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Research Article

Women's Health in Northeast India: A Study of the Challenges in Promoting Gender Equity and Well-being in Assam

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ABSTRACT

Women's health in Northeast India faces myriad issues intricately rooted in various sociocultural factors, limited access to healthcare, and economic disparities among the population. This paper aims to provide an in-depth examination of the health challenges that women in this region at the periphery of the Indian nation-state encounter on a consistent basis. Through an analysis of existing literature, surveys, and interviews with healthcare professionals, this study is an attempt to shed light on the complexities of women's health in Northeast India, particularly in Assam, emphasizing the need for a multi-dimensional approach to address these issues. While significant progress has been made in recent years in overcoming the challenges, the paper explores the key aspects of reproductive health, nutrition, access to (adequate) healthcare, and the influence of sociocultural factors on women's health. The paper also discusses ongoing initiatives and potential solutions to improve women's health in Assam, aiming to promote gender equity and overall well-being. The findings presented in this research would help policymakers as well as healthcare providers in developing more effective strategies to improve women's health in this region.

Keywords: Women, nutrition, maternal health, socio-cultural factors, policy implications

1. Introduction

Women's health is a critical aspect of overall societal well-being. Northeast India, comprising eight states—Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura, is renowned for its rich cultural diversity and distinct ethnic populations. The North Eastern Region of India has a population of about 45 million, which is 3.76 percent of India's overall population. Assam shares approximately 2.4 percent of the country's area, providing shelter to 2.6% of India's overall population as per Census, 2011. The sex ratio in Assam in 2023 is 958 females per 1000 males, higher than the national average of 940.

Women in India face a range of health challenges. Maternal mortality rates remain high in some regions, and malnutrition among women and girls is a pervasive issue (Baruah & Borah, 2017; Hazarika, 2010). Women in Northeast India often encounter geographical barriers when seeking healthcare. The region's hilly terrain and inadequate transportation infrastructure make access to healthcare facilities difficult, especially in remote areas (Das & Das, 2018). Assam and the North-East exhibit unique health challenges for women, including high rate of maternal mortality, limited quality healthcare access in rural areas, and issues related to gender-based violence (Gogoi & Barman, 2017; Kakati & Hussain, 2019). The number of healthcare facilities, especially those dedicated to women's health, remains insufficient in many parts of Northeast India. This results in overcrowded hospitals and lack access to essential services (Borah et al., 2017).

Figure 1: Location Map of North-East India

Source: https://www.researchgate.net/figure/Map-of-Northeast-India-showing-different-regions_fig1308908022/download?_tp=eyJjb250ZXh0Ijp7ImZpcnNoUGFnZSI6Il9kaXJlY3QiLCJwYWdlIjoiX2RpcmVjdCJ9fQ

Socio-cultural customs and practices play a significant role in shaping women's health outcomes in the region. These factors include early marriage, lack of decision-making power, and taboos related to menstruation (Sharma & Sharma, 2013; Mahanta & Deka, 2016). The impact of traditional healing practices on women's health was also evident. While these practices held cultural importance, they sometimes discouraged women from seeking modern healthcare (Chakraborty et al., 2018). Various government programs and interventions have been introduced to improve women's health in India, including the National Health Mission and initiatives to promote female education and empowerment (Government of India, 2021).

2. Objectives of the Study

This research attempts to explore and analyze the various health challenges women face in the North-Eastern region, especially Assam, focusing on key aspects of reproductive health, nutrition, literacy, and the influence of socio-cultural factors that impact women's health. By shedding light on these challenges, this research seeks to contribute to the development of informed policies and strategies that can improve women's health and overall well-being in Assam and the North-East.

3. Methodology

To conduct this research, a mixed-method approach was employed. Data were collected through surveys and interviews with women in Assam and the North-Eastern region to gain insights into their health challenges. Additionally, statistical data and reports from government sources such as Census reports, Sample Registration System (SRS) report of the Registrar General of India (RGI), as well as non-governmental organizations, were analyzed to provide a comprehensive overview of women's health status in the region.

4. Results and Discussion

4.1. Women's Health Challenges in Assam and the North-East

4.1.1. Maternal Health

One notable difference between Northeast India and Mainland India lies in maternal health indicators. As of 2021, Northeast India reported higher maternal mortality rates than Mainland India. While the national average MMR in India was approximately 130 per 100,000 live births, several states in Northeast India, such as Assam, recorded higher MMRs, with Assam's MMR reaching around 237 (Government of Assam, 2021). This disparity can be attributed to factors such as limited access to skilled birth attendants and inadequate antenatal care in some areas of Northeast India (Chakraborty et al., 2018). From the year 2018 to 2020, Assam witnessed the highest maternal mortality ratio at 195 deaths per lakh women. In contrast, Kerala had the lowest mortality ratio with 19 fatalities during pregnancy.

Table 1: Maternal Mortality Ratio (MMR)

	SRS 2014-16	SRS 2015-17	SRS 2016-18	SRS 2018-20
India	130	122	113	9
Assam	237	229	215	195

Source: Sample Registration System (SRS), Registrar General of India (RGI)

Table 2: Maternal Care Indicators for Births in Assam

Indicators	NFHS-5 (2019-20)			NFHS-4 (2015-16)
	Urban	Rural	Total	
Percentage share of mothers having antenatal check-ups during the first trimester	72.8	62.6	63.9	55.1
Percentage share of mothers who had visited antenatal care at least 4 times	62.7	49.4	50.5	46.3
Percentage share of mothers consuming iron folic acid for 100 days or more during pregnancy	54.3	46.7	47.6	32.1
Percentage share of mothers consuming iron folic acid for 180 days or more during pregnancy	22.7	18.1	18.6	5.7
Percentage share of mothers receiving postnatal care from any health personnel within 2 days of delivery	76.9	63.7	65.4	54.1
Percentage share of institutional births	66.2	75.5	74.3	60.1
Percentage share of births in a private hospital, delivered by caesarean section	78.9	66.8	70.7	53.2
Percentage share of births in a public hospital, delivered by caesarean section	26.8	13.8	15.2	12.9

Source: National Family Health Survey (NFHS) – 4 & 5, 2015-16 & 2019-20

Access to healthcare for women in Assam, Northeast India, presents a multi-faceted picture. Table 2 outlines maternal care indicators for births in Assam, comparing data from the National Family Health Survey (NFHS) in two periods: NFHS-5 (2019-20) and NFHS-4 (2015-16) and distinguishing between urban and rural areas. Notably, there is an improvement in various maternal care aspects in NFHS-5 compared to NFHS-4. The percentage of mothers having antenatal check-ups in the first trimester has increased from 55.1% to 63.8%, with urban areas showing higher rates (72.7%). The proportion of mothers who had at least 4 antenatal care visits rose from 46.4% to 50.7%. The consumption of iron folic acid for 100 days or more during pregnancy increased from 32.0% to 47.5%, and for 180 days or more, it increased from 5.6% to 18.5%. Institutional births also increased from 60.0% to 74.4%, with higher rates in rural areas (75.4%). However, there is a notable increase in births delivered by caesarean section, particularly in private health facilities, indicating a potential area for further investigation in maternal healthcare practices in Assam. A higher percentage of caesarean section deliveries in private health facilities (78.8% urban, 66.9% rural, 70.6% overall) compared to public health facilities (26.7% urban, 13.9% rural, 15.2% overall) provide insights into the maternal healthcare landscape in Assam, emphasizing the need for targeted interventions to improve access and quality of care, particularly in rural areas.

4.1.2. Nutrition

Malnutrition, particularly among women and children in rural areas, was a persistent issue in both Northeast India and Mainland India. Iron deficiency anemia and undernutrition were prevalent challenges, affecting the health of women in rural and tribal areas (Government of India, 2021; Chakraborty et al., 2018). These nutritional deficiencies can have long-term health consequences for women, including increased susceptibility to maternal and child health issues (UNICEF, 2021).

Table 3: Nutritional Status of Adults (age 15-49 years)

Body Mass Index(BMI)	Category	NFHS-5 (2019-20)			NFHS-4 (2015-16)
		Urban	Rural	Total	
BMI<18.5 kg/m2 (below normal)	Women	13.9	18.3	17.6	25.7
	Men	11.3	13.8	13.4	20.7
BMI ≥25.0 kg/m2 (overweight or obese)	Women	23.8	13.6	15.2	13.2
	Men	25.4	14.5	16.2	12.9

Source: National Family Health Survey (NFHS) – 4 & 5, 2015-16 & 2019-20

As per NFHS-5, in Assam, 17.6 percent of women aged 15-49 are underweight, which is comparatively higher in rural areas (18.3 percent). Further, the overweight or obese category includes 23.8 percent of women in urban while only 13.6 percent of women in rural regions.

Table 4: Anaemia among Children and Adults

Category	Age	NFHS-5 (2019-20)			NFHS-4 (2015-16)
		Urban	Rural	Total	
Children	< 5 years	66.4	68.6	68.4	35.7
Non-pregnant women	15-49	66.0	66.4	66.4	46.1
Pregnant women	15-49	41.4	55.9	54.2	44.8
All women	15-49	65.2	66.0	65.9	46.0
Men	15-49	27.6	37.5	36.0	25.4

Source: National Family Health Survey (NFHS) – 4 & 5, 2015-16 & 2019-20

Table 4 presents data on the prevalence of anaemia among different demographic categories based on the National Family Health Survey (NFHS) in India for two time periods: NFHS-5 (2019-20) and NFHS-4 (2015-16). Among children below 5 years, the incidence of anaemia has increased from 35.7% in NFHS-4 to 68.4% in NFHS-5, which is not a good sign for the nation. Similarly, non-pregnant women aged 15-49 years show an increase from 46.1% to 66.4%, while pregnant women in the same age group exhibit an increase from 44.8% to 54.2%. The overall prevalence of anaemia in all women aged 15-49 has risen from 46.0% in NFHS-4 to 65.9% in NFHS-5. The prevalence has also increased among men aged 15-49, going from 25.4% in NFHS-4 to 36.0% in NFHS-5. These findings highlight a concerning trend of rising anaemia rates across various demographic groups, emphasizing the need for targeted interventions and public health strategies to address this health issue.

4.1.3. Literacy

According to the 2011 census, in Assam, the total literacy rate is 72.19%, with male and female literacy rates at 77.85% and 66.27%, respectively. Comparatively, the overall literacy rate in India is slightly higher at 72.98%, with male and female literacy rates of 80.88% and 64.63%, respectively

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Table 5: Literacy Rate According to Census 2011

	Assam	India
Female	66.27%	64.63%
Male	77.85%	80.88%
Total	72.19%	72.98%

Source: Census, 2011

Analysing the data, it is evident that Assam's literacy rates are slightly below the national averages. Focusing on women's literacy, the female literacy rate in Assam is marginally higher than the national average but still reflects a gap between male and female literacy rates. In the broader context of Northeast India, Assam's literacy rates appear relatively favourable, given the diverse socio-economic landscape of the region. However, efforts to further improve female literacy in Assam and across India remain crucial for achieving gender equality and inclusive development.

4.1.4. Access to Healthcare

Access to healthcare services was a common concern in both regions. However, the nature of access barriers differed. In Mainland India, densely populated urban areas often face challenges related to overcrowded healthcare facilities and limited resources. In contrast, Northeast India's hilly and remote terrain presented geographical challenges, leading to difficulty reaching healthcare facilities, particularly in rural and tribal areas (Saikia et al., 2020). These disparities can result in delays in seeking care and reduced access to healthcare services. Mainly, rural areas in Assam and the Northeast often lack access to quality healthcare facilities, leading to delayed or inadequate treatment (Srivastava et al., 2019).

4.1.5. Violence against Women

Gender-based violence, including domestic violence and dowry-related violence, continues to be reported at alarming rates (National Crime Records Bureau, 2020). Such violence can have severe physical and mental health consequences for women. Legal and support services are available in both regions, mainland India and NER, but challenges remain in terms of accessibility, enforcement, and reporting of cases. Effective measures to combat gender-based violence and provide support to survivors are essential for improving women's health in both regions (International Institute for Population Sciences, 2021).

Table 6: Gender Based Violence (Age 18-49 Years)

Indicators	Age	NFHS-5 (2019-20)			NFHS-4 (2015-16)
		Urban	Rural	Total	
Ever-married women experiencing spousal violence27 (%)	18-49	26.6	32.9	32.0	24.5
Ever-married women experiencing physical violence during pregnancy (%)	18-49	2.2	2.3	2.3	2.0
Young women experiencing sexual violence by age 18 (%)	18-29	7.4	8.1	8.0	5.8

Source: National Family Health Survey (NFHS) – 4 & 5, 2015-16 & 2019-20

Table 6 presents data on gender-based violence in India, explicitly focusing on ever-married women aged 18-49 years. According to the National Family Health Survey (NFHS), the prevalence of spousal violence among this demographic increased slightly from 24.5% in NFHS-4 (2015-16) to 32.0% in NFHS-5 (2019-20), with higher rates in rural areas (32.9%). Remarkably, the percentage of ever-married women aged 18-49 who faced physical violence during the time of any pregnancy remained relatively stable at around 2%, irrespective of the surveyed period or urban-rural divide. The data also highlights the prevalence of sexual violence among young women aged 18-29, with rates increasing from 5.8% in NFHS-4 to 8.0% in NFHS-5. These findings underscore the persistence of gender-based violence in Assam and the importance of continued efforts to address and prevent such incidents, especially in rural areas where the rates tend to be higher.

4.2. Factors Influencing Women's Health

4.2.1. Socio-Cultural Factors

Women's health in Northeast India is influenced by a complex interplay of cultural, geographical, and socio-economic factors. Early marriage, restricted mobility, and gender norms that limit women's autonomy contribute to their health challenges (Sharma & Sharma, 2013; Kakati & Hussain, 2019). Progress has been made, but challenges persist. Improving women's health in this region requires a holistic approach that addresses maternal mortality, nutrition, access to healthcare, and socio-cultural norms.

4.2.2. Patriarchy and Gender Norms

Traditional gender norms and expectations continue to affect women's health outcomes. Patriarchal norms and traditional gender roles persist in Northeast India, affecting women's access to healthcare and decisions regarding their health. Deep-rooted beliefs may inhibit women from seeking care or engaging in family planning (Barman, 2019).

4.2.3. Stigma Surrounding Women's Health

Stigma related to reproductive health, menstruation, and maternal health can deter women from discussing their concerns or seeking assistance, further compromising their well-being (Borthakur & Devi, 2020).

4.2.4. Poverty and Malnutrition

Poverty and economic disparities further exacerbate women's health challenges, especially in rural areas (Baruah & Borah, 2017). Poverty is a pressing issue in Northeast India, and it is linked to malnutrition among women. Malnourished women face an increased risk of pregnancy complications and poor maternal health (Phukan et al., 2019).

4.2.5. Economic Empowerment and Limited Employment Opportunities

Empowering women with knowledge about their health, rights, and the importance of gender equity is a long-term solution. The table provides insights into women's empowerment indicators in Assam. The percentage of women having a house and/or land ownership, alone or jointly with others, increased from 42.7% in NFHS-4 to 52.3% in NFHS-5. In terms of financial inclusion, the percentage of women having a savings account that they use also showed improvement, rising from 45.4% in NFHS-4 to 78.5% in NFHS-5, with higher rates in urban areas (81.9%). These indicators suggest progress in women's economic empowerment in Assam over the surveyed periods.

Table 7: Women Empowerment (Age 15-49 Years)

Indicators	NFHS-5 (2019-20)			NFHS-4 (2015-16)
	Urban	Rural	Total	
Women having a house and/or land ownership (alone or jointly) (%)	36.3	43.9	42.7	52.3
Women having a bank/savings account that they themselves use (%)	81.9	77.9	78.5	45.4

Source: National Family Health Survey (NFHS) – 4 & 5, 2015-16 & 2019-20

However, the region's limited employment opportunities for women contribute to economic disparities and restrict access to healthcare. Women often lack the financial resources to seek medical care (Borpujari, 2016).

4.2.6. Healthcare Infrastructure

The accessibility of healthcare facilities significantly influence women's health outcomes (Gogoi & Barman, 2017). Continued investment in healthcare infrastructure and training of healthcare workers is essential to address access issues and enhance the quality of care. This includes upgradation of healthcare facilities, guaranteeing the availability of trained healthcare professionals, and escalating the reach of healthcare services to remote and underserved areas. While the region has seen improvements in healthcare infrastructure, there is still a need for additional facilities and trained healthcare professionals, particularly in the context of maternal well-being and child health.

4.3 Initiatives and Solutions

Addressing women's health challenges in Assam and the North-Eastern region requires a multi-pronged approach. Initiatives should target not only healthcare infrastructure but also economic empowerment and education for women.

4.3.1. Women's Health Programs

Several women's health programs have been implemented in Assam to address and enhance the healthcare needs of women in the region. These initiatives focus on various aspects of women's health, including maternal health, reproductive health, and general well-being. Some important programs include:

1. **Janani Suraksha Yojana (JSY):** Launched in 2005, JSY is a nationwide program aiming to moderate maternal and neonatal mortality rate by promoting institutional deliveries.
2. **Pradhan Mantri Matru Vandana Yojana (PMMVY):** Started in 2017, PMMVY provides financial aid to pregnant women for their first live birth to ensure proper nutrition and care during pregnancy.
3. **National Rural Health Mission (NRHM):** NRHM, launched in 2005, focuses on providing accessible and quality healthcare services, including maternal and child health, in rural areas.
4. **Accredited Social Health Activist (ASHA) Program:** ASHA workers were introduced under NRHM in 2005. They serve as community health volunteers, encouraging maternal well-being and child health, family planning, and healthcare utilization at the grassroots level.
5. **Mission Parivar Vikas:** Launched in 2016, this family planning initiative aims to enhance awareness and access to family planning services, including counseling and contraceptive methods.
6. **Anemia Mukt Bharat (AMB) Program:** The program was initiated as a part of the National Iron Plus Initiative (NIPI) to address anemia. Given the prevalence of anemia, especially among women, this program focuses on reducing anemia by promoting iron and folic acid supplementation, nutritional awareness, and improved dietary practices.

These programs collectively address women's diverse healthcare needs in Assam, emphasizing maternal and reproductive health, family planning, and overall well-being. Continuous evaluation and adaptation of these programs are essential to ensure their effectiveness in meeting the evolving healthcare challenges faced by women in the region.

4.3.2. Maternal Well-being and Child Health:

Maternal well-being and child health is one of the most critical aspects of women's health in Northeast India. Reducing maternal mortality rates, improving access to antenatal and postnatal care, and promoting safe delivery practices are vital components. Initiatives such as mobile healthcare units, community health workers, and awareness campaigns can make a substantial impact on maternal and child health outcomes.

4.3.3. Nutrition Interventions

Addressing the issue of malnutrition, particularly among women and children, requires a multi-pronged approach. This includes providing supplementary nutrition and education on dietary diversity, cooking methods, and food storage. Moreover, public-private partnerships and community-based programs can contribute to ensuring the availability of nutritious food.

4.3.4. Education and Empowerment

Educational initiatives should target both women and men and community leaders to change attitudes and norms regarding gender and women's health. Empowering women through education and awareness, expanding healthcare infrastructure, and promoting gender equity are crucial steps in ensuring that the women of Northeast India can lead healthier, more fulfilling lives. By addressing these challenges, the region can strive toward a future where women's health is not determined by their geography or cultural background but is a fundamental human right.

4.3.5. A Gender-Sensitive Approach

A gender-sensitive approach should be at the core of all healthcare interventions. This approach recognizes that women's health is influenced by a wide range of social, cultural, and economic factors. By considering these

factors, interventions can be tailored to meet the specific needs of women and address the root causes of disparities.

4.3.6. Strengthening Sexual and Reproductive Health Services

Enhancing access to comprehensive sexual and reproductive health services is paramount. These services should encompass family planning, antenatal care, postnatal care, and safe childbirth practices. Ensuring access to contraception and safe abortion services can empower women to make choices about their reproductive health.

4.3.7. Empowering Adolescents

Investing in the health and well-being of adolescent girls is crucial. Providing education on puberty, reproductive health, and gender equality can empower the next generation of women to make informed decisions about their health. Addressing issues like child marriage and early pregnancies is also vital in safeguarding the health and rights of adolescent girls.

4.3.8. Mental Health and Well-being

Mental health remains an often neglected aspect of women's well-being. Addressing issues such as depression, anxiety, and post-traumatic stress related to gender-based violence should be a priority. Community-based mental health programs can provide support for women facing these challenges.

4.3.9. Collaboration and Regional Cooperation

Enhancing the status of women's health in Northeast India requires not only state-level efforts but also regional collaboration. The eight states in the Northeast region share common challenges, and pooling resources and sharing best practices can be a potent strategy. Governments, NGOs, and healthcare organizations across the region can work together to develop joint initiatives to address women's health disparities.

Effective policy reforms are essential for long-term, sustainable change. Governments at both the state and national levels should actively engage with experts, organizations, and community representatives to develop and implement policies that prioritize women's health. These policies should aim to reduce disparities and promote gender equity in healthcare access and outcomes.

5. Conclusion

In conclusion, the status of women's health in Northeast India is intricately linked to a complex web of geographical, socio-cultural, and economic factors. Access to healthcare remains a significant challenge, exacerbated by entrenched gender norms and economic disparities. A comprehensive and collaborative approach involving infrastructure improvement, education, and economic empowerment is imperative. Policymakers, healthcare providers, and advocates must unite to forge a more equitable and inclusive healthcare system that effectively addresses the unique challenges faced by women in this region. In-depth research is crucial to inform evidence-based policies and interventions, aiding in the identification of disparities and trends that can guide targeted healthcare programs. The ultimate goal is to create a world where women thrive mentally and physically, free from bias, violence, and inequality, setting an example for broader societal transformation.

Looking ahead, addressing the multi-faceted challenges of women's health in Northeast India requires concerted efforts. Stakeholders increasingly recognize the importance of gender equity and women's health, offering promise for positive change. Achieving gender equity and improving women's health is not only a matter of public health but also a human rights and social justice imperative. Collaboration at various levels – local, regional, national, and global – is essential. With dedication, collaboration, and an unwavering commitment to women's well-being, Northeast India can move towards a future where women have equal access to quality healthcare, education, and opportunities, free from discrimination and disparities. This collective effort can contribute to a brighter, healthier future for the women of Northeast India, serving as an inspiration to the rest of the world.

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