Original Research Article

Maternal Delays in Seeking Emergency Obstetric Care in Eastern India: Prevalence and Risk Factors

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Abstract

Objective: To quantify the incidence of and contributing elements to pregnant women's delayed use of emergency obstetric care.

Method: Within a year, facility-based cross-sectional research employing a quantitative technique was carried out at Rajendra Institute of Medical Sciences, Ranchi. With the use of a single population proportion formula, a sample size of 250 was established. Epi Info version 3.3.2 software was used to enter data that was afterwards exported to SPSS version 20 for statistical analysis. With a 95% confidence interval, a variable is declared statistically significant if P <0.05.

Results: Of the 250 participants, 203 respondents (81.2%) stated that they had difficulty deciding whether to seek emergency obstetric treatment. With a range of 30 minutes to 18 hours, the average delay duration was 90 minutes. Age of the mother, amount of education, monthly income, and ANC follow-up status all had a significant impact on whether a mother delayed seeking emergency obstetric treatment.

Conclusion: Husbands used the lines to discuss choosing to get obstetric treatment. This suggests that women have little autonomy in making health-related decisions for themselves. Health extension workers, health centre staff, district officers, and programmers should place an emphasis on raising awareness, developing income-generating mechanisms, and enhancing mothers' capacity for decision-making to address maternal delay one.

Keywords: Delays, seeking obstetric care, emergencies, the Arsi zone, SPSS, health centre.

Introduction

Every year, a large number of women in underdeveloped nations pass away from morbidities associated with pregnancy [1,2]. On the agendas for health research and policy in developing nations, maternal mortality has been ranked as a top priority [3,4]. Pregnancy-related deaths are common in many low- and middle-income nations and affect women who are fertile. However, prompt and proper treatment can usually prevent these deaths [5].

He ree Delays is a model that was created in the 1990s to help understand the context of maternal mortality. It has now been applied in nations all over the world to help understand and reduce maternal mortality [6,7]. Three stages of maternal delays have been identified, with the first, second, and third maternal delays, respectively [**Figure 1;** 8].
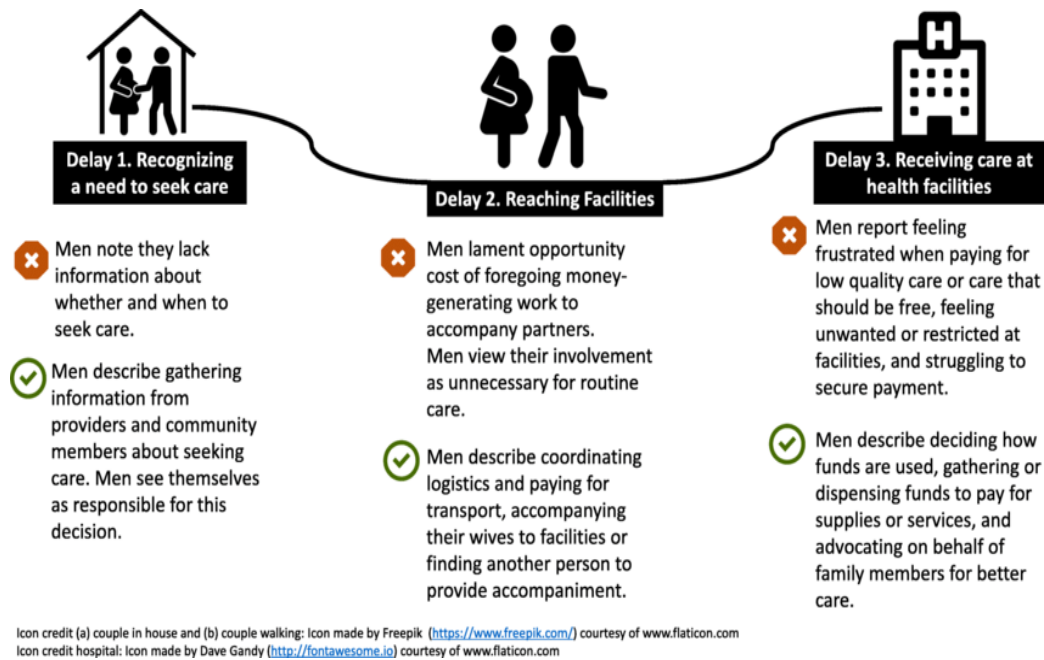
Figure 1: Maternal delays

The first delay occurs when the mother, family, or community fail to recognise a potentially fatal ailment. It might be difficult to recognise an emergency because most fatalities happen during labour or in the first 24 hours after delivery. Most deliveries take place at home with inexperienced carers, and it involves knowledge of medicine to identify and take quick action on difficulties as well as competence to forecast or prevent unfavourable outcomes [8,9]. The second delay is getting to a medical institution, which might be caused by bad weather, lack of transportation, or location. At the medical facility, there is a third delay [8–12].

Socioeconomic and cultural barriers prevent women and their families from accessing professional delivery care, including high costs, distances to medical facilities, ignorance of pregnancy danger signs, and a custom of having deliveries performed by untrained local practitioners [11,12]. One of the causes of the high maternal death rate in underdeveloped nations is maternal delay. For instance, failing to recognise an emergency may cause the choice to seek treatment to take longer. Although the patient's or caregiver's degree of education has a role in their capacity to recognise an emergency [7], it is not the only one. Timing is crucial for providing better medical care in obstetric crises. A crucial national approach to enhance maternal health outcomes is expanding women's access to and utilisation of facilities for birthing and providing early treatment for obstetric crises [13].

The purpose of this study was to investigate the prevalence and contributing variables of mother delay in obtaining emergency obstetric treatment.

Methods:

Study Design: This was a cross-sectional study carried out at Rajendra Institute of Medical Sciences, Ranchi within a year.

Methodology: A questionnaire that would be appropriate for the local context of data collection was created using relevant research material and validated by specialists. Ten data collectors with at least a diploma level of education, backgrounds in the health field.

All data collectors received a two-day training on the protocol, objective, respondent's right, and informed consent.

The entire process of data collecting are under the supervision of the lead investigator and the co-investigators. Throughout the data gathering process, every questionnaire was reviewed daily for accuracy, logical flaws, and confusing or irrelevant information.

A pilot study was conducted on 5% of the total sample size (n=42) who do not reside in the sampled locations prior to the actual data collecting period to ensure the validity and consistency of the questionnaire.

For uniformity, the questionnaire was written in English and Hindi. By adding senior's opinions, internal authenticity was ensured. Investigators trained supervisors and data collectors for two days so that everyone was on the same page regarding the checklist's processes. A pre-test of the questionnaire was conducted outside of the study hospitals with 5% of the estimated sample size.

Sample Size: 250 patients.

Inclusion criteria:

- Women who visited RIMS, Ranchi for maternity services or obstetric care.
- The study only included participants who were willing to verbally provide informed permission for a face-to-face interview.

Exclusion criteria: We did not include anyone in the research who were unconscious or unable to talk.

Statistical analysis: To make sure that all of the data was accurately obtained and recorded, it was double verified in the file. Data was input using Epi Info version 3.3.2 soiZDre, and then exported to SPSS version 20 soiZDre for statistical analysis. The percent mean and the standard deviation's descriptive statistics were calculated. For each independent variable and dependent variable, a bivariate logistic regression analysis was first performed. In order to find independent predictors of maternal delays (the outcome variable), factors with a p-value of less than 0.2 in the bivariate logistic regression analysis were moved to the multivariable logistic regression model. Statistical significance was set at $p < 0.05$ with a 95% confidence range.

Results

250 of the 350 respondents who were scheduled for interviews as part of the study provided oral consent and were interviewed, yielding a response rate of 71.42%. Out of the total respondents, 88.4% were married, 28.4% had completed their elementary school, and 84.8% were determined to be in the 20-34 age group. The mean age is 27.2 with STD+4.9. According to their parity, 86% of them were in the 2-4 range, and 94.8% were housewives

Table 1: Age distribution of sample population

Age	Frequency	Percentage
15-19	13	5.2%
20-34	212	84.8%
>35	25	10%

Table 2: Distribution of patients according to Parity

Parity	Frequency	Percentage
P1	10	4%
P2, P3, P4	215	86%
P5	25	10%

Table 3: Patient distribution according to socio-economic status

Socio-economic Class	Frequency	Percentage
Upper middle class	53	21.2%
Upper Lower class	53	21.2%
Lower middle class	52	20.8%
Lower class	92	36.8%

Table 4: Patient distribution according to employment status

Employment Status	Frequency	Percentage
Housewife	237	94.8%
Government employees	9	3.6%
Businesswomen	4	1.6%

Table 5: Bookings according to localities

Locality	Booked	Unbooked	Frequency
Rural	48 (34.78%)	90 (65.22%)	138
Urban	41 (36.61%)	71 (63.39%)	112

The length of maternal care-seeking delays

Of the responders overall, 203 (27.2%) of the patients said they had trouble deciding whether to seek emergency obstetric treatment. With a range of 30 minutes to 18 hours, the average delay time was calculated to be 11/2 hours. The choice to seek obstetric treatment at a health centre was made by the woman's husband, herself, other family members, and neighbours, according to 53.2%, 30.2%, 10.1%, and other research participants. The other respondents, 21% did not consult with TBAs or other medical institutions before going to the health centres where they got obstetric treatment, leaving 79% of the respondents who did.

Factors that may cause a mother to put off getting a delivery service

Multivariate logistic regression was used to predict the initial maternal delay in seeking obstetric treatment with related variables for those components significant at P-value <0.2 in the bivariate analysis. Maternal delay one, or the delay in obtaining obstetric treatment, had no significant connection with marital status, parity, and consultation with TBA and the health facility before the decision to seek care. But compared to women whose ages were 15–19, maternal delay in seeking obstetric treatment was approximately 2.1 times greater among mothers aged 20–34 (AOR, 2.1; 95% CI, 1.8, 5.2) and 4.1 times higher among mothers aged 35–49 (AOR, 4.1; 95% CI, 2.4, 2.5). In comparison to women who finished university level education, illiterate moms had a roughly 5.2 times greater likelihood of delaying obtaining obstetric treatment (AOR, 5.2; 95% CI, (3.4, 11.9)). Compared to other groups (students), delay one was more common in housewives (AOR, 3.1; 95% CI, 1.5, 7.2).

The chances of delaying obtaining obstetric treatment were 2.5 times greater for women with monthly incomes of 500 ETB or less than 2000 ETB than for mothers with monthly incomes of 2000 ETB or more (AOR, 2.5; 95% CI, 1.5, 6.3). Maternal delay 1 was around 4.1 times more prevalent in moms who did not get ANC follow-up (AOR, 4.1; 95% CI, 3.3, 9.1) compared to mothers who did.

Discussion

With a mean delay of 90 minutes, 27.2% of the respondents to this survey stated that they had difficulty deciding to seek emergency obstetric treatment. This delay is less than that of studies done in Bahir Dar that showed 37.8% of women delayed seeking care by an average of 8 hours (5)

and Surat Municipal Institute of Medical Education and Research (SMIMER) that showed 57.73% of cases delayed [18]. Still much below the study's finding of a 73.3% delay in seeking assistance.

Surprisingly, 53.2% of research participants stated that their husband made the choice to seek obstetric treatment at the health centre. The choice to seek treatment was made by husbands since the majority of respondents (83%) had ANC follow up with expected information about labour and emergency signals better than their partners. His research demonstrates that a family's decision to employ obstetric care follows the logic of the management of the family.

In this study, 17% of respondents had not been followed up with about ANC. His results are lower than those of the Surat Municipal Institute of Medical Education and Research (SMIMER) research, which showed a prevalence of 35.05%, but higher than those of a Tanzanian study, which showed that 11.1% of respondents had not had prenatal care follow-up.

In this study, there was a significant relationship between maternal delay in obtaining emergency obstetric treatment and maternal age, educational attainment, monthly income, and ANC follow-up. This finding is in line with Bahirdar research that found that maternal delay 1 was significantly influenced by educational attainment, monthly income, and ANC follow-up status [18].

In our study, 27% of the participants reported delaying obtaining emergency obstetric treatment. His is lower than a research done at a public tertiary teaching hospital where 71% of respondents experienced maternal delay one.

Limitation:

unable to prevent recollection bias since the respondents' time estimates for delay one was gathered during the departure interview.

Conclusion

Husbands used the lines to discuss choosing to get obstetric treatment. He indicates that women have less autonomy in making health-related decisions for themselves. The choice to seek care was significantly higher among older women, moms who were literate, and women who had undergone ANC follow-up. The power of mothers needs to be strengthened and increased in the community as a whole in order to address maternal delay one. Health extension workers, health centres, stDs woreda ocers, and programmers should emphasise creating awareness, creating income-generating mechanisms, and capacitating decision-making.

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