Impacts of Antenatal Care and Maternal Health Literacy on Pregnancy Outcomes

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Abstract

Major purpose of the current study was to explore the role of antenatal care and parenting literacy in pregnancy outcomes. A survey was conducted from mothers who were not currently pregnant and information was attained about their last pregnancy outcomes. Data was attained from 301 mothers about the parenting literacy, time of first antenatal care visit, antenatal visits number and complications faced by the respondents in the duration of last pregnancy. Data was collected from the legal colonies of district Sheikhupura, Punjab. Binary logistic regression was used to explore the predictive association among maternal health literacy, antenatal care and pregnancy outcomes. Findings of the present research explore that only pregnancy related problems found a strong predictor of pregnancy results. Majority of the respondents in the current study were stated that they have only done with their matric therefore maternal health literacy rate was not very satisfactory. Number of antenatal care visits and maternal health literacy did not observe as the predictors of pregnancy outcomes. The findings of this study suggest that education needs to be focused to improve maternal health. Policy level interventions are needed to increase enrolment ratio of females in educational institutions to address the importance of antenatal care.

Keywords: Antenatal care; Maternal Mortality; Maternal Morbidity

Introduction

Situation of maternal mortality in developing countries is very worse as after HIV infection maternal mortality observed as the second major cause of maternal death. In the modern world maternal mortality is the greatest issue faced by not only developing but developed nations also. Maternal mortality is observed as the biggest health issue in third world countries as contrast to developed nations. Pakistan Demographic Health Survey (2006-2007) reported mortality rate is observed as 276 maternal deaths per 100,000 live births. Major causes of maternal deaths included bleeding, repeated abortion and hypertensive disorders. Literature Shows that in South Asian countries maternal and infant mortality rate decreased during the last ten years. Many health related research and past data conclude that antenatal care plays a vital role to reduce the maternal mortality and morbidity [1].

A cross-sectional study found that antenatal care has great association with maternal and infant health. World Health Organization suggested that at least four antenatal visits are compulsory for positive results while in Pakistan more than 70% female reported only one antenatal are visit. According to Pakistan Demographic Health Survey (2007) only 37% female stated that they have four or more antenatal visit during pregnancy. Zozulya explored that illiterate female did not have enough capability to take important decisions related to their own and new born health in case of any emergency. Educated females not only recognized the written instructions of their health provider but also follow them. Maternal health literacy is an important indicator in pregnancy outcomes. Uneducated females could not communicate well with their health professionals and therefore not in a position to understand and follow the health instruction which is the major cause of negative pregnancy results [2, 3].

Materials and Methods

A Cross-sectional survey was conducted in legal residential colonies of Sheikhupura, Punjab. The universe of the present research encompassed of 301 mothers (who were not pregnant at the time of data collection). In order to select the sample for data collection multistage sampling techniques were used. There were 18 legal residential colonies in Sheikhupura and 50% of the total colonies was selected randomly to draw the sample size. With the help of simple random sampling technique one block of each colony was selected by the researcher [4].

Through systematic sampling every 5th house was nominated to collect the data. Mothers who were nor pregnant at the time of data collection were selected by the help of purposive sampling. Along with the descriptive statistics, binary logistic regression applied as in the present study dependent variables was in dichotomous from and independent variable's were more than two. Binary logistic regression analysis run in order to check the association among maternal literacy, first antenatal care visit, number of antenatal care visits during the whole pregnancy, medical complications faced during pregnancy and pregnancy results [5-7].

Ethical considerations

First of all, permission to get into the communities and interact with door to door was granted from the relevant authorities. Researcher in the current study explained the purpose of study to the respondents before the data collection in order to pursue the voluntary participation of the respondents [8].

Major findings

Demographical Profile of Respondents

Table 1 provides the information about demographic characteristics

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Table 1: Demographics of the respondents.

Characteristics		n(%) N=301
Age	18-22	12 (4.0%)
	23-27	79 (26.2%)
	> 28	210 (69.8%)
Qualification	Matric	99 (32.9%)
	Intermediate	53 (17.6%)
	Graduation	59 (19.6%)
	Masters and above	90 (29.9%)
Professional Status	Unemployed	198 (65.8%)
	Employed	103(34.2%)
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	237 (78.7%)
	4-6	64 (21.3%)

of the respondents. Most of the respondents reported their age between 18 to 42 years and above than half of the total women were above than 25 years. Result shows that above than 30 percent of the total respondents were reported that they have matric level qualification while above than 25 percent women have their master's degree. In term of employment status above than 60 percent respondents were unemployed. Majority of the respondents confess that they have above than 40 thousand of monthly income. Above than 70 percent respondents have 1-3 children while rest of the respondents have above than 3 children [9].

Health Literacy of the Respondents

Result of the present study indicates that the level of respondent's knowledge regarding maternal health was satisfied. Majority of the respondents agreed that they can read and understand the written medical material given to them by the medical officials. Above than 35 percent respondents agreed that they are able to read and understand the medial slips and appointments. As mother's health literacy play a vital role and significant in the survival of the new born have close association. Findings indicate that most of the respondents were able to easily read and understand the medical forms while some also agreed that then can read medical forms sometimes. Medical labels in hospitals and clinics were not easy for majority of the respondents to read and understand. Less awareness regarding health directly have negative impact on the both woman and newborn (Table 2). Only a few respondents reported that they cannot understand the medial signs. Women with low literacy level have difficulty to read the written material prescribed by the medical professionals and to follow the medial recommendations which decrease the chances of medical complications during pregnancy. Findings of the present study shows that above than 40 percent respondents reported that they always confident and assured that they are following the written instruction in a right way. Only 15 percent respondents stated that they always face difficulty to fill the medical forms just because they cannot understand the written instructions while above than half of the total respondents stated that they did not experience any such difficulty Qualification of women find out the most important indicator in positive pregnancy outcomes (Table 3) [10].

Antenatal Care and Complications during Pregnancy

Results indicate that above than 80 percent respondents agreed that they get antenatal care in their last pregnancy while only 16 percent respondents reported that they did not visit any medial institution for antenatal care and checkup. Health care professionals provide

Table 2: Distribution of the respondents by the level of health literacy.

Maternal Health literacy	n(%) N=301		
	Always	Sometimes	Never
Appointment slips are easy to understand	192 (63.8%)	108 (35.9%)	1(.3%)
Medical forms are easy to fill and understand	168 (55.8%)	131 (43.5%)	2 (.7%)
Medical labels are easy to read and understand	140 (46.5%)	159 (52.8%)	2 (.7%)
Hospital signs are easy to understand	3 (1.0%)	77 (25.6%)	221 (73.4%)
Medical slips are difficult to read	7 (2.3%)	139 (46.2%)	155 (51.5%)
Medical instructions are easy to understand	19 (6.3%)	137 (45.5%)	145 (48.2%)
Written instruction are difficult to read	8 (2.7%)	133 (44.2%)	160 (53.2%)
Written information are easy to read	6 (2.0%)	132 (43.9%)	163 (54.2%
Hospital appointments are difficult to get	2 (7.0%)	125 (41.5%)	174 (57.8%)
Written forms are difficult to fill	46 (15.3%)	137 (45.5%)	118 (39.2%)
Aware of your medical condition	9 (3.0%)	158 (52.5%)	134 (44.5%)
Unsure about your medicines	2 (7.0%)	83 (27.6%)	216 (71.8%)
Someone for help to understand written material	110 (36.5%)	130 (43.2%)	61 (20.3%)
Confident on filling the medical form	96 (31.9%)	103 (34.2%)	102 (33.9%)
Confident about following written instructions	13 (43.9%)	158 (52.5%)	11 (3.7%)

Table 3: Utilization of maternal health services.

Antenatal care		
Received antenatal care	250 (83%)	
Not received	15(16.9%)	
Number of visits		
1-3 visits	42 (14.0%)	
4-6 visits	91 (30.2%)	
More than 7 visits	168 (55.8%)	
Reason of not getting services		
Shortage of time	10 (3.3%)	
Shortage of money	30 (10.0%)	
Traditional stereotype behavior	6 (2.0%)	
Timing of first antenatal visit		
First trimester	200 (64.4%)	
Second trimester	50 (16.6%)	
Third trimester	51 (16.9%)	
Problem faced during pregnancy	Not experienced	Experienced
	195 (64.8%)	106 (35.2%)
Experienced Gestational diabetes	278 (92.4%)	23 (7.65%)
Experienced Depression	281 (93.4%)	20 (6.6%)
Experienced Heart problem	291 (96.7%)	10 (3.4%)
Experienced Bleeding	261 (86.7%)	40 (13.3%)
Experienced High blood pressure	272(90.4%)	29 (9.6%)
Experienced Anemia	268 (89.0%)	33 (11.0%)

available facilities and recommendations to pregnant woman in order to ensure the positive pregnancy results. Results indicate that almost one half of the respondents agreed that they visit hospital in their first trimester. Most of the respondents who did not get medical care in their pregnancy stated that the financial problem was the main reason. Findings indicate that majority of the respondents have 7-9 visits in their last pregnancy. Above than 30 percent females reported that they experienced medical complication while 64 percent respondents did not face any such problems. Total of 7 percent females suffer from gestational diabetes while depression and heart disease was also experienced by the respondents during their last pregnancy. Results

Table 4: Percent distribution of respondents by pregnancy outcome.

Condition of baby at the time of birth	Healthy	114 (37.9%)
	Un healthy	187 (62.1%)

Table 5: Regression Coefficients.

Variables	β	S.E	Wald	df	Sig	Odds Ratio	95% CI for Odds Ratio	
							Lower	Upper
Pregnancy problems	-1.443	0.67	3.94	1	.000	0 .004	0.01	0.015
Health literacy of Mothers	-0.23	.091	.064	1	.800	0.097	0.817	1.169
Antenatal care Visits (1)	1.731	1.286	1.811	1	.178	0.406	0.088	1.867
Antenatal care Visits (2)	1.627	.903	3.062	1	.080	1.716	0.341	8.62
Time of first visit (1)	-2.99	1.797	1.497	1	.221	0.111	0.003	3.75.
Time of first visit (2)	-.904	.946	.913	1	.339	0.405	0.063	2.58
Constant	-1.67	1.850	3.937	1	.000	1.817		

indicates that bleeding was observed as the most common medical complication experienced by the pregnant females. Above than half of the total respondents stated that they have unhealthy baby while rest have health baby at the time of birth [11, 12].

Results

In the current study maternal literacy and antenatal care used as independent variable's in order to predict the pregnancy results. Antenatal care considered as the total number of medical visits during the whole pregnancy, time to start the antenatal care and medical complications such as blood pressure, anemia, sugar and diabetes. Social researchers used binary logistic regression analysis in order to predict the outcomes of any phenomena. Results of the present study indicate that females who have experienced medical complications like diabetes, sugar, blood pressure and anemia have reported negative outcomes which indicates that their newborn babies were not health at the time of their birth. Wald statistics of the current study indicates that only pregnancy related problems correlate with pregnancy outcomes while rest of the independent variable's did play a significant part to predict the pregnancy outcomes. Research shows that suitable are did not enough when medical problems can be experienced shortly during pregnancy. In such cases it might be possible that respondents who visit the health professionals did not follow the instructions. Major reason of not following the medical instructions included shortage of time and money (Table 4) [13].

In social sciences odds ratio used to explain the association among dependent and independent variable's. In the present study odds ratio for medical complications shows that for every 1 increase in medical complications leads to 0.004 less chances having a healthy baby. Findings shows that problem faced during pregnancy have direct relation with outcomes which shows that respondents who have experienced the problems reported that they have unhealthy baby at the time of birth. Complication during pregnancy faced by the pregnant women directly affect the mother and newborn and most often such complications result into the newborn or mother death. Antenatal care is important in positive outcomes and to avoid the compilations during pregnancy. In the current study antenatal care and health literacy of pregnant females did not play any part to predict the results of pregnancy (Table 5) [14].

Conclusion

Results of the present research indicates that medical compilations experienced by respondents during their last pregnancy. Blood pressure, depression, bleeding and depressions were observed as the major problems experienced by the females in their last pregnancy. Such problems increase the chances of negative result in the form of either mother or the newborn death. Care during the pregnancy not only effect the female but also newborn directly. First and third trimesters considered as the most crucial stages in pregnancy therefore antenatal care from the first trimester should be encouraged in order to get positive results. Antenatal care visits also play a part in positive results as during such visits health professionals can detect the complications within time and provide the instructions accordingly. Literacy of females did not observe as the stronger predictor of pregnancy outcomes as in the present scenario most of the respondents were not qualified above than matric.

Antenatal care services should have easy access for the overall population of any country in order to maximize the positive results. Availability of health services related to mother and newborn should be easily available in both public and private sectors. Mass media and other electronic channels play a significant part in order to highlight the importance of antenatal care specially in first and third trimester. In order to avoid the negative outcomes both health related knowledge and practices should be highlighted with the help of different channels [15, 16].

Conflicts of Interest

The authors report no conflict of interest.

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