

ROLE OF WOMEN EMPOWERMENT IN UTILIZATION OF MATERNAL HEALTHCARE SERVICES: EVIDENCE FROM PAKISTAN

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Abstract. The utilization of maternal health care services plays very crucial role in reducing the maternal mortality in developing countries. In Pakistan very limited research has been conducted to analyze the role of various socio-cultural factors on utilization of maternal health care services. There is a dire need to analyze the role of the women's empowerment within household on utilization of maternal health care services at three stages i.e. antenatal care and delivery in a health care facility and post antenatal care. The present study will provide evidence based policy guidance on the nexuses between women empowerment along with other socio economic indicators and the maternal health seeking behavior by using the data of Pakistan Demographic and Health Survey 2012-13. It has been found that urbanization, wealth, education of wife and husband, media exposure, women's empowerment, self or husband being the household head and age at the time of wedding have significant and positive impact on utilization of maternal health care facilities in all three stages. Study finds that transportation and distance to health care facility have

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significant impact on only the utilization of health care service at the time of delivery. However, study is unable to find any significant impact of women's employment on the utilization of maternal health care services in Pakistan.

Keywords: Women empowerment, Education, Awareness, Maternal health

JEL Classification: J16, I26, D83, I12

I. INTRODUCTION

According to World Health Organization (WHO) estimates approximately 800 women die daily because of the pregnancy related diseases; among them 99% of the deaths occurred in middle and low income countries and one third of them are from South Asian countries (WHO, 2012). If women are provided maternal healthcare facilities then 80% of maternal deaths can be prevented (Wessel et al, 1999; Kilpatrick et al, 2002). Maternal health care facilities are provided at three stages i.e. during the period of pregnancy (antenatal care), during childbirth (delivery care) and soon after childbirth (postnatal care).

The situation of maternal health care in Pakistan is not satisfactory. In Pakistan, Maternal Mortality Ratio (MMR) was 533 during the 1990-91, which has reduced to 276 in 2006-07 and was 178 in 2014 (world bank estimates¹). This high maternal mortality rate is an outcome of the low utilization of health care facilities by women in Pakistan. In this regard, during 1990-91, proportion of childbirths attended by skilled birth attendants was 18%; this ratio has increased to 52.1 % in 2012-13. Proportion of women who made at least one antenatal care consultation during their pregnancy was 15% in 1990-91, and this ratio reached to 68% in 2011-12 (PMDGR, 2010 & 2013). In comparison to other countries, these indicators are on the lower side for example MMR was 30 in Sri Lanka, 148 in Bhutan and 27 in China.

¹<http://data.worldbank.org/indicator/SH.STA.MMRT>

Earlier studies are of the view that lack of education, income, early marriage, distance to hospital/health care facility, transportation, early age pregnancy are major factor that are hindering maternal health care service utilization (Cham *et. al.*, 2005; Furuta & Salway, 2006; Suwal, 2008; Ye *et al.*, 2010). However, after the Cairo International Conference on Population and Development 1994, women autonomy had been recognized a critical factor in improving their maternal health. The conferences asserted that:

“Improving the status of women also enhances their decision-making capacity at all levels in all spheres of life, especially in the area of sexuality and reproduction” UN (1994)

According to Shrestha (2012) three delays are the major cause of maternal deaths, i.e. not making timely decision in seeking health care, delay in reaching the health care facility and delays in getting treatment in healthcare institution. Major determinant of these delays include transportation, financial problems, complexed nature of household decision-making and cultural beliefs (Suwal, 2008). In South Asia, lack of women’s empowerment restricts her access to maternal health care in numerous ways. For example, because the pregnant condition is recognized as “shameful” therefore during the pregnancy women had to face extended restrictions on the movement. Furthermore, young pregnant women had very limited say within household and older women are considered as main source of knowledge regarding the issues of pregnancy. Interestingly in most of the cases husband also have very limited say in decisions related to childbirth (Jeffery P. *et al.*, 1989; Goodburn E. A., 1997; and Mumtaz Z. and Salway S., 2007). Numerous studies had concluded that women’s participation in household decision-making leads towards better utilization of maternal health care services (Beegle *et al.*, 2001; Bloom *et al.*, 2001). It minimizes the likelihood of child and maternal mortality (Castle, 1993; Choe & Chen, 2006).

In Pakistan like other countries of South Asia, women got fewer opportunities in terms of education, health and participation in labour force. Consequently, women had very limited say in household decision-making. However, in Pakistan very limited research has been conducted to examine role of various socio-cultural factors on utilization of health care services. Especially, the impacts of women’s empowerment in

decision making on utilization of maternal health care at three stages i.e. antenatal care and delivery in a health care facility and post antenatal care. In view of that present study is an attempt to analyze the impact of women empowerment as well as different other socio economic factors on the usage of maternal health care facilities in Pakistan.

II. LITERATURE REVIEW

Over the years, different studies were conducted to examine the role of various socio economic indicators on utilization of maternal health care services at different stages. A brief overview of the existing literature is summarized as under:

Ye *et al.*, (2010) found that education, distance from health care facility, availability and cost of public transport, income of the household, knowledge about the maternal care, fee of the doctor/service provider have a significant impact on utilization of antenatal care services in China.

Singh *et al.* (2012) concluded that household's economic status is a very strong determinant of using the antenatal care services in India and found that rich women are 2.5 times higher likelihood to visits doctors during pregnancy in comparison to the poor. Furthermore, lack of awareness about the benefits of checkups during pregnancy, sickness, feeling shamed, distance to the facility are the major reasons for low utilization of antenatal care services. Similarly, Nisar & White (2003) concluded that in Pakistan women with high income are 2 times higher likelihood of using antenatal care services as compared to women with low income. Bloom *et al.* (2001) concluded that women that have freedom in movement are having significantly higher chances of using maternal health care services in India.

Matsumura & Gubhaju, (2001) found that there is negative relationship between employment of women and utilization of maternal health care services. There are 43% less likelihood for working women to deliver their baby at health care facility in Nepal. However, study finds 2.2 times more likelihood for more empowered women to deliver their baby at health care facility in comparison to the less empowered women. Paudel & Pitakmanaket (2010) also supported these findings and concluded that working of the women reduces the chances of receiving

antenatal and delivery health care services in Nepal. It has been found that working women are 36% less likely to utilize antenatal health care facilities and 50% less likely to use the delivery healthcare services in comparison to non-working women. Dhakal *et al.*, (2007) finds that education and occupation of women have significant relationship with the use of postnatal healthcare services in Nepal. Later on Dhakal (2011) found that education of women, education of husband and husband having skilled job, having the first or second childbirth and history of illness are significantly related with the utilization of maternal health care facilities. Similarly, according to Baral *et. al* (2012) there is more likelihood that educated and women belonging to urban areas will use maternal healthcare services in Nepal. Furthermore, chances of using the maternal healthcare services significantly decreased after the birth of third child. Neupane & Doku (2013) found that education and wealth have significant impacts on the use of postnatal healthcare in Nepal.

Iyaniwura & Yussuf, (2009) reported that in Nigeria, the women for not delivering the babies at health care center had given various reasons, the major reasons emerged as perception of long waiting and attitude in the health care centers, unavailability of public health care facility and transportation related issues. According to the Tsegay *et al.*, (2013) education and age of the women along with husband's occupation had a positive impact on the choice of maternal health care facility in Ethiopia. Woldemicael & Tenkorang (2010) concluded that women's autonomy in decision-making had a significant relationship with the maternal and child health. However, in contrast to the findings from Nepal (Matsumura & Gubhaju, 2001; Paudel & Pitakmanaket 2010) it has been found that in Ethiopia there is 47% more likelihood that working women will use maternal health care facilities in comparison to the non-working women. Woldemicael (2007) also found that in Eritrea and Ethiopia women's autonomy in decisions regarding visiting friends or relatives and household purchases had positive and significant impact on utilization of antenatal care services.

Ahmed *et al.* (2010) concluded that women with primary education have 5 times more likelihood to utilize the services of skilled birth attendants at the time of delivery. Hou & Ma (2013) concluded that women's empowerment had significant impact on maternal healthcare utilization.

Titaley *et al.* (2009) found that in Indonesia, lack of education and wealth, more distance from health services result in low utilization of postnatal healthcare services. Similarly, low income and non-availability of healthcare facility, lack of transportation along with awareness were the significant factors behind the limited utilization of maternal healthcare services. Ruth *et al.*, (2000) found that the prenatal care is the major determinant of the utilization of postnatal care in Africa.

Haque *et al.* (2012) finds that women having autonomy are more likely to utilize the antenatal healthcare services in Bangladesh. It has been estimated that women with medium level of autonomy have 1.4 times more chances to deliver their baby in assistance of skilled healthcare professional. Similarly, according to Paudel & Pitakmanaket (2010) women who are the sole decision makers regarding their healthcare are 1.61 times more likely to utilize antenatal healthcare services.

Chiang *et al.* (2012) concluded that women education, husband support and married in older age had positive impact on the usage of maternal healthcare facilities in Egypt. However, it was found that women participation in the household decisions regarding cooking, family planning and children's schooling had insignificant relationship with skilled attendants at birth and regular antenatal visits.

Fotso *et al.* (2009) found that education of women and wealth had significant impact, however, women's autonomy do not have any significant impact on the choice of place of delivery in Kenya. The results revealed that women having secondary school education are more likely to deliver their baby in healthcare facility.

III. METHODOLOGY

The data of Pakistan Demographic and Health Survey (PDHS) 2012-13 has been used to conduct the analysis. The survey provides information on different health aspects. A total of 12,943 households were selected in PDHS 2012-13 and 13,558 ever married women of age 15-49 were interviewed.

As in the present study various independent variables are observed at the interview time while on the other hand maternal health care variables i.e. receipt of antenatal, delivery and post antenatal care are related to the

time of delivery most likely few years before the conduct of interview. Therefore, in order to reduce this time, lag and avoid misreporting because of the recall errors, the present study is focused on the survey data of married women having the last live birth 3 years prior to conduct of the survey. This has resulted in reduction of sample size and now our sample size is 5,777 married women.

The maternal health care can be measured at three different stages i.e. during pregnancy (antenatal care), at the timing of the delivery (delivery care) and after the childbirth (postnatal care). The status of health care on each and every stage can be measured by using the number of antenatal visits, proportion of births delivered in healthcare centers and postnatal visits. In the analysis three econometric models i.e. 1) model for antenatal visits, 2) model for selection of place of delivery and 3) model for checkup after delivery have been estimated. The dependent variables are dichotomous, it takes the value of one when the respective women meet minimum criteria of the respective model i.e. at least four antenatal visits, birth in a private or public health care facility and mother checked up after delivering the baby for model 1-3 respectively. To estimate such models binary choice model i.e. logit model has been used. The main idea behind that model is to find the relationship between the probability P_i that Y (dependent variable i.e. utilization of maternal healthcare facilities) will take the value of 1 and the characteristics of considered individuals. In the functional form it can be written as under:

$$P_i = P(y_i = 1) = F(\beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \dots \dots \dots + \beta_k x_{ji})$$

where:

- P_i probability, $i=1, 2, n$ and n is the sample size
- F cumulative distribution function (CDF)
- β parameters, $j=0,1,2,\dots,k$,
- x_{ji} value of explanatory variable X_j for i th household
- k number of explanatory variables

The parameters of the logit models have been estimated by using the maximum likelihood method (ML) method in STATA. The impacts of different explanatory variables on utilization of maternal healthcare facilities by women have been interpreted in terms of odds ratios. Odds

are defined as the ratio of two probabilities P_i and $(1 - P_i)$, i.e. the ratio of the probability of occurrence of an event to that of nonoccurrence. A brief summary of the variables used is as under:

DEPENDENT VARIABLES

In present study we used three independent variables for three different models.

Antenatal Visits

World Health Organization recommends that during the entire cycle of pregnancy a woman must visit the health center at least four times (WHO, 2002), following that present study constructed a binary variable that takes value of 1 if women had visited any healthcare facility (excluding homeopath and Hakim) at least four times during the pregnancy.

Place of Delivery

The place of birth is other important aspect of maternal health and delivery in the presence of health professional minimizes the risks of maternal deaths. In the present study we had constructed a binary variable giving the value of 1 to those who gave birth in a private or public health care facility (excluding the homeopath and Hakim).

Check up After Delivery

The purpose of the check up after the delivery is to maintain health of mother and child and to avoid infections or any other serious complications during the process of delivery. In the present study a binary variable is generated that takes value of 1 if the mother checked up after delivering the baby.

INDEPENDENT VARIABLES:

Urbanization

Urbanization is a binary variable, where 1 represent that household living in urban areas and 0 for rural areas.

Education of Women/ Education of the Husband

Numerous studies had recognized that education plays pivotal role in utilization of maternal healthcare services. We had divided education in three categories i.e. secondary or higher education, primary education and no education.

Relationship with the Household Head

It is also a binary variable that takes value of 1 if she or her husband heads the household and zero if household is headed by someone else.

Age of the Household Head

Considering the importance of age of household head in the decision making regarding use of maternal healthcare facilities, age has been used in number of years.

Wealth of Household

The wealth of household is very crucial factor in the use of maternal healthcare facilities. In the dataset wealth index can take value from 1-5; where 5 suggest the richest 1as poorest household.

Distance to Health Facility

Various studies had found that distance to health facility has significant role in utilization of the maternal care facilities. In the present study we have constructed a binary variable which takes values of 1 if the household feels that distance to health facility is a big problem.

Transportation to Health Facility

Similarly, in the present study we have constructed a binary variable which takes values of 1 if the household feels that transportation to reach health facility is a big problem.

Age at Marriage

The age at the time of wedding of a woman is a vital factor in determining the utilization of maternal healthcare facilities. We have categorized age at the time of marriage as below 18 years, 18-29 years and above 30 years.

Use of Media

We constructed variable that take value of 1 if the respondent either reads newspaper, watch TV or listen to radio.

Nature of Employment

The employment variables have three options that either woman is; not involved in any type of work, employed for cash, employed but without any monetary benefits.

Women Empowerment

The dataset provides information regarding four areas of women empowerment i.e. her autonomy in; visiting to family or friends, seeking health care, using the earning of her husband and making household purchases. We renamed these variables as 1) empowerment to visit relatives/friends 2) empowerment in seeking healthcare, 3) empowerment in utilization of husband earning 4) empowerment in household purchases respectively. In order to simplify the analysis, we clubbed the responses into three broader categories i.e. 1) respondent alone 2) Jointly 3) husband/someone else.

IV. RESULTS AND DISCUSSIONS**DESCRIPTIVE ANALYSIS**

The Table 1 provides the percentage of women who had utilized maternal health care facilities at different stages of their pregnancy. The column 1 gives the percentage of women who reported that they had visited at least 4 times to a health care facility during the pregnancy. In column 2 percentages of women who had deliver their baby at proper healthcare center in the presence of health professional and in column 3 percentages of women who visited to health professional after delivery for post antenatal checkup have been shown.

TABLE 1

Percentage of Women Utilizing the Maternal Health Care Services

| Background Characteristics | Antenatal Visits (At least 4) (%) | Place of Delivery (Health Facility) (%) | Check up After Delivery (%) |
|--|---|---|-----------------------------------|
| Age at marriage | | | |
| Below 18 | 41.96 | 33.05 | 42.32 |
| 18-29 | 56.01 | 65.50 | 56.49 |
| 30+ | 2.03 | 1.45 | 1.19 |
| Education | | | |
| No Education | 12.61 | 13.63 | 13.77 |
| Primary | 32.23 | 38.60 | 43.46 |
| Secondary or Higher | 55.04 | 47.77 | 43.46 |
| Education of the Husband | | | |
| No Education | 12.87 | 10.49 | 10.92 |
| Primary | 30.42 | 19.54 | 22.98 |
| Secondary or Higher | 56.70 | 69.96 | 66.10 |
| Wealth of the Household | | | |
| Poorest | 13.60 | 10.01 | 20.18 |
| Poorer | 17.24 | 12.91 | 19.35 |
| Middle | 18.49 | 15.44 | 18.75 |
| Richer | 20.86 | 24.25 | 19.70 |
| Richest | 29.81 | 37.39 | 22.02 |
| Urbanization | | | |
| Urban | 50.02 | 62.73 | 56.54 |
| Rural | 49.98 | 37.27 | 43.46 |
| Employment | | | |
| Not Employed | 39.17 | 40.17 | 38.68 |
| Employed not for cash | 20.50 | 13.71 | 16.16 |
| Employed for cash | 40.33 | 46.12 | 45.16 |
| Use of Media | | | |
| Do not use newspaper or Radio or Television | 44.83 | 35.83 | 38.0 |
| Use the media | 55.17 | 64.17 | 62.0 |
| Distance to Health Facility | | | |
| Not an issue | 65.17 | 72.14 | 69.06 |

| Background Characteristics | Antenatal Visits (At least 4) (%) | Place of Delivery (Health Facility) (%) | Check up After Delivery (%) |
|---|---|---|-----------------------------------|
| Big Problem | 34.83 | 27.86 | 30.94 |
| Transportation to Health Facility | | | |
| Not an issue | 61.47 | 68.88 | 65.87 |
| Big Problem | 38.53 | 31.12 | 34.13 |
| Relationship with Household head | | | |
| Self or Husband | 67.84 | 63.69 | 64.28 |
| Others | 32.16 | 36.31 | 35.72 |
| Empowerment in Seeking Healthcare | | | |
| Respondent alone | 21.07 | 21.86 | 20.7 |
| Jointly | 41.36 | 43.32 | 40.56 |
| Partner/ Someone else | 37.57 | 34.82 | 38.74 |
| Empowerment in Household purchases | | | |
| Respondent alone | 17.47 | 16.66 | 15.81 |
| Jointly | 41.03 | 43.56 | 41.49 |
| Partner/ Someone else | 41.5 | 39.77 | 42.7 |
| Empowerment to visit relatives/friends | | | |
| Respondent alone | 19.29 | 19.26 | 17.79 |
| Jointly | 43.39 | 43.94 | 42.31 |
| Partner/ Someone else | 37.31 | 36.8 | 39.9 |
| Empowerment in utilization of husband earning | | | |
| Respondent alone | 16.54 | 16.05 | 15.59 |
| Jointly | 37.61 | 37.92 | 34.93 |
| Partner/ Someone else | 45.85 | 46.03 | 49.48 |

The results reveal that at three stages of the pregnancy, utilization of maternal health care services is associated with the socio-economic characteristics of the respondents. It has been found that age at the time of the marriage plays important role in the utilization of maternal health care services. Women married at the age of 18-29 are more likely to utilize the maternal health care services in comparison to the women married either below 18 years of age or above 30 years of age.

From the cross table results it is also evident that two education related indicators i.e. respondent own educational level and the education of her husband plays crucial role in utilization of maternal health care

services. Only 12.6 % of women with no education visit at least 4 times to a health care centre during pregnancy whereas this ratio is 55.0 % for women with secondary or higher education. Similar behavior is observed in other dimensions; for delivery at health facility (increased from 13.6% for no education to 47.8% for secondary or higher education), checkup after delivery (13.8% for no education and 43.5% for secondary or higher education). Similarly, utilization of maternal health care services increased with the level husband's education. As only 12.9 % women adequately visited to health care centers during pregnancy whose husband has no education, this ratio has increased to 56.7 % for the women whose husband is having secondary or higher education. For other dimensions also utilization of maternal health care increased with the level of husband's education; as for delivery at health facility (increased from 10.5% for no education to 69.9 % for secondary or higher education), checkup after delivery (10.9% for no education and 66.1% for secondary or higher education).

Maternal health care services utilization gradually increases with wealth of the household. In the poorest households (household belonging to the lowest 20% of wealth index) only 13.6%, 10.0%, 20.2% of the women make adequate visits to health professional, give birth at health facility and make visits to check up after delivery respectively. Whereas the women belonging to richest segment (Top 20% of wealth index) are more likely to use maternal health care services and 29.8%, 37.4% and 22.0 % of the women make adequate visits to health professional, give birth at health facility and make visits to check up after delivery respectively.

Study found that there is considerable variation among the rural and urban households in utilization of maternal healthcare services. The women living in urban areas are more likely to use maternal health care services at all three stages of the pregnancy. However, cross table results reveal that there is minimal impact of working of women on the utilization of maternal healthcare services.

Furthermore, women who use either print or electronic media have higher ratio of using maternal healthcare services in comparison to women who do not use it. Similarly, women not facing the issue of transportation or distance to health facility are more likely to use

maternal health care services. Furthermore, if she or her husband is household head then there are more chances that she will utilize the maternal healthcare services in comparison to the women living in households headed by someone else.

As far as the indicators of women empowerments are concerned the cross table results reveal that all the four indicators have a role in the utilization of maternal health services. Women who take the decision alone or jointly in seeking healthcare services are more likely to use maternal health care facilities. It has been evident that 62.4 % of women who can take decisions about seeking health care alone or jointly visit at least 4 times to a healthcare center during pregnancy whereas this ratio is 37.6 % for women with no authority in health seeking decision. For other dimensions almost same behavior is observed; for delivery at health facility (65.2% for women that can take decision alone or jointly regarding seeking health care in comparison to 34.8 % for women with no authority), checkup after delivery (61.3% for women that can take decision alone or jointly regarding seeking health care in comparison to 38.7 % for women with no authority). Furthermore, 58.5 % of women who can take decisions about making household purchase alone or jointly visit at least 4 times to a health care centre during pregnancy whereas this ratio is 41.5 % for women with no authority in making household purchases. For other dimensions almost same behavior is observed i.e. for delivery at health facility, checkup after delivery. As far as role of women empowerment in visits to her family or friends is concerned it is evident that 62.7% of women who had autonomy in decision (take decision alone or jointly) visit at least 4 times to a health care centre during pregnancy whereas this ratio is 37.3% for women with no authority. For other dimensions of maternal health care services almost same behavior is observed i.e. for delivery at health facility, checkup after delivery. The women empowerment in utilization of husbands earning also exhibits similar impact on the utilization of maternal healthcare services. As 54.2% of women who had autonomy in using her husband earning visit at least 4 times to a health care centre during pregnancy whereas this ratio is 45.9 % for women with no authority. For other dimensions of maternal health care services almost same behavior is observed i.e. for delivery at health facility, checkup after delivery.

ESTIMATION RESULTS

As mentioned earlier three different models have been estimated by using the logit model technique. The odd ratios of these estimations are presented in Table 2.

TABLE 2

Estimation Results Models Analyzing the Impact on the Utilization of Maternal Healthcare Center (odd ratios)

| Name of the Variables | Antenatal Visits | Place of Delivery | Check up After Delivery |
|-----------------------------------|------------------|-------------------|-------------------------|
| Urbanization | | | |
| Urban | 1 | 1 | 1 |
| Rural | 0.8416** | 0.8275* | 0.7902** |
| Education | | | |
| No Education | 1 | 1 | 1 |
| Primary | 1.0495 | 1.3727** | 1.3009 |
| Secondary or Higher | 2.4409* | 2.3694* | 3.6363* |
| Education of the Husband | | | |
| No Education | 1 | 1 | 1 |
| Primary | 0.9672** | 1.1592 | 0.9759 |
| Secondary or Higher | 1.8092* | 2.1316** | 1.9958** |
| Relationship with Household head | | | |
| Self or Husband | 1 | 1 | 1 |
| Others | 0.7289* | 0.8745** | 0.9861 |
| Age of H. Head | 1.2561* | 1.0119 | 0.9779 |
| Wealth of the Household | | | |
| Poorest | 1 | 1 | 1 |
| Poorer | 1.2677* | 1.0822 | 0.9006 |
| Middle | 1.5039* | 2.1421 | 1.3147 |
| Richer | 2.2641* | 1.8026* | 1.8901* |
| Richest | 4.5558* | 4.1819* | 4.4623* |
| Distance to Health Facility | | | |
| Not an issue | 1 | 1 | 1 |
| Big Problem | 0.9799 | 0.7407** | 0.9212 |
| Transportation to Health Facility | | | |
| Not an issue | 1 | 1 | 1 |
| Big Problem | 0.9563 | 0.7176* | 0.7862 |

| Name of the Variables | Antenatal Visits | Place of Delivery | Check up After Delivery |
|---|------------------|-------------------|-------------------------|
| Age at marriage | | | |
| Below 18 | 1 | 1 | 1 |
| 18-29 | 1.0800* | 1.3184* | 1.3586* |
| 30+ | 2.3424 | 0.6776 | 2.7048 |
| Use of Media | | | |
| Do not use any media | 1 | 1 | 1 |
| Use the media | 1.3118* | 1.3145* | 1.5623* |
| Employment | | | |
| Not Employed | 1 | 1 | 1 |
| Employed not for cash | 1.0303 | 0.6173 | 0.9824 |
| Employed for cash | 0.9454 | 1.0389 | 1.0127 |
| Empowerment in Seeking Healthcare | | | |
| Respondent alone | 1 | 1 | 1 |
| Jointly | 0.8507 | 0.8831 | 0.8584 |
| Partner/ Someone else | 0.7977* | 0.8937* | 0.9351** |
| Empowerment in Household purchases | | | |
| Respondent alone | 1 | 1 | 1 |
| Jointly | 0.7098 | 0.9590 | 1.0207 |
| Partner/ Someone else | 0.6927** | 0.7879 | 0.8087** |
| Empowerment to visit relatives/friends | | | |
| Respondent alone | 1 | 1 | 1 |
| Jointly | 1.1428* | 0.7805 | 1.2537** |
| Partner/ Someone else | 0.9431** | 0.7169** | 0.8503* |
| Empowerment in utilization of husband earning | | | |
| Respondent alone | 1 | 1 | 1 |
| Jointly | 1.1143** | 1.1244* | 0.8214 |
| Partner/ Someone else | 0.7627** | 0.8475** | 0.8740 |
| Constant | 2.5374* | 0.4585 | 0.4873* |
| *p < 0.05; **p < 0.10 | | | |

The results suggest that urbanization is having significant relationship with utilization of maternal health care at three different stages of the pregnancy. Women belonging to rural areas have significantly lesser odds in comparison to women belonging to urban areas. It was also evident that women education and her husband's education have significant impacts on the utilization of maternal health

care services. Women with secondary or higher education have two and three time significantly higher odds of using antenatal health care services in comparison to women with no education. Similarly, with the husband's education chances of spouse's maternal health care seeking increases. However, odds are relatively less than that of the women's own education.

It has also been found that if women herself or her husband are the household heads then there are significantly higher odds of seeking antenatal care and make delivery at proper health facility in comparison to the households headed by someone else. However, in case of checkup after delivery there is no significant impact and there is only marginal difference in the odds of households headed by women herself or husband and the households headed by someone else.

It has also been found that odds of receiving antenatal care increases with the age of household head but there is no significant impact of the age of household head on the other two dimensions of maternal health care utilization i.e. post antenatal care and delivery at health facility

The results also indicate that wealth of the household also significantly increases the likelihood of using maternal health care services. It was found that women belonging to the richest household are having significantly four time higher odds of utilizing the maternal care services at all the three stages of pregnancy in comparison to the women belonging to the poorest households.

The results further reveal the insignificance of distance and transportation to health facility on the utilization of antenatal and post antenatal maternal health care services. However, odds of giving birth at health facility are significantly lower for the women who consider that distance to health facility and transportation to health facility is the big problem.

It has also been found that women who got married at the age of 18-29 are having significantly higher odds of utilizing maternal healthcare services in comparison to women married below the age of 18. However, women married after age of 30 do not have significantly higher odds.

Women having exposure of media have significantly higher odds of using maternal care at all three stages of pregnancy in comparison to

women having limited or no media exposure. The results also reveal the insignificance of working of women on the utilization of antenatal and post antenatal maternal health care services.

Results indicate that women empowerment (all the examined four dimensions of empowerment) is having significant impact on the utilization of maternal health care services at all the three stages of pregnancy. The women who are sole decision makers in terms of seeking health care, making daily household purchases, utilizing the household earning and visiting to families or relatives are having significantly higher odds of using antenatal care, delivery at proper healthcare facility and post antenatal care in comparison to those women who are not the sole decision makers. The significance of these empowerment indicators reveals that women inputs on health related issues, household matters, views on budgetary issues, and freedom of movement significantly related to important and measureable differences in their maternal health care seeking behaviors

V. CONCLUSIONS AND POLICY IMPLICATIONS

Utilization of maternal health care services has been recognized as key factor in reducing the maternal mortality. In Pakistan very limited research has been conducted to analyze the role of various socio-cultural factors on utilization of health care services. Especially, how the women's empowerment within the household have an impact on utilization of maternal health care at three stages i.e. antenatal care and delivery in a health care facility and post antenatal care. In the present study role of different dimensions of women empowerment along with other socio economic indicators on the maternal health seeking behavior has been examined.

The major finding of the present study is that all the examined dimensions of women empowerment are significantly related to maternal health care seeking behavior. In this regard women being sole decision maker in seeking health care and making household purchases increase her chances of using maternal health care services at antenatal, delivery and post antenatal stages. However, being a joint decision maker in the context of visits to family or relatives and utilization of her husband's income had significantly higher odds of utilization of maternal health care services than of being sole decision maker or having no say. It

reflects the value of family togetherness in Pakistani society and suggest that individuality is least important than family. Thus decisions related to utilization of income and making social contacts are mostly made jointly by negotiations. These differences of the impact of different dimensions of women empowerment on the maternal healthcare justify that woman empowerment should be measured multidimensional way instead of using a single measure.

Study also finds that education of wife, education of husband and uses of media have very significant impacts on the utilization of maternal health care services in Pakistan. It suggests that awareness plays key role in the utilization of maternal health care services. Very early study of Caldwell (1979) had also recognized that education increases capability of women in maneuvering the world. By getting more education and having access to media women become aware of the locality of better maternal health care facilities. It also gave her self-confidence and they are in a better position to get proper attention of health professionals.

The study confirms the significant role of urbanization in the utilization of maternal health care services. Keyfitz(1996) also supported that many of the developing countries experience the urban bias. Because there is concentration of infrastructures including health in the urban areas, whereas majority of population in developing countries lives in the rural areas so it become difficult for a rural woman to get adequate access to health care facilities. It is strongly recommended that the government must take initiatives to minimize the inequalities in provision of health facilities and more health facilities may be provided in rural and neglected areas.

The study finds that age and nature of relationship with household head is another important factor in determining the utilization of maternal health care services. Similarly, women age at the time of marriage also have significant impact and in this regard it has been found that women married between the ages of 18-30 are more likely to use maternal health care services. Jejeebhoy & Sathar (2001) also comes to similar conclusion that women married at the higher age are more independent and empowered in comparison to women got married at early age. It reflects that role of age at marriage on the health seeking behavior is transmitted through the women empowerment.

Wealth emerges as a very strong predictor of the maternal health care services utilization. Singh et al., (2012) also comes to the similar findings that in India economic status emerged as the significant and strong determinant of the maternal care services utilization. Women belonging to higher income households are in better position to avail maternal health care facilities in adequate manner. Furthermore, wealth also enables them to attain the better quality services and attention from health professionals.

However, study finds that distance and transportation to health facility have significant impact only on the utilization of health care service at the time of delivery. The employment of women has insignificant impact on the utilization of maternal health care services in Pakistan.

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