PAKISTAN
Demographic and Health Survey
2012-13

Preliminary Report

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Preliminary Report

National Institute of Population Studies
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MEASURE DHS
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FOREWORD

The National Institute of Population Studies (NIPS) has successfully completed the third round of Demographic and Health Survey (DHS) in Pakistan. Like previous two Pakistan Demographic and Health Surveys (PDHSs) in the country, the objective of the PDHS 2012-13 was to monitor and evaluate the Family Planning Health status for providing updated information and guideline to programme managers and policy makers to effectively plan and monitor the future interventions. The mega task of launch, planning and Implementation of PDHS 2012-13, has been a collaborative effort involving more than 30 national experts from across the country including the members of Technical Advisory Committee (TAC) notified by the Planning and Development Division. Special mention may be made, for the professional contribution, assistance, and moral support of Dr. Zeba A. Sathar, Mr. Muzaffar Mehmood Qureshi, Dr. Sabiha Syed, Dr. Nausheen Mahmood, Dr. Nizamuddin, Dr. Mehtab S. Karim, Dr. Nabila Ali, Dr. Ghazala Mahmood and Dr. Arshad Mehmood. NIPS is indebted to all members of TAC for their guidance and input in all the four TAC meetings held from April 2011 to June 2013. From sample design, research tools finalization, training of field operators and data generation the consultative process with TAC and other stakeholders has exemplified the partnership for a common national cause.

As Executive Director, NIPS it is indeed my privilege to lead a professional and dedicated PDHS Core Team and I would like to appreciate and congratulate Ms. Tanvir Kiyani, Project Director, Ms. Aysha Sheraz, Deputy Project Director, Mr. Faateh ud din Ahmad, Deputy Principal Investigator from NIPS, Mr. Syed Mubashir Ali, Principal Investigator and Mr. Mazhar H. Hashmi, Survey Advisor on PDHS from ICF International USA, for their commitment and dynamic role requiring adjustments, flexibility and adaptive decision making to face the huge challenges in view of the prevailing law and order/security situation along-with the ethnographic and sectarian issues. The PDHS 2012-13 survey would not had been possible without their active support and relentless effort. We at NIPS have always been aware of our responsibility and were determined to generate accurate and reliable data. I am confident that the preliminary results are accurate and veracious mainly due to the extraordinary quality control measures taken. The preliminary report besides providing data for Millennium Development Goals (MDGs) 4, 5 & 6, and Poverty Reduction Strategy Paper (PRSP), will also form basis for provincial/regional population and health policies and plans.

I must express special appreciation for Ms. Anjushree Pradhan, Country Manager-Pakistan from ICF International. She provided her professional input and committed efforts at various stages of the survey i.e. training, field survey operations and preliminary report for fine tuning. We are also thankful to Mr. Guillermo Rojas, ICF International for finalization of computer based aggregation of data and providing assistance in the CAFE training and production of tables.

I on behalf of NIPS express special thanks to USAID for their continuous trust, support and financial assistance and also to the Pakistan Bureau of Statistics and ICF International for their technical assistance and support.

Syed Khalid Akhlaq Gillani
Executive Director
June, 2013

Foreword

1.   INTRODUCTION

The 2012-13 Pakistan Demographic and Health Survey (PDHS) is the third in the series of Demographic and Health Surveys conducted so far in Pakistan. The earlier two PDHSs were carried out in the years 1990-91 and 2006-07. The 2012-13 PDHS, like the previous two surveys was also carried out by the National Institute of Population Studies (NIPS). The field survey for the 2012-13 PDHS followed a centralised three weeks training of the field staff. The field survey was carried out from the first week of October 2012 to March 2013 with the exception of one team in Balochistan that completed the survey in the third week of April 2013. Teams visited 498 sample points across Pakistan and collected data from a national and sub-national representative sample of 12,943 households. All ever-married women age 15-49 years in the selected households and ever-married men age 15-49 years in a subsample of 5,000 households (both de jure and de facto) were eligible for individual interviews.

The 2012-13 PDHS was designed to provide data to monitor the population and health situation in Pakistan, with an explicit goal of providing reliable information about maternal and child health and family planning. The PDHS specifically collected information on fertility levels, marriage, fertility preferences, awareness and use of family planning methods, child feeding practices, childhood mortality, and maternal and child health, as well as their nutritional status, awareness and attitudes regarding HIV/AIDS, knowledge about other illnesses like tuberculosis, Hepatitis-B and C, and domestic violence. Some of the above information was also collected from ever-married men.

This preliminary report presents the results of selected key indicators from the 2012-13 PDHS. A comprehensive report on the findings of the survey will be published in September, 2013. Although the figures in this preliminary report are not expected to differ much from the findings to be presented in the final report, the results shown here should be considered provisional and interpreted with caution.

2. SURVEY IMPLEMENTATION

2.1. Sample Design

Since the primary objective of the 2012-13 PDHS is to provide reliable estimates of the key fertility, maternal and child health indicators at the national, provincial, and urban-rural levels as well as for Gilgit-Baltistan and ICT Islamabad, a sample size of 14,000 households was estimated to provide these indicators with reasonable precision. As the above stated indicators vary by province as well as for urban and rural areas separately, the sample was not distributed geographically in proportion to the population, but rather the smaller provinces, e.g., Balochistan and Khyber-Pakhtunkhwa (KPK) as well as urban areas, were oversampled. As a result of these differing sample proportions, the PDHS sample is not a self-weighting sample at the national level.

NIPS arranged with the Pakistan Bureau of Statistics (PBS) to design and select the sample. The sample for the 2012-13 PDHS covered the population residing in the country, with the exception of Azad Jammu & Kashmir (AJK), the Federally Administered Tribal Areas (FATA) and restricted military and protected areas.

The survey utilised a two-stage sample design. The first stage involved selecting 500 sample points (clusters), 248 in urban areas and 252 in rural areas. The sample points were selected from the sample frame manintained by PBS. The urban frame consists of 43,000 blocks whereas the rural frame has 105,000 blocks. Each block consists of 200-250 households. The allocation of sample points features an oversampling of areas with small population such as Balochistan, Islamabad, and Gilgit-Baltistan .Over sampling was also done for the urban areas in Balochistan and KPK because of the low proportion of the urban population. Overall, the urban areas of the country were oversampled. Over sampling of urban areas is adjusted to the actual proportion by applying sampling weights during analysis.

NIPS provided three days of training at Islamabad to 43 field household listers from PBS. During the training it was ensured that besides preparing the household listing, the lister would prepare location and sketch maps for every cluster and take GPS readings. The preparation of these maps facilitated the teams in accessing and identification of clusters and households in the sample area. The listing was carried out from August to December 2012.

The second stage of sampling involved selecting households. In each sample point, 28 households were selected by applying a systematic random start technique, yielding a total of 13,944 households selected. In order to ensure precision in the selection of the households, the selection was carried out at NIPS and the selected households were uploaded for retrieval by the team supervisor/field editor. Household information was collected through the Household Questionnaire in all selected households, and all ever-married women age 15-49 years in these households were administered the Woman's Questionnaire. The Man's Questionnaire was administered to ever-married men age 15-49 years in every third household. The individual questionnaires were administered to all those who were either permanent residents of the selected sampled households or visitors present in the household on the night before the survey.

2.2.   Questionnaires

The 2012-13 PDHS used four types of questionnaires: Household Questionnaire, Woman's Questionnaire, Man's Questionnaire, and Community Questionnaire. The contents of the household and individual questionnaires were based on model questionnaires developed by the MEASURE DHS-6 programme. However, these questionnaires were modified in view of the country's requirements, in consultation with a broad spectrum of research institutions, government departments, and local and international organizations so as to reflect relevant issues in the population including migration status, family planning, domestic violence, HIV/AIDS, and maternal and child health issues in Pakistan. A series of questionnaire design meetings was organised by NIPS and the inputs from these meetings were used to finalise the survey questionnaires. The questionnaires were then translated into Urdu and Sindhi and pretested[1]. After the pretest, the questionnaires were further refined. The questionnaires were presented to Technical Advisory Committee[2] (TAC) members for final approval.

The Household Questionnaire was used to list all the usual members and visitors in the selected households. Some basic information was collected on the characteristics of each person listed, including age, sex, marital status, education, and relationship to the head of the household. It also contained additional information about the members listed (e.g., current school attendance, migration status, and survivorship

[1] The Household Women's and Man's questionaires were printed in Urdu and Sindhi. The community Questionnaire printed in English Only.

[2] An exclusive TAC body was formulated to advise and provide technical assistance in developing research tools and operational matters of the survey

of parents of those under age 18 years). It also provided the opportunity to identify ever-married women and ever-married men age 15-49 years, who were eligible for individual interviews, and children age 0-5 years for anthropometry measurements. The Household Questionnaire also collected information on characteristics of the household's dwelling unit, such as the source of drinking water; type of toilet facilities; type of cooking fuel; materials used for the floor, roof and walls of the house; ownership of various durable goods; ownership of agricultural land; ownership of livestock/farm animals/poultry; and ownership of mosquito nets.

The Woman's Questionnaire was used to collect information from ever-married women age 15-49 years and covered the following topics:
- Background characteristics (education, literacy, mother tongue, marital status, etc.)
- Reproductive history (including pregnancy history)
- Knowledge and use of family planning methods
- Fertility preferences
- Antenatal, delivery, and post-natal care
- Breastfeeding and infant feeding practices
- Vaccinations and childhood illnesses
- Woman's work and husband's background characteristics
- Infant and childhood mortality
- Women's decision making
- Awareness about AIDS and other sexually transmitted infections
- Other health issues, e.g., knowledge of tuberculosis and hepatitis, injection safety.
- Domestic violence.

The Man's Questionnaire was used to collect information from ever-married men age 15-49 years and covered the following topics:
- Background characteristics (education, literacy, mother tongue, marital status , etc.)
- Knowledge and use of family planning methods
- Fertility preferences
- Employment and gender roles
- Awareness about AIDS and other sexually transmitted infections
- Other health issues, e.g., knowledge of tuberculosis and hepatitis, injection safety.

The Community Questionnaire was a brief form that was filled in for each rural sample point and included questions about the availability of various types of health facilities and other services, especially transportation, education, and communication facilities.

All aspects of the PDHS data collection were pretested in June 2012. Three teams were formed for the pretest, each consisting of a supervisor, male interviewer, and three female interviewers. One team went to the Sukkur and Khairpur districts in the province of Sindh, another to Peshawar and Charsadda districts in the Khyber-Pakhtunkhwa (KPK) province, and the third worked in district Murree of the Punjab Province. Each team covered one rural and one urban non-sample area. Data collection started on June 20, 2012 and took approximately one week to complete. A three-day debriefing session was held at NIPS. Lessons learnt from the pretest were used to finalise the survey instruments and logistical arrangements for the survey.

2.3. Training

NIPS staff responsible for the survey made considerable efforts to recruit people with the requisite skills to work as field staff. Advertisements were placed in national and local newspapers across the country and after screening applicants, NIPS staff visited various provincial headquarters and big cities to administer tests and interviews before selecting the final candidates. Almost all of those recruited were university graduates, while three-fourth of them had a Master's degree. A few of them had the experience of working for the 2006-07 PDHS. They came from 57 districts of Pakistan including Gilgit-Baltistan. NIPS organized a three-week long training course from September 10 to October 3, 2012 for the 144 participants at Islamabad.

The training was conducted following the standard DHS training procedures, including class presentations, daily reviews, mock interviews, class exercises, and a written test at the end of the training. A few who could not pass the test were dropped. The trainers were mainly from ICF International and the NIPS staff. The PDHS for the first time used the Computer Assisted Field Editing (CAFE) system in the survey. A specialized training was carried out for the participants who were selected to be the field editors. It was deemed efficient in capturing data immediately in the field and immediate feedback to the field teams could be possible. Similarly, early transfer of data back to the central office enabled the generation of field check tables on a regular basis, which is an efficient tool for monitoring fieldwork.

Survey Implementation

Towards the end of the training, three days were set aside for field practice in the Islamabad and Rawalpindi areas. Every day after the field practice, the completed questionnaires were reviewed by the senior staff and the problems identified were discussed in the morning in plenary sessions held before proceeding for field practice. Similarly, these questionnaires were entered in the CAFE system to allow for practice among the field editors.

2.4.   Fieldwork

A total of 20 teams were organized for the data collection, each consisted of a supervisor, a field editor, one male and three female interviewers. The teams were deployed around Islamabad for their first clusters in the field so that this would enable intense supervision and technical backstopping at an early stage. Every team completed one cluster each and electronically transferred the data to the central office. A review session was organized to share the experiences of the teams. The trainers provided necessary feedback, which included all aspects of the fieldwork including field management, rapport-building with respondents, how to tackle the field situation, and the issues in the questionnaires.

PDHS Field Operation Setup

| PDHS Core Team |
| (5 Senior Staff) |
| (PD, DPD, DPI) & (Advisor, PI) |

| Field Coordination |
| (3 NIPS' Associate Fellows) |

| Quality Control Interviewers |
| (4 teams) |

| Supervision and Quality Check Monitoring |

| Punjab (7 Teams) | Sindh (4 Teams) | KPK (4 Teams) | Balochistan (3 Teams) | GB (2 Teams) |
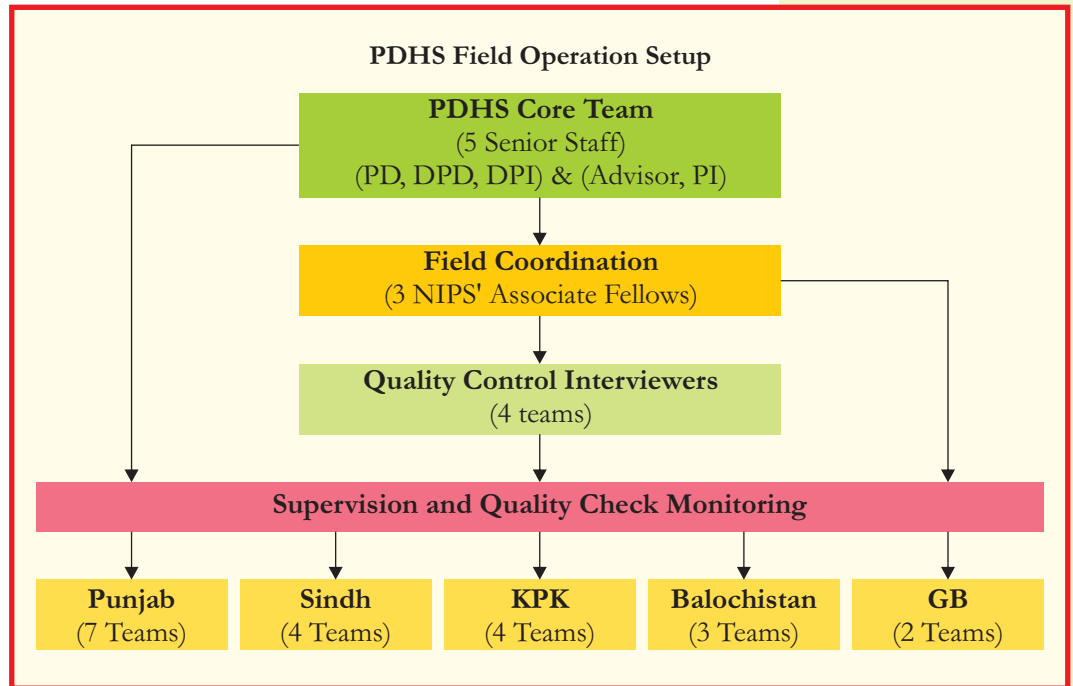
Data quality was ensured with different levels of supervisory staff designated to monitor the fieldwork. In addition to the team supervisors, there were four quality control teams deployed throughout the fieldwork duration to monitor the fieldwork. The reports sent regularly by Quality Control teams to NIPS, were critically examined, and feedback to the field teams was conveyed as and when required. NIPS also designated three professionals from its research staff to act as field coordinators, who visited the teams assigned to them frequently to check on the household selection procedures, the interviewer assignment process, questionnaire editing,

team coordination, and time management. These field coordinators were usually accompanied by the quality control interviewers who observed interviews, conducted re-interviews, edited completed questionnaires, reviewed any errors with team members, and provided on-the-job training to weaker field staff.

In addition, monitoring was undertaken by the senior staff of the NIPS and by the Survey Advisor and the Principal Investigator to check on the quality of the data and other field procedures. Any deviations from the laid down procedures by any member of the field team were pointed out and rectified there and then. Independent monitoring was also undertaken by the staff of the USAID and ICF International. In view of the adverse law and order situation particularly in Balochistan, help for field monitoring was also sought from the personnel of Community Based Organizations (CBO) and provincial population welfare departments. At a few places, help was also sought from law enforcement agencies and public administrators. Data quality was also monitored through the field check tables generated concurrently with data processing.

A number of challenges were faced by the field teams especially in Balochistan, KPK, and Karachi in Sindh. In view of the security situation in some parts of the two provinces, different field strategies were adopted so that the teams were not noticed when in the field. For example, instead of working consecutively for three days in a cluster, teams were advised to start data collection in three clusters simultaneously in such a way that they worked on rotation to come back to the first cluster. At some places instead of using a 12-seater van, small taxi cars were used so that the presence of the team working for the government did not become obvious.

Data collection in Punjgur district and Dera Bugti in Balochistan was not possible because of the serious law and order situation and security reasons. In two of the four partially completed clusters (one in Tank district of KPK and the other in Mastung district of Balochistan), the teams faced threats of dire consequences and had to stop fieldwork. Other factors like seasonal migration and closure of access roads due to heavy snowfall also hampered work in two clusters.

2.5. Data Processing
The processing of the PDHS data began simultaneously with the fieldwork. Completed questionnaires were edited and the data entry was carried out

immediately in the field by the field editors. The data were uploaded on the same day so as to be retrieved in the central office at NIPS in Islamabad, using the Internet File Streaming System (IFSS) to transfer data from the field to the central office. The completed questionnaires were then returned periodically from the field to the NIPS office in Islamabad through a courier service, where they were again edited and entered by data processing personnel specially trained for this task. This meant that all data were entered twice for 100 percent verification. Data were entered using the CSPro computer package. The concurrent processing of the data offered a distinct advantage in that the data were ensured to be error-free and authentic. Moreover, the double entry of data enabled easy comparison and identification of errors and inconsistencies. Inconsistencies were resolved by tallying with the paper questionnaire entries. The secondary editing of the data was completed in the first week of May, 2013.

3. RESULTS OF THE SURVEY

3.1. Response Rates

Table 1 shows the response rates for the 2012-13 PDHS. A total of 13,944 households were selected from 498 sample points, of which 13,464 were found to be occupied at the time of the fieldwork. The shortfall is largely due to household members being absent. Of the occupied households, 12,943 were successfully interviewed, yielding a household response rate of 96 percent. In view of the adverse law and order situation in the country, this response rate is highly encouraging and the result of a well-coordinated team effort.

In the 12,943 households interviewed a total of 14,569 ever-married women age 15-49 years were identified. In other words, on average 1.13 ever married women age 15-49 years were found per household. Of the total eligible women, 13,558 were successfully interviewed, yielding a response rate of 93 percent. The principal reason for non-response among eligible women was the failure to find individuals at home despite repeated visits to the household. Response rates are lower in urban areas than in rural areas.

A sample of 3,991 men were identified as eligible to be interviewed. Out of these, 3,134 men could successfully be interviewed yielding a response rate of 79 percent.

As expected, the response rate for men is lower in urban areas than rural areas, mainly because men in urban areas are often away from their households for work. The interviewers could not contact them even after several visits in the late evenings. Many times the male interviewers pursued these eligible men at their place of work.

Table 1. Results of the household and individual interviews Number of households, number of interviews, and response rates, according to residence (unweighted), Pakistan 2012-13			
Result	**Residence**		**Total**
	Urban	**Rural**	
Household interviews			
Households selected	6,944	7,000	13,944
Households occupied	6,685	6,779	13,464
Households interviewed	6,335	6,608	12,943
Household response rate[1]	94.8	97.5	96.1
Interviews with ever-married women age 15-49			
Number of eligible women	6,964	7,605	14,569
Number of eligible women interviewed	6,351	7,207	13,558
Eligible women response rate[2]	91.2	94.8	93.1
Interviews with ever-married men age 15-49			
Number of eligible men	2,007	1,984	3,991
Number of eligible men interviewed	1,521	1,613	3,134
Eligible men response rate[2]	75.8	81.3	78.5

[1] Households interviewed/households occupied
[2] Respondents interviewed/eligible respondents

3.2.   Characteristics of Respondents

The distribution of ever-married women and ever-married men age 15-49 years by background characteristics is shown in Table 2. The percentage of ever-married women rises with age up until the age group 25-29, after which it declines. This pattern reflects the fact that many younger women have not yet married, while the decline among older women reflects the effects of past high fertility that creates larger cohorts at each younger age. The age distribution pattern of ever-married men is not much different from the pattern for ever-married women except that it peaks at age 30-34, which reflects   the occurrence of later marriages among men than among women.

As might be expected, almost all ever-married women (95 percent) and all ever-married men (98 percent) are currently married. Three percent ever-married women are widowed, and two percent are divorced or separated. In Pakistani society, men are more likely to remarry once they are widowed or divorced. That is an important reason that the proportion of widowed and divorced or separated among ever-

Table 2. Background characteristics of respondents
Percent distribution of ever-married women and ever-married men age 15-49 by selected background characteristics, Pakistan 2012-13

Background Characteristic	Ever-married women			Ever-married men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age						
15-19	4.5	605	567	1.1	36	29
20-24	15.5	2,106	2,048	7.0	219	223
25-29	20.1	2,724	2,723	16.6	521	498
30-34	18.6	2,528	2,438	20.6	646	635
35-39	16.4	2,226	2,300	18.8	588	589
40-44	13.0	1,766	1,808	16.9	530	574
45-49	11.8	1,602	1,674	18.9	594	586
Marital status						
Married	95.4	12,937	13,010	98.0	3,071	3,085
Divorced/separated	1.7	230	166	1.0	30	18
Widowed	2.9	391	382	1.0	32	31
Residence						
Urban	33.5	4,536	6,351	35.3	1,107	1,521
Rural	66.5	9,022	7,207	64.7	2,027	1,613
Region						
Punjab	57.5	7,790	3,800	57.6	1,804	800
Sindh	23.1	3,133	2,941	25.4	796	758
Khyber Pakhtunkhwa	14.1	1,908	2,695	11.1	347	497
Balochistan	4.2	568	1,953	4.8	151	551
Islamabad (ICT)	0.5	64	953	0.6	18	282
Gilgit Baltistan	0.7	94	1,216	0.6	18	246
Education						
No education	57.1	7,736	7,625	28.9	905	849
Primary[1]	15.9	2,156	1,831	20.9	657	536
Middle[2]	7.3	993	945	16.7	525	423
Secondary[3]	10.4	1,413	1,470	17.8	557	577
Higher[4]	9.3	1,260	1,687	15.7	491	749
Total 15-49	100.0	13,558	13,558	100.0	3,134	3,134

Note: Education categories refer to the highest level of education completed.
[1] Primary refers to completing classes 1-5
[2] Middle refers to completing classes 6-8
[3] Secondary refers to completing classes 9-10
[4] Higher refers to class 11 and above

married men is distinctly less than the proportion among ever-married women. One-third of ever-married women (34 percent) live in urban areas. Almost three in five female respondents (58 percent) live in Punjab province, while almost one-quarter (23 percent) live in Sindh, 14 percent live in Khyber-Phakhtunkhua, four percent live in Balochistan, and less than one percent each live in Islamabad and Gilgit-Baltistan. As expected, more men than women live in urban areas, and among provinces, Khyber-Phakhtunkhwa shows a conspicuously smaller proportion of ever-married men than ever-married women in the 15-49 year age group. It is a common observation that in comparison with other ethnic communities, Pakhtuns are more likely to migrate to other areas in search of livelihood.

Fifty-seven percent of ever-married women and 29 percent of ever-married men age 15-49 have no education, while only nine percent of women and 16 percent of men have completed more than secondary level of education. Compared with the 2006-07 PDHS, these results show that there has been a decline in the proportion of ever-married women with no education from 65 percent to 57 percent.

3.3.   Fertility

Fertility data were collected in the survey by asking each of the women interviewed for a history of all her pregnancies. Fertility estimates are based on the information of live births obtained in the pregnancy history. The information obtained on each of the woman's births includes the month and year of births. These data are used to calculate two of the most widely used measures of current fertility, the total fertility rate (TFR) and its component age-specific fertility rates for five-year periods[3]. The TFR, which is based on the sum of the age-specific fertility rates, is interpreted as the number of children the average woman would bear in her lifetime if she experienced the currently observed age-specific fertility rates throughout her reproductive years.

As indicated in Table 3, the total fertility rate is 3.8. This means that on average, a Pakistani woman who is at the beginning of her childbearing years will give birth to 3.8 children by the end of her reproductive period if fertility levels remain constant at

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[3] Numerators for the age-specific fertility rates were obtained by classifying births during the three-year period prior to the survey into standard five-year age groups, according to the mother's age at the time of birth, and then summing them up. Denominators for the rates are the number of person-years lived by all women in each five-year age group during the period. Since only ever-married women were interviewed in the PDHS, it was necessary to inflate the number of person-years lived by ever-married women by factors representing the proportion of women who were ever married in each age group. These factors were calculated from the data collected in the household schedule. Never-married women were presumed not to have given birth. In Pakistan, very few births occur outside of marriage so that any underestimation of fertility from this source is likely to be negligible.

the level observed in the three-year period before the survey[3]. The overall age pattern of fertility as reflected in the age- specific fertility rates (ASFR) indicates that childbearing begins early. Fertility is low among adolescents (44 births per 1,000

Table 3. Current Fertility
Age-specific fertility rates and total fertility rate, for the three years preceding the survey, by residence, Pakistan 2012-13

| Age group | Residence | | Total |
	Urban	Rural	
15-19	27	53	44
20-24	161	206	190
25-29	201	236	224
30-34	158	193	181
35-39	61	107	91
40-44	21	35	30
45-49	2	10	7
TFR	**3.2**	**4.2**	**3.8**

Notes: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation. Rates are for the period 1-36 months prior to the interview.

TFR: Total fertility rate expressed per woman

women) and peaks at 224 births per 1,000 among women age 25-29 and then decreases thereafter. A comparison of age-specific fertility rates from the 2012-13 PDHS with the rates from the earlier two PDHS surveys clearly indicates a declining trend over the period in almost all age groups (Figure 1).

Figure 1 Trend in Age-specific Fertility Rates
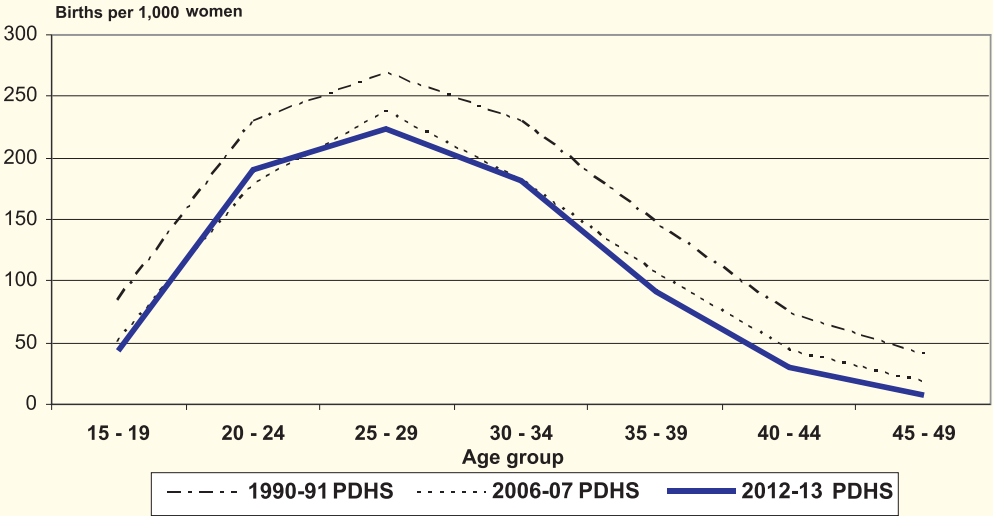
The TFR in rural areas (4.2 births) is considerably higher than the rate in urban areas (3.2 births). Age-specific fertility rates are higher in rural areas than in urban areas for all age groups (Table 3).

The results indicate that Pakistan's fertility has declined over time. Figure 2 shows the decline in the TFR from 5.4 births per woman in 1986-91 to 3.8 births in the period 2010-12, a decline of 1.6 births per woman in two decades. However, Pakistan has a long way to go to meet the Millennium Development Goals target of 2.1 births per woman.

Figure 2 Trends in Total Fertility Rate, Pakistan

1986-91 (1990-91 PDHS)	1992-96 (1996-97 PFFPS)	1997-00 (2000-01 PRHFPS)	2000-02 (2003 SWRHFPS)	2004-06 (2006-07 PDHS)	2010-12 (2012-13 PDHS)
5.4	5.4	4.8	4.4	4.1	3.8
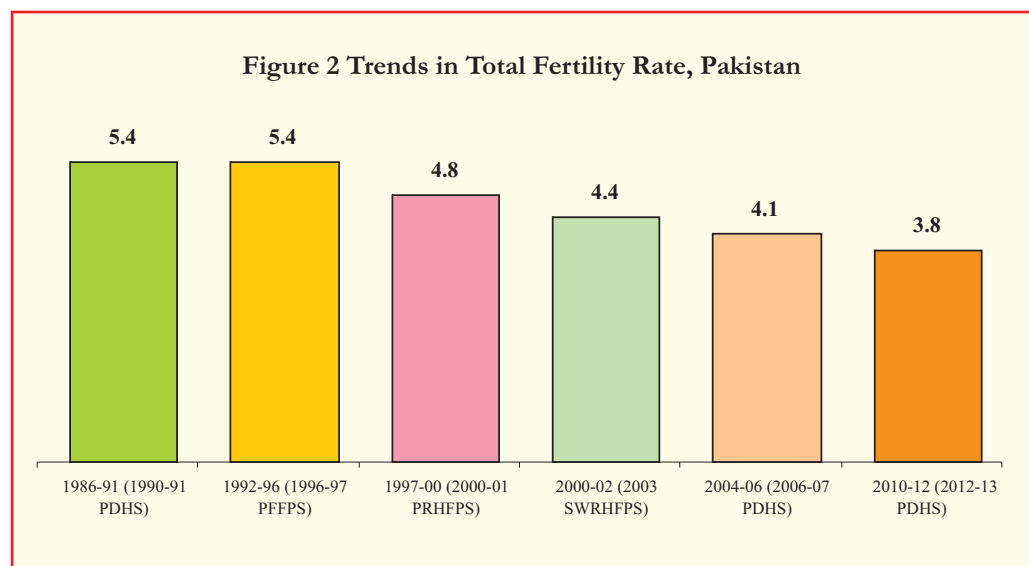
The differentials in TFR by regions are quite modest (Figure 3). The lowest TFR of 3.0 births per woman is estimated for ICT Islamabad while the highest is in Balochistan (4.2 births per woman). For both Punjab and Gilgit Baltistan, the

Figure 3 Total Fertility Rate by Region

Punjab	Sindh	KPK	Balochistan	GB	ICT Islamabad
3.8	3.9	3.9	4.2	3.8	3.0

13
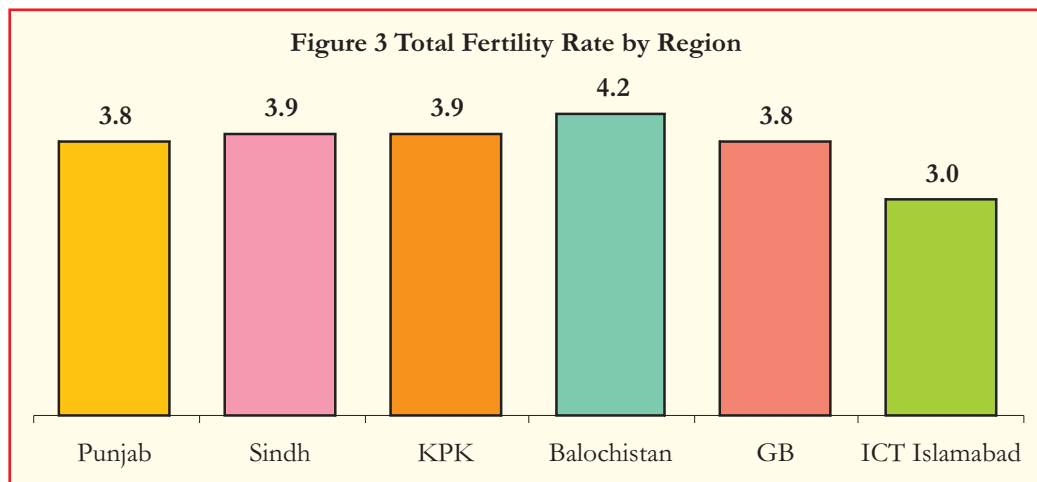
estimated TFR is 3.8 births per woman. The TFR estimates for Sindh and KPK are also the same, which is almost the same as the TFR for Punjab and Giglit Baltistan.

3.4.   Fertility Preferences

Several questions were asked in the survey concerning women's and men's fertility preferences, including a) whether the respondent wanted another child and b) if so,

Table 4. Fertility preferences by number of living children
Percent distribution of currently married women and currently married men age 15-49 by desire for children, according to number of living children, Pakistan 2012-13

Desire for children	Number of living Children							Total
	0	1	2	3	4	5	6+	
Women[1]								
Have another soon[2]	87.0	40.9	25.1	14.1	7.9	4.4	1.6	23.0
Have another later[3]	1.9	46.2	38.8	22.7	8.8	5.9	2.6	19.1
Have another, undecided when	1.5	3.7	2.0	1.4	0.9	0.4	0.8	1.5
Undecided	1.8	2.7	5.5	4.7	2.9	3.5	2.8	3.5
Want no more	1.7	5.4	25.2	46.7	63.9	68.9	73.2	42.3
Sterilized[4]	0.0	0.3	1.8	9.0	14.8	16.1	18.2	8.9
Declare infecund	6.1	0.7	1.5	1.0	0.7	0.8	0.7	1.4
Missing	0.0	0.2	0.2	0.4	0.2	0.0	0.1	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of Women	1,326	1,867	2,114	2,006	1,906	1,410	2,307	12,937
Men[5]								
Have another soon[2]	87.4	48.9	38.9	24.6	9.2	6.6	5.8	30.0
Have another later[3]	7.1	44.0	35.6	23.9	12.9	10.2	7.3	20.8
Have another, undecided when	1.6	1.1	1.7	3.0	1.8	1.5	0.0	1.6
Undecided	0.0	2.3	4.0	6.3	10.1	8.0	5.6	5.3
Want no more	0.9	2.9	19.2	39.6	58.3	66.0	69.9	37.5
Sterilized[4]	0.4	0.1	0.7	2.6	7.0	7.4	10.9	4.2
Declare infecund	2.5	0.6	0.0	0.0	0.5	0.3	0.4	0.5
Missing	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of men	346	419	510	487	470	365	474	3,071

[1] The number of living children includes the current pregnancy
[2] Wants next birth within 2 years
[3] Wants to delay next birth for 2 or more years
[4] Includes both female and male sterilization
[5] The number of living children includes one additional child if the respondent's wife is pregnant (or if any wife is pregnant for men with more than one current wife)

when he/she would like to have the next child. The answers to these questions allow for the estimation of the potential demand for family planning services either to limit or space births.

Table 4 shows that there is a strong desire among Pakistani women and men to delay or limit childbearing. Among currently married women, 19 percent would like to delay their next birth, while 51 percent either do not want to have another child or are sterilized. The proportion of women who either want no more children or have been sterilized increases rapidly with the number of living children, from 6 percent among women with one child to 27 percent among women with 2 children and 85 percent or more among women with 5 or more children.

The pattern among men is similar to that of the women. Twenty-one percent of currently married men want to delay the next birth, while 42 percent either want no more children or have wives who have been sterilized. However, the overall results indicate that men are more likely to want more children than women.

3.5.   Family Planning

Information about knowledge and use of contraceptive methods was collected from women by asking them to mention any ways or methods by which a couple can delay or avoid a pregnancy. For each method known, the respondent was asked if she had ever used it. Women who reported they had ever used any method were asked if they or their husband were using a method at the time of the survey.

Overall, 35 percent of currently married women in Pakistan are currently using a contraceptive method (Table 5), which is a five percentage point increase from 2006-07. The majority of contraceptive users use a modern method (26 percent of currently married women) and 9 percent use traditional methods.

Among the modern methods, condoms and female sterilization are the most common methods being used (both 9 percent). The practice of all other modern methods is far lower, in the range of 2-3 percent (Injectables: 3 percent; IUD, pills, and LAM: two percent each). Interestingly, the use of withdrawal has increased more than twofold since 2006-07 (from 4 percent in 2006-07 to 9 percent in 2012-13).

Table 5. Current use of contraception by background characteristics

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to background characteristics, Pakistan 2012-13

Background characteristic	Any method	Any modern method	Modern method								Any traditional method	Traditional method			Not currently using	Total	Number of women
			Female sterilization	Male sterilization	IUD	Pill	Inject-ables	Condom	LAM	Other[1]		Rhythm	With-drawal	Other			
Age																	
15-19	10.3	6.9	0.0	0.0	0.8	0.5	1.1	3.4	0.6	0.5	3.4	0.2	3.2	0.0	89.7	100.0	594
20-24	21.3	14.9	0.5	0.0	1.0	1.4	2.2	7.1	2.6	0.2	6.5	0.5	6.0	0.0	78.7	100.0	2,053
25-29	31.2	21.0	2.5	0.1	1.8	1.5	2.9	9.8	2.2	0.2	10.3	0.5	9.7	0.2	68.8	100.0	2,663
30-34	41.7	31.4	7.4	0.6	3.8	1.8	4.2	11.8	1.8	0.2	10.3	0.6	9.6	0.1	58.3	100.0	2,454
35-39	47.9	36.6	14.8	0.2	3.7	1.9	3.4	11.3	1.2	0.2	11.3	1.1	10.2	0.0	52.1	100.0	2,137
40-44	44.2	33.3	17.5	0.6	2.1	2.3	2.3	7.6	0.7	0.1	10.9	1.2	9.4	0.3	55.8	100.0	1,617
45-49	34.5	26.8	18.6	0.2	1.6	0.9	1.1	4.2	0.2	0.2	7.7	0.4	6.9	0.3	65.5	100.0	1,419
Residence																	
Urban	44.8	32.0	9.6	0.4	2.6	1.5	2.5	14.8	0.6	0.1	12.8	1.0	11.7	0.1	55.2	100.0	4,304
Rural	30.7	23.1	8.2	0.2	2.2	1.6	2.9	5.8	2.0	0.2	7.6	0.5	6.9	0.1	69.3	100.0	8,633
Region																	
Punjab	40.7	29.0	10.2	0.4	2.9	1.1	2.0	9.9	2.3	0.2	11.7	1.0	10.6	0.1	59.3	100.0	7,374
Sindh	29.5	24.5	9.7	0.1	1.2	1.8	3.3	8.0	0.2	0.3	5.0	0.1	4.8	0.1	70.5	100.0	3,002
Khyber Pakhtunkhwa	28.1	19.5	2.4	0.0	1.5	2.7	5.2	7.0	0.6	0.0	8.6	0.3	8.1	0.2	71.9	100.0	1,855
Balochistan	19.5	16.3	4.0	0.0	2.1	2.4	1.7	3.7	2.0	0.4	3.1	0.1	3.0	0.1	80.5	100.0	553
Islamabad (ICT)	59.4	44.1	10.0	0.1	4.6	1.8	1.6	24.9	0.8	0.4	15.4	2.4	12.9	0.0	40.6	100.0	62
Gilgit Baltistan	33.6	28.2	4.6	0.6	8.4	3.7	6.6	3.0	1.4	0.0	5.4	0.5	4.9	0.0	66.4	100.0	91
Education																	
No education	30.2	23.4	9.6	0.2	2.2	1.5	2.9	5.0	1.9	0.2	6.8	0.5	6.1	0.2	69.8	100.0	7,347
Primary[2]	40.8	28.8	9.1	0.6	2.0	1.5	3.2	10.5	1.5	0.3	12.1	0.9	11.1	0.1	59.2	100.0	2,057
Middle[3]	40.7	29.5	7.2	0.3	3.0	2.4	2.3	13.1	0.8	0.3	11.2	1.2	9.9	0.1	59.3	100.0	958
Secondary[4]	43.9	31.1	7.1	0.2	2.5	1.8	2.9	15.7	0.9	0.0	12.9	0.7	12.1	0.1	56.1	100.0	1,351
Higher[5]	43.8	29.7	4.9	0.2	2.6	1.3	1.6	18.1	0.9	0.2	14.2	0.6	13.5	0.0	56.2	100.0	1,225
Number of living children																	
0	0.9	0.6	0.0	0.0	0.2	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.3	0.0	99.1	100.0	1,728
1-2	28.8	18.1	1.1	0.0	0.9	1.2	2.3	10.5	1.9	0.2	10.7	0.7	10.0	0.0	71.2	100.0	3,856
3-4	46.4	35.2	11.8	0.5	3.8	2.0	3.5	11.8	1.7	0.2	11.2	0.7	10.2	0.2	53.6	100.0	3,772
5+	47.6	37.4	17.7	0.4	3.3	2.4	3.8	7.9	1.7	0.2	10.2	0.8	9.2	0.2	52.4	100.0	3,580
Total	**35.4**	**26.1**	**8.7**	**0.3**	**2.3**	**1.6**	**2.8**	**8.8**	**1.5**	**0.2**	**9.3**	**0.7**	**8.5**	**0.1**	**64.6**	**100.0**	**12,937**

Note: If more than one method is used, only the most effective method is considered in this tabulation.

LAM = Lactational amenorrhea method

[1] Includes implants and other modern methods

[2] Primary refers to completing classes 1-5

[3] Middle refers to completing classes 6-8

[4] Secondary refers to completing classes 9-10

[5] Higher refers to class 11 and above

As shown in Table 5 and Figure 4, the use of contraceptives varies by women's background characteristics. The proportion of currently married women who are currently using any method of contraception rises with age from only 10 percent among women age 15-19 to 48 percent among age 35-39. The use of contraception

then declines for women who are 40 years and above. The most popular method among women under 35 years is condoms, followed by the withdrawal method; while among women age 35 and above female sterilization is the most widely practiced method.

Figure 4 Differentials in Contraceptive Use, Pakistan, 2012-13

Category	Value
Urban	45
Rural	31
Punjab	41
Sindh	30
KPK	28
Balochistan	20
ICT Islamabad	59
GB	34
No education	30
Primary	41
Middle	41
Secondary	44
Higher	44
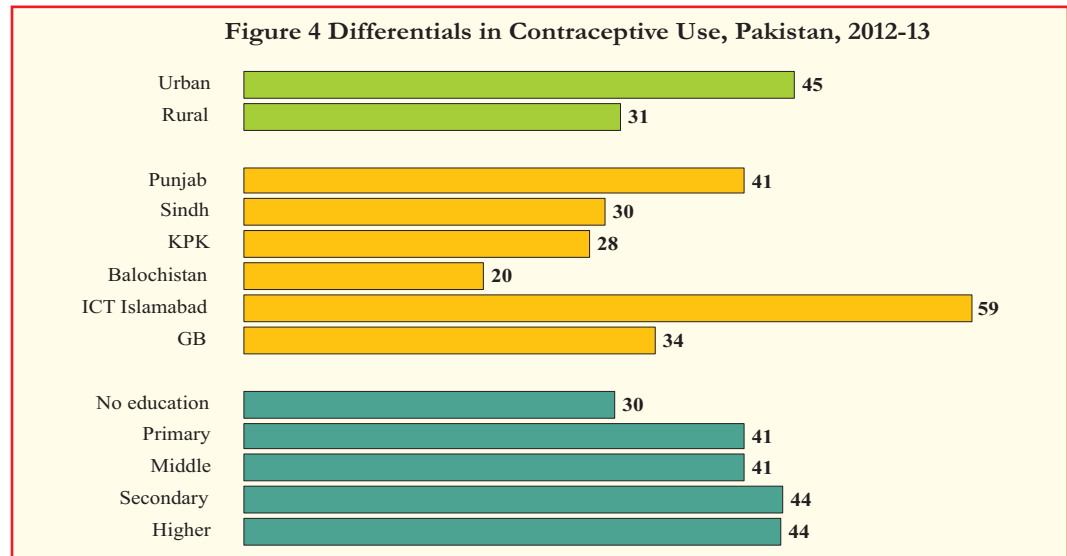
Currently married women in urban areas are considerably more likely to use contraception (45 percent) than those in rural areas (31 percent). Use is higher in urban areas for each of the specific methods except injectables and LAM, whereas the pill is used by about the same percentage of urban and rural women.

Contraceptive use among currently married women is highest in ICT Islamabad (59 percent), followed by the Punjab (41 percent), Gilgit Baltistan (34 percent), Sindh (30 percent), and Khyber Pakhtunkuwa (28 percent), and it is lowest in Balochistan (20 percent). In the regions, the condom is by far the most commonly used method in ICT Islamabad. In Punjab and Sindh, female sterilization is the most commonly used modern contraceptive method (and withdrawal is the most common overall in Punjab), followed by condoms, while in the KPK, withdrawal and condoms are the most popular methods. The most prevalent contraceptive methods in Balochistan are female sterilization and condoms (4 percent) followed by withdrawal (3 percent). In Balochistan, there seems to be a shift in the use of contraceptive methods from pills and female sterilization - the most commonly used contraceptive methods - in 2006-07 to a mix of all methods, except male sterilization and rhythm in 2012-13.

More than four in 10 married women with at least a primary education use a method, compared to three in 10 with no education. In general, women do not begin to use

contraception until they have had at least one child.

Figure 5 Trends in Contraceptive Use, Pakistan
(percentage of currently married women using any method)

Year	Percentage
1990-91 PDHS	12
1996-97 PFFPS	24
2000-01 PRHFPS	28
2006-07 PDHS	30
2012-13 PDHS	35
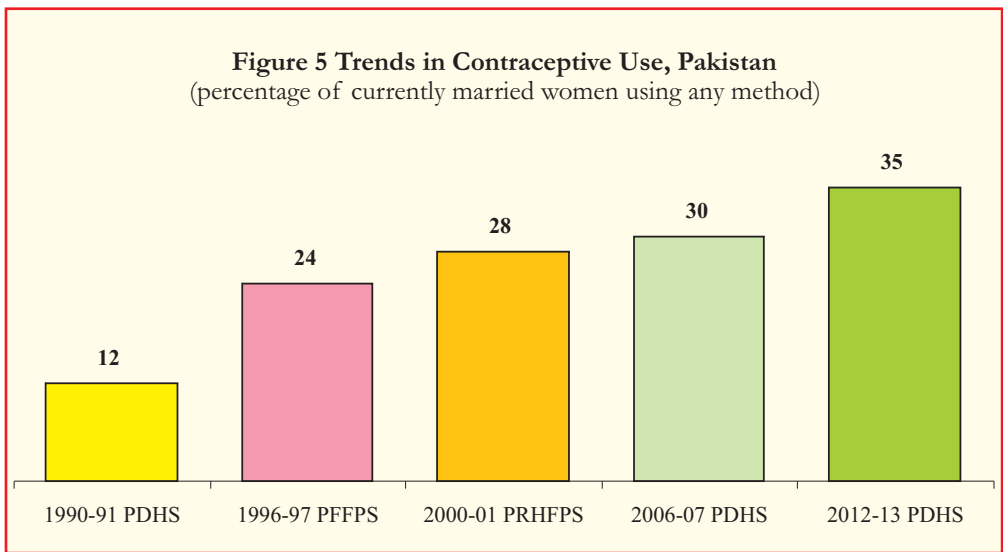
As shown in Figure 5 there has been a modest increase in contraceptive use among currently married women since 1996-97 and five percentage point increase during the last six years.

Figure 6 presents the change in use of specific methods in recent years, with a slight increase in use of injectables, condoms, and female sterilization and a considerable increase in withdrawal (4 percent to 9 percent).

Figure 6 Trends in Current use of Specific Methods among Married Women, Pakistan

Method	2006-07 PDHS	2012-13 PDHS
Pills	2	2
IUD	2	2
Injectables	2	3
Condom	7	9
Female sterilization	8	9
Withdrawal	4	9
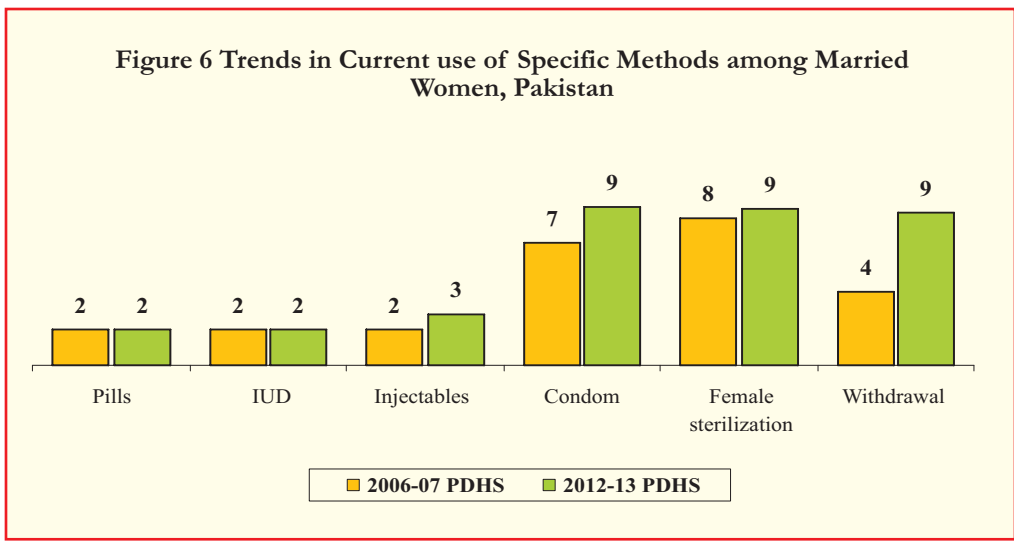
3.6. Infant and Child Mortality

Information on infant and child mortality is useful in identifying segments of the population that are at high risk so that programmes can be designed to reduce it.

Childhood mortality rates are also basic indicators of a country's socio-economic level and quality of life. Caution should be taken in interpreting the mortality estimates presented in this report because it uses information from the birth history in the Woman's Questionnaire to construct the rates. It is known that in some communities, particularly in Pakistan, some women are reluctant to discuss their dead children, which could lead to underestimation of childhood mortality rates.

Table 6 presents infant and under-five mortality rates from the 2012-13 PDHS. The

Table 6. Early childhood mortality rates
Neonatal, post-neonatal, infant, child, and under-five mortality rates for five-year periods preceding the survey, Pakistan 2012-13

Years preceding the survey	Approximate calendar year	Neonatal mortality (NN)	Post-neonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
0-4	2007-2011	55	19	74	17	89
5-9	2002-2006	60	28	88	19	105
10-14	1997-2001	59	33	92	23	113

[1] Computed as the difference between the infant and neonatal mortality rates

level of under-five mortality is 89 deaths per 1,000 live births during the five-year period before the survey, implying that one in every 11 children born in Pakistan during the period died before reaching their fifth birthday. The infant mortality rate estimated in the survey is 74 deaths per 1,000 live births.

Comparison of mortality rates recorded in 2012-13 PDHS with the 2006-07 PDHS shows a small change in mortality over time, falling below the rate of decrease needed to achieve the MDG target of reducing the under-five mortality to 52 deaths per 1,000 live births and infant mortality to 40 deaths per 1,000 live births by 2015.

The estimated infant mortality rate in the 2006-07 PDHS was 78 per 1,000 live births in contrast to 74 per 1,000 live births in the 2012-13 PDHS (one in every 14 children born died before reaching their first birthday in the five years before the 2012-13 PDHS). The pattern shows that over 60 percent of deaths under five years occur during the neonatal period (55 per 1,000 live births) and 21 percent occur during the postneonatal period (19 per 1,000 live births). It is important to note that although there has been a steady decline in the IMR during the 15 years before the survey, neonatal mortality has remained fairly stagnant.

3.7.   Maternal Health

Proper care during pregnancy and delivery is important for the health of both the mother and the baby. In the PDHS, women who gave birth in the five years preceding the survey were asked a number of questions about maternal and child health care. For the last live birth in that period, mothers were asked whether they had obtained antenatal care during the pregnancy and whether they had received tetanus toxoid injections and/or iron supplements while pregnant. For each birth in the same period, mothers were also asked what type of assistance they received at the time of delivery. Table 7 presents the results of key maternal health indicators.

Antenatal Care

Almost three-quarters of mothers (73 percent) reported consulting a skilled health provider —a doctor, nurse, or Lady Health Visitor—at least once for antenatal care for the most recent birth in the five-year period before the survey . The differentials in antenatal care coverage are large. Coverage is highest for births to women less than 35 years old (three-quarters), and much higher in urban areas (88 percent) than rural areas (67 percent). Across regions, the proportion of mothers reporting that they received antenatal care from a skilled provider is markedly lower in Balochistan (31 percent) than in Punjab and Sindh (78 percent each) and almost universal in ICT Islamabad (94 percent). Gilgit Baltistan (64 percent) and KPK (61 percent) did not perform as well as ICT Islamabad, Punjab, or Sindh. As the mother's educational level rises, so does the likelihood that she has seen a skilled provider for care during pregnancy. In fact, the antenatal care utilization becomes almost universal among women with secondary or higher education. There has been a substantial improvement over the past 11 years in the proportion of mothers receiving antenatal care from a skilled health provider, increasing from 43 percent in 2001 to 61 percent in 2006-07 and to 73 percent in 2012-13.

Tetanus Toxoid

Tetanus toxoid injections are given during pregnancy to prevent neonatal tetanus, which continues to be an important cause of infant deaths. Table 7 indicates that tetanus toxoid coverage is still far from universal among pregnant women in Pakistan. Sixty-four percent of the last births in the five years preceding the survey were fully protected against neonatal tetanus. Children whose mothers are age 20-34 years are more likely to be protected against neonatal tetanus (67 percent) than other

Table 7. Maternal care indicators

Among women age 15-49 who had a live birth in the five years preceding the survey, percentage who received antenatal care (ANC) from a skilled provider for the last live birth and percentage whose last live birth was protected against neonatal tetanus, and among all live births in the five years before the survey, percentage delivered by a skilled provider and percentage delivered in a health facility, by background characteristics, Pakistan 2012-13

Background characteristic	Percentage with antenatal care from a skilled provider[1]	Percentage whose last live birth was protected against neonatal tetanus[2]	Number of women	Percentage delivered by a skilled provider[1]	Percentage delivered in a health facility	Number of births
Mother's age at birth						
<20	75.9	55.5	543	55.0	48.7	1,086
20-34	75.1	67.1	5,868	52.9	49.2	9,614
35+	60.1	50.2	1,035	43.8	40.4	1,277
Residence						
Urban	87.8	75.3	2,244	71.0	67.9	3,489
Rural	66.7	59.0	5,202	44.4	40.1	8,488
Region						
Punjab	77.8	73.8	4,180	52.5	48.5	6,859
Sindh	78.2	53.5	1,714	60.5	58.6	2,740
Khyber Pakhtunkhwa	60.5	55.6	1,117	48.3	40.5	1,654
Balochistan	30.9	23.2	348	17.8	15.8	590
Islamabad (ICT)	94.3	85.8	31	88.1	86.4	47
Gilgit Baltistan	64.0	51.8	56	43.7	42.6	87
Mother's education						
No education	59.9	50.3	4,155	37.7	34.0	6,852
Primary[3]	81.4	73.2	1,230	57.0	52.0	2,039
Middle[4]	91.0	79.5	587	70.2	66.2	905
Secondary[5]	95.3	86.2	792	80.3	75.9	1,209
Higher[6]	97.2	90.9	682	91.7	89.7	973
Total	73.1	63.9	7,446	52.1	48.2	11,977

[1] Skilled provider includes doctor, nurse, midwife, and Lady Health Visitor
[2] Includes mothers with two injections during the pregnancy of her last live birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last live birth), or four or more injections (the last within ten years of the last live birth), or five or more injections at any time prior to the last live birth
[3] Primary refers to completing classes 1-5
[4] Middle refers to completing classes 6-8
[5] Secondary refers to completing classes 9-10
[6] Higher refers to class 11 and above

children. The pattern of differences by background characteristics follows that for antenatal care, with children born to urban mothers, to those in ICT Islamabad and
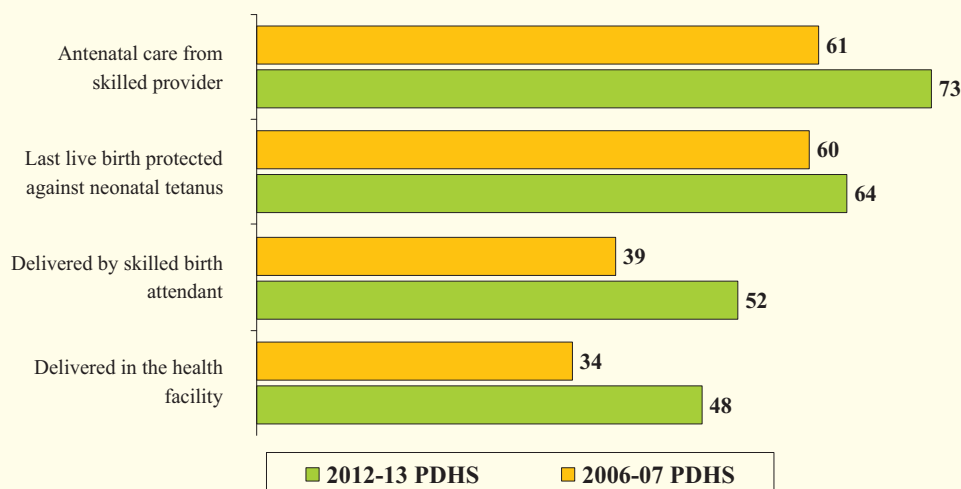
Punjab, and to those born to better educated mothers being much more likely than other children to be protected against neonatal tetanus.

<u>Delivery Care</u>

Proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that could cause the death or serious illness of the mother and/or the infant. Table 7 shows that half of births in Pakistan (52 percent) are delivered by a skilled health provider and a similar proportion of deliveries (48 percent) take place in health facilities.

Differentials in delivery care by background characteristics of the mother are generally similar to those for antenatal care. Births to rural women and less educated women are less likely than others to receive assistance from a skilled provider during delivery and to be delivered in a health facility. For example, births to urban mothers are more likely (71 percent) than to rural mothers (44 percent) to have assistance from a skilled provider during delivery. The likelihood of receiving assistance from a skilled provider for delivery also increases substantially with the mother's educational level, from 38 percent among mothers with no education to 92 percent among mothers with more than secondary level of education. Births in Sindh province are more than three times as likely as those in Balochistan to be assisted by a skilled provider and to be delivered in health facilities. As expected, ICT Islamabad ranked highest (88 percent) for births that were assisted by a skilled provider.

Figure 7 Comparison of Maternal Health Indicators, Pakistan

Indicator	2012-13 PDHS	2006-07 PDHS
Antenatal care from skilled provider	73	61
Last live birth protected against neonatal tetanus	64	60
Delivered by skilled birth attendant	52	39
Delivered in the health facility	48	34

Comparison of Maternal Health Indicators

There has been a considerable improvement in the maternal health indicators between the 2006-07 PDHS and the 2012-13 PDHS. A 12 percentage point increase has been observed in the antenatal care from a skilled provider, four percentage point increase among women whose last birth was protected against neonatal tetanus and more than 13 percentage point increase in births assisted by a skilled provider and 14 percentage point increase in births that were delivered in a health facility (Figure 7)

3.8.   Child Health and Nutrition

Vaccination of Children

The Pakistan Expanded Programme on Immunization (EPI) follows the international guidelines recommended by the World Health Organisation (WHO). According to the WHO, a child is considered fully vaccinated if he or she has received a BCG vaccination against tuberculosis; three doses of DPT vaccine to prevent diphtheria, pertussis, and tetanus (DPT); at least three doses of polio vaccine; and one dose of measles vaccine. These vaccinations should be received during the first year of life. The 2012-13 PDHS collected information on the coverage for these vaccinations as well as hepatitis B (HBV) vaccine among all children born in the five years preceding the survey.

The information on vaccination coverage was obtained in two ways—from health cards and from mothers' verbal reports. All mothers were asked to show the interviewer the health cards used for the child's immunisation. If the card was available, the interviewer copied the dates of each vaccination received. If a vaccination was not recorded on the card as being given, the mother was asked to recall whether that particular vaccination had been given. If the mother was not able to present a card for a child at all, she was asked to recall whether the child had received BCG, polio, DPT, hepatitis B, and measles vaccinations. If she indicated that the child had received the polio, DPT, or hepatitis B vaccines, she was asked the number of doses that the child received. Based on the WHO guidelines, Pakistan has introduced the Combo vaccine and since 2008 gradually launched the Pentavalent vaccination (included HBV vaccine along with DPT doses) in the country. Therefore, information on these vaccinations was also captured in the 2012-13 PDHS.

Table 8 presents information on vaccination coverage for children age 12-23 months, who should be fully vaccinated against the six preventable childhood illnesses. The results are based both on the health card record and information provided by the mother. The table shows that health cards were available for more than one-third (36 percent) of the children, up from 24 percent in 2006-07 PDHS.

Table 8. Vaccinations by background characteristics
Percentage of children age 12-23 months who received specific vaccines at any time before the survey by source of information (vaccination card or the mother's report), and percentage with a vaccination card, by background characteristics, Pakistan 2012-13

Background characteristic	BCG	DPT			Polio				Hepatitis B			Measles	All basic vaccina-tions[2]	No vaccina-tions	Percent-age with a vaccina-tioncard seen	Number of children
		1	2	3	0	1	2	3	1	2	3					
Sex																
Male	86.3	79.5	74.8	67.2	69.9	93.0	89.3	86.1	62.3	58.8	53.1	63.0	56.0	4.9	36.6	1,050
Female	84.0	78.0	70.6	63.1	69.0	91.7	89.0	84.5	61.8	54.7	47.7	59.7	51.5	5.9	35.5	1,024
Residence																
Urban	93.0	87.9	85.8	79.0	84.9	93.9	91.1	86.8	75.0	71.4	65.0	74.3	65.8	2.6	45.7	640
Rural	81.7	74.7	66.9	59.0	62.5	91.6	88.3	84.6	56.2	50.2	44.0	55.6	48.4	6.7	31.7	1,434
Region																
Punjab	91.6	87.2	81.0	76.3	72.0	97.4	95.2	92.4	67.7	63.4	59.2	70.0	65.6	1.5	40.7	1,215
Sindh	78.5	65.1	56.8	38.6	68.9	87.2	82.2	77.5	54.6	46.2	31.9	44.6	29.1	8.5	25.9	437
Khyber Pakhtunkhwa	79.7	77.1	73.9	69.6	70.8	83.6	79.5	75.7	60.5	55.7	51.9	57.8	52.7	12.0	39.7	309
Balochistan	48.9	37.7	33.7	27.1	34.8	78.1	74.9	60.6	28.4	23.0	17.8	37.3	16.4	20.8	8.0	88
Islamabad (ICT)	96.5	95.1	93.2	91.2	90.9	97.0	89.4	85.6	74.4	68.9	66.8	85.2	73.9	2.7	52.6	9
Gilgit Baltistan	78.6	62.4	62.2	55.3	40.7	89.6	85.2	75.2	41.2	41.0	33.9	51.0	47.0	9.4	29.2	16
Education																
No education	78.4	68.3	59.7	50.9	60.8	90.6	86.2	82.0	52.0	46.6	39.4	47.2	39.8	7.2	27.9	1,118
Primary[3]	89.2	86.0	80.0	74.4	74.6	91.7	89.3	85.4	68.2	60.0	55.8	70.0	62.0	5.6	40.1	361
Middle[4]	94.9	91.1	91.1	86.9	78.9	98.2	97.4	93.7	82.6	80.0	74.0	81.2	76.4	0.2	48.0	156
Secondary[5]	94.5	92.7	90.3	84.8	79.9	93.1	92.8	92.0	74.2	69.3	64.9	79.9	73.6	4.0	48.9	249
Higher[6]	97.2	98.1	97.5	88.1	88.7	97.6	95.0	88.7	76.3	74.7	67.2	87.6	75.6	0.5	49.4	190
Total	85.2	78.8	72.7	65.2	69.4	92.3	89.2	85.3	62.0	56.7	50.5	61.4	53.8	5.4	36.0	2,074

[1] Polio 0 is the polio vaccination given at birth
[2] BCG, measles and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth and hepatitis vaccine)
[3] Primary refers to completing classes 1-5
[4] Middle refers to completing classes 6-8
[5] Secondary refers to completing classes 9-10
[6] Higher refers to class 11 and above

Overall, a little over half (54 percent) of children age 12-23 months are fully vaccinated with BCG, measles, and three doses of DPT and polio. There has been a seven percentage point increase in the proportion of fully vaccinated children since 2006-07 and a 19 percentage point increase since 1990-91. However, this pace of

progress is still far from satisfactory, falling below the increase needed to achieve the MDG target of more than 90 percent by 2015. Looking at coverage for specific vaccines, 85 percent of children have received the BCG vaccination, 79 percent the first DPT dose, and 92 percent the first polio dose (Polio 1). Coverage decreases for subsequent doses, with only 65 percent of children receiving the recommended three doses of DPT and 85 percent receiving all three doses of polio. Only 61 percent of children received the measles vaccine. A little over five percent of children have received no vaccinations at all.

Differentials in coverage levels show that the proportion of children fully vaccinated is lower for girls (52 percent) than boys (56 percent). It is also considerably lower for children in rural areas (48 percent) than in urban areas (66 percent). Among regions, the proportion in Balochistan has gone down to only 16 percent from 35 percent in 2006-07 and Sindh also witnessed a decline, from 37 percent in 2006-07 to 29 percent in 2012-13. The proportion of fully vaccinated children in ICT Islamabad, Punjab, KPK and Gilgit Baltistan is 74, 66, 53 and 47 percent, respectively. It is notable that more than one-fifth of children (21 percent) in Balochistan are reported to have not received any vaccinations at all.

Children whose mothers have no education are about half as likely to be fully vaccinated as children whose mothers have more than secondary education (40 percent and 76 percent, respectively).

Figure 8 Trends in Completed Vaccination, Pakistan

1990-91 PDHS	2006-07 PDHS	2012-13 PDHS
35	47	54
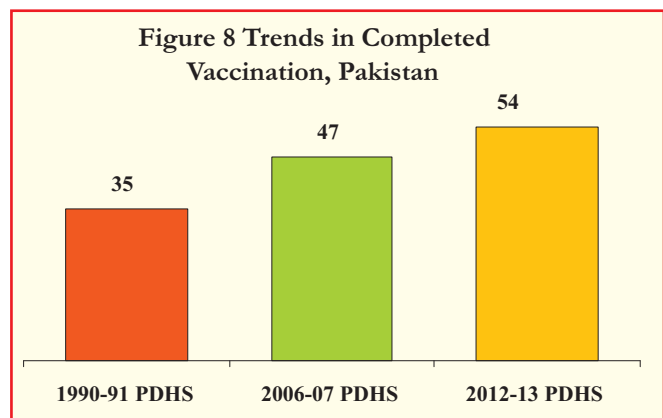
The levels of vaccination coverage from the three rounds of PDHS conducted so far in Pakistan shows an increasing trend, from 35 percent of fully vaccinated children in 1990-91 to 47 percent in 2006-07 and 54 percent in 2012-13 (Figure 8).

Treatment of Childhood Illnesses

Acute respiratory illness, malaria, and dehydration caused by severe diarrhoea are major causes of childhood mortality in Pakistan. Early diagnosis and treatment when a child has the symptoms of these illnesses is, therefore, crucial in reducing childhood deaths. To obtain information on how childhood illnesses are treated, the

mothers of each child under five years of age were asked whether the child had experienced the following symptoms in the two weeks before the survey: cough with short, rapid breathing (symptoms of an acute respiratory infection - ARI), fever, and diarrhoea.

The results show that 16 percent of children under age five had symptoms of ARI in the two weeks preceding the survey (Figure 9). Similarly, 38 percent had fever and 23 percent had an episode of diarrhoea in the two weeks preceding the survey.

. Table 9 shows that slightly more than half of children with symptoms of ARI were taken for treatment to a health facility or provider (55 percent). Female children are slightly less likely to have received medical treatment than male children. Children in Balochistan are less likely to have been taken for treatment for symptoms of ARI. Very similar levels and patterns of treatment can be seen for fever as well. Treatment for symptoms of ARI is higher in rural areas than urban areas, and there is no consistent pattern of differences in the treatment of symptoms of ARI and fever by educational level.

Figure 9 Prevalence of ARI, Fever and Diarrhoea, Pakistan
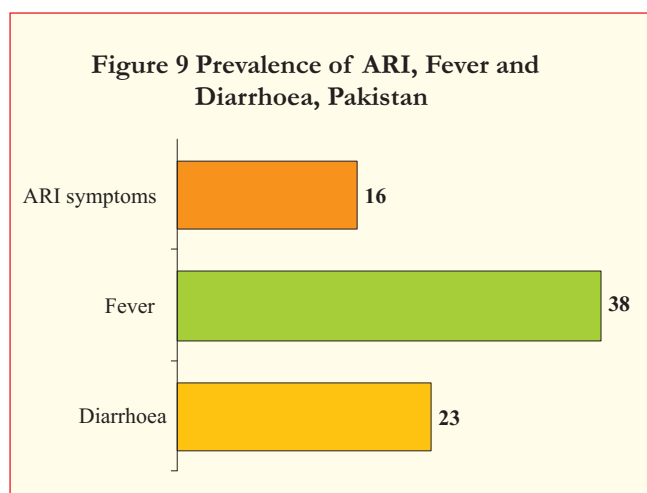
Table 9 also examines the treatment of diarrhoeal illness. Half of children who were ill with diarrhoea were taken to a health facility or provider. Children born in Balochistan are less likely than other children to have been taken for medical treatment when they had diarrhoea. Interestingly, there does not appear a sharp differential in treatment of diarrhoeal illness by background characteristics of the children.

Oral rehydration therapy (ORT), which involves a prompt increase in the child's intake of fluids, includes ORS from packets and/or a recommended home fluid. This is a simple and effective response to diarrhoeal illness. Mothers reported that 42 percent of the children with diarrhoea were treated with oral rehydration therapy

Table 9. Treatment for acute respiratory infection, fever, and diarrhoea

Among children under five years who had symptoms of acute respiratory infection (ARI) or were sick with fever in the two weeks preceding the survey, percentage for whom treatment was sought from a health facility or provider, and among children under five years who were sick with diarrhoea during the two weeks preceding the survey, percentage for whom treatment was sought from a health facility or provider, percentage given a solution made from oral rehydration salt (ORS) packets and percentage given any oral rehydration therapy (ORT) by background characteristics, Pakistan 2012-13

Background characteristic	Children with symptoms of ARI[1]		Children with fever		Children with diarrhoea			
	Percentage for whom treatment was sought from a health facility/ provider[2]	Number with ARI	Percentage for whom treatment was sought from a health facility/ provider[2]	Number with fever	Percentage for whom treatment was sought from a health facility/ provider[2]	Percentage given solution from ORS packet	Percentage given any ORT[3]	Number with diarrhoea
Age in months								
<6	54.9	178	53.8	394	50.3	25.9	27.2	300
6-11	53.4	217	49.6	510	48.6	38.8	42.7	361
12-23	56.0	420	52.4	962	51.7	44.4	48.5	682
24-35	53.2	359	54.2	892	49.8	40.3	42.7	501
36-47	58.0	294	53.7	745	44.7	39.6	42.8	373
48-59	51.7	283	51.7	650	51.0	27.8	36.7	265
Sex								
Male	56.4	921	52.6	2,174	50.7	41.5	44.8	1,274
Female	52.6	830	52.8	1,979	48.4	34.4	38.6	1,208
Residence								
Urban	49.9	478	54.2	1,198	47.7	41.5	47.1	719
Rural	56.4	1,273	52.1	2,954	50.3	36.6	39.6	1,764
Region								
Punjab	52.3	997	50.1	2,388	46.9	35.2	40.2	1,381
Sindh	61.0	320	58.2	904	56.2	45.2	47.5	579
Khyber Pakhtunkhwa	55.9	365	55.6	692	49.3	35.5	37.6	435
Balochistan	43.6	52	39.1	121	41.9	41.5	43.0	65
Islamabad (ICT)	53.5	4	56.6	18	56.9	53.9	62.3	9
Gilgit Baltistan	84.4	12	78.1	29	72.8	72.5	75.8	14
Mother's education								
No education	56.5	1,008	54.2	2,280	51.2	35.0	38.0	1,424
Primary[4]	52.4	338	48.3	750	41.4	38.2	41.3	468
Middle[5]	58.5	112	55.2	331	58.5	41.9	52.6	192
Secondary[6]	47.5	149	50.8	439	52.7	48.7	52.7	243
Higher[7]	51.1	144	52.5	352	43.2	44.2	47.6	155
Total	54.6	1,751	52.7	4,153	49.5	38.0	41.8	2,482

[1] Symptoms of ARI are cough accompanied by short, rapid breathing which was chest-related and/or by difficult breathing which was chest-related
[2] Excludes pharmacy, shop, and traditional practitioner
[3] Includes ORS from packets and recommended home fluid
[4] Primary refers to completing classes 1-5
[5] Middle refers to completing classes 6-8
[6] Secondary refers to completing classes 9-10
[7] Higher refers to class 11 and above

(ORT), and 38 percent were given a solution prepared using a packet of oral rehydration salts (ORS). The use of ORT to treat diarrhoea was least common among children under six months of age (27 percent) and in Khyber Pakhtunkhwa (38 percent).

Breastfeeding and Supplementation

Breastfeeding practices and introduction of complementary foods are important determinants of the nutritional status of children, particularly for those under the age of two years. With improved nutritional status, the risk of mortality for children under five years can be reduced and their psycho-motor development enhanced. Breast milk is uncontaminated and contains all the nutrients needed by children in the first six months of life. Supplementing breast milk before six months of age is unnecessary and discouraged because of the likelihood of contamination, which may result in the risk of diarrhoeal diseases. After six months of age, breast milk should be complemented by other solid or mushy food to provide adequate nutrition to the child.

The 2012-13 PDHS collected information on infant feeding for the youngest child under two years who is living with the mother, using a 24-hour recall period. Table 10 shows that as expected, children less than six months old are more likely to be breastfed than older children. However, 84 percent of children age 6-8 months, followed by 83 percent of children age 9-11 months in Pakistan are still being breastfed. The proportion of children who are still being breastfed declines steadily with age, yet 56 percent of children 20-23 months are still breastfed.

The recommendation to exclusively breastfeed children for the first six months of life is met for only 38 percent of children, indicating hardly any improvement since 2006-07 when it was reported as 37 percent. The results also indicate that complementary foods are often introduced early in Pakistan, with 10 percent of children under six months and 19 percent of children age 4-5 months consuming solid or semi-solid foods in addition to breast milk. Bottle feeding among children below two years is widespread, even though it is not normally recommended. More than one in five babies under two months of age is being fed using a bottle with a nipple. This proportion rises to 46 percent of children age 9-11 months.

It is noticeable that the percentage of using a bottle with a nipple has increased

Table 10. Breastfeeding status by age

Percent distribution of youngest children under two years who are living with their mother, by breastfeeding status and the percentage currently breastfeeding; and the percentage of all children under two years using a bottle with a nipple, according to age in months, Pakistan 2012-13

Age in months	Percent distribution of youngest children under two living with their mother by breastfeeding status							Percentage currently breast-feeding	Number of youngest children under two years living with mother	Percentage using a bottle with a nipple	Number of all children under two years
	Not breast-feeding	Exclusively breastfed	Breast-feeding and consuming plain water only	Breast-feeding and consuming non-milk liquids[1]	Breast-feeding and consuming other milk	Breast-feeding and consuming complemen-tary foods	Total				
0-1	4.3	54.7	13.7	0.7	23.5	3.1	100.0	95.7	299	22.7	302
2-3	6.3	38.7	15.8	0.0	34.3	4.8	100.0	93.7	452	39.3	454
4-5	9.6	24.1	21.1	0.7	25.0	19.4	100.0	90.4	401	35.1	408
6-8	15.9	5.7	10.8	0.7	11.8	55.0	100.0	84.1	455	43.4	466
9-11	17.3	3.8	6.5	0.6	6.0	65.7	100.0	82.7	554	45.5	557
12-17	24.6	1.3	3.0	0.3	1.0	69.7	100.0	75.4	1,167	43.9	1,238
18-23	38.9	0.5	0.7	0.3	1.1	58.4	100.0	61.1	679	47.7	837
0-3	5.5	45.1	15.0	0.3	30.0	4.1	100.0	94.5	750	32.7	756
0-5	7.0	37.7	17.1	0.4	28.3	9.5	100.0	93.0	1,151	33.5	1,16
6-9	16.2	5.3	10.4	0.5	11.1	56.6	100.0	83.8	665	44.0	4677
12-15	19.4	1.5	3.6	0.4	1.2	74.0	100.0	80.6	831	41.9	864
12-23	29.9	1.0	2.2	0.3	1.1	65.6	100.0	70.1	1,846	45.4	2,074
20-23	43.9	0.3	0.5	0.0	0.5	54.7	100.0	56.1	396	51.3	518

Note: Breastfeeding status refers to a "24-hour" period (yesterday and last night). Children who are classified as breastfeeding and consuming plain water only consumed no liquid or solid supplements. The categories of not breastfeeding, exclusively breastfed, breastfeeding and consuming plain water, non-milk liquids, other milk, and complementary foods (solids and semi-solids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus children who receive breast milk and non-milk liquids and who do not receive other milk and who do not receive complementary foods are classified in the non-milk liquid category even though they may also get plain water. Any children who get complementary food are classified in that category as long as they are breastfeeding as well.

[1] Non-milk liquids include juice, juice drinks, clear broth or other liquids

considerably since the 2006-07 PDHS in each age group. The highest proportion is found in age group 20-23 months (51 percent in the 2012-13 PDHS), in comparison with 39 percent in the same age group in the 2006-07 PDHS.

3.9.   HIV/AIDS

Acquired immune deficiency syndrome (AIDS) is a serious public health threat. The 2012-13 PDHS included a series of questions that inquired about respondents' knowledge of AIDS and the human immunodeficiency virus (HIV) and their attitudes towards AIDS. All ever-married women and men age 15-49 years were first asked if they had ever heard of AIDS. Those who had heard of AIDS were then questioned on their knowledge of HIV transmission and prevention.

Table 11 shows that more than four in 10 ever-married women (42 percent) and seven in 10 ever-married men (69 percent) in Pakistan have heard about AIDS. Only one in five ever-married women and two in five ever-married men says that consistent use

Table 11. Knowledge of AIDS
Percentage of ever-married women and ever-married men age 15-49 who have heard of AIDS, by background characteristics, Pakistan 2012-13

Background characteristic	Women		Men	
	Have heard of AIDS	Number of women	Have heard of AIDS	Number of men
Age				
15-24	33.6	2,711	53.5	255
15-19	20.4	605	(28.5)	36
20-24	37.4	2,106	57.6	219
25-29	48.4	2,724	67.7	521
30-39	45.5	4,755	72.6	1,234
40-49	38.1	3,368	67.7	1,124
Marital status				
Married	42.1	12,937	69.2	3,071
Divorced/ separated/widowed	36.8	621	(31.3)	63
Residence				
Urban	69.1	4,536	84.0	1,107
Rural	28.2	9,022	60.0	2,027
Region				
Punjab	45.7	7,790	73.1	1,804
Sindh	43.6	3,133	59.1	796
Khyber Pakhtunkhwa	29.3	1,908	70.9	347
Balochistan	21.8	568	58.2	151
Islamabad (ICT)	82.9	64	91.2	18
Gilgit Baltistan	12.1	94	43.9	18
Education				
No education	18.4	7,736	35.8	905
Primary[1]	50.2	2,156	67.5	657
Middle[2]	72.9	993	79.2	525
Secondary[3]	87.4	1,413	87.3	557
Higher[4]	96.0	1,260	97.2	491
Total	41.9	13,558	68.5	3,134

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Primary refers to completing classes 1-5
[2] Middle refers to completing classes 6-8
[3] Secondary refers to completing classes 9-10
[4] Higher refers to class 11 and above

Results of the Survey

of condoms is a means of preventing the transmission of the AIDS virus, while 32 percent of women and 57 percent of men say that limiting sexual intercourse to one faithful and uninfected partner can reduce the chances of contracting HIV.

Table 12. Knowledge of HIV prevention methods

Percentage of ever-married women and ever-married men age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting the AIDS virus by using condoms every time they have sexual intercourse and by limiting sexual intercourse to only one partner who is not infected and has no other partners, by background characteristics, Pakistan 2012-13

Background characteristic	Percentage of women who say HIV can be prevented by:				Percentage of men who say HIV can be prevented by:			
	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[1,2]	Number of women	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[1,2]	Number of men
Age								
15-24	16.1	23.7	14.0	2,711	27.5	44.6	26.3	255
..15-19	6.2	11.0	4.3	605	(19.0)	(28.5)	(19.0)	36
..20-24	19.0	27.3	16.7	2,106	28.9	47.3	27.4	219
25-29	25.4	35.7	22.0	2,724	40.4	57.0	38.3	521
30-39	24.7	35.4	22.3	4,755	42.3	61.7	39.3	1,234
40-49	19.9	29.8	18.0	3,368	37.1	55.8	35.1	1,124
Marital status								
Married or living together	22.1	32.0	19.7	12,937	39.3	58.1	37.0	3,071
Divorced/separated/ widowed	18.3	24.9	15.9	621	(20.0)	(24.2)	(17.1)	63
Residence								
Urban	37.6	55.2	34.3	4,536	54.8	75.4	52.7	1,107
Rural	14.1	19.9	12.1	9,022	30.3	47.6	27.8	2,027
Region								
Punjab	25.1	34.8	22.4	7,790	38.5	60.4	36.8	1,804
Sindh	21.4	34.1	19.4	3,133	39.4	53.2	37.3	796
Khyber Pakhtunkhwa	12.5	19.6	10.3	1,908	44.7	57.2	39.7	347
Balochistan	11.8	16.1	10.1	568	27.7	44.6	22.2	151
Islamabad (ICT)	54.0	70.5	49.5	64	58.4	81.4	56.2	18
Gilgit Baltistan	8.0	8.4	6.6	94	22.7	35.4	20.5	18
Education								
No education	8.4	12.1	6.9	7,736	14.0	23.4	11.6	905
Primary[3]	23.6	35.5	20.2	2,156	32.9	54.7	30.5	657
Middle[4]	33.4	52.1	29.4	993	43.2	67.9	41.0	525
Secondary[5]	49.9	71.1	44.6	1,413	56.1	75.4	53.6	557
Higher[6]	62.1	85.4	59.5	1,260	69.0	92.3	66.6	491
Total	22.0	31.7	19.5	13,558	38.9	57.4	36.6	3,134

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Using condoms every time they have sexual intercourse
[2] Partner who has no other partners
[3] Primary refers to completing classes 1-5
[4] Middle refers to completing classes 6-8
[5] Secondary refers to completing classes 9-10
[6] Higher refers to class 11 and above

Knowledge about AIDS is substantially lower among rural than urban women and men and is also conspicuously low in Gilgit Baltistan followed by Balochistan. The differentials are largest by educational level. For example, only about one-fifth of women with no education have heard of AIDS, compared with almost all women with more than a secondary education. The educational differentials are large for men, although not as large as the differentials for women. The pattern of differentials is the same for knowledge of HIV prevention methods as it is for knowledge about AIDS.

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