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DIGITAL CONTACT TRACING LANDSCAPE DURING COVID-19 PANDEMIC: ROLE OF MOBILE APPLICATIONS IN CONTACT TRACING

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INTRODUCTION

Maternal mortality stands as a significant issue globally, particularly in populous countries like India, with its 1.3 billion population. Initiatives such as the Reproductive and Child Health program (RCH) were introduced in 1997 when the maternal death rate was 398 per 100,000 live births. Progress has been made with subsequent programs like RMNCH+A, reducing the Maternal Mortality Ratio (MMR) to 122 per 100,000 live births. However, despite advancements, the goal of achieving Sustainable Development Goals (SDGs) remains a challenging pursuit. Among all Indian states, Assam grapples with the highest MMR at 229 per 100,000 live births. Adverse Pregnancy Outcomes also contribute significantly, leading to maternal deaths [1]. Adverse Pregnancy Outcome refers to outcomes resulting from conception, encompassing occurrences beyond live birth, such as miscarriage, stillbirth, and abortion. These outcomes may lead to neonatal death, maternal death, and other related consequences.

Stillbirth is a pregnancy outcome where a baby is delivered at or after 28 weeks of gestation without any signs of life. Annually, approximately 2.6 million stillbirths occur, with three-fourths of these incidents happening in the South Asian and sub-Saharan regions [2]. Abortion, on the other hand, involves the removal of the embryo from the uterus before it can survive independently. Global data on abortion [3] indicates that one in five pregnancies results in unsafe abortion. Miscarriage is a pregnancy outcome characterized by the sudden loss of the pregnancy before the 20th week. There is a significant association between stillbirth and miscarriage, with the rate of miscarriage varying among different groups of females [4]. About 9.8% of pregnancies in India conclude with miscarriage, abortion, and stillbirths, while in Assam, this figure is 10.4% [5].

RATIONALE

Given the elevated maternal mortality rate in India, particularly in Assam (229 per 100,000 live births), it becomes crucial to explore the factors linked to adverse pregnancy outcomes and maternal deaths.

Identifying these factors was essential for devising appropriate policies and health interventions.

AIM

The main objective of the research was to evaluate the occurrence of adverse pregnancy outcomes in Assam using data from NFHS 4 and identify the factors associated with these outcomes.

RESEARCH OBJECTIVES

1. To evaluate the frequency of adverse pregnancy outcomes in Assam.

2. To investigate the factors linked to adverse pregnancy outcomes.

3. To explore the relationship between maternal age and adverse pregnancy outcomes

RESEARCH METHODOLOGY

The research employed a secondary analysis of cross-sectional data obtained from the National Family Health Survey (NFHS) 4, conducted between 2014 and 2016. The dataset, sourced from the DHS website, focused on Assam, and the Birth Recode (BR) file was selected to narrow the study to females who became pregnant in the last five years, yielding a sample of 51,952 women. The two-stage sampling design, based on Census 2011 data, involved using villages as Primary Sampling Units (PSUs) in rural areas and Census Enumeration Blocks (CEBs) in urban areas. Probability proportional to size (PPS) was applied for village selection, considering factors such as scheduled castes and tribes.

Dependent variables center around adverse pregnancy outcomes, encompassing miscarriage, stillbirth, and abortion, leading to consequences like neonatal and maternal deaths. Independent variables include socio-demographic factors (age, education, religion, residence, wealth index), behavioral variables (alcohol and tobacco consumption, smoking), and other factors (anaemic status, number and timing of ANC

visits). Statistical analysis employed SPSS version 22, beginning with the identification of potential factors through cross-tabulations and frequency tables.

RESULTS & DISCUSSION

The findings indicated a significant association between increasing age and elevated odds of experiencing abortion, miscarriage, and stillbirth (P<0.001). In comparison to the 15-19 age group (OR 1, 95% CI P<0.001) and the 20-24 age group (OR 9.17, 95% CI 5.7-14.5 P<0.001), the 25-29 age group (OR 18.02, 95% CI 13.6-23.7 P<0.001) and the 30-34 age group (OR 18.32, 95% CI 14.07-23.85 P<0.001) exhibited higher odds of encountering abortion, miscarriage, and stillbirth. Illiterate females demonstrated higher odds of adverse pregnancy outcomes compared to educated females. Additionally, females who consumed alcohol exhibited higher odds of adverse pregnancy outcomes (OR 1.288, 95% CI 1.13-1.468 P<0.001) than those who did not consume alcohol.

CONCLUSION

In India, Assam has the highest Maternal Mortality Rate (MMR), recorded at 237 per 100,000 live births (2014-16) and 229 per 100,000 live births (2015-17). This rate is significantly higher than the national average for India, which stands at 122 per 100,000 live births. Furthermore, Assam experiences a notable incidence of adverse pregnancy outcomes, including stillbirths, miscarriages, and abortions, contributing to a higher occurrence of maternal deaths. The selection of Assam for this specific investigation is based on these considerations. Within the state, we have pinpointed five districts of utmost priority characterized by the highest incidence of adverse pregnancy outcomes. These districts, identified based on NFHS 4 data for Assam, include Dhemaji, Karbi Anglong, Morigaon, Goalpara, and Sivasagar.

To address this issue effectively, it was imperative to enhance awareness among the economically disadvantaged sector regarding various government schemes. Furthermore, comprehensive counselling services must be implemented to ensure the optimal utilization of maternal health facilities. Community engagement emerges as a crucial

strategy for mitigating maternal mortality, necessitating active involvement of all stakeholders in the formulation and execution of programs.

REFERENCE

1. *Rahman, M., DaVanzo, J., & Razzaque, A. (2010). The role of pregnancy outcomes in the maternal mortality rates of two areas in Matlab, Bangladesh. International perspectives on sexual and reproductive health, 170-177.*

2. *World Health Organization. International statistical classification of diseases and related health problems. World Health Organization; 2004.*

3. *Sedgh, G., Singh, S., Shah, I. H., Åhman, E., Henshaw, S. K., & Bankole, A. (2012). Induced abortion: incidence and trends worldwide from 1995 to 2008. The lancet, 379(9816), 625-632.*

4. *Hure, A. J., Powers, J. R., Mishra, G. D., Herbert, D. L., Byles, J. E., & Loxton, D. (2012). Miscarriage, preterm delivery, and stillbirth: large variations in rates within a cohort of Australian women. PLoS One, 7(5), e37109.*

5. *Library M. India - National Family Health Survey. 2017:1-15. http://rchiips.org/NFHS/NFHS-4Reports/India.pdf. Accessed January 28, 2018.*