

## KNOWLEDGE AND ATTITUDE; PREGNANCY AND ANTENATAL CARE AMONG YOUNG AGRARIAN & NON-AGRARIAN FEMALES IN FAISALABAD DISTRICT, PAKISTAN

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Reproductive health is concerned with the people's ability to have a satisfying and safe sex life ensuring their capability to reproduce with a liberty of decision that if, when and how often they must do so. In Pakistan, culturally females are married in young age; become mother and are at risk of health complications in agrarian and non-agrarian communities. There is less utilization of reproductive health services throughout Pakistan that ultimately affect health status of people at very young age. Most of the communities are not aware of reproductive health services, thus not availing these facilities. So, the present study was designed to examine the females' perceptions, attitude towards pregnancy and antenatal care (ANC) as well as their empowerment to take decisions regarding safe pregnancy and practice of antenatal care services and to suggest some measures for policy makers to improve the reproductive health state of young mothers in district Faisalabad. A sample of 600 young married females of age 15-32 years were selected through multistage sampling technique. Rural and Civics areas of District Faisalabad were universe of study. Uni-variate (frequency distribution and percentage) and Bivariate analysis (Chi square and Gamma Statistics) was carried out. Most (44.0%) of the respondents were of age 26-30 years their husbands (57.8%) were above 31 years old; mostly had primary and above level of education while their husbands' (69.6%) had SSC or below level of education. About two third (65.9%) of the respondents had up to Rs. 10,000 per month income, 49.2% possessed 6-10 family members and 73.5% beard at least 2 and above live children and beard marriage duration more than 5 years (60.1%). Majority received ANC (79.8%) from clinics/ Doctor (30.7%), LHV/LHW (23.2%) in their last pregnancy; made one visit (69.2%) per month during pregnancy and each visit cost Rs. 251-1000 and more (72.7%); women need regular checkup (90.3%); it should start from 3<sup>rd</sup> month (56.2%); decision for treatment should be made by women herself (40.8%); pure food for mothers (70.7%) is needed as nature of care and causes of maternal death during pregnancy were heavy bleeding (29.0%) and miscarriage / due to complication (22.6%). Bi-variate analysis showed highly significant relationships among number of pregnancies, cultural hindrance vs. their reproductive health. Pregnancy and antenatal care has closely associated and had important place in reproductive life of a female. Females should be empowered to decide their numbers of pregnancies, spacing and ANC services to keep themselves healthy and productive.

**Keywords:** Agricultural labor, rural community, pregnancy, antenatal care, reproductive health, young females.

### INTRODUCTION

Pakistan is an agricultural country that possesses 210 million population with growth rate of 2.3% annually and pace of population growth indicates that in 2050, it will reach 310 million population (Population Matters, 2017; Govt. of Pakistan, 2018). The young girls are forced into early marriages (Gupta, 2005; UNFPA, 2005; Population Council, 2007; Silverman, 2010; WHO, 2012a; Rabia, 2012) and into sexual relations, which destroy the general as well as reproductive health and increase their risk of getting exposed to HIV/AIDS (Aggarwal and Duggal, 2004; Anderson *et al.*, 2006; ECDC, 2013; Sudha *et al.*, 2005; UNFPA, 2005; UNICEF, 2006; Shah *et al.*, 2011) besides minimizing their opportunities of attending school (Georguieve *et al.*, 2001;

UNFPA, 2005; Jain *et al.*, 2011; Nguyen and Wodon, 2012; WHO, 2012b). A woman's concern for antenatal care (ANC) services is resultant of an intricate interplay of empowerment and hierarchies that is related to the pregnancy related decision making in distant household authorities which are, most of the time, the mother-in-law or another elderly female. However, the decision-making process is very closely related to the class-based barriers and family level factors that is of interwoven with the quality of relationship of the authoritative female figure and the young woman, the social beliefs with regard to the risk in pregnancy and utility of modern healthcare, the financial stability and a social ability to bypass the proscriptions against pregnant women's of right acknowledgement movement (Mumtaz and Salway, 2007; Shah *et al.*, 2011).

The incorrect and limited range of awareness and knowledge of an individual's reproductive health among Pakistani men and women is the result of sub-standard education and non-accessibility to the effective services of reproductive health. Both the genders (male and female) seem unable to differentiate between reproductive and sexual health or reproductive or sexual disease. The reliability upon unqualified and inexperienced practitioners causes the risk of further infection resulting from their limited knowledge and the possibility of improper infection control. Relatively widespread presence of risk behaviour is responsible for the increase in the incidence of STIs in Pakistan according to the general belief of the health care professionals. The consequences of the negligence of family planning can be serious comprising unsafe abortions as the result of unwanted pregnancies. A restoration of the access to safe and effective contraceptive methods guards the lives and well being of women and children and makes the crisis effected couples able to manage the limited family resources more effectively (Bhawsar *et al.*, 2001; UNFPA, 2005; Abiodun and Baloqun, 2009; Population Council, 2009; Tarar *et al.*, 2015; Tarar *et al.*, 2016). Most of the population in developing countries is said to be less than 25 years of age. In Pakistan total youth (15-29 years) was 34.3 million (male 17.6 million, and female 16.7 million which was the 26.9% of total population (Govt. of Pak., 2006) while it has been now raised to 123,934,419 that is 65.1 percent of all Pakistani population (U.S. Census Bureau, 2012). At present most of youth (64%) of Pakistan resides in rural areas (Govt. of Pak., 2006). It is therefore, likely that not only do a majority of Pakistan young person's live in rural communities but that they also make up a substantial proportion of rural dwellers. The escalating youth population in developing countries confronts new situations and threats to their present health status (WHO, 2001; UNO, 2005, 2006; Family Health International, 2006). While youth in general is vulnerable, it lacks the basic right of making free reproductive choices, such as when and whom to marry, whether to use contraceptives, and where to get them. Indeed, due to cultural constraints, youth in all over the world especially in South Asia is even more vulnerable (Asfar *et al.*, 2006; Daniel *et al.*, 2008; Singh, 2006). Thus, the present study has been designed to explore the factors prevailing in under-utilization of reproductive health facilities. The purpose of the study is to obtain information about access to and utilization of a broad range of reproductive health services at the community level.

## MATERIALS AND METHODS

The present study was undertaken in district Faisalabad, the 2<sup>nd</sup> most populated city of the Punjab province and 3<sup>rd</sup> of Pakistan. The study was projected to gain knowledge and information on attitudes and trends regarding utilization of reproductive health care amenities in young females from

eight towns {Lyal Pur Town (Taj Colony UC 208, Islam Nagar UC 209, and Hujwari town UC 212), Iqbal Town (Chak 224 Fatahwali UC 237, D Type Colony UC 253 and Samna Abad UC 260), Madina Town (Amin Town UC 203, Islamia Park UC 207, and Abdullah Pur UC 218), Jinnah Town (Chak 217 R.B. UC 274, Ghulam Muhammad Abad UC 279, and Raza Abad UC 282), Jhumra Town (Chak 157 R.B. UC 11), Sumundari Town (Chak 478 G.B UC 108 and Chak 475 G.B UC 109), Jarana wala Town (Chak 65 G.B. UC 37, Chak 237 G.B. UC 55, and Chak 24 G.B. UC 64), Tandlianwala Town (Chak 425 G.B UC 77, and Chak 293 G.B. Bhatay UC 79)} of District. Faisalabad. Total population of young females age (15-32) years, was 888532 (Govt. of Pak., 1998). Respondents were selected from eight towns of city Dist. Faisalabad that has 289 Union Councils.

A sample of 600 young married females of age 15-32 years were selected through probability proportion to size. Multistage sampling technique was used. At the first stage 20 union councils were selected at random from eight towns of district Faisalabad proportionately. At the second stage, one village/ colony from selected each union council was selected randomly and at third stage 30 young mothers aged (15-32) were selected from each village/ colony through convenient sampling technique. Uni-variate (Frequency & Percentage) and bivariate (Pearson Chi-square & Gamma Statistics) analysis was carried out interpret the results.

## RESULTS AND DISCUSSION

**Socio-economic information of the respondents:** Socio-economic characteristics of the respondents like age, education, income, age at marriage/ marriage duration, household status and facilities play an important role in awareness, adoption and better reproductive health of females. The data relating to these aspects are presented and discussed as under:

**Age of respondent/ her husband:** Age is an important factor in determining the behavior of human being. It indicates the ability to do work and attitude of a person towards various social and economic aspects of life. Age refers to the number of years completed by an individual since her/his birth. Age factor is very important to influence one's behavior; it widens the vision of an individual through experience. The respondents were asked about their age and data in this regard are presented in Table 1.

**Education of respondent/ her husband:** Education is a key to implementing social, attitudinal and behavioral changes (Jamison *et al.*, 2006). Amongst the users of antenatal care services (ANC), there appeared to have a change in their rhujaanaat (aspirations) which was being driven by a combination of increased awareness of the utility of ANC and a financial and social ability to access services. Women's education emerged as most prominent factor leading to an appreciation of utility of ANC use (Mumtaz and Salway,

2007). Husband wife's education also plays an important role in several demographic phenomena like desired family size, knowledge and maternal health care, consensus regarding decision-making etc. (Mturi, 2003). Education was organized as single most powerful variable in unifying fertility behavior. Ensuring that girls who got education, had considerable impact on fertility behavior, including the postponement of marriage and first pregnancy, and the number of children (Babalola *et al.*, 2008). Rich young females had more mass media exposure and school enrollment so because of this, they had more positive attitude to adopt reproductive health services as compare to poor and less educated ones. Education helps in achieving good health. Education and fertility have a close relationship. Well educated females have more health exposure and practice more family planning FP services for better reproductive health. Data regarding education of respondent and her husband are presented in Table 1.

**Occupation of the respondent/ her husband:** Occupation plays a vital function in our lives, we have very apparent and responsive concept about which jobs are better and which are worse (Stark, 2004). Occupation may be defined "as the specific activity with the market value which an individual continually pursue for obtaining a steady flow of income (Ahmad, 1958). According to Govt. of New Zealand (2013) an occupation is a set of jobs that require the performance of similar or identical sets of tasks by employed people aged 15 years and over. An occupation is a set of tasks executed or planned to be carried out by an individual for an employer (as well as self-employment) in return for payment or profit. Data related to occupation of respondent and her husband is presented in Table 1.

Above mentioned Table 1 depicts that most of the respondents (44.0%) belonged to age group of 26-30 years and 29.7% were up to 25 years old while 26.3% were 31 years and above. On the other hand, majority of the respondents' husbands (57.8%) was 31 years and above, 32.0% belonged to age group of 26-30 years and only 10.2% of the respondents' husbands were up to 25 years old.

Youth is currently in focus through research studies in all social issues due to energetic part of population. The findings of comparative case study in two socio-economic classes (slum & posh) on mother health (aged 15-49) indicates that most of the respondents (i.e. 32 and 46.0%) were in the age group of 25 to 29 years, respectively (Akhlaq, 2006) and similarly present research also shows that 44% are almost in same age group. While in an urban area research study "Factors affecting mother and child health care in district Faisalabad, Mustafa (2008) found that 44.5% females belonged to age group of 30 years.

Table 1 shows that 28.2% of the respondents were illiterate, 16.3% got primary education, 9.2% had passed middle level schooling, 19.3% had passed the level of SSC, 27.0% had got HSSC and above education. While 30.3% respondents' husbands had got HSSC and above education, 30.3% passed

SSC level of education, 11.8% had passed middle level schooling, 11.0% got primary education and only 16.6% were illiterate. Similar results were found in an urban area research study "factors affecting mother and infant health in district Faisalabad (Ahmed, 2008). Mudasar (2008) in her research study also showed the rural culture and education pattern of females. In rural areas parents still discourage the education of their daughters as shown in study findings that majority respondents (62.5%) was still illiterate. Rani (2004) reported that in most countries, poor young females made early age marriage, restricted from schooling and gave birth to one child earlier than rich females.

**Table 1. Distribution of the respondents with respect to their and their husband's different socio-demographic aspects.**

Age categories (years)	Respondents		Husbands	
	Freq.	%	Freq.	%
Up to 25	178	29.7	61	10.2
26-30	264	44.0	192	32.0
31 and above	158	26.3	347	57.8
Total	600	100.0	600	100.0
Mean age of the respondents = 27.81years Std. Dev.= 3.58 years				
Mean age of the respondents' husband = 32.64 Std. Dev. = 5.49				
Education categories				
Illiterate	169	28.2	99	16.6
Primary	98	16.3	66	11.0
Middle	55	9.2	71	11.8
SSC	116	19.3	182	30.3
HSSC and above	162	27.0	182	30.3
Total	600	100.0	600	100.0
Years of schooling of the respondents = 7.07, Std. Dev. = 5.27				
Years of schooling of the respondents' husbands = 8.58, Std. Dev. = 4.70				
Occupation	Respondents		Husbands	
	Freq.	%	Freq.	%
Housewife	572	95.3	-	-
Govt. service	8	1.3	76	12.7
Pvt. Service	13	2.2	191	31.8
Any other (own business, tailor, labor, driving etc.)	7	1.2	62	10.4
Agriculture/farming	-	-	79	13.2
Own business	-	-	192	32.0
Total	600	100.0	600	100.0

Table 1 depicts that an overwhelming majority (95.3%) of the respondents was house wives, 1.3% were Govt. employees, 2.2% were attached with private service and only 1.2% were engaged in others (own business, tailor etc). It means that only a small fraction of the respondents was engaged in cash paid

jobs while a clear majority was performing traditional duties like handling the domestic affairs, looking after their children and husband by staying at home. On the other hand, with respect to occupation of respondents' husband, most of them (32.0%) had their own business, 31.8% had private service, 13.2% were farmers, 12.7% were Govt. employees and remaining 10.4% were engaged in other occupations like labor, driving etc. Pakistani norm for women is to stay at home and look after children and husband. To join the labour market and mobility is restricted commonly for women. In an urban area research study Ahmed (2008) found that majority of the respondents (84%) were house wives while in another research study entitled "impact of maternal health services on mother and child health," Arshad (2006) identified similar results that majority (76.7%) of respondents were house wives and remaining 23.3% were working women. Mudasar (2008) in her research study also showed the rural culture and female's occupation. In rural areas parents still discourage the education of their daughters and attainment of any job/ service as shown in study findings that majority (87.5%) of the respondents were house wives. People think that women should remain in house and look after domestic affairs and care the children. Zafar *et al.* (2003) concluded almost same result (85%). In a study in Nigeria Sunmola *et al.* (2003) found that most of the persons (34.8%) were employed as civil servants whereas others were engaged in trade (18.3%) or farming (25.5%). While in an urban area research study Mustafa (2008) found that 45% respondent's husband were businessmen. Mudasar (2008) in her research study also showed the rural culture and occupational pattern of males. In rural areas people do not pay attention on education so when a child reaches the age of earning, due to lack of education he cannot attain Govt. job and ultimately, he must adopt the occupation of labor or such other type in which there is no need of good education as 31.7% were laborers. While, in another research study Arshad (2006) identified similar results that half of respondent's husband (50.0%) were businessmen and out of the remaining, 34.7% were attached with private service.

**Age at marriage:** Age at marriage is an important factor in reproductive health issues. Higher fertility is related to young age and young females had more need of care regarding their reproductive health and their new born babies. It is considered very vital in the study of fertility and contraceptive behaviour because it is more related to cultural than demographic aspects (Zafar, 2002; Zafar *et al.*, 2003). In Pakistani culture, sexual activities can be initiated after marriage and early age marriage is primary reason for that (Nayab, 2005; Nayab, 2009). Age at marriage varies within and among societies, depending upon the norms, values, and belief about marriage, which a society possesses. In our society early age marriages are still prevailing. Mostly in rural areas women are not allowed to get secondary or higher education as declared by Rabia (2012) and Tarar *et al.* (2015). When they reach to their

reproductive age, women were married in early ages because their parents are unaware of the problem of early marriages such as social, health and psychological problems and their impacts on the health of young women. The data in this regard are presented in Table 2.

**Income:** Income of the respondents is defined as the enumeration received periodically for work or services performed (Popenoc, 1977). Standard income level fixed by the government of Pakistan is 8,000 rupees per month it is also called as poverty line. Income of a person shows his/ her life standard. Strong economic condition has positive effects on health of a person and poor economic status of respondents is an important factor to decrease the adoption of contraceptive methods. Due to poor socio-economic status women were avoiding to adopt contraceptive methods. Total family income level of the respondents from all sources is shown in Table 2.

**Family members:** The true meaning of marriage is only fulfilled if the couple conceives and bears children. People consider their child to be a source of power and pride, and children act as insurance for their parents in old age. The most important aspect of bearing children is an insurance of family continuity. A rapid growth has occurred in population size, and it has not been possible to control this expansion even with active governmental intervention. Government has given priority to control family size and has fully funded family planning program. Mostly women now have free access to different methods of contraception, provided by official health institutions (Robert *et al.*, 1993; Govt. of Pak., 2013) and the total fertility rate of a Pakistani women is 3.8 children during her reproductive period that indicates mean size of a nuclear family will be 5-6 members (Govt. of Pak., 2013). The data regarding total number of family members are presented in Table 2.

**Alive/ died children:** Children are the future builder of every nation. Future of the nation depends upon the healthy and active population of country. Today's children would turn up into healthy nation of tomorrow and contribute in the development of country (Govt. of Pak., 2001). The preference for male (son), in term of economic and social benefits as a contributor to the family income has a key position in Pakistani society. They attain more social status and less dependency as compare to daughter on their parents in Pakistani society. Desire for son is a factor of low contraceptive prevalence (Zafar, 2002). Rani (2004) reported that most poor young females made marriage by age 18 and birth at least one child by the age 19 years. They were less informed about mistimed birth, and utilization of maternal health services and contraception. The data regarding birth and death of children are presented in Table 2.

Table 2 shows that most of the respondents (42.3%) had the age of 19-22 years at the time of marriage, 35.5% were up to 18 years old while 22.2% were 23 years and above when they were married.

**Table 2. Distribution of the respondents according to their different socio-economic aspects.**

<b>Age at marriage (in years)</b>	<b>Freq.</b>	<b>%</b>
Upto 18	213	35.5
19-22	254	42.3
23 and above	133	22.2
Total	600	100.0
Mean age at marriage = 20.08 years, Std. Dev.= 3.15 years		
<b>Duration of marriage (in years)</b>		
1-5	236	39.3
6-10	203	33.8
11-15	129	21.5
16 and above	32	5.3
Total	600	100.0
<b>Monthly family income (Rs.)</b>		
Up to 5000	103	17.2
5001-10000	292	48.7
10001-15000	101	16.8
Above	104	17.3
Total	600	100.0
Mean Income = Rs. 11444.50, Std. Dev. Rs. 8457.36		
<b>Total no. of persons in family</b>		
1-5	208	34.7
6-10	295	49.2
11 and above	97	16.2
Total	600	100.0
Mean No. of family members=7.35, Std. Dev.=3.57		
<b>Total live children</b>		
1	159	26.5
2	147	24.5
3	129	21.5
4	94	15.7
5 and above	71	11.8
Mean live children= 2.74, Std. Dev.= 1.63		

Total Fertility Rate (TFR) has strong ties with age at first marriage. Early age marriage promotes fertility trend (Aziz, 1994) and mostly people (69%) were married between 15-19 years of age (Akhlq 2006). This study shows a little bit difference because currently 42.3% females were married within age of 19-22 years and more than two-thirds (35.5% + 42.3%= 77.8%) of the females were married before the age of 22 years that is a sign of less knowledge about reproductive health and trend of early age female marriage in Pakistani society. Similar results were found in an urban area research study by Ahmed (2008). Mudasar (2008) in her research study also showed the rural culture and marriage age pattern of females. In rural areas parents still married their daughters in early age as shown in study findings that majority respondents' age at marriage was 14-18 years. It was also noted that majority (72%) was married by the age of 20 and every woman was married by the age of 25 while the mean age at first marriage for contraceptive user slightly above 20

years (Zafar *et al.*, 2003; Shraddha and Bharti, 2006). While in another study in Nigeria, Shraddha and Bharti (2006) found that most of respondents reported that they got married when they were 15-19 years old. Rani (2004) reported similar results too. In India a study about "awareness among women towards aspects of family planning in Kullu district of Himachal Pradesh" Sharama *et al.* (2005) interviewed the married women aged 18-30 years and found that 74% were married at the age between 18-25 years while, in another research study entitled "impact of maternal health services on mother and child health," Arshad (2006) identified same results that slightly more than half of the respondents (51.3%) married at the age between 21-22 years and 38.7% married up to age of 20 years while only 8.7% married after 22 years of age.

Table 2 depicts that most of the respondents (39.3%) had 1-5 years duration of marriage at the time of interview, 33.8% had 6-10 years duration and 21.5% had 11-15 years duration while only 5.3% had 16 years and above duration of marriage at the time of marriage. These results are contradictory to those of Sunmola *et al.* (2003) who found that 92% of the respondents reported the duration of marriage between 1-6 years and small duration of marriage indicates less experience of reproductive issues. While in present study about 60% of the respondents had marriage duration of 6 years and above that indicates their sufficient experience of reproductive issues.

Table 2 shows that about half (48.7%) of the respondents had monthly income of Rs.5001-10000, 17.3% had more than Rs.15000, 17.2% had up to Rs.5000 while remaining 16.8% earned Rs.10001-15000 per month from all sources. Data indicates that almost two thirds of the respondents (17.2%+48.7%=65.9%) had maximum monthly income up to Rs. 10000 that is quite inadequate for good survival and better living. According to Robert *et al.* (1993) about 15% of the population has such a low income that they are precluded from an adequate standard of living. This is directly related to malnutrition, illiteracy, and large family size, which creates a self-perpetuating circle of events resulting in an overall increase in size of the population. Rani (2004) reported that in most countries, poor young females made early marriage and they had less mass media exposure and more economic dependency than rich youth. Similar findings were made in an urban area research study in which Ahmed (2008) found that 39% of the respondents had Rs.10000 or above monthly family income while, in another research study Arshad, (2006) identified similar results that majority of respondents (67.3%) had less than Rs.10000 per month family income from all sources and among them more than half earned less than Rs.5000 per month.

Table 2 shows that almost half (49.2%) of the respondents had 6-10 family members, 34.7% had 1-5 members and remaining 16.2% of the respondents had 11 and above persons as family members in their home. Similar results were

shown by Govt. of Pak. (2013) that still in Pakistan a nuclear family had more than five members (mean family size).

Table 2 shows that most of the respondents (26.5%) had 1 live child, 24.5% had 2 children, and 21.5% had 3, 15.7% had 4, while 11.8% had 5 and above live children. These results are like those of Desai and Tarozzi (2011), Sunmola *et al.* (2003), Ahmed (2008), Arshad (2006) and Mudasar (2008). According to Desai and Tarozzi (2011) mean desired family size was 4.83 in two regions (Oromia and Amhara) of Ethiopia where women married earlier, began childbearing sooner, had more birth and wanted to have more children. In a study in Nigeria, Sunmola *et al.* (2003) found that the respondents from polygamous families openly explain sibling size range of between 0 and 25 and a huge majority (74.2%) of them had one to eight siblings whereas Ahmed (2008) found that most (39%) of the respondents had 3-4 babies. while, in another research study Arshad (2006) reported similar results that most (38.7%) of respondents had 3-4 children and 37.3% had 5 and above children while only 24.0% had 1-2 children. Mudasar (2008) in her research study also showed similar findings that majority (59.2%) of respondents had 4-6 children. People think that more children are gift of Allah Almighty and source of power in rural settings. More members of family can earn more and had a prestige and social status in community.

**Attitude towards pregnancy/ antenatal care:** Prenatal care is the complete care that should be given to a female from her family and it should be taken by female herself throughout the pregnancy (Mustafa, 2008). Some socio-cultural and religious factors influence the use of maternal health services in Pakistan or elsewhere in South Asia (Winkvist and Akhter, 1997; Johns *et al.*, 2001). Health services are available in Pakistan through several sources like MCH centers, hospital, family welfare centers, LHW/LHV and “Dais” or local traditional birth attendants (TBAs) though illiterate, ill-trained and ill-equipped (Mustafa, 2008). At the level of the household, young women’s subordinate position has been argued to be an important factor limiting access to pregnancy/ ANC related healthcare (Winkvist and Akhter, 1997; Winkvist and Akhter, 2000; Johns *et al.*, 2001). Females who practice prenatal care in initial stage of pregnancy as compare to those who attain a little or no antenatal care have better birth outcome (Mustafa, 2008). In Northern India, Bangladesh and even in Pakistan, older women i.e. Mother-in-laws have been found to make decision about whom to consult and what steps to take during pregnancy and delivery since they are consider having the knowledge and experience of birthing (Jeffery *et al.*, 2002, Unnithan-Kumar, 2001; Rozario, 1995; Johns *et al.*, 2001). Data regarding antenatal care is presented in Table 3.

Table 3 indicates that majority (79.8%) of the respondents received ANC during their last/current pregnancy while 20.2% did not receive. These results are like those of Ahmed (2008), Mudasar (2008) and Arshad (2006). Ahmed (2008)

found that majority (64%) of the respondents had got ANC during their last/ current pregnancy. Mudasar (2008) in her research study also showed that 65.8% rural women had the facilities of paramedics/ clinic in their area and 50.8% females responded that they visited them for receiving ANC during their last/ current pregnancy and found them affordable. In another research study, Arshad (2006) reported similar results that majority (60.0%) of respondents had received ANC while remaining 40.0% did not attain it during their last/ current pregnancy.

Data in Table above table narrate that majority (79.8%) of the respondents received ANC during their last/current pregnancy and out of it, 30.7% of the respondents received it from Doctor’s clinics, 23.2% got it from LHV/LHW, 19.0% attained it from Nurse/Dai, 12.9% visited private hospitals, 8.8% visited government hospitals (DHQ), while 5.4% of the respondents received it from lady doctor’s clinics. Similar results were found by Mustafa (2008) and Mudasar (2008). Mustafa (2008) found that 54% female visited the doctors for medical checkup during last/ current pregnancy in the govt. hospitals or in their private clinics. Mudasar (2008) found that 65.8% rural women had the facilities of private paramedics/ clinics in their area where they had received ANC during their last/ current pregnancy.

Table 3 also indicates that total 121 respondents (20.2%) did not receive ANC during their last/current pregnancy and out of it, an overwhelming majority (95.0%) of the respondents replied that they did not feel the need of it on that time, 3.4% replied that their in-laws opposed them, 0.8% did not afford it or due to lack of resources they did not receive ANC during their last/current pregnancy, and only 0.8% did not receive it because their husbands opposed them in this regard.

Above Table indicates that most (38.7%) of the respondents replied that during pregnancy a woman should take complete rest, eat well and balanced diet, don't pick heavy load, and should make regular medical checkup during pregnancy as safety measures. A little more than one-fourth (27.0%) of the respondents were of the view that a pregnant woman should eat well and balanced diet, 12.0% of the respondents were in favour of complete rest, 11.7% of the respondents thought that a pregnant woman should not pick heavy load, and 10.6% of the respondents answered in favour of regular medical checkup.

Data given in Table 3 also narrate that an overwhelming majority (90.3%) of the respondents had replied in favour of regular medical checkup while 09.7% of the respondents replied that a woman has no need of regular medical checkup during pregnancy. Similar findings were made by Mustafa (2008) in his research that almost two-thirds of the respondents went regularly for medical checkup during their pregnancy and others visited occasionally that indicates the thinking of community about medical checkup. Although majority perceived it important to make medical checkup regular but still some proportion of community did not

consider it important for women to visit the health centre regularly for checkup.

**Table 3. Distribution of the respondents according to their perceived attitude towards different antenatal care (ANC) aspects during pregnancy.**

Received ANC in their last/ current pregnancy	Freq.	%
Yes	479	79.8
No	121	20.2
<b>Total</b>	<b>600</b>	<b>100.0</b>
<b>Source of received ANC during last/ current pregnancy</b>		
Pvt. Hospital	62	12.9
Clinics/Doctor	147	30.7
Govt. Hospital (DHQ)	42	8.8
LHV/LHW	111	23.2
Nurse/Dai	91	19.0
Lady Doctor	26	5.4
<b>Total</b>	<b>479</b>	<b>100.0</b>
n= 479 (79.8%) who received ANC		
<b>Reason for not receiving ANC</b>		
No need	115	95.0
In-laws opposed	4	3.4
Not affordable/ lack of resources	1	0.8
Husband opposed	1	0.8
<b>Total</b>	<b>121</b>	<b>100.0</b>
n= 121 (20.2%) who did not receive ANC		
<b>Safety measures for pregnant women</b>		
Complete rest	72	12.0
Eat good and balanced diet	162	27.0
Don't pick heavy load	70	11.7
Regular check up	64	10.6
All above	232	38.7
<b>Total</b>	<b>600</b>	<b>100.0</b>
<b>Do woman need regular checkup during pregnancy?</b>		
Yes	542	90.3
No	58	9.7
<b>Total</b>	<b>600</b>	<b>100.0</b>
<b>Did you go regularly for medical checkup during pregnancy?</b>		
Yes	527	87.8
No	73	12.2
<b>Total</b>	<b>600</b>	<b>100.0</b>
<b>Source for medical checkup?</b>		
Nurse/LHV/LHW	176	33.4
Dai/TBA/mid wife	61	11.6
BHU/RHC/Dispensary/MCHC	6	1.1
DHQ/THQ	27	5.1
Pvt. hospital/clinic	257	48.8
<b>Total</b>	<b>527</b>	<b>100.0</b>
n= 527 (87.8%) who went for checkup		
<b>Medical checkup should start during pregnancy from</b>		
1 <sup>st</sup> month	140	23.3
2 <sup>nd</sup> month	96	16.0
3 <sup>rd</sup> month	337	56.2
4 <sup>th</sup> or above months	27	4.5
<b>Total</b>	<b>600</b>	<b>100.0</b>
Mean = 2.44	Std. Dev. = 0.97	

Cont...

Received ANC in their last/ current pregnancy	Freq.	%
<b>Perceived per month visits for checkup during pregnancy</b>		
One	415	69.2
Two	103	17.2
Three	32	5.3
More than three	50	8.3
<b>Total</b>	<b>600</b>	<b>100.0</b>
<b>Who should decide for treatment?</b>		
Woman herself	245	40.8
Husband	112	18.7
Family member	183	30.5
Dai/TBA	24	4.0
Any other (Doctor/ Nurse etc)	36	6.0
<b>Total</b>	<b>600</b>	<b>100.0</b>
<b>Cost (Rs.) on each medical checkup visit</b>		
Up to 250	164	27.3
251-500	292	48.7
501-1000	115	19.2
1001 and Above	29	4.8
<b>Total</b>	<b>600</b>	<b>100.0</b>
Mean = 463.85	Std. Dev. = 308.87	
<b>Means of mobility/ transport</b>		
By foot	125	20.8
Own transport	178	29.7
Pvt. Transport	91	15.2
Public transport /Ambulance	206	34.3
<b>Total</b>	<b>600</b>	<b>100.0</b>
<b>Nature of care/ services during pregnancy from family</b>		
Provide mild food	94	15.7
Pure food for mother	424	70.7
Oil/Ghee	15	2.5
Provide warm environment	59	9.8
All above	8	1.3
<b>Total</b>	<b>600</b>	<b>100.0</b>
<b>Did any maternal death occur in your house during pregnancy?</b>		
Yes	31	5.2
No	569	94.8
<b>Total</b>	<b>600</b>	<b>100.0</b>
<b>Causes of maternal death during pregnancy</b>		
Lack of balance diet	3	9.7
Delay in delivery	5	16.1
Careless of medical staff	6	19.4
Lack of knowledge	1	3.2
Due to complication/ Miscarriage	7	22.6
Due to heavy bleeding	9	29.0
<b>Total</b>	<b>31</b>	<b>100.0</b>
n= 31 (5.2%) who had maternal death in their house		

Table 3 also indicates that a large majority (87.8%) of the respondents replied that they visited the doctor regularly for medical checkup while 12.2% of the respondents did not visit doctor regularly for medical checkup during pregnancy.

Data given in Table 3 further depict that most (48.8%) of the respondents went to a private hospital/ clinic for medical checkup, 33.4% of the respondents visited the Nurse/ LHV/ LHW, 11.6% visited TBA/ Dai/ Midwife while only 1.1% of the respondents went to basic health unit (BHU)/ rural health

centre (RHC)/ dispensary/ mother child health centre (MCHC) and remaining 5.1% of the respondents visited the district head quarter (DHQ)/ tehsil head quarter (THQ) hospital for medical checkup.

Table 3 also shows that majority (56.2%) of the respondents answered that pregnancy checkup should start from third month, 23.3% of the respondents were in the favour of first month, and 16.0% were in favour of second month while 4.5% of the respondents perceived that pregnancy check up should start from fourth month or above. The mean value for medical visit was 2.44 months.

Data in Table 3 further reveal that during pregnancy majority (69.2%) of the respondents thought that a pregnant woman should visit once a month to medical personnel for checkup, 17.2% of the respondents were in favour of twice a month medical checkup, 5.3% replied that a pregnant woman should visit medical personnel thrice a month for checkup while 8.3% were in favour of more than three visits a month. These findings are in lines with those of Rani and Lule (2004) who found that the poor young females married earlier and had less economic autonomy and may be less likely to gather in such fixed places as school, health centers. Indian and Bangladesh statistics pointed out that in South Asia husband or husband's family in different walks of life mostly forced married females. Their outside home mobility and decision making power regarding their own health was influenced by their husband or in-laws so visits to health center regarding treatment significantly associated with approval of family member. Less and restricted mobility along with less autonomy in decision making restricts females per month visits for medical checkup during pregnancy and mostly it is hard for them to made at least one visit per month.

Table 3 also narrates that most (40.8%) of the respondents replied that a woman should herself decide about treatment in case of any complication, 30.5% were in favour of family members' decision, 18.7% replied that husband should decide for medical treatment, 4.0% answered that Dai/TBA should decide for medical treatment while 6.0% of the respondents replied that someone else (health personnel like doctor/ nurse etc) has to decide for medical treatment in case of any complication. Similar findings were made by Rani and Lule (2004) that the poor early married young females had less socio-economic and decision making autonomy and may be less likely to gather in such fixed places as school, health centers, and youth clubs. In South Asia husband or husband's family in different walks of life mostly forced married females. Their outside home mobility and decision making power regarding their own health were influenced by their husband or in-laws so visit to health center regarding treatment in case of any complication and also the decision relating to whom along this treatment will be taken were significantly associated with approval of family member. Similarly, Winkvist and Akhter (1997) reported that norms and values influence use of maternal health services in

Pakistan or elsewhere in South Asia. At the level of the household, young women's subordinate position has been argued to be an important factor limiting access to pregnancy related healthcare. In Northern India and Bangladesh, older women have been found to make decision about whom to consult and what steps to take during pregnancy and delivery since they are consider having the knowledge and experience of birthing (Jeffery *et al.*, 2002, Unnithan-Kumar, 2001; Rozario, 1995).

Data given in Table 3 further reveal the distribution of the respondents regarding their response that how much cost they must spend on each medical checkup. Most (48.7%) of the respondents had to spent Rs. 251-500 on each medical checkup, 27.3% had to spent up to 250 rupees while 19.2% had to spent 501-1000 rupees, and 4.8% of the respondents had to spent more than Rs.1000 on each medical checkup. The mean medical expenditure on each visit was 463.85 rupees. These results are like those of Mumtaz and Salway (2007) who reported that costs, both social and financial, were found in the ethnographic work to be a crucial variable in the calculus to use antenatal care (ANC). Most non-users were members of poorer families. Amongst the poor, the decision to use or not to use antenatal services is assessed in the light of the financial outlays involved, and the perceived risks and benefits. Where financial resources are limited and competing needs include items of basic survival like food and clothing, ANC has low priority. As a preventive activity in the absence of overt symptoms of ill health, it is considered a *fuzuual* (unnecessary) expense. A visit costs about Rs.200 (including transport, doctor's fees and medicines prescribed), an amount that can constitute up to 20 percent of a poor family's monthly income. As well as the overall financial capacity of the family, it was of interest to explore whether a woman's own access to income has any bearing on her use of ANC.

Data given in Table 3 also indicate that most (34.3%) of the respondents had used public transport ambulance, 29.7% had used their own transport, 15.2% of the respondents had used private transport to go to health center for medical checkup while 20.8% did not use any transport. Similar findings were made by Rani and Lule (2004) and Mumtaz and Salway (2007) in their studies that lack of economic resources and distance from health center served as barriers for females to visit health centre for getting proper and timely treatment during pregnancy. Mostly they used public transport or made a walk to health center for treatment. Their outside home mobility and decision making power regarding their own health were also influenced by their male members (husband) or in-laws so visit to health center regarding treatment was significantly associated with approval of family member.

The results of Table 3 further narrates that a large majority (70.7%) was in favour of pure food for mother during pregnancy, 15.7% were in favour of mild food, 9.8% replied that family should provide warm environment while 2.5% of the respondents mentioned some other types of care/services

like ‘Dasi Ghee’, ‘Panjeri’, ‘Halwa’ (all these food are made of excessive oil/ghee and powder of wheat / rice and dry fruits) while remaining 1.3% of the respondents were in favour of all above mentioned services and cares. Mustafa (2008) found in his research study that majority (70.5%) of the respondents took extra diet during their pregnancy and he suggested that diet should be pure and good in quality.

Above given table also indicates that an over whelming majority (94.8%) of the respondents replied that no maternal death had occurred in their house during pregnancy while 5.2% of the respondents admitted that maternal death had occurred in their house during pregnancy. Green Star (2009) advertised that on education & reproductive health scale, Pakistan stands lowest while in fertility rate and population growth rate have high position as compare to other developing countries i.e. Bangladesh, India and Sri Lanka. In Pakistan, more females die as compare to Sri Lanka. Due to pregnancy related reasons, female death ratio many times higher in Pakistan as compare to Sri Lanka and near 50% females face anemic. Estimated maternal mortality is 350-400 per 1 Lac live births.

Data given in Table 3 also reveal that most (29.0%) of the respondents pointed out that due to heavy bleeding maternal death was occurred during pregnancy, 22.6% declared pregnancy complication/ miscarriage, 19.4% blamed the careless of medical staff, 16.1% declared delay in delivery while 9.7% regarded lack of balanced diet as the cause of death and 3.2% of the respondents declared the lack of knowledge about reproductive health as a cause of maternal death during pregnancy. These results are like those of Kodio *et al.* (2002) who discussed the findings of maternal mortality and medical reasons in rural Senegal. They got last 10–14 year’s statistics of all 15 to 49 years old female’s birth and death in Niakhar, Bandafassi and Mlomp for comparison. Maternal mortality ratio was higher in remote areas of Bandafassi and similar in Mlomp and Niakhar. Haemorrhage became most common reason of two-thirds of maternal death while only a few reported abortions.

**Number of pregnancy Vs Reproductive Health:**

**Hypothesis: More the number of pregnancies of the respondents, worse will be the reproductive health:** Table 4 indicates that less than half (49.2%) of the respondents had 1-2 no. of pregnancies. The results further recorded that 28.5% of the respondents had low level of reproductive health while 49.5 % of same category had high level of reproductive health. The table also states that 57.9% of respondents had 5 and above no. of pregnancies and had low level of reproductive health, but 14.7% of the respondents of same category had high level of reproductive health. It means that respondents who had more the number of pregnancies had low level of reproductive health. The value of Chi-square is highly significant at 0.05% level of significance, which states a strong association between No. of pregnancies and reproductive health of female. Gamma value indicates

positive relationship between independent & dependent variable. Therefore, the hypothesis is accepted. These results are like those of Chattopadhyay and Parasuraman (2004) and Santelli *et al.* (2009). Santelli *et al.* (2009) examined the measures of pregnancy intention in United States. Factor analysis pointed out the desire and mistiming as key dimensions of pregnancy intention and overdue and non-care as two smaller non-dimension of pregnancy intention. Desire to continue the pregnancy leads toward more number of children and more pregnancies affect the reproductive system of adolescents. Chattopadhyay and Parasuraman (2004) found similar results in their research study “Hindu-Muslim differentials in reproductive choice and son preference: A comparative study of selected states of India”. Researcher investigated whether the demand for son is a factor for higher demand for children or lesser use of contraception among Muslims and carried out regression analysis introducing interaction terms of religion and number of sons. They found that irrespective of religion, all women demand more children in all states. Demand of more children increases the number of pregnancies that indicate the less use of contraception and portrait the worse condition of females’ health.

**Table 4. Association between number of pregnancies and reproductive health of female.**

Number of pregnancies	Reproductive Health			Total
	Low	Medium	High	
1-2	84	65	146	295(49.2%)
	28.5%	22.0%	49.5%	100.0%
3-4	86	48	76	210 (35.0%)
	41.0%	22.9%	36.2%	100.0%
5 and above	55	26	14	95 (15.8%)
	57.9%	27.4%	14.7%	100.0%
Total	225	139	236	600 (100%)
	37.5%	23.2%	39.3%	100.0%

Chi-square= 41.38, d.f. =4, Significance(P) = 0.000\*\*, Gamma= -0.350, \*\* Highly significant

**Number of visit to medical center Vs Reproductive health:**

**Hypothesis: More the visit to medical center, better will the reproductive health:** Table 5 indicates that the value of Chi-square is highly significant at 0.05 percent level of significance which states an association between No. of visits for medical checkup during pregnancy and reproductive health of female. Gamma value indicates negative relationship between independent and dependent variable. Therefore, the hypothesis is accepted. Similar observation was found by El-Kak,*et al.* (2009) during their research study. Findings indicate that out of 1869 women, almost one-fourth reported RH problems; of these, 6 out of 10 females visited private clinics for treatment and care. Health insurance, younger age, and severity and time length of problems had association with utilization of reproductive health amenities. Poverty induces females to practice public and subsidized

facilities so they must visit medical center so many time for their treatment of RH problems.

**Table 5. Association between number of visits for medical checkup and reproductive health of female.**

No of visits for Medical checkup during pregnancy	Reproductive Health			Total
	Low	Medium	High	
Once a month	134 32.3%	105 25.3%	176 42.4%	415(69.2%) 100.0%
Twice a month	43 41.7%	10 9.7%	50 48.5%	103(17.2%) 100.0%
Thrice a month	25 78.1%	5 15.6%	2 6.3%	32 (5.3%) 100.0%
More than thrice a month	23 46.0%	19 38.0%	8 16.0%	50 (8.3%) 100.0%
Total	225 37.5%	139 23.2%	236 39.3%	600 (100%) 100.0%

Chi-square = 51.99, d.f.= 6, Significance(P)= 0.000\*\*, Gamma = -0.257, \*\* Highly significant

**Cultural hindrance Vs Reproductive health:**

**Hypothesis: More the cultural hindrance, worse will be the reproductive health:** Table 6 indicates that the value of Chi-square is highly significant at 0.05% level of significance, which states an association between cultural hindrance and reproductive health of female. Gamma value indicates negative relationship between independent and dependent variables. Therefore, the hypothesis is accepted. These results are like those of Majumdar *et al.* (1997) who narrated that the cultural constraints inhibit women from seeking health facilities.

**Table 6. Association between cultural hindrance and reproductive health of female.**

Cultural hindrance	Reproductive Health			Total
	Low	Medium	High	
No	192 34.8%	135 24.5%	225 40.8%	552 (92.0%) 100.0%
Yes	33 68.8%	4 8.3%	11 22.9%	48 (8.0%) 100.0%
Total	225 37.5%	139 23.2%	236 39.3%	600 (100.0%) 100.0%

Chi-square= 22.11, d.f.= 2, Significance (P)= 0.000\*\*, Gamma = -0.491, \*\* Highly significant

They further pointed out that high population growth rate and poor health call for complete health care services, but, unfortunately, health services do not reach most of the people of Pakistan. Partly because the training of doctors and nurses is lengthy and expensive, there is an acute shortage of health care providers, especially women. Although female health professionals are preferred for caring for women, cultural

restrictions restrict women from seeking education and health amenities. Such is the multifaceted dilemma in the provision of primary health care in Pakistan.

**Conclusion:** Agriculture is back bone of Pakistani economy and in this sector large proportion of population is engaged. Females contribute in many agricultural tasks and perform actively side by side male work force. So, their health has vital position both at family level and in economic contribution. In reproductive health pregnancy and antenatal care has closely associated and had important place in reproductive life of a female. More numbers of pregnancies, low spacing and less knowledge about anti-natal care & less medical visits wipe out their health which is mostly because of cultural restriction and socio-religious stringency. Study suggests that females should be empowered to decide their numbers of pregnancies, spacing and ANC services to keep themselves healthy and productive. There is need to bring change in social-cultural norms & values to empower them so that agrarian and non-agrarian females of both rural and civic communities can make free a fair decision about their health, education, family size, selection of profession, future planning and perform their positive role in nation building programs/ projects. Their good health and empowerment can boost power structure of society and healthy mother can build healthy nation.

**REFERENCES**

Abiodun, O.M. and O.R. Baloqun. 2009. Sexual activity and contraceptive use among young female students of tertiary education institutions in Ilorin, Nigeria. *Contraception* 79:146-149.

Afsar, H.A., M.A. Mahmood, N. Barny, S. Ali, M.M. Kadir and M. Bilgrami. 2006. Community knowledge, attitude and practices regarding sexually transmitted infections in a rural district of Pakistan. *JPMA* 56:50-54.

Aggarwal, A.K. and M. Duggal. 2004. Knowledge of men and women about reproductive tract infections and AIDS in a rural area of north India: Impact of a community-based intervention. *JHPN* 22:413-419.

Ahmed, S. 2008. Factors affecting mother and infant health in district Faisalabad. M.Sc. Population Science Diss., Dept. Rural Sociology, Univ. of Agriculture, Faisalabad, Pakistan.

Akhlaq, M. 2006. Effect of socio- economic and cultural factors on mother health: A comparative case study in two socio- economic classes in Faisalabad city. M.Sc. Population Science Diss., Dept. Rural Sociology, Uni. of Agriculture, Faisalabad, Pakistan.

Anderson, B.O., R. Shyyan, A. Eniu, R.A. Smith, C.H. Yip and N.S. Bese. 2006. Breast cancer in limited-resource countries: An overview of the Breast Health Global Initiative guidelines. *Breast J.* 12:3-15.

- Arshad, N. 2006. Impact of maternal health services on mother and child health. M.Sc. Diss. Dept. Rural Sociology, Uni. of Agriculture, Faisalabad, Pakistan.
- Babalola, S., L. Folda and H. Babayaro. 2008. The effects of a communication program on contraceptive ideation and use among young women in Northern Nigeria. *Stud. Family Plan.* 39:211–220.
- Bhawsar, R.D., J.P. Singh and A. Khanna. 2001. Determinants of RTIs/STIs among women in Punjab and their health seeking behavior. Indian Institute of Health Management Research, near Sanganer Airport, Jaipur, India.
- Chattopadhyay, A. and S. Parasuraman. 2004. Hindu-muslim differentials in reproductive choice and son preference: A comparative study of selected States of India. *Sharing Population and Development Research across South and West Asia. Fifth Annual Research Conference Proceedings 14-16 December 2004*, Karachi, Pakistan. Population Association of Pakistan (PAP), Islamabad, Pakistan.
- Daniel, E.E., R. Masilamani and M. Rahman. 2008. The effect of community-based reproductive health communication interventions on contraceptive use among young married couples in Bihar, India. *IFPP* 34:189-97.
- Desai, J. and A. Tarozzi. 2011. Micro credit, family planning programs and contraceptive behaviour from a field experiment in Ethiopia. *Demography* 48:749-782.
- ECDC. 2013. A comprehensive approach to HIV/STI prevention in the context of sexual health in the EU/EEA: ECDC technical report. European Centre for Disease Prevention and Control (ECDC), Stockholm. Available online at from [www.ecdc.europa.eu](http://www.ecdc.europa.eu)
- El-Kak, F., M. Khawaja, M. Salem and H. Zurayk. 2009. Care-seeking behavior of women with reproductive health problems from low-income areas of Beirut. *Int. J. Gynecol. Obstet.* 104:60-63.
- Family Health International. 2006. Frequently Asked Questions about Youth [Cited March 2006]. Available online at <http://www.fhi.org/en/youthnet/FAQs/FAQsHIVAIDS.htm>
- Govt. of New Zealand. 2013. Census 2013: 2013 Census information by variable. Statistics House, The Boulevard, Harbour Quays, P. O. Box 2922, Wellington 6140, New Zealand. Available online at <http://www.stats.govt.nz/Census/2013-census/info-about-2013-census-data/information-by-variable/occupation.aspx>
- Govt. of Pak. 2001. 1998 District census Report of Pakistan. Population Census Organization, Statistics Division, Islamabad, Pakistan.
- Govt. of Pak. 2006. Year Book 2005-06. Government of Pakistan, Ministry of Youth Affairs, Islamabad, Pakistan.
- Govt. of Pak. 2013. Pakistan Economic Survey 2012-13. Government of Pakistan, Finance Division, Economic Adviser's Wing Islamabad. Available online at [www.finance.gov.pk](http://www.finance.gov.pk).
- Govt. of Pakistan. 2018. Pakistan Economic Survey 2017-18; Population, labor force and employment. Ministry of Finance, Government of Pakistan. Available online at [http://www.finance.gov.pk/survey\\_1718.html](http://www.finance.gov.pk/survey_1718.html)
- Green Star. 2009. Advertising sexual and reproductive in Pakistan: The Touch Condom Song. Five Rupees it's all about free of coast, Monday, June 08, 2009. Green Star. A non-profit, Non-Governmental Organization. Contact: [fivepeesadmin@GooglegroupsDOT.com](mailto:fivepeesadmin@GooglegroupsDOT.com)
- Gueorguieva, R.V., R.L. Carter, M. Ariet, J. Roth, C.S. Mahan and M.B. Resnick. 2001. Effect of teenage pregnancy on educational disabilities in Kindergarten. *AJE* 154:212-220.
- Gupta, G.R. 2005. Child marriage in India. ICRW forum on child marriage in developing countries, forum presented at US Department of State, USA on dated September 14, 2005.
- Kodio, B., L. De Bernis, M. Ba, C. Ronsmans, G. Pison and J.F. Etard. 2002. Levels and causes of maternal mortality in Senegal. *TMIH* 7:499-505.
- Jain, G., V. Bisen, S.K. Singh and P. Jain. 2011. Early marriage of girls as a barrier to their education. *IJAET* 2:193-198.
- Jamison, D.T., J.G. Breman, A.R. Measham, G. Alleyne, M. Claeson, D.B. Evans, P. Jha, A. Mills and P. Musgrove. 2006. *Priorities in Health*. The World Bank, 1818 H Street NW, Washington, D.C. 20433. Available online at [www.worldbank.org](http://www.worldbank.org).
- Jeffery, P., R. Jeffery and A. Lyon. 2002. Contaminating state: midwifery, childbearing and the state in rural North India. In: S. Rozario and G. Samuel (eds.), *Daughters of Hariti: Child Birth and Female Healers in South and Southeast Asia*. Routledge; pp.90-108.
- Johns. B.C., A.S. Zeba and M. Haq. 2001. Obstacles to contraceptive use in Pakistan: A study in Punjab. Population Association of America. No.145.
- Majumdar, B., Y. Amarsi and B. Carpio. 1997. Pakistan's community health workers. *Canadian Nurse*, 93: 32-34.
- Mudasar, S. 2008. Impact of maternal health services on mother and child health in rural areas of Faisalabad. M.Sc. Population Science Diss. Dept. Rural Sociology, Univ. of Agriculture, Faisalabad, Pakistan.
- Mumtaz, Z and S.M. Salway. 2007. Gender, pregnancy and the uptake of antenatal care services in Pakistan. *SHI* 29:1-26.
- Mustafa, M. 2008. Factors affecting mother and child health care in district Faisalabad. M.Sc. Population Science Diss. Dept. Rural Sociology, Uni. of Agriculture, Faisalabad, Pakistan.
- Nayab, D. 2005. Socio-cultural dynamics of adolescent reproductive health in Pakistan. A paper presented in

- poster session of XXV International Population Conference, Tours, France, July 18-23, 2005, organized by International Union of the Scientific Study of Population (IUSSP).
- Nayab, D. 2009. Socio-cultural dynamics of adolescent reproductive health in Pakistan. Available online at <http://iussp2005.princeton.edu/download.aspx?submissionId=51034>
- Nguyen, M.C and Q. Wodon. 2012. Measuring child marriage. *Eco. Bull.* 32:398-411.
- Popenoc, D. 1977. *Sociology*, 3<sup>rd</sup> Ed. Prentice Hall Inc. Englewood Cliffs, New Jersey, 568, USA.
- Population Council. 2007. Adolescents and youth in Pakistan 2001-2002. A National Representative Survey. pp.89-90; Available at: <http://www.popcouncil.org/pdfs/ayp0102>
- Population Council. 2007. Maternal health education needed in Pakistan. A Research Report on Safe Motherhood. Population Council, Islamabad, Pakistan.
- Population Council. 2009. The adolescent experience in-depth: Using data to identify and reach the most vulnerable young people: Pakistan 2006/07. Population Council, One Dag Hummarkjold Plaza, New York, 10017, USA.
- Population Matters. 2017. Current Population trends. Available online at [https://www.populationmatters.org/wp-content/uploads/2016/07/SI\\_12\\_current\\_population\\_trends.pdf](https://www.populationmatters.org/wp-content/uploads/2016/07/SI_12_current_population_trends.pdf)
- Rabia. 2012. Determinants and consequences of female early marriages: A sociological investigation in rural areas of tehsil Dera Ghazi Khan. M.Sc. Rural Sociology Diss. Collage of Agriculture, Dera Ghazi Khan, Uni. of Agriculture, Faisalabad, Pakistan.
- Rani, M. 2004. Reproductive health and gender development: An international perspective, Directors, Search, P.O. and Distribution Gadchiroli (Maharashtra) 442605, India.
- Rani, M. and E. Lule. 2004. Exploring the social economic dimension of adolescent reproductive health: A multi country analysis. *IFPP* 30:110-117.
- Razario, S. 1995. Dai and midwives: The renegotiation of the state of birth attendants in contemporary Bangladesh. In: J. Hatcher and C. Vlassoff (eds.), *The Female Client and the Healthcare Provider*. Ottawa, Canada. International Development Research Centre (IDRC); pp.91-112.
- Robert, J.I.L., J.A. Oduma, S. Bassol-Mayagoitia, A.M. Bacha, and K.M. Grigor. 1993. Regional and geographical variations in infertility: Effects of environmental, cultural and socioeconomic factors. *Environ. Health Perspect.* 101:73-80.
- Santelli, J.S., L.D. Lindberg, M.G. Orr, L.B. Finer and I. Speizer. 2009. Toward a multidimensional measure of pregnancy intentions: Evidence from the United States. *Stud. Fam. Plan.* 40:87-100.
- Shah, N., D.K. Rohra, S. Shuja., N.F. Liaqat., N.A. Solangi, K. Kumar, K. Kumar, K.L. Ahuja, S.I. Azam and N. Khan. 2011. Comparison of obstetric outcome among teenage and non-teenage mothers from three tertiary care hospitals of Sindh, Pakistan. *J. Pak. Med. Assoc.* 61:693-697.
- Sharma, B., S. Sharma and S. Nagar. 2005. Awareness among women towards aspects of family planning in Kullu District of Himachal Pradesh. *JSS* 11:249-251.
- Shraddha, A., and B.M. Bhart. 2006. Reproductive health in urban slums. *J. Obstet. Gynecol. India* 56:225-257.
- Silverman, J. 2010. Child brides, child mothers, changing the cycle of family abuse in India and South Asia. Special Report women & health published by Harvard School of Public Health. Available online at <https://www.hsph.harvard.edu/news/magazine/spr10childbrides/>
- Singh, E. 2006. Adolescent reproductive health in South Asia: key issues and priorities for action. Available online at [http://www.who.int/reproductivehealth/publications/towards\\_adulthood/4.pdf](http://www.who.int/reproductivehealth/publications/towards_adulthood/4.pdf)
- Stark, R. 2004. *Sociology: The Interplay between education and occupation* 9<sup>th</sup> Ed., Chap. 16. Thomson Learning, Inc. United States of America; pp.350-450.
- Sudha, R.T., D.T. Vijay and V. Lakishmi, 2005. Awareness, attitudes, and beliefs of the general public towards HIV/AIDS in Hyderabad: A capital city from South India. Dept. Microbiology, Nizam's Institute of Medical Sciences, Hyderabad, Andhra Pradesh, India.
- Sunmola, A.M., M. Dipeolu, S. Babalola and O.D. Adebayo. 2003. Reproductive knowledge, sexual behaviour and contraceptive use among adolescents in Niger State of Nigeria. *AJRH* 7:37-48.
- Tarar, M.A., S. Akhtar, M.I. Zafar and S. Muhammad. 2015. Perceptions, attitudes and practices about reproductive health among young females in Faisalabad District, Pakistan. *Professional Med. J.* 22:081-099.
- Tarar, M.A, T. Fatima, M.H. Salik, S. Akhtar, Y.N. Khan, T. Sultan, F. Ahmad, I.A. Warraich, S. Yasmin. 2016. Health problems faced by female farm workers in rural areas of Tehsil Dera Ghazi Khan: A sociological investigation. *J. Dow Uni. Health Sci.* 10:35-38.
- US Census Bureau. 2012. International data base. Mid year population by youth age groups-Pakistan 2012; From Punjab Youth Policy 2012. Available online at <https://www.census.gov/data-tools/demo/idb/informationGateway.php>
- UNFPA. 2005. Protecting mothers in risky situations: Assisting in emergencies. Report on Safe Motherhood. UNFPA, 605, Third Avenue New York, 10158, USA.

- UNICEF. 2006. Child protection information sheets. The Child Protection Section, Programme Division UNICEF, NY, USA; pp.1-32.
- UNO. 2005. Youth at United Nations, World Youth Report 2005: United Nations. Available online at <http://www.un.org/esa/socdev/unyin/documents/wyr05part3.pdf>
- UNO. 2006. World Youth Policy, World Programme of Action for Youth. Available online at <http://www.un.org/esa/socdev/unyin/global.htm>
- Unnithan-Kumar, M. 2001. Midwives among others: knowledge of healing and the politics of emotions in Rajasthan, Northwest India. In: S. Rozario and G. Samuel (eds.), Daughters of Hariti: Child birth and Female Healers in South and Southeast Asia. Theory and Practice in Medical Anthropology; Routledge, London.
- WHO. 2001. Department of Child and Adolescent Health and Development. Progress report: 2000-2001 (WHO/FCH/CAH/02.19). Available online at: <http://WorldsYouth2006dataSheet.pdf>
- WHO. 2012a. Early marriages, adolescent and young pregnancies. World Health Organization, Sixty-Fifth World Health Assembly A65/13 Provisional Agenda Item 13.4,A65/13.
- WHO. 2012b. Preventing early pregnancy and poor reproductive outcomes among adolescents in developing countries: What the evidence says. World Health Organization, Department of Maternal, Newborn, Child and Adolescent Health, 20 Avenue Appia, 1211 Geneva 27, Switzerland.
- Winkvist, A. and Z.A. Akhter. 1997. Images of health and healthcare options among low income women in Punjab, Pakistan. Soc. Sci. Med. 45:1483-91.
- Winkvist, A. and Z.A. Akhter. 2000. God should give daughter to rich families only: Attitudes towards childbearing among low-income women in Punjab, Pakistan. Soc. Sci. Med. 51:73-81.
- Zafar, M.I. 2002. Perception of male children: satisfaction and expectations. Pak. J. Appl. Sci. 2:1115-18.
- Zafar, M.I., F. Asif and S. Adil. 2003. Religiosity as a factor of fertility and contraceptive behaviour in Pakistan. Pak. J. Appl. Sci. 3:158-166.