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Maternal Health and Nutritional Challenges Among Tribal Women in India: A Review of Socio-economic and Healthcare Factors

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Abstract

Maternal health among tribal women in India faces significant challenges, including high maternal and infant mortality rates, malnutrition, anemia, and inadequate healthcare access. This study examines the factors contributing to these health disparities, focusing on the experiences of tribal communities in regions such as Chhattisgarh, Odisha, and Madhya Pradesh. The introduction highlights that unhygienic childbirth practices, poverty, and limited healthcare services are major contributors to maternal health issues. Methodologically, the study utilizes secondary data from previous research, including health surveys and case studies, to identify trends in maternal health and nutrition within tribal populations.

The study aims to assess the nutritional status and healthcare practices of tribal women, with objectives to identify factors leading to high maternal mortality and morbidity, and to explore regional differences in health outcomes. The findings reveal that a substantial proportion of tribal women suffer from anemia, malnutrition, and inadequate antenatal care. For instance, in regions such as Chhattisgarh, maternal mortality rates are elevated among both first-time and multiparous mothers, with factors such as low socioeconomic status, illiteracy, and traditional childbirth practices being key contributors. Anemia, particularly chronic energy deficiency, is prevalent across many tribal areas, with significant variations in nutritional status between regions.

In conclusion, the study highlights the urgent need for targeted health interventions to improve maternal health outcomes among tribal women. Strategies such as enhanced healthcare access, education, and nutritional support are essential to address these disparities and reduce maternal and infant mortality rates in tribal communities.

Keywords: Maternal Health, Tribal Women, Anemia, Malnutrition, Healthcare Access, Maternal Mortality, Nutrition.

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INTRODUCTION

Health is an integral aspect of human life, deeply embedded within the cultural, social, psychological, economic, and political fabric of communities. It is not solely a biomedical concept, but one that varies across societies based on these influences. Each community has its own perceptions and practices regarding health, shaped by their cultural values and norms. The World Health Organization (WHO) provides a widely accepted definition of health in the preamble to its constitution: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"[1]. This highlights that health is a comprehensive state of well-being, transcending the mere absence of illness, and underscores its significance as a fundamental human right. Health is also a critical indicator of the quality of life and is central to community development. Improving health outcomes, particularly among vulnerable populations, is crucial for enhancing overall well-being. Access to healthcare services, including family welfare programs, is essential for achieving this goal. Across the globe, policymakers strive to expand and improve healthcare services to ensure that all individuals, regardless of socio-economic status, have the opportunity to lead healthy lives[2].

The concept of health is intricately linked to the broader complexities of social existence, encompassing politics, economics, and religion. Medical anthropological studies suggest that health and disease are often interpreted within a moral framework, reflecting notions of right and wrong, accountability, and cultural values. These studies reveal that local understandings of health are not just biological but also influenced by cosmological and ethical traditions that define the body in states of sickness and wellness. Anthropologists have explored how health and illness are recognized, interpreted, and addressed within specific cultural contexts, while also tracing the impact of global forces such as migration, information flow, and economic changes on these local health worlds[3].

The tribal communities in India, for instance, demonstrate unique health practices shaped by socio-cultural factors, as evidenced by various anthropological and public health studies. Maternal health, in particular, is heavily influenced by traditional practices, socio-economic status, and access to healthcare services. Maternal mortality, nutritional deficiencies, and limited antenatal care are common issues affecting tribal women across regions, as highlighted by several studies[4][5][6]. Understanding these complex, culturally rooted health practices is crucial for addressing health disparities and improving the overall health status of marginalized communities.

RESEARCH METHODOLOGY

This research methodology outlines the approach taken to conduct a systematic review based on the existing literature on maternal health and nutritional challenges among tribal women in India. The aim is to synthesize and analyze data from multiple sources to better understand the socio-economic, cultural, and healthcare-related factors influencing maternal health in these communities. The following sections provide details on the methods used for literature selection, data collection, analysis, and synthesis.

1. Research Design:

This study employs a systematic literature review (SLR) methodology, which is appropriate for synthesizing data from multiple studies to identify trends, gaps, and common themes in maternal health issues faced by tribal women. The focus of this review is to examine key factors such as maternal mortality, nutritional deficiencies, reproductive health practices, and the socio-economic and cultural influences on maternal and child health.

2. Data Sources:

The literature was sourced from a variety of academic databases, including: PubMed, Google Scholar, JSTOR, Web of Science, Scopus, Research GateIn addition, reports from national and international organizations like the National Family Health Survey (NFHS), World Health Organization (WHO), and United Nations (UN) were consulted to ensure a comprehensive and credible collection of relevant studies.

3. Inclusion and Exclusion Criteria:

Inclusion Criteria:

- Studies focusing on tribal communities in India, particularly maternal and child health.
- Research published between 2000 and 2024 to ensure contemporary relevance.
- Peer-reviewed journal articles, government health reports, and international health agency reports.

- Studies that address key factors such as maternal mortality, anemia, nutrition, antenatal care, and socio-economic impacts on health.

Exclusion Criteria:

- Studies not directly related to tribal health or not focused on India.
- Articles with insufficient data on maternal health or without empirical evidence.
- Literature published in languages other than English.

4. Data Collection:

The data were collected in a structured manner to ensure consistency across the review. Each study selected for review was assessed for the following variables:

- Study population (tribal group, geographical location)
- Maternal health indicators (mortality rates, birth practices, antenatal care)
- Nutritional indicators (prevalence of anemia, malnutrition, chronic energy deficiency)
- Healthcare access (availability and utilization of maternal health services)
- Cultural practices (childbirth traditions, food intake during pregnancy)
- Socio-economic factors (poverty, literacy, occupation)

5. Data Analysis:

The data were analyzed using thematic analysis to identify recurring patterns and themes across the literature. The following steps were used:

1. *Data extraction:* Key findings from each study were extracted and categorized according to common themes such as maternal mortality, nutritional deficiencies, healthcare access, and socio-economic impacts.
2. *Synthesis:* A narrative synthesis was used to compile the findings, where similar themes across different studies were grouped, and variations or contradictions were highlighted.
3. *Comparative analysis:* Comparisons were made between different tribal groups, regions, and health indicators to highlight both commonalities and unique challenges faced by certain communities.

6. Limitations:

This study is limited by the availability of published data on tribal health. Many tribal groups are under-researched, and data are often not disaggregated by specific tribal identities. Additionally, while secondary data from government reports like NFHS were used, the lack of recent or comprehensive data from certain regions may limit the generalizability of the findings.

7. Ethical Considerations

As this study is based on secondary data, no direct contact with human subjects was involved. However, ethical considerations were taken into account by ensuring that all sources were appropriately cited and that data were accurately represented without bias or distortion.

AIMS AND OBJECTIVES

Aim:

The primary aim of this study is to conduct a systematic review of existing literature to examine the maternal health challenges, nutritional deficiencies, and socio-economic factors affecting tribal women in India. The review aims to synthesize key findings from multiple studies to provide a comprehensive understanding of the barriers to maternal and child health in these marginalized communities.

OBJECTIVES

1. To examine maternal mortality and morbidity rates among tribal women in different regions of India, identifying the key causes and contributing factors.
2. To analyze the prevalence of nutritional deficiencies, particularly anemia and chronic energy deficiency (CED), and assess how these conditions impact maternal health in tribal populations.
3. To explore traditional childbirth practices and cultural beliefs that influence maternal and child health outcomes among various tribal communities.
4. To assess the accessibility and utilization of maternal healthcare services such as antenatal care (ANC), postnatal care (PNC), and institutional deliveries in tribal regions.
5. To investigate the socio-economic determinants of maternal health, including poverty, education, occupation, and health awareness, and their impact on healthcare-seeking behaviors in tribal populations.

6. To compare the health and nutritional status of tribal women with that of non-tribal and rural populations to highlight disparities in maternal and child health indicators.
7. To identify gaps in research and healthcare interventions aimed at improving maternal and child health outcomes in tribal communities, and propose areas for future research and policy development.

FINDINGS OF REVIEW OF LITERATURE

Maternal and child healthcare practices are often neglected in tribal groups such as the Bastar tribe, Kutia Kondhs of Odisha, and Santals. Many tribal women avoid food intake during pregnancy to prevent vomiting or to ensure smaller babies for easier delivery. Alcohol consumption during pregnancy is also common, and many women continue physically demanding tasks even during advanced stages of pregnancy (Basu, 1993).

Maternal mortality rates have been reported to be high among various tribal groups, though precise data is lacking. Unhygienic and traditional childbirth practices are major contributing factors. Among the Kutia Khondhs, for instance, women often deliver in a half-squatting position while holding onto a rope tied to the roof, which aids in applying pressure during delivery.[4]

Maiti *et al.* (2005) found that tribal communities suffer from inadequate food intake, leading to high rates of anemia. Other factors impacting the health of tribal women include poverty, poor hygiene, and limited access to healthcare services.[5] In Chhattisgarh, only 38% of Scheduled Tribe (ST) women had received antenatal checkups at public health facilities. Additionally, 22% of ST women reported symptoms of reproductive tract infections, and 16% reported menstrual-related issues.[7]

In Uttar Pradesh, many women experience multiple pregnancy-related problems, such as night blindness, excessive fatigue, and anemia, largely due to nutritional deficiencies. These issues are compounded by women's low socio-economic status and household roles, with religion also playing a key role in influencing health during pregnancy.[8]

In Jharkhand, the mean height among tribal women was 150 cm, slightly below the national average, and 17% of tribal women were shorter than 145 cm. The mean BMI for tribal women was 19.1, compared to 19.5 for non-tribal women. Approximately 41% of women in Jharkhand had a BMI below 18.5, indicating chronic nutritional deficiency. Additionally, anemia was prevalent among tribal women.[5]

The overall maternal mortality rate spanned the ages of 18 to 42. Low socio-economic status, illiteracy, and lack of awareness were identified as key factors contributing to the poor health of the Dhur Gond tribe in Mahasamund district, Chhattisgarh.[9]

High levels of infant and maternal mortality were reported among the Khairwar tribe in Sidhi district, Madhya Pradesh. Contributing factors included inadequate antenatal care, insufficient food during pregnancy, deliveries conducted at home by traditional birth attendants, the use of unsterilized tools (e.g., sickles) to cut umbilical cords, and the rejection of colostrum. Educational programs and proper implementation of family health and welfare programs are essential for improving maternal and child health (RCH) outcomes in this community.[10]

Tribal women in Jammu, Kashmir, and Ladakh were particularly vulnerable to undernutrition compared to those in rural and urban areas. Approximately 16.9% of women suffered from chronic energy deficiency, 56.4% showed clinical signs of nutritional deficiency, and 49% were anemic. The study found significant differences in BMI and caloric intake across these regions, with 36% of women in Ladakh classified as malnourished. The study concluded that while traditional postpartum foods provided sufficient energy, cessation of their consumption led to a drop in energy intake.[6]

Widespread malnutrition and anemia were also reported in the Paniya tribe of Wayanad, Kerala.[11] Khan and Khan (2012) emphasized the connection between women's health and their societal status and called for strengthened health and nutrition education, particularly through health and ICDS programs.[6]

Chauhan *et al.* (2012) found that maternal mortality was highest among primigravida (first-time mothers) aged 18 to 35 in the Bastar region of Chhattisgarh. The second highest rate was observed in multiparous women (2nd to 4th pregnancies), aged 22 to 42.[12]

Agrawal (2013) studied women and child health utilization in Odisha, comparing tribal to non-tribal populations. Tribal women were found to be 2.3 times more likely to give birth by age 19, 2.1 times more likely to receive tetanus toxoid, and 2.7 times more likely to have more than four children. Additionally, tribal women were 1.3 times more likely to be underweight and anemic compared to non-tribal women.[13]

The study highlights Chhattisgarh's public health challenges, including high infant mortality, malnutrition, anemia, and malaria prevalence, particularly in tribal areas. The state's health indicators are below national averages, compounded by a lack of trained healthcare providers, poor infrastructure, and inadequate health education. Addressing these gaps requires further research and focused interventions to improve health outcomes.[14]

The study on maternal health among ChoukhutiaBhunjia women in Gariyaband, Chhattisgarh, highlights significant health challenges, particularly high rates of anemia and undernutrition. Among 114 women (21 pregnant and 93 lactating), 64.92% of lactating women were underweight, and anemia prevalence was alarmingly high. A positive correlation between BMI and anemia was observed, indicating the impact of malnutrition on maternal health. The study concludes that poor maternal nutrition and limited healthcare services contribute to the low health status of Bhunjia women. Enhancing antenatal, intranatal, and postnatal care and improving healthcare delivery are critical to improving their health outcomes.[15]

The prevalence of chronic energy deficiency (CED) is significantly higher among tribal women. Rao *et al*. (2010) reported that 56% of non-pregnant, non-lactating tribal women suffered from CED, compared to 36% in rural areas. Among tribal lactating women, the CED prevalence was 58%, compared to 40% in rural lactating women. The NFHS-3 data from Madhya Pradesh showed a CED prevalence of 44.9%, the second highest in India, with 61% of women anemic.[6][16] Similarly, Ghosh-Jerath *et al*. (2017) found that 42.4% of women in the Sahariya tribal community of Madhya Pradesh suffered from CED, with anemia affecting 90.1%.[17]

The Bhunjia tribe, a vulnerable group in Chhattisgarh, faces significant health and nutritional challenges, with anemia being a major concern among women. A study conducted among 227 Bhunjia women (178 lactating and 49 pregnant) revealed high anemia prevalence, with 90.17% of lactating and 87.76% of pregnant women affected. The research utilized the HemoCue technique to estimate hemoglobin levels, and findings showed a positive correlation between hemoglobin levels and BMI at a 0.05 significance level. These results underscore the urgent need for targeted nutritional interventions to address anemia in this tribal community.[18]

The study highlights the alarming prevalence of anemia among tribal women in Kasaragod, Kerala, with 89% affected, including 62% with moderate and 11% with severe anemia. It emphasizes the need for targeted government and healthcare interventions to improve their health status, which is crucial for community development and well-being.[19]

This study highlights the success of a community-driven, integrated health-care strategy in improving maternal health among a tribal population in Bastar district, India. By promoting health literacy, introducing health technologies, and building trust through home visits and behavioral change communication, significant improvements were seen, such as reduced adolescent pregnancies and increased supervised births. However, key maternal health indicators remained below regional averages, suggesting that sustained efforts are necessary. The findings underscore the need for continuous promotion of evidence-based healthcare and better access to maternal health services in underserved regions.[20]

This study explores the nutritional status of 3,923 tribal women in Maharashtra, revealing a lower prevalence of underweight but high rates of anemia. Using data from NFHS-4 and spatial analysis, it shows anemia is more common in northwest districts, while severe anemia and obesity are concentrated in western Maharashtra. Despite some improvements, tribal women remain vulnerable to health challenges. The study emphasizes the need for targeted, region-specific interventions to improve health outcomes among tribal women, offering valuable insights for policymakers.[21]

This qualitative study offers a comprehensive exploration of the factors contributing to maternal and child health issues among the Madia-Gond tribe in Maharashtra, India. Using a life course perspective, it highlights the influence of socio-economic conditions, traditional practices, and healthcare barriers on health outcomes. The study underscores the urgent need for improved healthcare access, nutrition support, and educational interventions targeting tribal women, particularly during pregnancy and postpartum. Its findings emphasize the importance of addressing structural inequities and promoting culturally sensitive, evidence-based healthcare to reduce maternal and infant mortality.[22]

CONCLUSION

The review of literature highlights the severe maternal health challenges faced by tribal women

in India. Maternal mortality rates are notably high, with several contributing factors such as unhygienic childbirth practices, inadequate healthcare access, poor nutrition, and socio-economic conditions. Tribal communities, such as the Kutia Khondhs and Khairwar tribe, face challenges such as deliveries conducted by untrained birth attendants, inadequate antenatal care, and the use of unsanitized tools during childbirth. Nutritional deficiencies, including anemia and chronic energy deficiency (CED), are prevalent due to poor food intake, which exacerbates maternal health issues like premature births and low birth weights. Anemia alone accounts for a significant percentage of maternal deaths.

Additionally, socio-cultural factors like early pregnancies, malnutrition, and alcohol consumption during pregnancy contribute to the health risks faced by tribal women. Despite these challenges, limited access to healthcare facilities and the low awareness of health programs hinder progress. Addressing these disparities requires targeted interventions, such as improving healthcare access, enhancing education on maternal health, and strengthening nutrition and hygiene programs. These actions are essential to improve maternal and child health outcomes in tribal regions across India.

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