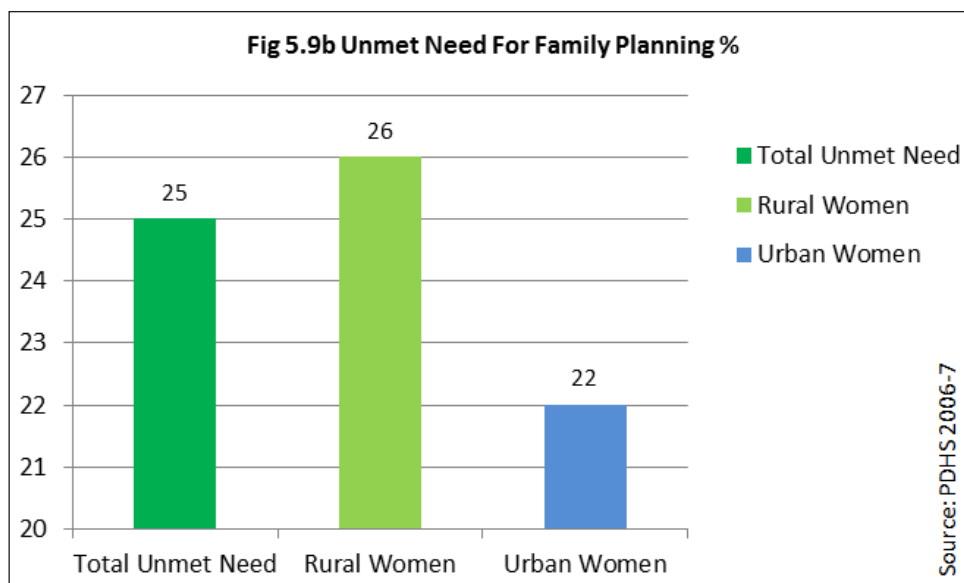
56% of currently married women nationwide ages 15-49 have never received any family planning messages. 87% of currently married women in Balochistan, and 49% in Punjab have never received family planning messages either.

41% of currently married women have seen a family planning message on television, of which 58% are urban based and 33% are rural based. Only 11% have heard such a message on the radio. The youngest and oldest women are more likely to have never seen or heard a family planning message.

### Contraceptive information

33% of modern methods users are informed about side effects, 29% are informed about the management of side effects, and 38% know about other methods of contraception.



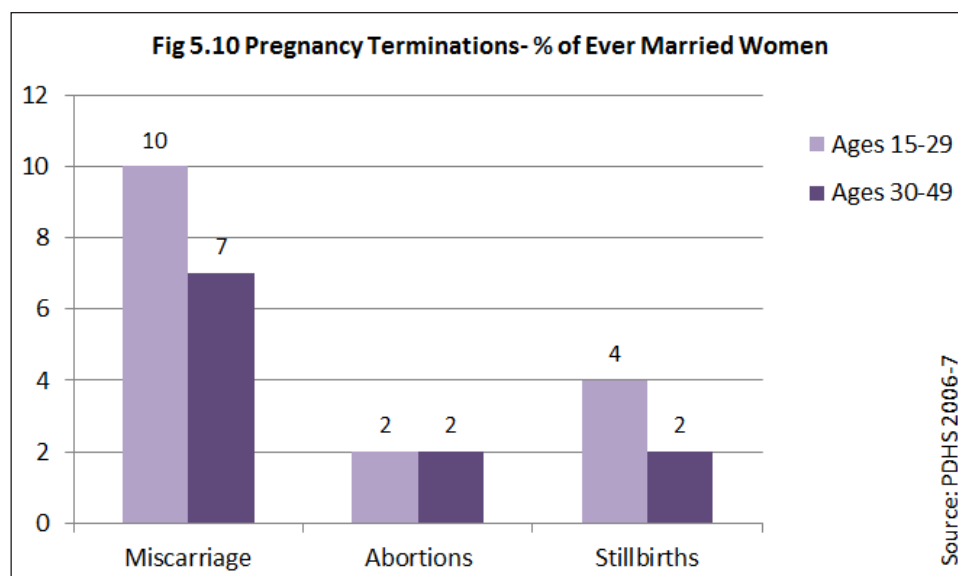


26% of rural women and 22% of urban women have unmet need for family planning

The percentage of married women ages 15-49 who would like to space or limit their family size and are not using contraception is high, indicative of inadequate services, information and the restrictions placed by social gender norms on adopting modern methods.

Qualitative studies note women's fear and misinformation about side effects as one of the main reasons why they are averse to modern methods.

## Abortions



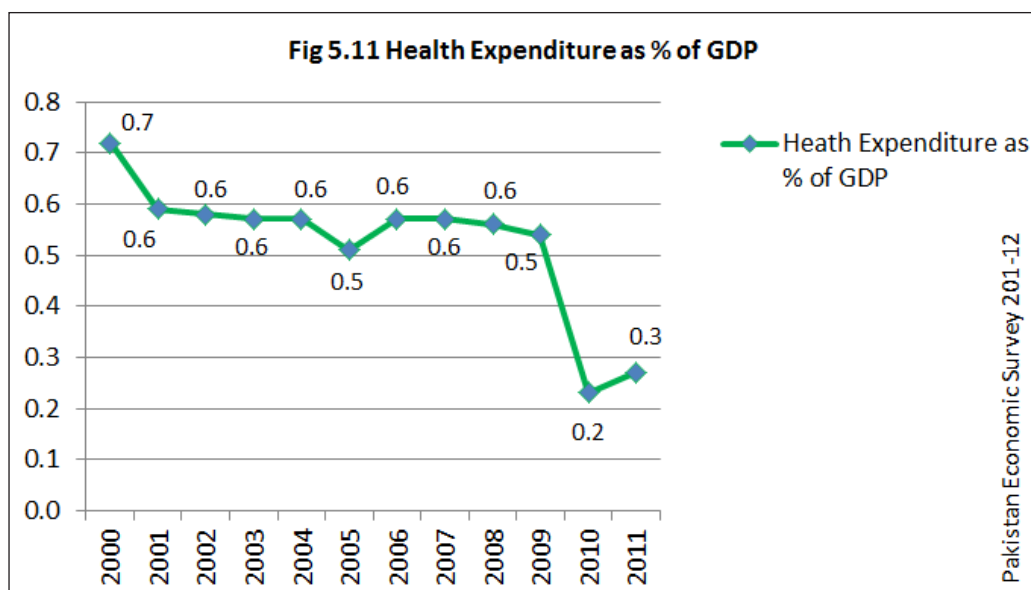
8% of Ever married Women who reported pregnancy termination in five years prior to survey reported a miscarriage, 2% reported an abortion and 3% reported stillbirths.

Abortion is under-reported in Pakistan, as it is illegal except under special medical circumstances, and there is social and religious stigma attached to it. Miscarriages may include induced abortions. Studies have estimated that on average Pakistani women have at least one induced abortion. Married women who are older and have completed either their family size or need to space childbirth are more often the ones who terminate unwanted pregnancies. Resorting to unsafe methods and untrained providers, women often end up with severe post abortion complications.<sup>87</sup>

<sup>87</sup> Population Council 2004. Unwanted Pregnancy and Post abortion Complications in Pakistan. Findings from a National Study. Islamabad, Pakistan



## Health Expenditures



**Table 5.6: Health Expenditures**

Year	Health Expenditure as % of GDP
2000-1	0.72
2001-2	0.59
2002-3	0.58
2003-4	0.57
2004-5	0.57
2005-6	0.51
2006-7	0.57
2007-8	0.57
2008-9	0.56
2009-10	0.54
2010-11	0.23
2011-12	0.27

Source: Pakistan economic Survey, Health and Nutrition Expenditures, Table 11.3, pg 153

Health allocations and expenditures have been consistently low.

The sharp drop in 2010-11 is due to diversion of resources to deal with the flood disaster in that year.

Expenditures on health often fall short of the projected allocations. For 2011-12 the projection was 0.7% of GDP against which only 0.3% was expended. 0.92% of GDP is projected in PRSP II for 2012-13

# ANNEXES TO CHAPTER 5

## Annex 1

**Table 5.2: Maternal\* Mortality Ratios by Age**  
**Weighted number of deaths during....**

Age	Pregnancy	Delivery	Postpartum period	Total	Maternal mortality ratio**
<20	0	1	13	15	242
20-24	10	3	21	36	210
25-29	7	7	33	49	267
30-34	5	3	17	26	246
35-39	8	7	22	38	657
40-44	5	3	6	15	855
45-49	0	1	1	2	234
<b>Total</b>	35	25	112	179	276
<b>Residence</b>					
Urban	7	3	23	34	175
Rural	29	22	89	146	319
<b>Province</b>					
Punjab	11	6	66	84	227
Sindh	14	8	27	50	314
KP	7	7	8	25	275
Balochistan	3	4	11	19	785

\*Based on deaths in the 36 months before the survey for which there was a verbal autopsy which was classified as being either a direct or indirect maternal death.

\*\* Deaths per 100,000 live births (calculated by dividing MMRate by the Age-specific fertility rates (ASFR) \* 100); The total is obtained by dividing by the general fertility rate of 0.135

Source: PDHS, 2006-07 Report

## Annex 2 Table 5.3 PNC Sources

**Table 5.3: Percentage Distribution of Sampled Married Women (Ages 15-49) by Source Consulted during last pregnancy**

	Urban	Rural	Total
<b>National</b>	<b>79</b>	<b>57</b>	<b>64</b>
TBA home	4	7	6
LHW home	3	7	6
LHV home	2	6	4
Doctor-home	3	2	2
RHC/BHU/ Govt. hospital	30	31	30
Private hosp/ clinic	58	47	51
Others	1	1	1
<b>Punjab</b>	<b>79</b>	<b>63</b>	<b>68</b>
TBA home	4	8	7
LHW home	3	8	6
LHV home	3	6	5
Doctor-home	2	1	2
RHC/BHU/ Govt. hospital	31	26	27
Private hosp/ clinic	56	51	53
Others	1	1	1
<b>Sindh</b>	<b>85</b>	<b>49</b>	<b>65</b>
TBA home	3	7	5
LHW home	3	8	5
LHV home	1	3	2
Doctor-home	3	2	2
RHC/BHU/ Govt. hospital	24	32	27
Private hosp/ clinic	66	47	57
Others	1	1	1

Contd.

**Table 5.3: Percentage Distribution of Sampled Married Women (Ages 15-49) by Source Consulted during last pregnancy**

	Urban	Rural	Total
<b>KP</b>	<b>69</b>	<b>49</b>	<b>52</b>
TBA home	2	2	2
LHW home	2	4	3
LHV home	4	9	8
Doctor-home	5	6	6
RHC/BHU/ Govt. hospital	45	46	46
Private hosp/ clinic	43	32	35
Others	0	1	1
<b>Balochistan</b>	<b>55</b>	<b>41</b>	<b>44</b>
TBA home	4	10	8
LHW home	2	4	4
LHV home	1	6	4
Doctor-home	3	1	1
RHC/BHU/ Govt. hospital	47	44	45
Private hosp/ clinic	42	33	36
Others	1	2	2

Note: Married women in the reproductive age group 15-49 who experienced childbirth during the last three years.

Source: PSLM 2010-11 Report, Table 3.10

## Annex 3

Table 5.4: Type of Attendant that Assisted during Last Delivery by Region

Type of Attendant	2004-05			2006-07			2008-09			2010-11		
	Urban	Rural	Over-all	Urban	Rural	Over-all	Urban	Rural	Over-all	Urban	Rural	Over-all
Doctor	39	15	24	48	17	26	48	19	28	54	25	34
Nurse	9	5	7	10	6	7	13	7	9	8	5	06
Midwife				6	3	3	4	3	4	4	3	3
TBA										6	15	12
Trained <i>dai</i>	43	53	49	32	56	49	30	54	47	21	31	28
Neighbour/ Friend/ Family Member	8	26	19	5	18	14	6	16	13	5	15	12
Other	1	1	1	0	0	0	0	1	0	3	5	4
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: PSLM 2004-05 table 3.12; PSLM 2006-07 table 3.12; PSLM 2008-09; Table 3.12 & PSLM 2010-11; Table 3.12

## Annex 4

Table 5.5: Type of Attendant that Assisted during Delivery by Region and Provinces

Type of Attendant	2008-09			2010-11		
	Urban	Rural	Overall	Urban	Rural	Overall
<b>Punjab</b>						
Doctor	46	21	28	49	26	33
Nurse	15	9	11	9	6	7
Midwife	5	4	4	3	4	4
TBA	32	60	52	6	16	13
Trained <i>Dai</i>				26	38	34
Neighbour/ Friend/ Family Member	2	6	5	2	6	5
Other	0	0	0	4	4	4
<b>Sindh</b>						
Doctor	57	18	34	64	25	42
Nurse	10	3	6	5	2	3
Midwife	3	1	2	7	3	4
TBA	25	58	44	6	23	16
Trained <i>Dai</i>				13	27	21
Neighbour/ Friend/ Family Member	6	19	14	3	18	12
Other	0	0	0	1	2	1
<b>KP</b>						
Doctor	35	19	22	53	29	33
Nurse	8	6	6	3	1	2
Midwife	5	3	4	2	1	2
TBA	27	29	29	1	3	3
Trained <i>Dai</i>				15	18	18
Neighbour/ Friend/ Family Member	24	41	38	20	37	34
Other	1	2	2	7	10	9

Contd.

Table 5.5: Type of Attendant that Assisted during Delivery by Region and Provinces

Type of Attendant	2008-09			2010-11		
	Urban	Rural	Overall	Urban	Rural	Overall
<b>Balochistan</b>						
Doctor	31	7	12	40	10	17
Nurse	3	2	2	11	5	6
Midwife	6	3	3	9	2	4
TBA	46	58	55	6	22	18
Trained <i>Dai</i>				18	20	20
Neighbour/ Friend/ Family Member	14	31	27	13	35	30
Other	0	0	0	2	6	5

Source: PSLM 2008-09; Table 3.12 & PSLM 2010-11; Table 3.12



## Annex 5

**Table 5.6: The Determinants of Birth Attended by Skilled Birth Attendant—Logistic Regression Model**

	HIES	
	Odds Ratio	Z-stat
Age	0.988	-0.34
Age square	1.000	0.47
Sex of head (male=1)	0.960	-0.31
<b>Education (Ref=Illiterate)</b>		
Grade 1-5	1.698***	5.42
Grade 6-8	2.509***	6.2
Grade 9-10	3.051***	7.59
Grade 11 and above	3.985***	7.48
<b>Work status of woman (Ref=not working)</b>		
Unpaid work	0.468***	-7.01
Paid work	0.840	-1.49
<b>Per capita household income (Ref=Quintile 1)</b>		
Quintile 2	1.203***	2.36
Quintile 3	1.378***	3.88
Quintile 4	1.583***	4.94
Quintile 5	2.328***	6.75
<b>Distance to health clinic/hospital (0-14 minute as ref.)</b>		
15-29	0.837**	-2.38
30-44	0.781***	-2.8
45-49	0.941	-0.44
60 and above	0.808	-1.72
<b>Region (urban=1)</b>	2.148***	10.39
<b>Province (Punjab as ref.)</b>		
Sindh	0.541***	-7.67
KP	0.458***	-9.56
Balochistan	0.487***	-7.69
Constant	2.327	1.53
Log likelihood		-3618.51
LR chi2		1094.33 (21)
Pseudo R2		0.1314
N		6759

\*\*\* value<.001 \*\* pvalue<.005

Source: PSLM 2010-11

