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RESEARCH PAPER

Role of Family Characteristics in the Utilization of Antenatal Care Services

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ABSTRACT

The major objective of this study was to point out the family characteristics which observed as the main hurdle in order to utilize the available health care services. Data was collected from 323 females which were not currently pregnant but gave birth to one or more children. Family characteristics were asked in order to examine the family participation in maternal care. In order to check the relationship between family characteristics and utilization of health care services binomial logistic regression analysis was used. Major findings of the study shows that family system, role of husband regarding qualification and income play a great role to predict the number of antenatal care visits. Results shows that husband's age, education and income were also have strong association with the utilization of e health care services. In order to improve the critical situation of maternal and infant mortality education needs more attention.

Keywords: Antenatal Care Maternal Mortality

Introduction

Maternal mortality defined as the ratio of mothers deaths per 100,000 live birth in developing countries maternal mortality ratio is 239/100,000 live births. Major cause consider as the poor utilization of health care services in developing and under developed areas. During the period of antenatal care the most compulsory step is preparation for delivery, discovery and administer the complications faced by the females like nutrition deficiencies, HIV and anemia. Minimum four antenatal care visits is recommended by the World Health Organization (Lancet, 2001). Antenatal care combined the awareness regarding diet importance of supplements. Antenatal care is the significant key in order to reduce the maternal mortality rate (Giedraitis, 2014). UNICEF report of 2009 shows that only 28% of the total population get the antenatal care services.

Antenatal care visits are the main source to get the awareness regarding the diagnosis and treatment of pregnancy related issues. Pregnant woman must have at least four antenatal care visits as it is important for the health of both (Lancet, 2001). Antenatal care is observed as the most important intervention in order to overcome the maternal and infant mortality (Titaley *et al.*, 2010). Antenatal care visits minimize the chances of pregnancy related complications and risk linked with health of the mother and newborn ((Titaley *et al.*, 2010). Antenatal care visits are the medical visits of the pregnant women to skilled medical health care professional in order to regularize the diet during pregnancy and detect the abnormalities which can be handled before delivery (Magadi, Zulu, & Brinkerhoff, 2003). (Hill *et al.*, 2007) studied that antenatal care visits in developing countries is almost 65% and which is lesser than 97% from the developed nations. In Pakistan the ratio of

recommended antenatal care visits by World Health Organization is lesser than 36% (Sahito and Fatmi, 2018).

Family is the main social institution which deal with the health of pregnant women (Allen, 2010). Family is a basic social institution and has a significant impact on health of the female and related issues. A number of social and cultural factors impact on most of the decisions about the maternal health just because of the traditional patriarchal system in Pakistan. As a result in most of the situations the major concern of the families observed on the fulfillment of traditional customs. Literature guide that in most of the developing countries interventions to provide the basic facilities to those who cannot afford. However a number of socio-cultural factors participate in the utilization of available health care services such as age, professional, qualification, family income and availability of health care services (Onah *et al.,* 2011).

In developing nations like Pakistan restricted joint system and stereotypical behavior observed as the main hurdle of not approaching the health care services. (Zhang *et al*, 2016) studies that females living in joint systems less likely to pursue the health care services during pregnancy. Husband's role also play a significant part as husband's age observed as the main factor which is associated with the utilization of health care services(Zhang *et al*, 2016). Result of various studies shows that aged and mature husbands show no concern to wife and her needs in the period of pregnancy. Literature indicate that there is major breach among husband's concern in order to utilize the maternal care services (Nwakwuo & Oshonwoh, 2013).

Husband's education and awareness also important in the utilization of healthcare services as educated and well qualified male focus on health care services during the period of pregnancy and related problems and motivate the partners for medical attention. Family support is the vital element in seeking the health care services (Simkhada *et al*., 2008). Therefore the major purpose of this study was to investigate the increasing ratio of maternal and infant deaths because of the minimum number of maternal care visits and utilization of the health services. Family characteristics assessed as family system, characteristics of the spouse like age qualification and income of the family.

Material and Methods

According to the nature of the present research quantitative research method by the researcher. Present study was a cross sectional research of females who were not pregnant at the time period of conducting survey but given birth in the last five years. Above than 18 years of married females living the legal residential colonies of Sheikhupura were administer by the current study. Population of the current study included the females who are married and above than 18 years old as females between the 15-49 years old are in their reproductive years recommended by (WHO, 2016). As district of Punjab Sheikhupura observed as having the most of characteristics of the independent variable therefore it was selected as the research area. According to Pakistan Bureau of Statistics, 2016 Sheikhupura is a very dense residential place having the local governmental area with 59% women literacy rate. Multistage sampling techniques of probability and non-probability sampling techniques further guided the present study.

Sheikhupura has 18 residential colonies which are recognized as legal by the municipal committee of the district therefore 50 % of the total residential colonies were selected by the researcher in order to draw the sample of the current study. At the first stage one block of each colony was selected with the help of simple random sampling. In each of the selected block every 5th house was selected by the regular interval of systematic sampling. At the last step purposive sampling further guided the study and females who were not pregnant at the time of the data collection but given birth in the last five years were selected within the inclusion criteria of the study. Total of 323 females were selected to

investigate the predictive role of family characteristics in the utilization of health care services. Self-administered survey was conducted in the present study in order to ensure the reliability and validity of the data. Mixture of descriptive and binary logistic regression was used to the predictive association among family characteristics and utilization of antenatal care services.

Ethical Consideration

Researcher got the permission for entrance and communication with the respondents from the relevant authority. Short description of the present research was explained to the respondents before collecting the data. The issue of confidentiality was also removed by ensuring the selected respondents that this study is only for academic purpose and the received information will not be shared by the researcher.

Results and Discussion

Demographic Profile of the Respondents

Findings of the present research show that women were among the age interval of 18-42 years old and most of the females reported their age in 28-32 years old. Total of 25.7 % females reported that they are intermediate. Above than 40% of the selected females have the qualification between matric and bachelor. Almost 70 % females reported their social status as house wives while 20 % were employed and performing their duties in public and private sectors. Above than 40 % respondents reported that they have 2 children.

Table 1
Demographics of the respondents

Characteristics	N=301	
Age	18-22	21 (6.5%)
	23-27	65 (20.1%)
	28-32	112 (34.7%)
	33-37	101(31.3%0
	38-42	24(7.4%)
Qualification	Matric	132 (40.9%)
	Intermediate	83(25.7%)
	Graduation	70 (21.7%)
	Masters and above	38 (11.8%)
Professional Status	Unemployed	255 (78.9%)
	Employed	68(21.1%)
Family income per month	12-24 thousands	72 (23.9%)
	25-36 thousands	74(24.6%)
	37-48 thousands	155 (51.5%)
Number of children	1-3	192 (59.4%)
	4-6	131(40.6%)

Family Characteristics of the Respondents

Family characteristics of the respondent's shows that above than 60 % of the respondents reported that they were living in the joint system while 30 % were living in nuclear system. Above than half percent of the respondents were reported that their husbands age between 30-40 years old. Majority of the respondents were reported their qualification as bachelor. Above than 70 % of the total respondents were reported that their husbands are employed in public and private sector. 15-29 thousands rupees observed as the family income of majority.

Table 2
Family Characteristics of the Respondents

Husband's Age	20-24	8(2.5%)
	25-29	38(11.8%)
	30-34	115(35.6%)
	35-39	49(15.2%)
	40-44	69(21.4%
	45-49	44(13.5%)
Family System	Joint System	195(60.4%)
	Nuclear System	128(39.6%)
Husband's Education	Primary	38(11.8%)
	Matric	64(19.8%)
	Intermediate	55(17.0%)
	Bachelor	98(30.3%)
	Master and above	68(21.1%)
Husband's Employment Status	Employed	15(4.6%)
	Un Employed	228(70.6%)
	Business	80(24.8%)
Family's Monthly Income	15-29 Thousands	134(41.5%)
	30-44 Thousands	87(26.9%)
	45-59 Thousands	48(14.9%)
	60 Thousands or more	54(16.7%)

Antenatal Care Services

Result shows that above than 70 % of the women reported that they have more than 4 antenatal care visits in either in public or private sector hospitals in their last pregnancy. Above than 90 % of the total respondents agreed that they were used to check their weight and blood pressure in every month. Same is the situation in ultrasound above than 90 % of the total respondents agreed that they go for ultrasound once in a month. Total of 85 % women convinced that they used to take iron and calcium supplements during their last pregnancy. Results show that 88 % of the respondents agreed that they have cover their tetanus toxoid immunization. Above than 90 % females reported that they have tested for diabetes mellitus and remaining were did not. In case of anemia diagnosis 64 % of the respondents agreed that they have tested for while remaining were not prefer.

Table 3
Utilization of maternal health services

Antenatal care		
Number of visits		
1-3 visits	93(28.8%)	
4-6 visits	230(71.2%)	
Utilize Health Services	**Yes**	**No**
Regular checkup of weight	305(94.4%)	18(5.6%)
Regular Checkup of Blood pressure	305(94.4%)	18(5.6%)
Ultrasound Checkup	304(94.1%)	19(5.9%)
Intake of Iron Tablets	276(85.4%)	47 (14.6%)
Intake of Calcium Tablets	276(85.4%)	47(14.6)
Tetanus Toxoid Injection	287(88.9%)	36(11.1%)
Diabetes Test	304(94.1)	19(5.9%)
Anemia Test	209(64.7%)	114(35.3%)

Omnibus Goodness-of-fit Test of No. of Antenatal care Visits

The results show that model was statistically significant and reliable in differentiating no. of antenatal care visits which were whether 1-3 visits or 4 or more visits ($\chi 2 = 211.44$; $p = .000$).

Table 4
Omnibus Tests of Model Coefficients

Step 1		Chi-square	df	Sig.
	Step	211.434	11	.000
	Block	211.434	11	.000
	Model	211.434	11	.000

Classification Model of No. of Antenatal Care Visits

Table shows that 21 cases were classified as having 1-3 antenatal visits and 218 cases were classified as having 4 or more antenatal visits, implying that model correctly classified the cases about 90%.

Table 5
Classification

Observed Step 1	Predicted: How many times did you visit the hospital or clinic during your last pregnancy?		Percentage Correct
	1-3 visits	4 visits or more	
Visits in last pregnancy 1-3 visits	72	21	77.4
4 or more visits	12	218	94.8
Overall Percentage			89.8

Variation in No. of Antenatal Care Visits

In the table 28 cox and snell r square and negelkerke r square were used to explain variation in the dependent variable. Total variation of 68% in the no. of antenatal visits will be created, explained by family characteristics.

Table 6
Model Summary

Step (Square)	-2 Log likelihood	Cox & Snell R Square	Negelkerke R
1	176.349[a]	.480	.687

Logistic regression in social sciences used to check the predictive change in the dependents variables caused by the independent variables. In the current study dependent variable observed as the utilization of antenatal care services while independent variable investigate as the family characteristics of the respondents. In the present study binary logistic regression used as the dependent variable was in categorical form. Results shows that family system was significantly related to number of antenatal care visits. Females living with in laws in joint system .053 less likely to have 4 visits as compared to the females living in nuclear system.

Similarly husband's education also found associated with the number of antenatal care visits females who reported their husband's education bachelor and above have more utilized the antenatal care services. Results show that females whose husbands had bachelor and above degree 22.5 times more likely to have 4 and above visits as compared to those whose husband's education was intermediate and below. Family monthly income also proved as a strong predictor of utilization of antenatal care services. Females who reported family monthly income 60 thousands and above have significantly strong association with the use of maternal health services. Females with the family income of 60 thousands and above were 10.9 times more likely to utilize the antenatal care services and have chances to have 4 or more visits. Income of the family from the range of 45-59 thousands found statistically related to the number of antenatal care visits and utilization of antenatal care services (P=.003).

Husband's Characteristics such as age and profession did not found a strong predictor in the utilization of antenatal care services as P> .05. Hence the final results of the present study suggest that the family system either living in joint or nuclear system, husband's schooling and economic status of the family play a significant role in ord.er to utilize the maternal health care services.

Table 7
Regression Coefficients of Whether or not living with In-laws, Husband's Age, Husband's Education, Husband's Employment Status; and Family's Monthly Income for No. of Antenatal Visits

Variables	Sig.	EXP(B)	95% C.I. for EXP(B)	
			Lower	Upper
Whether or not living with in-laws (ref = No)				
Yes	.000	.053	.016	.180
Husband's age (ref = 18-29 year-old)				
≥ 42 year-old	.070	.289	.076	1.105
30-41 year old	.716	1.187	.473	2.289
Husband's education (ref = primary)				
Bachelor and above	.000	61.654	9.016	421.624
Intermediate	.000	22.563	4.032	126.256
Matric	.040	5.869	1.081	31.867
Husband's employment status(ref unemployed)				
Business	.239	3.402	.443	26.143
Employed	.515	1.928	.267	13.906
Family's monthly income(ref = 15-29 thousands)				
60 thousands and more	.004	10.099	2.099	48.593
45-59 thousands	.003	10.084	2.249	45.226
30-44 thousands	.003	4.112	1.631	10.367

Note. Variables entered on step 1, whether or not living with in-laws, husband's age, education, employment status; and family's monthly income for no. of antenatal visits

Conclusion

Results showed that 71.2 % females reported 4 or more antenatal care visits while 28.8% have visits 1-3 times. Results of the present study determine that antenatal care is a strong factor to have a positive result in pregnancy and antenatal care visits are important in order to diagnose and treat any type of complication and abnormality within correct time. Results of the study reveal that family system found a stronger predictor in maternal health. In nuclear system females observed have more freedom to make their decisions regarding their health and utilization of maternal health care services. Although in the case of Pakistan because of the traditional culture majority of the females were living with their in laws. Females living in their in laws less likely to have sufficient antenatal care visits and utilization of antenatal care services just because of the family pressure and involvement. Literature also guide that the females with living in laws less likely to utilize the antenatal care services (Nisar & White, 1987). While women in nuclear system observe as more utilizing the antenatal care services and have more freedom to make the decisions regarding their own and newborn health.

Husband's role in the utilization of the antenatal care services is very significant as he can motivate the partner to take care of the diet and other supplements recommended by the health care providers. However husband's age did not find statistically strong predictor of the utilization of the maternal health care services (Zhang *et al*., 2016). While literature guide that the husband's age play a significant role in the utilization of antenatal care services young partners motivate their spouses for the utilization of the supplements

and other nutrition's as compared to the aged males (Alam et al.,2004). Husband's education play a statistically important role to utilize the health services respondents who reported their husband's qualification

Employment status of the spouse did not observed as a strong element as literature guide the opposite situation as husband's profession play a significant part in the care of maternal health (Simkhada *et al*., 2008). Justification for the weak association among utilization and husband's employment status may be the struggle among time and money as the major concern will be on money and have no time for antenatal care visits. On the other side of the coin male without handsome salary did not have motivation and economic resources to bear the expenses. Meanwhile as guided by the literature family monthly income found as a stronger predictor of the utilization of the parental care services in the present study (Ali *et al.,* 2014). Women with strong financial background found to utilize the antenatal care survives more as compare to others. As guided by the bio psychosocial model family system, family monthly income and husband's education found strong predictors in the utilization of antenatal care services in the present study.

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