WOMEN HEALTH SEEKING BEHAVIOUR AND ITS INFLUENCE ON THEIR FERTILITY PERFORMANCE: UTILIZATION OF PRENATAL AND POSTNATAL CARE

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Evidences regarding the effect of pre- and postnatal care on women fertility were scanty and rarely explored in countries struggling to curtail high population growth. This specialized health care enabled women for regular consultation with the health professionals and discussions with fellow women visiting clinics. It enhances their awareness, knowledge and understating about mother-child welfare during pre- and postnatal cares. This improves their control on subsequent fertility and underlines the need to explore the hidden dimension of female fertility. A doctoral level study on the determinants of marital fertility was conducted in district Faisalabad, Pakistan. It also examined the influence of pre- and postnatal care on family size in terms of children ever born. A random sample of 1051 married women was studied from 18 villages and 18 urban localities through formal survey. The study concluded that at least 5 prenatal and 2 postnatal cares proved effective in reducing marital fertility. Improved women access to specialized care, motivation through mass media, involvement of female representatives at union council level and effective use of primary support groups are the measures suggested to enhance women control on their fertility in Pakistan.

Keywords: Children ever born, family size, prenatal care, fertility

INTRODUCTION

The availability and adequate use of healthcare protect the adopters from many sorts of health complications and reduce the risk of early mortality (Phillips, 1990). It is extremely important for women who are contributing towards new life. During the period of pregnancy, the availability of health services, appropriate knowledge about health complications and advantages of health use motivate them for higher healthcare utilization (DISH-II, 2001). It may urged women to visit health professional and laboratory testing, which in turn affect the female fertility (Zafar, 1995). The avoiding behaviour on the other hand limits the awareness and results in severe health complications through frequent pregnancies and unwanted births (Sable et al. 2000). The empirical evidence suggests that access and use of health services enable women to exercise better control on their fertility (Mir *et al.,* 2002). The healthcare adopters were 20% more likely than women in comparison group to limit their childbearing (Population Council, 2003). Particularly, their access to pre- and postnatal care was vitally important from all aspects of mother and child well being and its positive influence in reducing family size (Abbasi, 2006). Studies revealed that adequate adoption of health services raises women's knowledge about safe motherhood practices; increases their knowledge about infant and childcare (Huasi, 2006; Sharma and Sharma, 1993).

These specialized services also negatively influence infant and child mortality as well as motivate women for fewer births for any desired number of children in family. The physicians take appropriate and timely steps by analyzing the physical health of pregnant women or information obtained through laboratory examination. Any complication is handled before it turns dangerous to the life of mother or child or even both. Similarly, health professionals discuss with patients about the number of children in the existing family and suggest prudent approach in this regard. These influence women subsequent fertility intention and promote family planning adoption (Mahmood, 1998). The foregoing discussion convincingly argues that expectant women can save themselves from many illnesses and remain free from many birth related complications by adopting proper health care. They can deliver healthy baby at proper time and enjoy the pride of motherhood.

The study is unique in the sense that it explored the influence of pre and postnatal care on female fertility. It also identified the minimum level of such care required to influence women marital fertility. This dimension of female fertility was not explored in Pakistan.

MATERIALS AND METHODS

The study was conducted in district Faisalabad selected randomly from the seven major districts of the Punjab, a major province of Pakistan, accounting 56% of the country's population. From the six tehsils of the

district, four were selected at the second stage and six villages from rural areas and three localities from urban areas of each tehsil were drawn at the third stage of the sampling. Tehsil Faisalabad city is comprised of urban areas only having larger share of population in the district, so nine localities were selected to draw the study units from it. A random sample of 1052 respondents; 462 from the urban area and 590 from the rural areas of the universe were selected for interview through systematic random sampling technique. Married females 20-45 years age, living with husbands and had at least one surviving (living) child were eligible respondents. During data analysis, one questionnaire from rural areas was excluded, as it did not give complete information on major variables. Besides, descriptive statistics Chi-squre, Gamma and Perssonson's Correlation, were used to examine the relationship between predictor and response variables. The multivariate analysis was used to investigate relative significance of independent variables in predicting dependent variable.

RESULTS AND DISCUSSION

Table 1 indicates childhood background of the respondents, their educational attainments, family income, their age at rukhsati and the respondents' age at first birth.

Table 1. Socioeconomic and demographic characteristics of the respondents

Variables	Number	Percentage
Childhood background of the respondents		
i. Urban	399	38.0
ii. Rural	652	62.0
Total	1051	100.0
Childhood background of the husbands		
i. Urban	365	34.7
ii. Rural	686	65.3
Total	1051	100.0
Education of the respondents (years of schooling)		
i. No Schooling	502	47.8
ii. Less than 9	110	10.5
iii. 9 – 10	178	16.9
iv. Above 10	261	24.8
Total	1051	100.0
Mean Education: 5.65 Standard Deviation: 5.74		
Education of the husbands (years of schooling)		
i. No Schooling	348	33.1
ii. Less than 9	101	9.6
iii. 9 – 10	258	24.5
iv. Above 10	344	32.7
Total	1051	100.0
Mean Education: 7.52 Standard Deviation: 5.79		
Family income from all sources (Rs. Per month)		
i. Less than 5000	367	34.9
ii. 5000– 10000	406	38.6
iii. Above 10000	278	26.5
Total	1051	100.0
Mean Income: Rs.9242 Standard Deviation: Rs.8883		
Respondents age at ruksati (marriage) in completed years.		
i. Less than 18	199	18.9
ii. 18 – 22	534	50.8
iii. Above 22	318	30.3
Total	1051	100.0
Mean Age: 20.53 Standard Deviation: 3.46		
Respondents age at the birth of first child (years)		
i. Less than 18	77	7.3
ii. 18 – 22	538	51.2
iii. 23 – 27	376	35.8
iv. Above 27	60	5.7
Total	1051	100.0
Mean Age: 22.11 Standard Deviation: 3.42		

Table 1 reveals that more than 60% of women and husbands spent major part of their childhood in rural areas. Forty eight percent of women and 33% of husbands were illiterate and majority of literate in both the cases had more than 10 years of schooling. However, rural-urban differentials in literacy and educational attainments were higher both in gender and area. The means education of females in total sample was 5.65, for urban respondents 7.46 and for those from rural areas as 4.21 years of schooling. Mean education of husbands for all areas was 7.52, for urban areas 9.44 and rural areas as 6.0 years of schooling. About 35% had family income of less than Rs. 5,000 while 26% reported more than Rs.10,000 per month. The mean family income was Rs.9242 for combine analysis whereas Rs.12540 and Rs.6655 during part-analysis for urban and rural respondents, respectively. Just 10% of women were working for paid job while the rest were housewives. The results also revealed that 19 and 51% of women entered into marriage agreement at less than 18 and 18-22 years, respectively. Even 7 and 51% of them proved their fertility through first birth in these age groups.

Table 2 presents the level of prenatal care used by the respondents during the last pregnancy and its influence on their fertility performance.

The results show that 25, 17, 34, and 24% of women adopted no prenatal care, paid less than 5, 5-7 and more than 7 visits to the health professionals during last pregnancy, respectively (Table 2). It also indicates that 15, 10, 34, and 58% of the women with small family paid no, less than 5, 5-7 and more than 7

Table 2. Children ever born by prenatal care during last pregnancy

Prenatal care during last pregnancy (No. of Visits)	Family size (Number of children ever born)			
	Small family (< 3)	Medium family (3)	Large family (4 +)	Total
i. No.	14.5 (38)	14.5 (38)	71.0 (186)	24.9 (262)
ii. Less than 5	10.2 (18)	14.7 (26)	75.1 (133)	16.8 (177)
iii. 5 – 7	33.7 (122)	20.4 (74)	45.9 (166)	34.4 (362)
iv. 8+	58.0 (145)	27.2 (68)	14.8 (37)	23.8 (250)
Total	30.7 (323)	19.6 (206)	49.7 (522)	100.0 (1051)

Chi-square: 230.841 DF: 6 Significance level (SL): 0.000 Gamma: -0.549 Standard error: 0.031
Approx. T: -16.791 SL: 0.000
Note: Figure in parenthesis are number and outside is percentage

prenatal visits, respectively. The small family increased by 19% from no prenatal care to 5-7 visits to health professionals and finally by 24% when the extent of care increased to more than seven visits. In this way, the small family increased by 44% from no prenatal care to the higher category of such healthcare. No effect of less than five visits was observed on small family size. This underlines the significance of at least 5-7 visits in reducing family size. It is also important to note that majority of the women with small and medium families paid more than seven prenatal visits whereas majority with large family did not pay any such visit. The results show that family size decreases with increase in prenatal care. This apparent relationship between prenatal care during pregnancy and family size was verified through the application of Chi-square, and Gamma statistics. The higher values of both the statistics at one percent significance level confirmed the presence of association between the independent and dependent variables. This upheld the study hypothesis that "higher the number of prenatal visits to health professionals by the women during pregnancy, fewer will be the number of children ever born to them." This indicates that higher healthcare adoption increased women awareness and knowledge about safe motherhood practices and enhanced women control over their fertility.

The analysis carried out through control on place of residence revealed that influence of prenatal care on the children ever born or family size among the respondent women living in the urban areas was higher than those living in rural areas. The prenatal period is of longer duration and need more visits to exhibit its significance in reducing female fertility. Poor affordability, limited healthcare facilities, transport problems and unfriendly behaviour of services providers during vulnerable period of pregnancy were some of the major reasons reported for the lower prenatal care by the rural respondents. In urban areas wide spread availability of healthcare services and improved women access resulted in higher adoption of such care. The study revealed another important finding that less than five prenatal visits did not exert any influence on family size. It is quite possible that limited number of visits failed to expose women to the adverse effects of frequent pregnancies and birth complications as well as benefit of health and family planning use.

Table 3 indicates the extent of specialized care i.e. postnatal care used by the respondents after last delivery and its influence on their fertility in terms of children ever born.

The study of the responses collected during field survey reveals that 52% of women adopted postnatal care during the last pregnancy. Majority of those who utilized such healthcare had small family as compared to those who adopted no care and reported large family size. The results show that a minimum of two postnatal health visits can prove effective in reducing number of children ever born through indirect influence on female fertility. The results also show that 48% of the women did not use health care facilities after last delivery, 36% paid less than three visits to health professionals for seeking health advice while little more than 16% even made 3 or more number of postnatal visits (Table 3). The table further indicates that 16, 36, and 64% with small family reported no postnatal care, less than three and three or more number of such visits to health professionals, respectively. The percentage of the women with small family increased by 20% from no postnatal care to less than three visits and by 48% at three or more visits. The percentage of the respondents with large family decreased rapidly with the increasing postnatal care. The results show that a relationship has emerged between the predictor and response variables. A direct relationship appeared between the number of postnatal visits and small family size and inverse relationship between the independent variable and large family size. However, a curvilinear type of relationship appeared between

Table 3. Children ever born by postnatal care after last delivery

Postnatal care after last delivery (Number of visits)	Family size (Number of children ever born)			
	Small family (< 3)	**Medium family (3)**	**Large family (4 +)**	**Total**
i. No	15.8 (80)	15.4 (78)	68.7 (343)	48.0 (505)
ii. Less three	35.5 (133)	25.1 (94)	39.5 (148)	35.7 (375)
iii. Three & above	64.3 (110)	19.9 (34)	15.8 (27)	16.3 (171)
Total	30.7 (323)	19.6 (206)	49.7 (522)	100.0 (1051)
Chi-square: 196.393 DF: 4 Significance level (SL) : 0.000 Gamma: -0.574 Standard error: 0.032 Approx. T: -15.088 SL: 0.000				
Postnatal care during 7-8 weeks after last delivery (No. of visits)				
i. No	20.2 (145)	17.3 (124)	62.5 (448)	68.2 (717)
ii. Less three	53.2 (176)	24.8 (82)	21.1 (73)	31.5 (331)
iii. Three & above	66.7 (2)	-	33.3 (1)	00.3 (3)
Total	30.7 (323)	19.6 (206)	49.7 (522)	100.0 (1051)
Chi-square: 162.997 DF: 4 Significance level (SL): 0. Gamma: -0.625 Standard error: 0.036 Approx. T: -13.431 SL: 0.000				

postnatal visits and medium family size. The high value of Chi-square and Gamma statistics at one percent level of significance verified the presence of such relationship. It supports the study hypothesis that "higher the number of postnatal visits to health professionals by the women, fewer will be the number of children ever born to them." A similar type of results was found when separate analysis was carried out on the basis of place of residence. The influence of postnatal care on small family in rural areas was weak as compared to urban areas. This may be due to the fact that rural parents want more children as compared to their urban counterparts. The low female education, lack of access to appropriate healthcare and poverty in rural areas could be the other major reasons. However, the importance of at least two postnatal visits in reducing family size remained dominant in all the three types of analysis.

It is pertinent to mention that immediately after birth, women experience an infecundable period during which the normal pattern of ovulation and menstruation remain absent. Although in some societies, prolonged postpartum abstinence is practiced but in most of the cases sexual intercourse in the first six weeks after delivery is prohibited ethically as well as medically. These provide natural protection against pregnancy. However, after postpartum amenorrhea, the potential risk of pregnancy increased with the increase in the chances of intercourse. Women who visit health professional at the terminal stage or when postpartum amenorrhea is over, receive medical advice as well as guidance about family planning methods for protection against the potential risk of pregnancy (Abbasi, 2006). The awareness and knowledge acquired during prenatal care and timely advice during postnatal care motivate mothers for higher contraceptive use (Gwatkin et al. 1980). In order to check the significance of postnatal care during this particular period, a separate analysis was performed through control on the week of postnatal care. The results show that 32% of women adopted postnatal care during 7-8 week after delivery as against 20% who obtained such care in the first six weeks after delivery (Table 3). The small family increased by 33% from no to less than three visits while medium family increased by seven percent. Like the other three analysis as discussed earlier, this analysis also confirmed the significance of at least two postnatal health visits in reducing female fertility in terms of children ever born.

Table 4 presents the results of Pearson correlation analysis wherein children ever born was used as dependent variable.

Table 4. Pearson correlation values showing relationship of socio-demographic, and health care variables with children ever born

Sr. No.	Variables	Correlation co-efficient
1.	Respondent education	-0.550**
2.	Husbands education	-0.466**
3.	Respondent age at rukhsati	-0.417**
4.	Husband age at rukhsati	-0.254**
5.	Husbands profession	-0.197**
6.	Infant morality	0.344**
7.	Child mortality	0.187**
8.	Prenatal care during last pregnancy	-0.450**
9.	Postnatal care during last pregnancy	-0.441**

N = 1051 Level of Significance = 5%**

The results in table 4 shows that use of Pearson correlation confirmed the relationship obtained through the other two statistics applied earlier in tables 3 and 4. The values of correlation coefficients indicate that women education and age at rukhsati exerted more influence on children ever born as compared to husband education and age at rukhsati. Although, both infant and child mortality behaved contrarily exerting positive influence on women fertility, but the influence of infant mortality was more powerful and inverse effect on fertility inhibiting efforts. This might be due to the fact that infant mortality compels women to replace the missing child early and discourage contraceptive use necessary to space or terminate birth. The effect of health care use on dependent variable shows that pre- and postnatal care reduced the family size through women better control on their fertility. The higher co-efficient value of prenatal care (-0.450) than postnatal care (-0.441) shows that specialized health care services during pregnancy are more effective in reducing family size. The former increased awareness level, build up women confidence and improve their assertive position while the later motives for practical approach to exercise better control on their fertility.

Table 5 presents the results of multiple regression analysis where some socio-demographic and health variables were regressed on children ever born.

The multiple regression analysis revealed that background variables such as respondents' and husbands' education, and demographic variables like respondents age at rukhsati, husband age at rukhsati, infant and child mortality, pre- and postnatal care contributed in explaining female marital fertility (Table 5). negative influence on the response variable whereas infant and child mortality caused a positive effect leading to increase in the number of children ever born. This may be due to the fact that woman who experienced the mortality of infant or child, soon try to replace the lost child. Especially, to replace the mortality of male child, women may experience many unwanted births and contribute towards large family size. The coefficients for pre (-0.232) and postnatal care (-0.281) bear negative sign indicating healthy effect on women control on their fertility besides yielding other health benefits. However, the results show higher influence of postnatal care on dependent variable as compared to prenatal care. The value of coefficient of determination ($\mathbf{R^2}$) show that variables included in the model explained 47% variation in the dependent variable The part analysis conducted through control on the areas of residence revealed that influence of husbands' education and prenatal care disappeared in urban areas whereas the effect of husband age at rukhsati and postnatal care disappeared in rural areas in explaining women fertility performance. The explanatory power of model constructed for urban areas increased to 48% while in case of model for rural areas, it decreased to 38%. The significance of postnatal care in reducing family size is established in urban areas but in rural areas prenatal care contributed in explaining family size.

CONCLUSION

The prenatal care during pregnancy broadens women horizon about safe motherhood practices and improves their assertive position in the family besides yielding health benefits. This promotes the use of modern health care measure among the couples, which in turn improves their control on fertility and family size. Societies where women frequently consult health professionals during pregnancy generally care for the

Table 5. Socio-demographic and health variables regressed on children ever born

Sr. No.	Variables	Standardized beta coefficient	Standard error
1	Respondents' education	-0.212**	0.014
2	Husbands' education	-0.067*	0.012
3	Respondents' age at ruksati	-0.170**	0.018
4	Husbands' age at rukhsati	-0.005NS	0.012
5	Infant morality	0.185**	0.040
6	Child mortality	0.110**	0.55
7	Prenatal care during last pregnancy	-0.232**	0.021
8	Postnatal care	-0.281**	0.022

N = 1051 R^2 = 0.47 Level of significance = 1% ** 5% *

A comparative observation of the predictors' regression co-efficient (Beta's values) shows that women education and age at rukhsati exerted more influence on the dependent variable as compared to their husbands' education and age at rukhsati. The increase in educational attainments and age at rukhsati exerted

number of births and quality of children in family ultimately contributing towards the quality of life in society. During waiting time at the clinic for prenatal visits, woman meets other women at clinic/health center. They exchange views about the new experience of childbearing in case of first birth and about the family development in the case of subsequent births. These women also discuss about the number and sex in the desired and actual family size. This improves their health awareness, utilization of health services and consequently influenced women fertility (Mir *et al.,* 2002). It created demand for quality services and resulted in small family norms in the society (Ahmed and Mir, 2004). Similarly, Hakim and Zafar (2001) found that women who adopted higher prenatal services had small family. The current study reported a similar type of situation where women with higher prenatal care had small family size. The increase in small family size and rapid drop in large family size was observed in the cases where women paid more prenatal visits to doctor/clinic.

Like prenatal, postnatal care health services have a wide range of health benefits both for mother and infant. It protects mother from various health problems and may also yields small family benefits through family planning use. The long period of abstinence from sexual relations by the couples during the last few weeks of pregnancy to eight weeks after delivery increase probability of its early resumption and even the frequency of intercourse soon after postpartum amenorrhea. This increases the risk of unplanned pregnancy on the resumption of ovulation. Such types of pregnancies are quite harmful for the physical health of mother and child as well as socioeconomic betterment of family. The couples can avoid the risk of unintended and unplanned pregnancies through modern contraceptive methods. The use of methods depends upon the knowledge and access of the potential users. Health professionals and mass media are the two major sources of creating and promoting awareness and increasing such knowledge in society. Women visiting health professionals during post delivery period, consult their physician on various health issues. They may advise them to adopt remedial measures and avoid the risk of pregnancy for specific time period or to terminate childbearing depending upon the existing family size. In this way, health visits directly or indirectly increase the use of family planning measures. Evidence suggests that higher postnatal visits equip women with precautionary measures, such as modern contraceptive use and enhance women control on their fertility especially during the risky days. Such healthcare ultimately protects both mother and child from health problems and also contributes in reducing family size.

The significance of prenatal and postnatal cares in improving women control on their fertility emerged in the study. The adoption of at least 5-7 prenatal visits during pregnancy and a minimum of two postnatal visits after birth to health professionals are required for seeking timely health advice, laboratory examinations and promotion of small family norms in the society. The absence of such care may increase family expenditures on health in case of complications and also raise public expenditures in the provision and management of health services. The social stress to other family members and time involved during curative period constitute additional burden on account of negligence or avoiding behaviour. There is a strong need to improve women access to health and family planning services, particularly in rural areas. Mass media can be effectively used to create awareness regarding the beneficial aspects of prenatal and postnatal visits at proper time. The adequate involvement of health professionals, women representatives at union council level and effective use of primary support groups can play an vital role in promoting proper adoption of pre and postnatal care for enhancing women control on their fertility.

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