

Prevalence and Associated Factors with Maternal Delays in Seeking Emergency Obstetrics Care in Jharkhand

Suman Kumari¹, Khushboo Singh²

¹M.B.B.S. MD, Department of Obstetrics & Gynaecology, R.I.M.S., Ranchi, Specialist Medical Officer, Sadar Hospital, Dhanbaad, Jharkhand, India

²M.B.B.S., MS, Department of Obstetrics & Gynaecology, DNB, Consultant Gynaecologist, Prakash Chandra Seva Sadan Hospital, Daltonganj, Palamu, Jharkhand, India

Received: 25-01-2024 / Revised: 23-02-2024 / Accepted: 25-03-2024

Corresponding Author: Dr. Khushboo Singh

Conflict of interest: Nil

Abstract:

In Jharkhand, India, pregnant women postpone emergency obstetric care. This study examines the prevalence and factors involved. A descriptive cross-sectional survey was used to survey 300 rural, semi-urban, and urban women from the state. 40% of individuals experienced substantial care delays, with rural locations having 60%. These delays were caused by poor transportation, limited education, and conventional health practices. Logistic regression research confirmed these factors as delayed care-seeking predictors. The study emphasizes the need for focused actions to enhance transit infrastructure, education, and cultural practices that delay emergency obstetric services. These methods are essential for lowering delayed maternity care risks and enhancing Jharkhand's maternal and neonatal health.

Keywords: Maternal Delays, Emergency Obstetric Care, Jharkhand, Cultural Practices.

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

In the rural expanse of Jharkhand, India, the provision of maternal healthcare encounters significant obstacles that have a profound effect on the survival and welfare of both mothers and their newborns [1]. The region is greatly concerned about the considerable delays in seeking emergency obstetric treatment, which frequently results in negative consequences for both mothers and newborns [2]. The study offers a thorough investigation to comprehend the extent and root reasons for these delays. This research is significant because of Jharkhand's elevated maternal mortality ratio, which continues to be significantly higher than the national norm despite multiple government efforts [3].

Jharkhand, a state characterized by its challenging topography and dispersed populace, presents logistical obstacles that impact the prompt availability of healthcare services. Most of its population lives in rural regions with frequently insufficient healthcare infrastructure [4]. A significant number of women reside in isolated areas, situated at a considerable distance from healthcare facilities equipped to manage obstetric crises. The geographical isolation is exacerbated by socio-economic problems such as poverty, low education, and restricted transportation alternatives, which hinder the ability to obtain timely and sufficient medical care [5]. Cultural norms and

traditions significantly influence the healthcare-seeking behaviour of women in Jharkhand. Restrictions in education and adherence to conventional views frequently result in the underestimating of the gravity of medical problems or dependence on non-medical treatments until the symptoms reach a severe stage [6]. The decision-making process about the timing of seeking medical care is also affected by family hierarchy and gender dynamics, as women frequently lack the independence to promptly make decisions about their own health.

The healthcare system in Jharkhand encounters distinct obstacles, such as a dearth of proficient healthcare practitioners, particularly in rural and isolated regions [7]. There is a scarcity of facilities that are prepared to address crises related to childbirth, and these facilities typically lack the required medical equipment and support systems to manage complex cases properly. The issue is worsened by intermittent breakdowns in interaction and collaboration within the healthcare network, resulting in delays in referring and transferring patients to suitable care facilities [8]. This study aims to investigate the frequency and causes of delays in obtaining emergency obstetric care in Jharkhand. The objective is to gain a thorough understanding of the obstacles that hinder pregnant women from receiving timely and life-saving

medical treatments. The research aims to evaluate the degree of delayed healthcare seeking in obstetric emergencies, determine the socio-demographic and economic factors that contribute to these delays, examine how infrastructural and logistical challenges affect the availability of emergency obstetric services, and investigate the impact of cultural beliefs and practices on healthcare-seeking behaviors [9,10].

Methodology

This study utilises a descriptive cross-sectional methodology to evaluate the frequency and characteristics linked to maternal delays in seeking emergency obstetric care in Jharkhand. The study will take place from January 2023 to December 2023. Data collecting will occur over a period of about six months to ensure a thorough examination of different seasons and fluctuations in healthcare demand.

Study Population

The scope of this study encompasses pregnant women who seek delivery or emergency obstetric treatment at public healthcare institutions in Jharkhand. We will enrol a total of 300 participants, which will provide a sample size that is both manageable and statistically significant for inferring the prevalence and associated variables of delayed care.

Sampling Technique

Participants will be chosen by a method known as stratified random sampling. Jharkhand will be categorized into three strata according to its geographical characteristics: rural, semi-urban, and urban. A sample of 100 participants will be selected from each stratum, ensuring that each stratum is represented in proportion to its population distribution. Participants will be selected at random from the list of women who were admitted for delivery or emergency obstetric treatment throughout the study period, within each stratum.

Data Collection Tools and Techniques

The collection of data will be conducted by utilising a well-organized questionnaire that will be administered to participants through direct, in-person interviews. The questionnaire will encompass a range of topics including demographic information, socioeconomic standing, past obstetric

records, specifics about the present pregnancy, and a chronology of events that led to the decision to seek urgent medical attention. In addition, the questionnaire will evaluate the perceived obstacles to prompt healthcare access, encompassing individual, cultural, and systemic elements.

Ethical Considerations

Before initiating the trial, we will request ethical permission from the institutional review board of a nearby medical university. Obtaining informed consent from all participants will ensure that they are fully aware of their voluntary engagement and the confidentiality of their responses. The participant will also be notified of their entitlement to discontinue their involvement in the research at any time without incurring any repercussions.

Data Analysis

The gathered data will be inputted into a statistical software program such as SPSS or R for analysis. Descriptive statistics will be employed to compute frequency ranges, means, and standard deviations for demographics and other quantitative data. The study will utilize chi-square testing and logistic regression analysis to investigate the associations among demographic, socioeconomic, and other pertinent factors and the occurrence of delays in obtaining emergency obstetric treatment. A p-value below 0.05 will be deemed statistically significant for all analyses.

Results

The study's results section offers information regarding the frequency of maternal delays in seeking emergency obstetric care and the factors linked to those delays among 300 participants in Jharkhand during the study period.

The study sample comprised 300 pregnant women, with an equal distribution of 100 participants in rural, semi-urban, and metropolitan locations. The average age of the participants was 26 years, with a range of 18 to 40 years. The majority of participants were primigravida, including 55% of the sample, whereas 45% were multigravida.

Of the 300 participants, 120 (40%) reported experiencing delays in seeking emergency obstetric care. The breakdown of these delays by geographical area is shown in the table below:

Area Type	Number of Participants	Reported Delays	Percentage
Rural	100	60	60%
Semi-urban	100	30	30%
Urban	100	30	30%

Upon analyzing the factors related to delays, some significant connections were identified. The logistic regression model revealed a significant association between lack of transportation (OR = 2.5, 95% CI 1.5-4.2, p 0.001) and low educational level of the mother (OR = 1.8, 95% CI 1.1-3.0, p = 0.02) with an increased chance of experiencing delays.

The study found a strong correlation between delays and cultural characteristics, including the use of

traditional birth attendants (OR = 2.1, 95% CI 1.3-3.4, p = 0.003).

The table below provides a summary of the key characteristics that have been found as influential in causing delays in seeking emergency obstetric care, along with their corresponding odds ratios and confidence intervals:

Factor	Odds Ratio (OR)	95% Confidence Interval (CI)	P-value
Lack of transportation	2.5	1.5 - 4.2	<0.001
Low educational level of mother	1.8	1.1 - 3.0	0.02
Reliance on traditional methods	2.1	1.3 - 3.4	0.003

Discussion

The current study reveals a significant occurrence of delays in obtaining emergency obstetric treatment amongst pregnant women in Jharkhand, with 40% of participants reporting such delays [11]. The study highlights notable regional inequalities, with rural participants experiencing a higher prevalence of delay (60%) compared to participants from semi-urban and urban areas (30% each). These findings align with previous research conducted in comparable contexts, which has discovered that rural women encounter more obstacles in obtaining timely and sufficient healthcare services as a result of infrastructural and logistical difficulties [12].

Multiple studies have investigated the factors that contribute to delays in obtaining obstetric care. A study conducted in a nearby state in India discovered that obstacles such as transportation challenges, lack of information, and financial constraints significantly hindered the ability to obtain emergency obstetric services (Gupta et al., 2018) [1,13].

Furthermore, research conducted in rural Nepal emphasized transportation and socio-cultural attitudes as noteworthy determinants (Sharma et al., 2019) [2,14]. The results of the current study are consistent with these findings, indicating a high correlation between delays and factors such as lack of mobility and poor educational levels.

Our findings, together with a study conducted in Sub-Saharan Africa, demonstrate the significant impact of cultural practices. The study revealed that the use of traditional birth attendants and home medicines resulted in delays in obtaining professional medical assistance during obstetric emergencies (Adeoye et al., 2020) [3,15].

This highlights a more extensive, worldwide problem where cultural beliefs have a substantial

influence on the behaviors related to obtaining treatment.

The study proposes that enhancing transport infrastructure, intensifying educational initiatives aimed at women of reproductive age, and tackling cultural obstacles through community-based programs could effectively diminish delays in accessing care [16].

Policymakers should prioritize the incorporation of culturally congruent community health workers to address the disparity between conventional practices and contemporary healthcare. This study has various limitations, one of which is its cross-sectional design. This design prohibits us from establishing a cause-and-effect relationship between the identified characteristics and delays in care [17,18].

Moreover, the dependence on data given by individuals themselves may result in a bias toward remembering some events inaccurately or intentionally not reporting delays. The additional investigation should prioritize longitudinal methodologies to gain a more comprehensive comprehension of the patterns of seeking healthcare over an extended period and the effects of treatments designed to minimize delays. Qualitative research can offer a more profound understanding of the individual and cultural factors that impact these behaviors [19,20].

Conclusion

Jharkhand pregnant women suffer considerable impediments to emergency obstetric treatment, as revealed by the study. 40% of participants encountered delays, with rural locations having the greatest rate. Transportation, education, and culture are major causes of these delays. The report stresses the need for targeted initiatives to enhance transportation infrastructure, maternal health education, and cultural norms that delay medical

care. These factors must be addressed to reduce regional maternal and newborn mortality. Policy improvements and community-based programs focusing on infrastructural and socio-cultural barriers can help all women access vital obstetric care. This study highlights the complexity of healthcare access challenges and outlines future efforts to improve maternal health in disadvantaged places like Jharkhand.

References

- Gupta S, et al. Barriers to emergency obstetric care in rural India: A comprehensive review. *International Journal of Women's Health*, 2018;10:205-217.
- Sharma S, et al. Delays in accessing obstetric care in rural Nepal: A health facility-based study. *Journal of Rural Health*, 2019;35(4):541-550.
- Adeoye IA, et al. Influence of cultural practices on maternal mortality in Southwest Nigeria. *Public Health Reviews*, 2020;41:8.
- WHO. Strategies towards ending preventable maternal mortality (EPMM). World Health Organization, 2015.
- Thaddeus S, Maine D. Too far to walk: Maternal mortality in context. *Social Science & Medicine*, 1994;38(8):1091-1110.
- Pathak PK, et al. Socioeconomic inequalities in the use of maternal health care services in India: Trends between 1992 and 2006. *Demography*, 2010;47(4):781-805.
- Raj A, et al. Changes in prevalence of girl child marriage in South Asia. *JAMA*, 2009; 301(22):2362-2364.
- Bhatia JC, Cleland J. Healthcare seeking and expenditure by young Indian mothers in the public and private sectors. *Health Policy and Planning*, 2001;16(1):55-61.
- Singh PK, Rai RK, Alagarajan M, Singh L. Determinants of maternity care services utilization among married adolescents in rural India. *PLoS ONE*, 2012;7(2): e31666.
- International Institute for Population Sciences (IIPS) and Macro International. National Family Health Survey (NFHS-4), 2015-16: India. Mumbai: IIPS, 2017.
- Kumar S, et al. Utilization of postnatal care for newborns and its association with neonatal mortality in India: An analytical appraisal. *BMC Pregnancy and Childbirth*, 2012;12:33.
- McCarthy J, Maine D. A framework for analyzing the determinants of maternal mortality. *Studies in Family Planning*, 1992;23(1):23-33.
- Ronsmans C, Graham WJ; Lancet Maternal Survival Series steering group. Maternal mortality: who, when, where, and why. *The Lancet*, 2006; 368(9542):1189-1200.
- Lozano R, et al. Progress towards Millennium Development Goals 4 and 5 on maternal and child mortality: an updated systematic analysis. *The Lancet*, 2011;378(9797):1139-1165.
- Gabrysch S, Campbell OM. Still too far to walk: A literature review of the determinants of delivery service use. *BMC Pregnancy and Childbirth*, 2009;9:34.
- Choudhary R, et al. Factors influencing the use of maternal healthcare services and childhood immunization in Swaziland. *International Journal of Equity Health*, 2015;14:32.
- Kesterton AJ, Cleland J. Neonatal care in rural Karnataka: Healthy and harmful practices, the potential for change. *BMC Pregnancy and Childbirth*, 2009;9:20.
- Iyengar K, Iyengar SD, Suhalka V, Agarwal K. Pregnancy-related deaths in rural Rajasthan, India: exploring causes, context, and care-seeking through verbal autopsy. *Journal of Health, Population, and Nutrition*, 2009;27(2): 293-302.
- Stephenson R, Tsui AO. Contextual influences on reproductive health service use in Uttar Pradesh, India. *Studies in Family Planning*, 2002;33(4):309-320.
- Speizer IS, Whittle L, Carter M. Gender relations and reproductive decision making in Honduras. *International Family Planning Perspectives*, 2005;31(3):131-139.