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Maternal Healthcare during Pregnancy in Tribal Community of India

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ABSTRACT

Maternal health refers to a woman's health during the prenatal, perinatal and postnatal periods. It is an essential aspect of overall health of a woman which is to be ensured for well-being of both mother and child. The pregnancy and childbirth are sensitive stages in woman's life, which needs special care and treatments. In this context, the tribal women encounter significant challenges to get maternal health treatments because of socio political, economic, cultural, and geographical issues. Sometimes the lack of access to health care facilities is the major cause of poor maternal health care among the Tribals in India. Besides this, their traditional beliefs and practices restrict them to use different facilities provided by the government. The objective of the paper is to analyse the findings of researches conducted on health care of tribal pregnant women in India by various researchers during recent years. The review focuses on common morbidities, indigenous health care practices and food consumption pattern of tribal pregnant women. The review contributes to the existing literature by compiling the data from numerous researches and provides significant insights for policymakers and healthcare professionals to improve the health outcomes of tribal pregnant women.

Keywords: Tribal pregnant women, Morbidity, Indigenous practices, Food consumption pattern

INTRODUCTION

Mothers are the procreator and nurturer in the society. The mother nurtures a baby who is the future citizen of the nation. Both pregnancy and child birth are delicate stages of life. The complications of pregnancy and child birth like severe bleeding, infections, high blood pressure during pregnancy (pre-eclampsia and eclampsia), delivery problems, and unsafe abortions account for about two thirds of all maternal deaths. Besides this, any infection and deficiency disease in this time will impact not only physical but also other aspects of the child's development. From various studies conducted in India it is evident that the tribal children are suffering from various diseases like anaemia and malnutrition which may be the outcome of poor maternal health care practices (Gardia and Udgata, 2024). So, we can say that the health of the baby completely depends upon the mother's health status, health care practices and behaviour. Therefore, the mother needs utmost care in this time. Both the Central and State governments are continuously conducting programmes to improve the maternal health and to reduce maternal mortality. Despite significant progress in maternal health as a result of the implementation of many programs, there is a gap between reality and practice.

Tribal women in India are the most disadvantaged section of the society inflicted with poor maternal health care. One of the primary issues preventing tribal women from receiving sufficient maternal health care is their ignorance and adherence to their traditional practices. They are not accepting the facilities avail by the Government like not consuming Iron and Folic Acid (IFA) tablets supplied by Anganwadi, consulting to local healer in case of any health problems, prefer delivery at home by Traditional Birth Attendance (Algur *et al.,* 2023). Therefore, this review study has been under taken to have a better understanding on maternal health care during pregnancy among Tribals by compiling the findings

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of various researchers.

Objectives:

1. To analyse the socio demographic profiles of tribal pregnant mothers
2. To determine the common morbidity pattern among tribal pregnant mothers
3. To understand the indigenous healthcare practices for tribal pregnant mothers
4. To understand the food consumption pattern among tribal pregnant mothers.

METHODOLOGY

To achieve the objectives, a review of the available literature was done on maternal health care among pregnant women in tribal communities in India. Information was obtained from different books and articles published between 2014 and 2024 by reviewing of books, journals and search websites which included Google Scholar, Research Gate, Science Direct, and Pub Med. In the first step, books and articles were selected based on the keywords of objectives. In the second step, the pertinent literature was reviewed and compiled. Then the information was analysed through descriptive statistics like percentage and mean. After analysing the available data, the discussion was made for interpretation of the findings.

RESULTS AND DISCUSSION

This section highlights the key findings on maternal and child health among tribal communities derived from different sources.

Socio demographic profile of tribal pregnant mothers:

The socio-economic profile is an important factor that affects the health of the family members. Therefore, different aspects of socio demographic profile of tribal mothers like age, education, occupation and the family income were gathered from different studies conducted in different areas of India. The information are analysed in the Table 1.

The Table 1 presents the socio-demographic profiles of tribal pregnant women across various regions as reported by different studies. In Kerala, Shrinivasa *et al.* (2014) found that the majority of sample pregnant women are literate women (75.82%) and an almost equal distribution between homemakers and working women. Likewise, in Jammu, Kouser *et al.* (2020) found a higher proportion of younger pregnant women (51.09%) who are below 20 years of age and a high literacy rate with 73.90% and a majority falling into the medium income group. Dwivedi *et al.* (2023) in Rajasthan found a relatively lower literacy rate (51.28%) and a similar distribution between homemakers and working women. In Gujarat, Pandit and Patel (2023) reported a higher literacy rate (40.20%) and a majority are in the medium income category. Meanwhile, in South India, Ade *et al.* (2023) observed a notably high literacy rate (92.07%) and a majority falling into the medium income category. Overall, while there are variations in age distribution, educational attainment, and income levels among tribal

Table 1 : Socio demographic profile of tribal pregnant women

Author, area and sample size	Age		Education		Occupation		Income		
	≤20	>20	Literate	Illiterate	Homemaker	Working	>15000	5000-15000	<5000
Shrinivasa *et al.* (2014) Kerala N=335	_	_	254 (75.82%)	81 (24.17%)	167 (49.8%)	168 (50.14%)	_	_	_
Kouser *et al.* (2020) Jammu, N=364	186 (51.09%)	178 (48.90%)	269 (73.90%)	95 (26.09%)	_	_	42 (6.59%)	222 (60.98%)	100 (27.47%)
Dwivedi *et al.* (2023) Rajasthan N=429	32 (7.45%)	397 (92.54%)	220 (51.28%)	209 (48.71%)	233 (54.31%)	196 (45.68%)	_	61 (14.21%)	268 (62.47%)
Pandit and Patel (2023) Gujrat N=592	127 (21.45%)	465 (78.54%)	238 (40.20%)	354 (59.79%)	_	_	212 (35.81%)	380 (64.18%)	_
Ade *et al.* (2023) South India N=303	55 (18.15%)	248 (81.84%)	279 (92.07%)	24 (7.92%)	274 (90.42%)	29 (9.56%)	34 (11.22%)	268 (88.44%)	01 (0.33%)

Table 2 : Prevalence of anaemia among tribal pregnant women

Author, area and sample size	Normal with no anaemia	Mild anaemia (10–10.9 mg/dl)	Moderate anaemia (7–9.9 mg/dl)	Severe anaemia (<7 mg/dl)
Shrinivasa *et al.* (2014) Kerala N=347	12 (3.45%)	106 (30.54%)	194 (55.90%)	35 (10.08%)
Corrêa *et al.* (2017) Chhattisgarh, Andhra Pradesh and Telangana N=563	43 (7.63%)	102 (18.11%)	379 (67.31%)	39 (6.92%)
Rohisha *et al.* (2019) Kasaragod district N=445	49 (11.01%)	71 (15.95%)	276 (62.02%)	49 (11.01%)
Dwivedi *et al.* (2023) Rajasthan N=429	61 (14.21%)	92 (21.44%)	270 (62.93%)	6 (1.39%)

pregnant women across different regions of India.

Common morbidity pattern among tribal pregnant mothers:

Anaemia is an important morbidity found in pregnancy which effects not only the health of mother but also child. That why, the prevalence of anaemia in the form of mild, moderate and severe are complied in the Table 2 and Fig. 1.

The Table 2 provides an insight on the prevalence of anaemia among tribal pregnant women based on data collected from different studies conducted in various are as of India. Shrinivasa *et al.* (2014) conducted research in Kerala with a sample size of 347 women, found that 96.52% were anaemic with 30.54% had mild anaemia, 55.90% experienced moderate anaemia, and 10.08% had severe anaemia. Corrêa *et al.* (2017) conducted a study across Chhattisgarh, Andhra Pradesh, and Telangana, with a sample size of 563 pregnant women. They found that 92.34% of overall respondents were anaemic, where 18.11% had mild anaemia, 67.31% had moderate anaemia, and 6.92% had severe anaemia. Likewise, Rohisha *et al.* (2019) performed a study in the Kasaragod district with a sample size of 445 pregnant women, stated that 88.98% were anaemic, 3.59% had mild anaemia, 13.93% experienced moderate anaemia, and 2.47% had severe anaemia. Dwivedi *et al.* (2023) also conducted research in Rajasthan with 429 women, found that 85.76% were anaemic with 21.44% had mild anaemia, 62.93% had moderate anaemia, and 1.39% had severe anaemia. These findings indicate the significant prevalence of anaemia among tribal pregnant women across different regions, with varying degrees of severity. Addressing this health issue is important to improving the well-being and outcomes of pregnant women in these communities.

The Fig. 1 indicating the high percentage of anaemia during pregnancy in tribal community. The figure show that in maximum studies the iron deficiency anaemia is above 80 %. This can be a result of not consuming iron rich food due to low socio-economic status, ignorance, lack of knowledge or any environmental conditions.

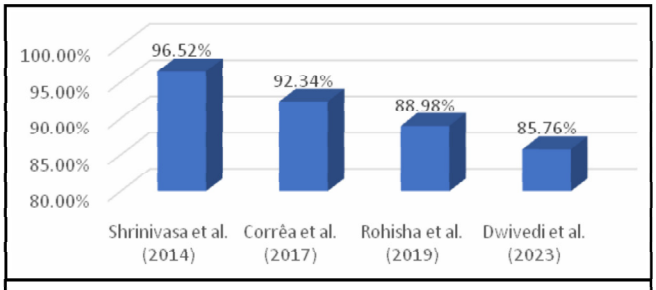

Fig. 1 : Prevalence of anaemia among tribal pregnant mothers

Indigenous health care practices for tribal pregnant mothers:

Tribal people known for their indigenous practices. In the Table 3 some indigenous practices followed during pregnancy in different region of India is compiled and presented.

The Table 3 presents a comprehensive overview of indigenous practices related to pregnancy within tribal communities, as per various studies conducted in different regions of India. Islary (2014), highlights that tribal expectant mothers often vaccinated to tetanus and have limited intake of essential nutrients like vitamins, iron, and calcium, while some of them are continuing to consume alcohol during pregnancy, which may cause severe health risks to maternal and foetal health. Kanrar and Goswami

Table 3 : Indigenous practices related to pregnancy in tribal community

Author and area of study	Findings
Islary, J. (2014) India	➢ The tribal expectant mothers are not inoculated against tetanus while vitamin, iron and calcium intake has been found to be limited among tribal women. ➢ Most of them continue to consume alcohol even during pregnancy.
Kanrar and Goswami (2020) Odisha	➢ 29.9% of the women took iron and folic acid (IFA) tablets, and 23.1 per cent had at least one tetanus toxoid (TT) vaccine. ➢ 89.3 per cent of women chose home deliveries and just 10.7 per cent chose institutional delivery. ➢ It was shown that the majority of women (75.9%) were assisted by old ladies, whereas 19.0 per cent were assisted by ANMs, and just 5.0 percent were assisted by doctors.
Hansdah and Rath (2021) Jajpur district.	➢ The majority of indigenous mothers preferred home birth by TBAs. ➢ They burying the placenta close home for the newborn's survival and burying the umbilical cord near the house to reinforce the child's tie to the house and family.
Sahoo (2021) Sundargarh	➢ For better milk secretion they intake the Massi Dali (Biri Dal), Root Paste of Salperni Mixed with water in which rice has been washed and paste is applied on Umbilicus, genital and stomach for easy smooth delivery. ➢ Ash of inflorescence (Gathiwan) mixed with mustard oil and applied on breast for post-natal breast pain, for fair baby Take the powder of Babul leaves during the pregnancy.

(2020) found from Odisha that a significant proportion of women preferred for home deliveries and choose least medical interventions such as iron and folic acid tablets or tetanus toxoid vaccines. Beside that they preferred the assistance of Traditional Birth Attendants (TBAs) and older women rather than healthcare professionals. Similarly, in Jajpur district, Hansdah and Rath (2021) observed a preference for home delivery by TBAs among tribal mothers, who also follow cultural practices such as burying the placenta near the home for newborns' well-being and symbolically connecting the child to the family and home by burying the umbilical cord nearby. Sahoo (2021) sheds light on indigenous practices in Sundargarh, including some special dietary choices and traditional remedies used during pregnancy for various purposes such as enhancing milk secretion and reducing post-natal breast pain. These findings show the importance of recognizing the cultural beliefs and practices in tribal communities, aiming to improve maternal and child health outcomes while preserving cultural heritage and identity.

To know the food consumption pattern among tribal pregnant mothers:

In the Table 4 and 5 different food taboos and food preference in the tribal communities of India is compiled and discussed which are derived from various research studies.

The Table 4 provides insights into food taboos and fallacies prevalent during pregnancy within tribal communities, as conducted by various studies conducted in different regions of India. Janci Rani *et al*. (2015) studied the Madukkarai block of Coimbatore with a sample size of 75, shows that tribal women avoid consuming foods like brinjal, jackfruit, water, papaya, and certain fruits and beverages due to beliefs that these items may cause infection, increase urination frequency, possess uterine stimulants, or cold symptoms for both mother and child. Chakrabarti and Chakrabarti (2019), focusing on West Bengal with a sample size of 44, found that food taboos included avoiding papaya, pineapple, dark-coloured vegetables, and certain fruits due to fears of miscarriage, foetal abnormalities, and concerns about the baby's complexion, among others. Goswami and Chakrabarti (2019) surveyed Kampur district in Assam with 400 participants, revealing avoidance of specific fish varieties, sugarcane, bottle gourd, white gourd, and plantain flower due to beliefs about vomiting, abortion, cough and cold, and concerns about foetal size, respectively. Lastly, Ade *et al.* (2023), investigating South India with a sample size of 303, found that tribal women avoided a variety of foods including fruits, vegetables, spicy foods, and meat due to fears of abortion, abdominal pain, weak babies, and concerns about the baby's complexion or potential miscarriage caused by consuming hot foods. These findings highlight the strong influence of cultural beliefs and traditional practices on dietary choices during pregnancy within tribal communities.

The Table 5 presents insights into food preferences during pregnancy within tribal communities, as observed in studies conducted in different regions of India. Janci Rani *et al.* (2015), perform a study in Madukkarai block of Coimbatore with a sample size of 75 and found that

tribal women preferred consuming milk for its calcium content, Kovaikeerai, Moringa leaves, and betel leaves for preventing oedema and providing iron and calcium, and goat leg soup and eggs for their role in strengthening bones, muscles, and regaining strength during pregnancy. Similarly, Ade *et al.* (2023), investigated South India with a sample size of 303, found that tribal women preferred consuming fruits, vegetables, eggs, jaggery, dry fruits, and chikki during pregnancy. These food items were consumed for their strength-giving properties and beneficial effects on the growth of the foetus. Beside these there is another study conducted by Sarmah and Saikia (2023) among 1133 tribal mothers in Arunachal Pradesh. The study shows a variety of food preferred by tribals in pregnancy. They preferred spadix banana or banana flower for increasing haemoglobin level in blood. Meat products like chicken, singhi fish, magur fish, cuchia, Goroi fish as well as monitor lizard were consumed for increase physical strength and energy. Ghee and Naagbami is preferred for smooth delivery and fruits

Table 4 : Food taboos and fallacies during pregnancy in tribal community

Author, area and sample size	Food taboos	Fallacies
Janci Rani *et al.* (2015) Madukkarai block of Coimbatore N=75	Brinjal and Jackfruit	Predisposes to infection
	Water	Cause increased frequency of micturition and forces the mother to get up and move around
	Papaya	Possesses uterine stimulants
	Banana, Cucumber and tender coconut water, Butter milk, curd and watermelon	Causes cold for both mother and child
Chakrabarti and Chakrabarti (2019) West Bengal, N=44	Papaya, pineapple, parwar	Miscarriage
	Tender jackfruit, banana stem	Foetal abnormality
	dark coloured vegetables	Dark complexion of baby
	Coconut, bel fruit, cabbage, fish caught by net	Obstructed labor, ruptured uterus
	Fused banana, other fused fruit	Twin pregnancy
Goswami and Chakrabarti (2019) Kampur district, Assam N=400	Fish like borali, mirika, and kusia were avoided up to 3 months of pregnancy	Vomiting
	Sugarcane	Abortion
	Bottle gourd and white gourd	fear of cough and cold
	Plantain flower	foetus will grow "giant" like the plantain flower
Ade *et al.* (2023), South India, N=303	Fruits like papaya, pine-apple, mango, Sesame seeds	Fear of abortion.
	Vegetables, spicy foods, cold food items etc	Pain in abdomen with spicy food and Baby born will be weak
	Black colour foods	Baby born may be with dark complexion
	Meat, Chicken, fish	Hot food and can causes miscarriage.

Table 5 : Food preference during pregnancy in tribal community

Author, area and sample size	Food preference	Reason
Janci Rani *et al.* (2015) Madukkarai block of Coimbatore N=75	Milk	Provides calcium
	Kovaikeerai	Helps prevent oedema
	Moringa Leaves	Provides Iron and Calcium
	Goat Leg soup, Egg	Helps in Strengthening of bones, and muscles and regaining strength
Ade *et al.* (2023), South India, N=303	Fruits, vegetables, eggs, jaggery, dry fruits, chikki	For their strength and these food items are beneficial for the growth of the growing foetus
Sarmah and Saikia (2023), Arunachal Pradesh N=1,133	Spadix of banana	Helps to increase the haemoglobin in blood
	Chicken, singhi fish, magur fish, cuchia, Goroi fish	Can give strength and energy
	Ghee, Naagbamifish (*Mastacembelus armatus*)	Help in smooth and easy delivery
	Roasted meat of Gui (monitor lizard)	Increases physical strength
	Fruits, coconut water	Healthy and keep the body cool

and coconut water for keep the body cool. The table underscores the importance of understanding cultural dietary preferences and traditional practices within tribal communities to develop effective healthcare interventions aimed at promoting maternal and child health during pregnancy.

Conclusion:

This review article emphasizes the prevailing poor maternal health care in Indian tribal communities, revealing severe pregnancy risks. Tribal women, bound by traditional practices and lacking awareness, face different challenges by diverse socio-demographic profiles. High anaemia rates stress the need for improved nutrition. Balancing traditional beliefs and nutritional needs during pregnancy is evident in the food patterns. Bridging gaps between traditional practices and modern interventions through awareness programs and culturally sensitive healthcare is essential for the well-being of tribal pregnant mothers and future generations in these communities.

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