

Emergency Obstetric and Newborn Care services as per the landscape of socio economic factors

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Abstract: Emergency Obstetric and Newborn Care services will impact on the mortality and morbidity of Mother and newborn. Factors like education, socio economic status and linkages between community and health facility will adversely affects the availability of EMOC services. Aim: To assess the relation between socio economic factors and availability of EMOC services. Material and methods: A quantitative study was conducted among 761 pregnant women of Badwani district of Madhya Pradesh who were admitted in District Hospital Badwani and availed EMOC services, through pretested interview schedule. Analysis of collected data was done using Microsoft excel. Results: Among the study group, (761 pregnant women respondent in this study), approx 50 % (58.87 %) had received education till high school, including 16.95 % of illiterate category. Literacy level among their husbands is slight better, as approx. 66.62 % had educated till intermediate level. Strong linkages between community and health facility is very crucial element is saving the life of pregnant women and newborn, 62% of pregnant women received emergency obstetric care services in average time of 90 – 120 mins. As far as family income is concerned, approx. 45 % pregnant women have family income of 1-2 lakhs annually. Conclusion: Socio economic factors like literacy level of pregnant women and her husband, family annual income and linkages between community and health institutions are directly proportional to the availability of emergency obstetric and newborn care services.

Keywords: EMONC service, literacy level and Socio economic status

1. Introduction

Maternal health is important to families and communities reason being its catastrophic effects on the health of women, immediate survival of the newborn and long term well-being of children, particularly girls and the well-being of families. Maternal mortality and morbidity have implications on family and on community because of high direct and indirect costs. Mortality and morbidity indicators of mother and newborn reflects not only the status of functionality of health system, but also the degree of equity in public health service delivery system, its utilization, and the status of women in society. Analysis of the maternal and infant mortality data revealed that 75% of maternal deaths occurred in intra partum and postpartum period, while 25% happened in antepartum. One common factor causing maternal and newborn mortality was delay in transportation to appropriate health facility having adequate services to save the life of both. When the hospital where the pregnant woman accessed for care did not have

adequate facilities, she had to be referred to another hospital elsewhere. Covering the distance between two hospitals at such a critical stage could prove fatal, as it was usually the complicated cases that were referred to other hospitals especially in the rural areas.

Social, political and economic conditions also contribute to maternal and neonatal deaths, and these require a wider range of interventions, beyond the direct purview of the health sector. Although high maternal and neonatal mortality is generally ascribed to medical causes. However maternal deaths are higher among less educated and poorer families, indicating the importance of social determinants of high mortality. Pregnant women in poor households have reduced access to nutrition, rest, health education and healthcare, which are essential for safe pregnancy. They are likely to be more malnourished and anaemic with greater risk of dying as a result of haemorrhage. Poor infrastructure and access to health care during the course of pregnancy is a barrier to get required care.

2. Significance Of The Study

Availability of CEmONC services is of utmost importance in reducing maternal death and almost 70 percent of maternal death can be saved. As conclusion of retrospective study of 89 maternal death out of 141 occurred in south Eastern Nigeria during the period of 1999-2003, type 3 delay was the commonest type of delay encountered in the care of the women. In-depth interviews indicated the type 3 delays in tackling obstetric emergencies as the major cause of maternal deaths.

In India maternal mortality was very prevalent, So National Health Mission has been started in 2005 with the objective to achieve MDG 5 (millennium development goal 5). Under MDG 5 and to check maternal mortality, First Referral Units (FRUs) has been established to provide basic and emergency obstetric care to all pregnant women.

3. Review Of Related Studies

Karlsen *et al.* (2011) found in this study that, poor education level of pregnant women were directly related with higher incidences of maternal mortality even if the pregnant women were able to access hospitals providing intrapartum care services. Pregnant women falling in the category of illiterate had 2.7 times and those who had received education between one and six years had twice the risk of maternal mortality as compare to pregnant women with more than 12 years of education. **Knight *et al.* (2013)** found in this study that, third type of delay has considerable inequity in access to emergency obstetric care in developing countries. Focus on first type of delay also called as patient side delay in decision making had cover the fact that many health facilities in developing countries still not equipped and manned to provide CEmONC services on time and not able to manage serious obstetric complications. **Tunçalp Ö *et al.* (2014)** found in this study that, pregnant women with lower levels of education were at greater risk for severe maternal outcomes. Pregnant women admitted to 359 facilities during a period of 2-4 months between 2010 and 2011 have significant association between poor education and worse maternal outcomes, maternal near miss and maternal death. This relationship is more in countries with medium and low Human development index. **Vora *et al.* (2015)** conducted the study and analysed that the availability of CEmONC services within reasonable distance and travel time has great impact pregnancy outcomes interms of mother and newborn. **Kanchan *et al.* (2019)** conducted the study, delay in seeking medical care was the main contributor to maternal deaths (48.6 per cent). The second major impacting factor to maternal deaths was the delay in reaching first level

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health facility (33.8 per cent), while delay in receiving adequate care at the health facility had a role in only 18.9 per cent maternal deaths. Women staying at long distance from the health facilities have reported higher type 2 delay as compared to their counterparts.

4.Objectives Of The Study

To assess the relation between socio economic factors and availability of EMOC services.

5.Hypotheses Of The Study

There is no significant relation between socio economic factors and availability of EMOC services.

6.Population And Sample

The present quantitative study was conducted over one year in one of the Tribal district of Madhya Pradesh “Badwani”. The study population was 761 pregnant women who got admitted in District Hospital Badwani.

6.1. Statistical Techniques Used in the Present Study

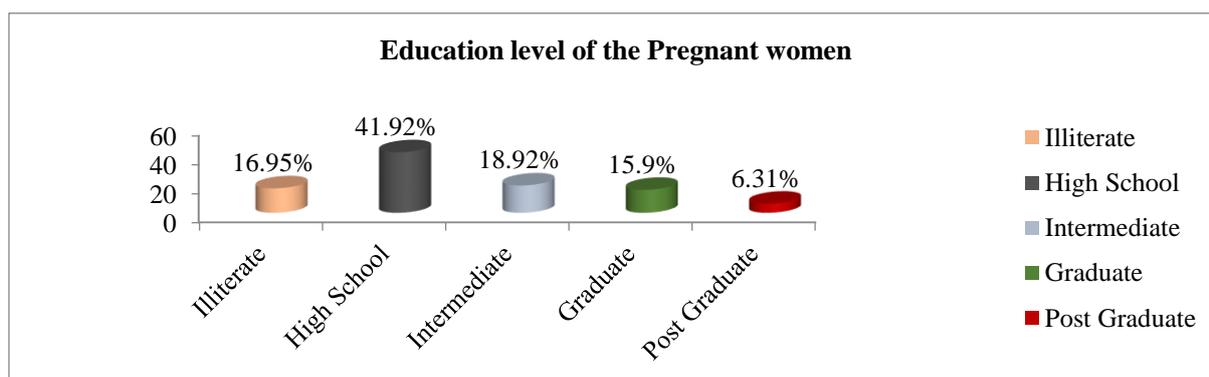
Questionnaire for interview schedule was developed and tested by Rehan Ahmed Qureshi and Lavkush Kumar Rathore. Chi square test χ^2 were used to test and analyze the data.

6.2. Data Analysis and Interpretation

Table.1. showing the Education wise distribution of the pregnant women

Level of Education	Frequency	Percentage
Illiterate	129	16.95
High School	319	41.92
Intermediate	144	18.92
Graduate	121	15.90
Post Graduate	48	06.31
Total	761	100.00

Figure. 1. showing the education wise distribution of pregnant women in percentage



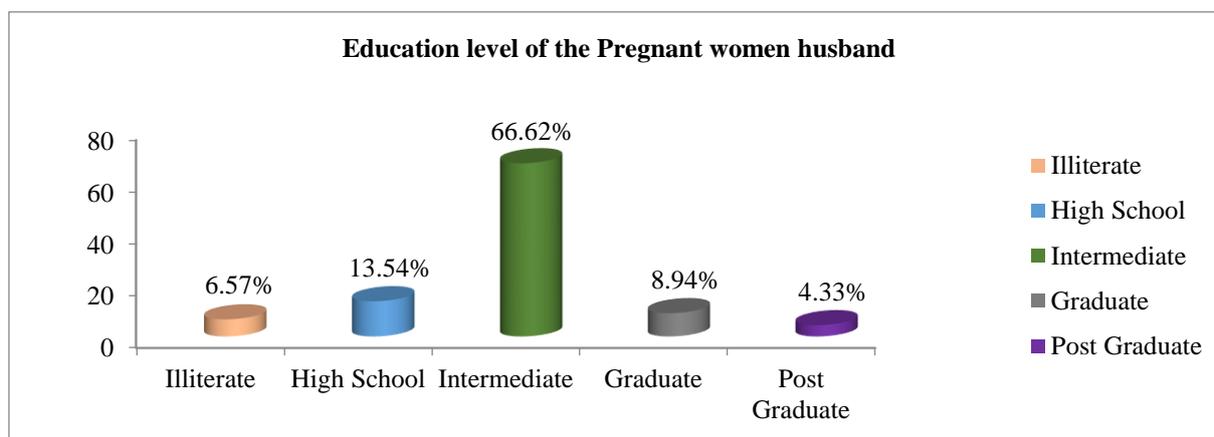
Interpretation of table-1.

It is revealed from the above table that among the study population, maximum 41.92 per cent of the pregnant women were high school pass, whereas minimum 6.31 per cent of the women were post graduates.

Table.2. showing the education level of pregnant women husband.

Level of Education	Frequency	Percentage
Illiterate	50	06.57
High School	103	13.54
Intermediate	507	66.62
Graduate	68	08.94
Post Graduate	33	04.33
Total	761	100.00

Figure. 2. showing the Education level of pregnant women husband in percentage



Interpretation of table-2.

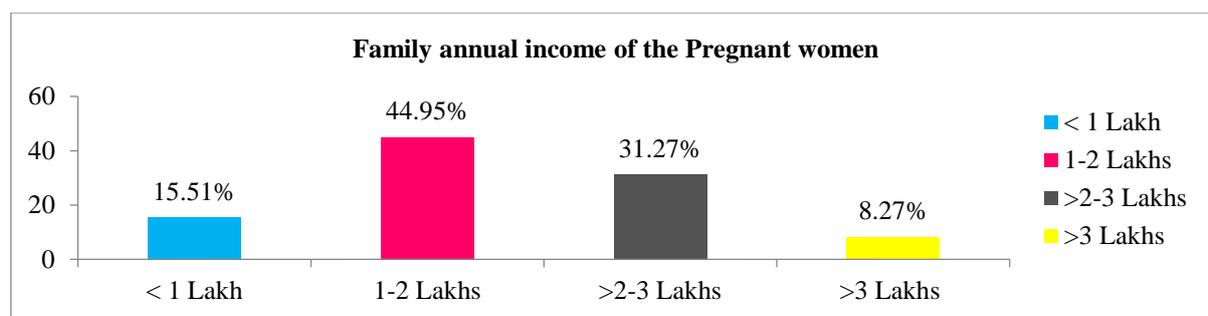
It is revealed from the above table that 66.62 per cent of the husbands of the pregnant women were educated till Intermediate level, whereas minimum 04.33 per cent of the husbands were post graduate.

Table.3. Showing the family annual income of the pregnant women

Income Annually	Frequency	Percentage
< 1 Lakh	118	15.51
1-2 Lakhs	342	44.95
>2-3Lakhs	238	31.27
>3 Lakhs	63	08.27
Total	761	100.00

Figure. 3. showing annual family income of pregnant women in percentage

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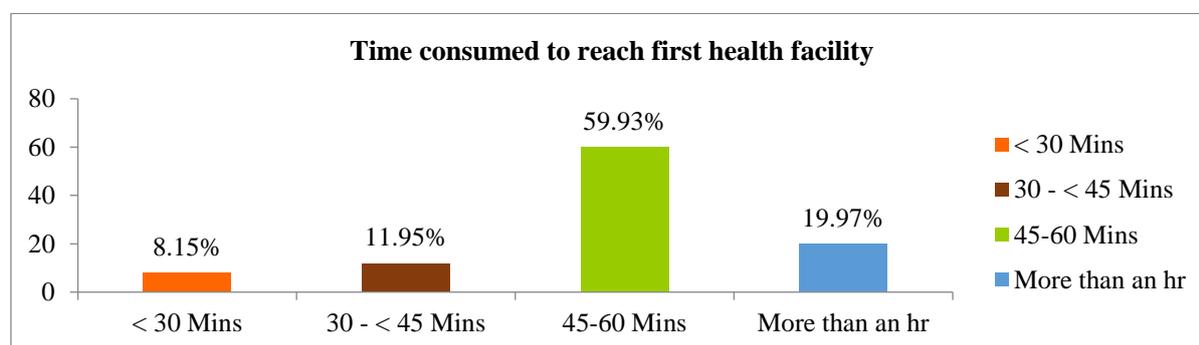
Interpretation of table-3.

It is revealed from the above table that maximum 44.95 per cent of the pregnant women had their annual family income ranged between 1-2 lakhs whereas minimum 8.27 per cent of the women had more than 3 lakhs of family income annually.

Table.4. Showing time consumed to reach the first Health facility (referral facility) after feeling discomfort / noticing the sings of danger at home

Time consumed in reaching first health facility	Frequency	Percentage
< 30 Mins	29	03.81
30 - < 45 Mins	45	05.91
45-60 Mints	489	64.26
More than an hour and above	198	26.02
Total	761	100.00

Figure. 4. showing time consumed to reach the first Health facility (referral facility) after feeling discomfort / noticing the sings of danger at home in percentage.



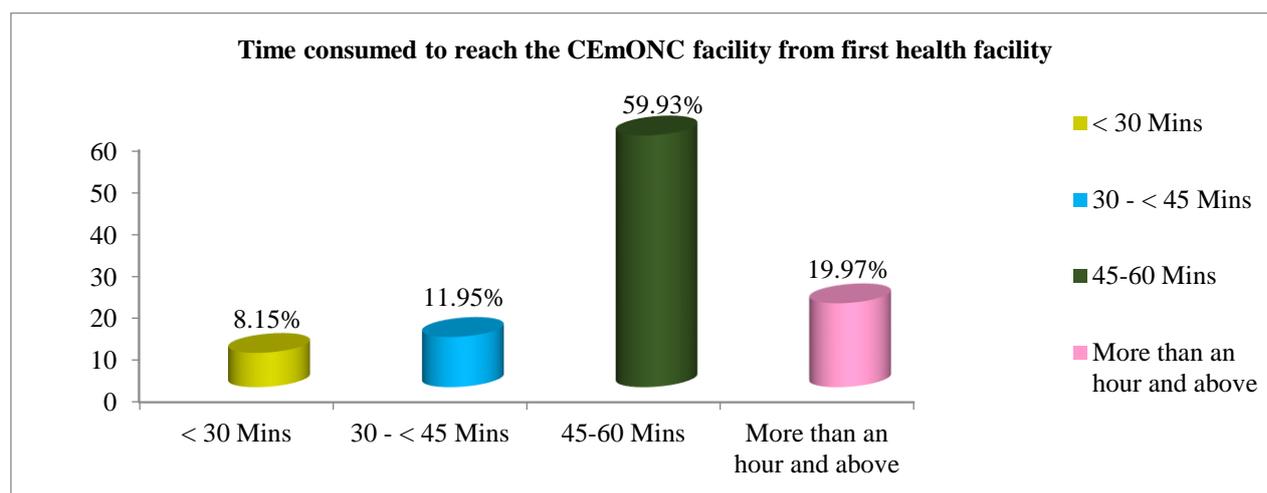
Interpretation of table-4.

It is revealed from the above table that maximum 64.26 per cent of the pregnant women took 45-60 minutes to reach the first health facility whereas minimum 03.81 per cent consumed <30 minutes to reach the first health facility.

Table.5. Showing the time consumed to reach the CEmNOC facility from the first referral facility

Time consumed in reaching the CEmONC facility	Frequency	Percentage
< 30 Mins	62	08.15
30 - < 45 Mins	91	11.95
45-60 Mins	456	59.93
More than an hour and above	152	19.97
Total	761	100.00

Figure. 4. the time consumed to reach the CEmNOC facility from the first referral facility in percentage



Interpretation of table-5.

It is revealed from the above table that maximum 59.93 per cent of the pregnant women took 45-60 minutes to reach the CEmONC facility, whereas minimum 8.15 per cent consumed <30 minutes to reach the CEmONC facility.

7. Results:

In the present study, most of the pregnant women had received education only up to high school, whereas her husband were educated till Intermediate level and majority of them have poor socio economic status with annual family income of 1-2 lakhs only. In majority of pregnant women, average time consumed in travel to receive emergency obstetric and newborn care services was 90 -120 mins.

8. Discussion:

This study was aimed to assess the relation between socio economic factors and availability of EMOC services. In the study total 761 pregnant women has participated as respondent. Among the 761 respondents (pregnant women), 58.87 % had high school as highest level of education, including 16.95 % of illiterate category. Only 18.92 % and 15.90 % were able to receive intermediate level and graduate level of education respectively and very few 06.31% reaches to the education level of post graduation. Status of education in husbands of pregnant women is little better in comparison to pregnant women, as 66.62 % had educated till intermediate level. Distribution of balance 33.38 % is like illiterate –

06.57 %, High School – 13.54%, Graduate and post graduate – 08.94 % and 04.33 % respectively, which directly relates to the awareness about health and related issues, it is also directly proportional to the health seeking behaviour in families as well as in communities. One related study conducted by Karlsen *et al.* (2011) regarding effect of education on maternal mortality, revealed that, poor education level among pregnant women were associated with higher maternal mortality. Pregnant women with no education had 2.7 times and those with between one and six years of education had twice the risk of maternal mortality as compare to women with more than 12 years of education. Another related study by Tunçalp Ö *et al.* (2014) regarding relation between maternal education and risk of severe maternal outcomes, found that, pregnant women having lower levels of education were at higher risk for severe maternal outcomes. Level of education and awareness about health and related issues among females especially in rural populations needs to be improved for gaining better outcomes of pregnancy.

Socio economic status also play significant role in deciding the availability of emergency obstetric and newborn care services in emergency hours. 45 % pregnant women have family income between 1-2 lakhs annually, however in 15.51 % it is less than one lakhs per annum. In 31.27 % pregnant women, annual family income was between 2-3 lakhs, however it is 4 lakhs and above in 08.27 % pregnant women. One related study conducted by **Kanchan *et.al.* (2019)** regarding three delay model and their contribution in maternal mortality, revealed that delay in seeking health care is due to underestimation of the level of complications. Knowledge and awareness of danger signs, arranging transport and finances were the main factors effecting the availability of appropriate health service.

Inadequate availability of means of transport to reach health care facility at the time of emergency will further delay the timely availability of EMONC services especially in rural areas, where families owning private vehicle are rare to find and government ambulances will take atleast 45 – 60 mins to reach home and another 45 -60 mins to reach at health facility. Transportation is very crucial element is deciding the fate of pregnant women and newborn, in 64.26% pregnant women, 45-60 min is the average time consumed to reach the first health facility after feeling discomfort or any danger sign at home, and similarly in 59.93% of pregnant women, 45 – 60 min is the average time consumed to reach higher health facility having provision of emergency obstetric and newborn care services from the first health facility, so it may be stated that 62% of pregnant women (average of both cases) received emergency obstetric care services in 90 – 120 mins, which is a very significant delay and will leads to cause severe harm either to mother or baby or to both. One related study conducted by **Upadhyay *et.al.*(2013)** regarding causes of new born deaths, it was found that, main contributing factor to death of newborn is delay in reaching a health care facility, which directly relates to delay in transportation.

9. Conclusion

“Emergency Obstetric and Newborn Care services as per the landscape of socio economic factors” concludes that most of the respondents have low socio economic status alongwith poor literacy level, which is directly related to poor health seeking behaviour in the community as well as lack of awareness about when and whom to approach in case of emergency. Poor health care infrastructure including poor linkages between community and health facilities are deciding factor for timely availability of emergency obstetric and newborn care services and have major impact on deciding the fate of pregnant women and newborns.

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