

Examining the Impact of Healthcare Providers on Maternal Health and Neonatal Outcomes: A Case Study in the Ghaziabad District

Dr. Iffat Naseem^{1*}, Dr. Tanzeem Siddiqui², Dr Zehra Khatoon Zaidi³, Dr Noria Farooqui⁴

^{1*}Assistant Professor, Department of Hospital, Management and Hospice Studies, Faculty of Management Studies, Jamia Millia Islamia, New Delhi, Email: inaseem@jmi.ac.in

²Associate professor and Head, Department of Hospital Administration, Era University, Lucknow, Email: dr.tanzeem@erauniversity.in

³Associate professor and Head, Department of Ain Uzn Anaf Halaq wa Asnan, School of Unani Medical Education and Research, Jamia Hamdard, New Delhi, Email: zehra.zaidi@jamiyahamdard.ac.in

⁴Associate professor, Department of Management, School of Management and Business Studies, Jamia Hamdard, New Delhi, Email: noria.farooqui@gmail.com

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Abstract

Reproductive morbidity and mortality are extensive problems that disproportionately disturb women. This paper analyses the reproductive Health services that are provided by the Health care providers and Community to the lactating mothers and their children. This chapter describes the influence of counseling, awareness of health schemes, kind of services provided during postpartum complication and referral system.

Further this paper analyses that it has been done to understand the effectiveness and efficiency of the services provided by the health care providers and community health works, which directly affects the lactating mother and new born. Also, to understand the role played by these services provides in reduction of morbidity and mortality and fulfilling the mission of NHM.

Key Words: - Morbidity, Mortality, NHM, Reproductive Health, Community, Counseling

Reproductive health is a universal concern, especially for women, in their generative years. According to the World Health Organization (WHO), "*Reproductive health is defined as a state of complete physical, mental and social well-being and not merely the absence of disease and infirmity in all matters relating to the reproductive system and its functions and processes*".

Since women suffer increased chances of reproductive health risks during pregnancy and post pregnancy periods, ensuring their access to healthcare becomes necessary. If adequate reproductive health services are not provided, it may result in high rates of maternal and child morbidity and mortality (UNFPA, 2000). Even though maximum reproductive health difficulties ascends through the reproductive years. Over-all health in the late years of life stays to redirect initial reproductive life events (Esan & Fatusi, 2014). Globally, maternal and child mortality are on a descent, but the pace of decline in developing countries is still below the mark. Throughout progression in decreasing infant and maternal mortality and the proper importance of strengthening determinations to challenge deprived development, the United Nations (UN) propelled the Worldwide Approach in lieu of Women's and Children's Health in 2010 (UN 2010).

In this regard, Safe motherhood programme was launched that aimed to minimize the mother and child morbidity and mortality. This programme involved the care during Ante natal, intra-natal and post natal. This service not only includes the Antenatal care, intra natal care and postnatal care but also the involvement of other services like family planning, Sexually transmitted disease and HIV/AIDS prevention and management (UNFPA 2000).

The NFHS 1 provides the first direct national estimate of maternal mortality in India .The maternal mortality rate was valued 437 maternal deaths per 100,000 live births. This estimate agreed that 100,000 women in India die every year from reasons associated to pregnancy and childbirth.

The well-being of a country's population and the efficacy of its healthcare system may be assessed by examining the results of maternal health and newborn care. Ensuring access to high-quality healthcare services throughout pregnancy and delivery is essential for safeguarding the well-being of both mothers and babies. This literature review aims to examine prior research on the impact of healthcare providers on maternal and infant health.

Maternal health and newborn outcomes are complex and affected by several factors, such as socioeconomic status, healthcare infrastructure, and the quality of healthcare services. Studies have repeatedly shown that the rates of death among mothers and newborns are greatly reduced when women have the opportunity to get treatment from qualified healthcare professionals during their pregnancy, childbirth, and the period following childbirth (Campbell et al., 2016). Healthcare practitioners, such as physicians, nurses, and midwives, have a pivotal role in influencing mother health and the outcomes of newborns. Proficient medical attention during labor, prompt treatments, and the capacity to handle complications are crucial elements in averting maternal and newborn fatalities (Koblinsky et al., 2016). The ability to

access healthcare services is a crucial factor in determining the results for both mothers and newborns. In remote and underprivileged regions, the availability of proficient healthcare professionals may be restricted, resulting in unfavorable consequences (Sharma et al., 2019).

Healthcare providers' provision of high-quality healthcare services is crucial. This encompasses the sufficiency of prenatal care, the utilization of evidence-based treatments during labor and delivery, and the postpartum care offered to both mothers and babies (Lassi et al., 2016). Enforcing compliance with established recommendations among healthcare practitioners is essential for enhancing results. Several studies have investigated the implementation of community-based treatments, such as providing training to traditional birth attendants or community health professionals, with the aim of improving maternal and newborn care in settings with limited resources (Bhutta et al., 2010). These approaches seek to address the disparity in healthcare accessibility, especially in geographically isolated regions. Socioeconomic inequalities have a substantial impact on the health of mothers and the outcomes of newborns. Women belonging to marginalized populations frequently encounter significant obstacles when it comes to obtaining high-quality healthcare services, which therefore leads to elevated rates of maternal and newborn death (Victora et al., 2016). Rectifying these discrepancies is a crucial element in enhancing results. The implementation of effective policies and the strengthening of healthcare systems are crucial for enhancing maternal and newborn outcomes. Studies have demonstrated that allocating resources to healthcare infrastructure, providing education and training to healthcare professionals, and adopting evidence-based practices can result in significant enhancements in maternal and newborn health (Bhutta et al., 2014).

This study emphasizes the significance of healthcare professionals in shaping maternal health and newborn outcomes. Ensuring availability of proficient healthcare professionals, ensuring high-quality treatment, and addressing socioeconomic inequalities are crucial elements in decreasing rates of maternal and newborn death.

Objective:-

- To identify the effectiveness of Health care providers in reducing maternal mortality during post pregnancy period.
- To examine the level of skills and their relational knowledge of TBA and SBA in providing Maternal Health Services.

Research Methodology:-

To complete this paper the questionnaire was prepared and then analysis was done. The results were interpreted and analyzed. Cross Tabulation was applied and it was used for analyzing the relationship between two or more items under this study. One-way Anova was correspondingly used to know any significant differences between the items under study.

Hypotheses: -

H₀: There is no significant difference between women choice of health personnel for delivery amongst different groups on the basis of age.

H₁: There is no significant difference between women choice of health personnel for delivery amongst different groups on the basis of place of residence.

H₀: There is no significant difference between counseling during postpartum period by age amongst different groups on the basis of number of children.

H₂: There is no significant difference between counseling during postpartum period by age amongst different groups on the basis of place of residence.

H₀: There is no significant difference between postpartum care services provided by Health care providers amongst different groups on the basis of age of mother.

H₃: There is no significant difference between postpartum care services provided by Health care providers amongst different groups on the basis of number of children.

Services provided by health care providers with respect to maternal health and neonatal outcome

Table -1. Delivery conducted by whom with respect to age and place of residence

Age	Place of Residence	Plan of delivery conducted by		
		Specified Dai/TBA	Nurse/Sister	Specific Doctor
20-25 years	Urban	22.4	45.8	20.0
	Rural	35.3	33.3	33.3
25-30 years	Urban	31.0	33.3	40.0
	Rural	31.4	27.3	33.3
30-35 years	Urban	46.6	20.8	40.0
	Rural	33.3	39.4	33.3
F- Value = 1.711		F- Value =* 11.450		
p ≥ #0.05		p ≤ *0.05		

The results displayed in Table 1 clearly depicts that nearly half (46.6%) of the women, who were between the age group 30-35 years belonging to urban areas preferred their delivery from specified Dai/TBA. However, 33.3% women belonging to same age interval but living in rural areas also preferred their delivery from specified Dai/TBA. This is followed by nearly one third (31.0%) women and 31.4% of women in the age group of 25- 30 years living in urban and rural areas respectively, who also seek assistance from specified Dai/TBA for delivery purpose. Further it was found that one third (35.3%) of the women in the age group of 20-25 years followed by 22.4% of the women in the similar age group, suited in rural and urban areas respectively, similarly trusted specified Dai/TBA for delivery purpose.

Analysis further revealed that less than half (45.8%) of urban women and 33.3% of women living in rural areas in the age group 20-25 years preferred their delivery by nurse/sister. On the other hand 27.3% and 33.3% of women with the age group among 25-30 years, living in rural and urban areas respectively preferred their delivery by nurse/sister. More than one third (39.4%) of the rural women and 20.8% of urban women also trusted nurses for delivery purpose (Table 1).

In another aspect it has been analysed that each 40% of the urban women with the age group of 25-30 and 30-35 years preferred their delivery by specific Doctor, followed by 20 % of the urban women with the age group of 20-25 years who also preferred their delivery conducted by specific doctor of a particular area only. In comparison it has been further analysed that each one third (33.3%) of the rural women preferred their delivery conducted by the specific doctor only.

In the view of NRHM, Dai/Traditional Birth Attendants are two important corner stones in Indian community and also as a local traditional culture for child birth or delivery process. Another study in the state of Maharashtra has found that trained Dais are efficient sources for reproducing normal babies in a cost-efficient manner, while simultaneously improving obstetric outcomes. The cost-effectiveness of Emergency Obstetric Care (EmOC) is that the most births were at home (85% of 2,861) and it was attended by trained Dais. Further it was analysed that the caesarean rate over there is of only 2%. The continuous support of the Traditional Birth Attendant into obstetric care given by skilled midwives was a cost-effective strategy to decrease perinatal mortality and unnecessary obstetric interventions (McCord, Arole & others 2001). The results reflect the efficiency of Dai/TBA to the respective villagers. To provide safe deliveries, skilled care at every birth is necessary for all women that work through Dai/TBA. After enrolment of nurses for delivery purpose at home by NRHM, not only faith towards nurses have augmented but also there their value within the hospital has escalated. ANOVA test is conducted to assess the difference in perception of respondents towards the conduction of delivery with respect to number of pregnancies by residence. The computed F-value for delivery conducted by whom with respect to place of residence is 11.450. The value is found to be more than 95% significant level $p \leq 0.05$ with the relation to number of pregnancies by residence. This indicates there is a significant difference in pregnancies observed by place of residence (H_0). Whereas, on the other side, the computed F-value for delivery conducted by whom with respect to age is 1.711. Since $p \geq 0.05$, there is no significant difference between the two variables. As, a result we can infer that respondents preference for health personnel to undergo delivery process varies with residence (H_1) (Table 1).

Impact of Counselling in giving the effective and efficient services which directly effects on the health of lactating mother

Table 2 -counselling during postpartum by age and number of children

Number of Children	Place of Residence	Counselling during postpartum period by age		
		20-25 years	25-30 years	30-35 years
One	Urban	24.1	5.1	0.0
	Rural	10.3	0.0	0.0
Two	Urban	56.0	15.4	4.2
	Rural	48.3	21.4	0.0
Three	Urban	16.0	41.0	25.0
	Rural	41.4	50.0	29.0
Four	Urban	-	28.2	41.7
	Rural	-	21.4	61.3
Five and Above	Urban	4.0	10.3	29.1
	Rural	-	7.1	9.7
F-Value= 0.206			F- Value= *3.273	
$p \leq 0.05$			$p \geq 0.05$	

The period immediately afterward delivery is one of those life-threatening times when both woman and new born essential special care and attention. Hence, there is a necessity to incorporate package of health services due to their vulnerability. The instant postpartum period is an perfect time to inform and counsel a woman on exclusive breastfeeding as a contraceptive method. Counselling on future fertility, exclusive breast feeding and birth spacing has great exposure on improvement of maternal health and care of the new born.

The results suggest that in urban areas, more than half (56.0%) of the lactating women aged 20-25 years blessed with two children followed by one fourth (24.1%) and 16% blessed with one child and three children respectively were keen to

receive counselling towards the contraceptive procedures. However, only 4% of urban women having five kids and more epitomized positive attitude towards counselling session. The results have also proven the fact that more than one third (41.1%) of the lactating women in rural areas with three children and more, were open to receive counselling at this crucial stage. Counterpart, rural women bearing a single child at this age (10.3%) was not friendly towards attending counselling sessions (Table 2)

Further, it has also been concluded that very small percentage of urban women (5.1%) bearing a single child was favour in attending post-delivery counselling session. However, it has been further found that, more than one third (41.1%) of the lactating women who have blessed with three children followed by more than one fourth (28.2%) and less than one fourth (15.4%) of the lactating women aged 25-30 years blessed with four and two children respectively have shown more interest towards post-delivery education received on account of exclusive breast feed, temporary contraceptive methods etc. It has been found from our study that in rural, half (50%) of the lactating women aged 25-30 years blessed with three children followed by each 21.4% of the lactating women aged 25-30 years blessed with four and two children respectively have expressed their interest towards counselling sessions during their postpartum period. Very small percentage of rural 7.1% women with five kids and more were compatible towards counselling during their postpartum period (Table 2).

Analysis further revealed that more than half (61.3%) of the lactating rural women aged 30-35 years blessed with four children followed by more than one fourth (29%) of the lactating rural mothers aged 30-35 years blessed with three children were open to receive recommendations after their delivery. Negative attitude towards post-delivery session was represented by rural women bearing sing kid or two children. Added to this 25.0% of urban women and 41% of urban women in the same age group blessed with three and four children respectively posited positive inclination towards receiving postpartum training sessions (Table 2).

It has been analyzed from our study that, to minimize the rate of maternal morbidity and mortality, the counseling during postpartum period is necessary. The awareness of contraceptive devices and measures has been created by the health personnel to the respondents. The problems or any other effects of the respondents of that particular area were being reported by the health staff and proper action was taken. It has been observed from our study that the postpartum care service in rural areas is not given a priority as compared to urban counterpart's women.

ANOVA results suggest that F value between counseling of the women during postpartum period by age and place of residence comes out to be 3.273. However since, $p \geq 0.05$ is more than 95% confidence interval, null hypothesis will be accepted (H_2). That is, there is no statistical difference between counseling of the women during postpartum period by age and place of residence. F value between number of children and counseling of the women during postpartum period is stated as 0.206. A lesser $p \leq 0.05$ value suggests that null hypothesis is rejected and there is a statistical difference between the two variables under study (H_0) (Table 2).

Table 3 Postpartum care services by Health Care provider by age of mother and Number of children

Number of children In Percentage	Age	First Check Up Done By					
		MBBS Doctor	STAFF NURSE/LHV	ANM/ASHA	AWW	TRAINED TBA	No check ups
One	20-25 years	7.7	7.7	50.0	14.3	25	16.7
	25-30 years	0.0	0.0	100.0	0.0	20.0	3.0
	30-35 years	0.0	0.0	-	0.0	0.0	0.0
Two	20-25 years	53.8	53.8	50.0	42.9	50.0	51.9
	25-30 years	0.0	25.0	-	20.0	20.0	17.9
	30-35 years	0.0	0.0	50.0	0.0	14.3	1.8
Three	20-25 years	38.5	38.5	-	42.9	25.0	29.6
	25-30 years	75.0	41.7	-	50.0	40.0	44.8
	30-35 years	45.5	25.0	-	33.3	28.6	27.3
Four and Above	20-25 years	0.0	0.0	-	0.0	0.0	0.19
	25-30 years	25.0	33.3	-	30.0	20.0	34.4
	30-35 years	54.5	75.0	-	66.6	57.2	70.9
F-Value = * 54.375		F-Value =*3.149					
p≤*0.05		p≤*0.05					

Table 3 represents post-delivery services provided to lactating women of different age with respect to the number of children they have. It can be clearly seen that 7.7% lactating women belonging to age interval of 20-25 years with a single child either get themselves treated from MBBS doctor or Nurse. However, half (50%) of women of same age group approached ASHA or Dai for treatment purpose. Lastly, one-fourth (25%) of the women followed by less than one-sixth (16%) of women between 20-25 years of age with a single child either contacted Trained TBA or no-one for their first check up after delivery. However, 100% of women between 25-30 years of age with single child trusted ANM/ASHA for their post-delivery check. Less than one-fourth (20%) of lactating women amongst 25-30 years of age with single child come up to Trained TBA. However, women between 30-35 years of age with single child felt there is no need to consult anyone for postpartum care services (Table 3).

Analysis further revealed that a slight more than half (53%) of lactating women between 20-25 years with two kids either approached MBBS doctor or nurse for availing postpartum care services. This is followed by half (50%) of women of same age group with two kids who either relied upon ANM/ASHA or trained TBA. Lastly 42.9% of women in the age interval of 20-25 years followed by 51.9% of women in the same age group with two kids, either seek assistance from AWW are trusted nobody for postpartum care services. Meanwhile one-fourth (25%) of women followed by 20% of women with same number of children between 25-30 years of age either consulted Nurse or AWW and Trained TBA respectively. Only 17.9% of women in the same age group with two kids did not get any check-up done from any health personnel after their deliveries. Lastly 50% of women aged 30-35 years of age with two kids only contacted ASHA for post-delivery check-ups and 14.3% of women belonging to same age group and blessed with same number of children contacted Trained DBA (Table 3).

Talking about women blessed with three children, more than one-third (38.5%) of lactating women between 20-25 years of age consulted doctors and nurses only. Similarly, three fourth (75%) of the lactating women between the age of 25-30 years, and slightly less than half (45.5%) of the lactating women between the age of 30-35 years with three children followed the advice of the doctor for their first check-up. Meanwhile 41.7% of lactating women aged 25-30 years and one-fourth (25%) of lactating women aged 30-35 years with same number of kids approached Nurse for post-delivery check-up. Further it has been analysed that each 42.9% of the lactating women between the age group of 20-25 years with three children did their first consultation to the AWW during their postpartum care services. Half (50%) of the lactating women between the age group of 25-30 years with three children followed by 33.3% of the lactating women between the age group of 30-35 years with same number of children, approached the same person. And 40% of the lactating women between the ages of 25-30 years with three numbers of children followed by each 25% of women between 20-25 years contacted Trained TBA. Lastly, 29.6% between 20-25 years of age followed by 44.8% of women between 25-30 years of age strive for no trained personnel for availing post-delivery health-care services (Table 3).

In another aspect analysis further revealed one-fourth of lactating women between 25-30 years of age followed by 54.5% of women between 30-35 years of age followed the services provided by professional doctors at their postpartum stage. It has also been observed that three fourth (75%) of lactating women aged 25-30 years followed by 33.3% of women between 30-35 years blessed with four or more than four kids only contacted Nurses for their regular check-ups after their deliveries. Nevertheless 30% of women aged 25-30 years followed by 66.6% of women between 30-35 years of age with same number of kids approached AWW to get their first check-up done post-delivery. However only 20% of women falling in the age interval 25-30 years contacted Trained TBA. However 57.2% of women falling in the age interval of 30-35 years with four children and more trusted Trained TBA only for post-delivery assistance. Lastly, 34.3% of women between 25-30 years of age followed by slight less than three-fourth (70.9%) of women between 30-35 years consulted no professional health care provider for their first check up after delivery (Table 3).

The analysis showed the clear picture of consultation through health care service provider which includes MBBS Doctors, staff nurse/LHV/ANM/ASHA/AWW and trained TBA. Since it has been observed from the study that many times due to unavailability of the doctors, the care might be undertaken by other health care providers. Modern WHO guidelines recommend that the initial postpartum appointment yields within the first week. This was preferred within the first two to three days, with a second visit at four to six weeks. This appointment must comprise the primary detection and treatment of difficulties and preventive caution for not only the mother but also baby (WHO, 1998 & WHO, 2001). Since pregnancy problems happens unpredictably therefore the probability is little that one postpartum visit of indefinite content, excellence, and timing may effect maternal mortality.

Table 3 also shows that F-value between health personnel contacted to get the first check-up done after delivery and age is 3.149. Since $p \leq 0.05$, null hypothesis is rejected and there is a statistical difference between the two variables (H_0). That is there is association between the care given during postpartum period by the health care personnel and the age of pregnant women. Also, F-value between age and number of children is 54.375. Since $p \leq 0.05$ there is a statistical difference between age and number of children (H_3). That is with increasing age number of children possessed by women is likely to increase initially. However, we can infer that there is association between the age and increase number of children (Table 3).

Conclusion

This chapter demonstrate the results pertaining to impact of reproductive health on lactating mother during postnatal stage. The analysis of such kind highlights the precautions that need to be taken care of after delivery. The use of health related services is strongly influenced by availability of such services in a community.

Further the chapter includes details to study variables impacting women decision for choice of health personnel for conducting delivery. Also, analysis discloses important precautionary measures to be taken for safety of both mother and child. It has been also been suggested that women should undergo routine medical check-ups even after delivery with a trained birth attendant to promote child survival and decrease maternal mortality rate. An association between complication during postpartum period and health facility delivery provider has been conceptualized.

The study conducted in the Ghaziabad District offered significant insights into the particular obstacles and remedies pertinent to this area, so enhancing the overall comprehension of maternity and neonatal healthcare in situations with limited resources. Additional research and policy initiatives are required to guarantee that every woman and infant have equitable access to high-quality healthcare services, with the aim of enhancing maternal and neonatal outcomes.

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