

REVIEW ARTICLES

NUTRITIONAL INEQUITIES AND CHALLENGES TO IMPROVE TRIBAL HEALTH IN INDIA: A REVIEW OF SECONDARY SOURCES

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ABSTRACT

Background: There are 705 registered distinct tribal groups, known as indigenous groups or Schedule Tribes (STs), which comprise 8.6% of India's total population. Various reports and documents assert that the overall nutritional status among the tribals in India is unsatisfactory, and nutritional inequities (negative, unjust, unacceptable inequalities) among them and their counterparts have remained unchanged or amplified. **Method:** The present paper, putting a rigorous effort, aims to examine the existing literature. A collection of available secondary data on nutrition, nutritional inequities, and challenges to improve tribal health published in reputed journals and databases during the last 16 years (2008-2023) that could be accessed online was considered. **Result:** After an intensive examination and analysis, four major areas of inequities based on: (A) Socio-economic condition; (B) Connectivity, coverage, & infrastructure; (C) Dietary pattern and nutritional support; and (D) Marginalization and deprivation have been pointed out. Similarly, four major areas of challenges to improve health were recognized and affirmed by many studies and reports. These are: (A) In-tribe differences; (B) Budget allocation; (C) Traditional belief systems & care-seeking behaviour; and (D) Lack of trained manpower and discrimination by the healthcare providers. **Conclusion:** Finally, the paper concludes by suggesting some measures and policy-level improvisations to enhance the nutritional status leading to better tribal health in India.

Keywords: Tribal, Indigenous, Nutrition, Inequities, Challenges, India, Review paper.

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INTRODUCTION

Tribes are the indigenous population historically residing in distinct geographical locations from ancient times and are referred to as Scheduled Tribes (STs) or Adivasi in India. According to Census 2011 (ORGI, 2011),

they comprise 8.6 % of India's total population, which was 8.2% in the 2001 Census. There are 705 registered distinct tribal groups in India that display uniqueness in socio-cultural and ethnic-lingual arenas,

Nutritional inequities and challenges to improve Tribal Health in India: A review of secondary sources

living in different regions in the country (Negi & Singh, 2018). The Report of the expert committee on Tribal Health (MoHFW & MoTA, GOI, 2018) asserts that the overall nutritional status among the tribals in India is unsatisfactory. The existing gap between them and their counterpart has remained unchanged or amplified. The NFHS-3 found that 65% of tribal women (15-49 years of age) and 77% of ST children were anaemic compared to 64% of all other categories. The NFHS-4 estimated that 42% of the tribal children were underweight while two-thirds of pre-school children consumed 50% below the Recommended Dietary Allowances (RDA) (IIPS & ICF, 2021). Though in India, Government has planned and implemented a range of developmental programs & welfare schemes to uplift their condition and bring them to the mainstream of society; they are still left behind due to various factors such as their hard-to-reach locations (Nallala et al., 2023) and avoidance towards mixing-up with the non-tribal population. Tribals are still the most marginalized among all and backward in terms of education, employment, economic condition and most importantly regarding health outcomes (Xaxa, 2014). Major challenges such as unsatisfactory transport, socio-economic backwardness, in-tribe differences, illiteracy, substance abuse, limited budget allocation, weak healthcare infrastructure, and lack of trained manpower are the reasons for the nutritional inequities. Inequality and Inequity often used interchangeably, but there is slight difference among these two terms. In simple words, the negative, unjust, unacceptable inequalities can be termed as inequities. Inequities often found in various socio-cultural aspects among the developing countries, whereas health inequities are structural disparities or inequalities in health status and/or health resources in the demography (WHO, 2018). The present paper through rigorous review,

aims to examine the existing nutritional inequities among the tribal population and the challenges found to improve tribal health in India. It concludes by suggesting some measures and policy-level improvisations to enhance nutritional status of tribal population to have better tribal health in India.

METHODOLOGY

The paper, followed the method of thematic review of secondary sources. A collection of existing literature in the domain of nutrition, and challenges to improve tribal health published in reputed journals and databases during last 16 years (2008-2023) and can be accessed online were considered. These literatures have been found out using four scholarly databases (i.e., ResearchGate, Jstor, PubMed, and ScienceDirect- Elsevier) and search has been completed in 2023.

To obtain the potential literature (published in the journals) for inclusion and analysis, a search strategy was adopted to search the four mentioned databases. Initially each of the electronic databases were searched using the following search strategy:

"Tribal" (OR "Tribe", "Schedule Tribe", "Adivasi", "Indigenous", "PVTG"), AND "Nutrition" (OR "Malnutrition", "Undernutrition", "Deficiency"), AND "Challenges" (OR "Problems", "Issues", "Obstacles", "Difficulties"), AND "India".

The searches were limited to the publication timeline from 2008 to 2023, and all the searches were completed in the year 2023, which is further supplemented with four articles (two published in the year 2006 and other two in 2024) considering the relevance. Few articles were also obtained from the reference section of the previous articles.

All the articles were selected at the first place following some of the inclusion criteria which are as follows: Articles should be published within 2008 to 2023 in English language, full

Nutritional inequities and challenges to improve Tribal Health in India: A review of secondary sources

paper accessible from any of the mentioned electronic databases using the Visva-Bharati University Library Network, convey the situation in Indian context, and must include any three of the key terms (alternatively or interchangeably).

After screening all the articles, 40 articles found suitable and finally included in this paper, then thematic analysis was undertaken. Screening process included removing the duplicate items, title and abstract review and finally full review of the short-listed papers. Alongside; various reports and policy documents, such as Census, National Family Health Survey (NFHS) (IIPS & ICF, 2021), Report of the expert committee on Tribal Health (MoHFW & MoTA, GOI, 2018), Comprehensive National Nutrition Survey (CNNS) (MoHFW, GOI, UNICEF & PC, 2019), and National Nutrition Monitoring Bureau (NNMB, NIN, ICMR, 2009) survey report have been reviewed and incorporated. Finally, a collection of forty journal articles, eight reports, five webpages, two newspaper articles, one preprint article, one blogpost, one book chapter, one edited book, three books, and one policy-brief data factsheet prepared by WHO are incorporated in this article.

NUTRITIONAL INEQUITIES AMONG THE TRIBALS

This is a well-established fact that the nutritional status is quite unsatisfactory for the tribal population in India. After 77 years of independence, about 40% of tribal children under the age of five are stunted, 16% are severely stunted, 9% are mild and moderate stunted according to Comprehensive National Nutrition Survey (CNNS) of 2016-18. Malnutrition is high among the STs and chronic micronutrient deficiency such as iodine and iron along with anaemia and various Vitamins can be found (Kerketta et al., 2008). National Nutrition Monitoring Bureau (NNMB), in their

2nd repeat survey (NNMB, NIN, ICMR, 2009) completed in 2008-09 carried out on the tribal population, has mentioned that the mean intake of nutrients through food is below the Recommended Dietary Allowances (RDA) advised by Indian Council of Medical Research (ICMR). This is further affirmed by NFHS-5. In various studies, it has been found that the tribal children and women are most vulnerable to malnutrition (Agrawal, 2013; Dey & Bisai, 2019; Ghosh-Jerath et al., 2013; Jain et al., 2015; Sethi et al., 2017). The World Health Organization has called for global action to reduce the stunted children population by 40% by 2025 (WHO, 2014). This clearly denotes the existence of malnutrition among the children and the urgent need to address the issue. This situation has been persisting due to several inequities (unavoidable and unjust inequalities). Though the government of India is keen to reach the Sustainable Development Goals (SDG) by 2030 (UN, 2015) and has developed the conditions of the deprived population, inequities are a major hindrance to the pathway. After an intensive review and analysis of the potential literature and the databases, four major areas of inequities based on: (A) Socio-economic condition; (B) Connectivity and infrastructure; (C) Dietary pattern and nutritional support; and (D) Marginalization and deprivation have been pointed out to discuss further thematically.

After finding the broad areas of inequities from the articles reviewed, it has been found that the themes are aligned with the Sustainable Development Goals (goal number 2, 3, and 10, namely, No Poverty, Good Health & Well-being, and Reduce Inequalities).

A. Inequities based on socio-economic condition

Uneven distribution or inaccessibility of resources ultimately causes poverty, which is a major drawback in development and they often don't seek for treatment due to the lack

of financial ability to afford (Gandhi et al., 2017; Thomas et al., 2021). India's major ST population belongs to a low socio-economic background, comes under the Below Poverty Line (BPL) category, and is always marginalized and/or deprived (Chandra et al., 2021; Narain, 2019; World Bank, 2012). Approximately 50% (104 million) of the total ST population live in poverty, which is more than one-fourth of the poorest population in India (Kumar et al., 2020; ORGI, 2011; World Bank, 2012). States, namely Odisha, West Bengal, Chhattisgarh, Madhya Pradesh, Maharashtra, and Jharkhand consist of the highest percentage of BPL tribal population, respectively 51.6%, 47.3%, 43.9%, 43.8%, 42.5%, and 40.2%. It can be said that poverty, unsatisfactory nutrition and inaccessible healthcare are correlated and common for the tribals (Debroy et al., 2023). Among the STs, starvation and malnutrition are high, and coverage of adequate health facilities is negligible (Sundararaman et al., 2010; Xaxa, 2014). NFHS 5 estimates that 71% of the STs are in the lowest wealth quintiles, affirming that there is also intense inequity (IIPS & ICF, 2021). Resource allocation is also a major concern in this regard, as there is a static gap in the health and well-being of the Tribals and their counterpart.

B. Inequities based on connectivity and infrastructure

Connectivity is a major concern for ensuring better coverage of facilities provided by the government and other organizations. Being distinct groups detached from the mainstream society, most of the tribal population in India live in remote rural habitats, predominantly in hilly regions, forest, and desert areas with highly difficult terrains and 'hard to reach' locations (MoHFW & MoTA, GOI, 2018; Mohindra & Labonté, 2010; Nallala et al., 2023; Ramirez, 2011; World Bank, 2012). The long distances, road connectivity, and public

transportation are not satisfactory, and the coverage of health facilities is also very negligible (Debroy et al., 2023; Thomas et al., 2021). As a result, they cannot access health facilities (De, 2017; Nallala et al., 2023). Insufficient and irregular supply of medication and necessary amenities is also a major problem in tribal areas (Nandi et al., 2018).

C. Inequities based on dietary pattern and nutritional support

Due to chronic poverty and poor connectivity, the tribals get fewer livelihood opportunities, which ultimately affect their food pattern and calorie intake. Calorie, fat, protein, and other nutrient intake are below the recommended average, causing malnutrition among the tribals (Chandra et al., 2021; De, 2017). The NFHS-4 estimates that two-thirds of preschool children in tribal communities consume 50% below the Recommended Dietary Allowance (RDA). Depending on the geographical location and culture, the food pattern also varies among the tribes. It has been found that in many parts of the country, specially the children and women consume based on their cultural food habits and non-availability and/or non-consumption of supplementary nutritional support, they suffer from micronutrient deficiencies such as Vitamin C, Vitamin A, Vitamin B12, Zinc, Riboflavin, Iron & Folic Acid, etc. (Arlappa et al., 2011; Ghosh-Jerath et al., 2016; Kodavanti et al., 2010; Menon et al., 2011). In some areas, the Integrated Child Development Service (ICDS) centres and Public Distribution System (PDS) institutions are merely accessible due to the distance, irregularity, and other socio-cultural segregation (Jamwal, 2019; Sethi et al., 2017). The condition of PDS in tribal areas is unsatisfactory as well; it is irregular, and low-quality food grain is also a common issue which further boosts the malnutrition problem among tribals (Sethi et al., 2017). In some remote areas, as a survival strategy in the

time of shortage of food and ailment the tribal people have to depend only on the wild as well (Aberoumand, 2009; Chakrabarty et al., 2019; Eko et al., 2020; Nimasow et al., 2012). D. Inequities based on marginalization and deprivation

Historically, poor people have been marginalized and deprived by their counterparts. Tribal people's marginalization is implanted deeply in some socio-historical and cultural elements, such as gender, isolation, social stratification, racism, and historical residential segregation and poverty (Mohindra & Labonté, 2010; Nallala et al., 2023; Ramirez, 2014). These ultimately impact their access to better healthcare. During the pre-independence, the colonial rulers imposed acts such as The Indian Forest Act of 1878 and 1927, the Land Acquisition Act of 1894, etc. which ultimately marginalized the tribals from their forest and land rights (Xaxa, 2008). Though these discriminatory acts have been replaced with acts such as the Panchayet Extension to Scheduled Areas Act 1996 (PESA), Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 these have improved the situation and established their rights back. The situation has not changed for the tribals. Especially the Particularly Vulnerable Tribal Groups (PVTGs) are facing the major challenges of losing their ancestral habitat and living with cultural shock (Sahani & Nandy, 2013). Apart from these, various natural calamities, such as cyclones, floods, and draughts in distinct locations in India, make the marginalized population including the schedule tribes into more chronic deprivation (Datar et al., 2013; Dimitrova & Muttarak, 2020; Islam et al., 2014). Despite better national economic growth in India, we find health and nutrition indicators are still under the national average for the ST population (IIPS & ICF, 2021; Sarkar et al., 2006; Subramanian et al., 2006). The above

cited inequities tend to many challenges.

After going through the literary works, four major challenges to improve the tribal health have been discussed broadly. It is obvious that these challenges are interlinked and consist of other influential factors as well.

CHALLENGES TO IMPROVE TRIBAL HEALTH IN INDIA

A. In-tribe differences

In a country like India, where a diverse culture thrives, it is very challenging to identify, assess, and address the specific needs of citizens. In this context, India has total number of 705 unique tribal groups, which are registered only according to the Report of the Expert Committee on Tribal Health by Ministry of Tribal Affairs & Ministry of Health and Family Welfare, GOI, 2018. The in-tribe differences play a major role in the persisting gap in terms of development and well-being between the tribals and the general population. As the adoption of the intervention program is not uniform among the tribes due to their distinctiveness (Islary, 2024; MoTA, GOI, 2013; Ramirez, 2014; Saha et al., 2016; Singh, 2010; Singh & Negi, 2019) it leads to a challenge which has impact on health.

B. Budget allocation

Since independence, the budget has been a major issue for the government's development. Being a developing country, India faces a scarcity of resources, which ultimately affects the allocation of the budget (CAG, India, 2015; Kumar et al., 2020). For the tribal population, the budget for 2023 is extended by 0.27 percent of the Union Budget. Though it has been increased that of the last budget allocations by the central government, the situation of the tribals is yet to be improved (World Bank, 2012). National Health Mission, a core program for the promotion of nutrition and health, faced a decline in 2022-23, limiting it to below 37,000 cores. Though

affirming that there is scarcity and need, and the Government of India in the FY 2023-24 has proposed to increase (approx. 70%) with a handsome amount (Narain, 2019; PIB, GOI, 2024a; The Economic Times, 2024), along with various specialized programs (i.e., Pradhan Mantri PVTG Development Mission, Pradhan Mantri Janjatiya Vikas Mission-PMJVM, etc.) the results are yet to see in the future (PIB, GOI, 2024b; World Bank, 2012).

C. Traditional belief system and care-seeking behaviour

Each distinct tribal group has its own culture and belief system. Though the government has planned and implemented various development initiatives in general, not all of those has been accepted by the tribals, and a negative trend of health-seeking behaviour (Nallala et al., 2023; D. Negi & Singh, 2019). The major reason is that the traditional belief system prevents them from assimilating or accommodating the central ideas of these programs (Gandhi et al., 2017; Islary, 2014). It is also true that the tribal perspective of concepts, such as health or development, also differs from the Western view of development (Nandi et al., 2018). Traditional healing systems and various taboos are also very predominant among the tribes. So, lack of awareness about the various nutrition and health components is also very common (World Bank, 2012). Education is a basic service and right for every citizen of India and to generate a more aware population, it is a prerequisite for better health and nutrition outcomes (Deka, 2011). Hence, there is a persisting literacy gap between the tribal and their counterpart (Faridi, 2023). These ultimately affect their health-seeking behaviour and utilization of the government healthcare facilities (Gandhi et al., 2017).

D. Lack of trained manpower and

In every sector of a country, there is a need for trained and skilled manpower. Nevertheless, in terms of tribal nutritional and health service delivery systems, the situation is very ironical. Most of the frontline service providers are from the non-tribal populations and are not culturally oriented; as a result, the desired outcomes are not fulfilled (Nallala et al., 2023). Rude behaviour, negligence, and even denials of health services by the health facilities and the frontline healthcare providers create a major problem in the development of the tribals (Nandi et al., 2018; Thomas et al., 2021). Most of the time, the healthcare providers are absent in the health facilities which limits the tribal people seek care from there (Gandhi et al., 2017). The emergence of more culturally oriented, trained manpower and pluralistic healthcare can overcome the situation, not merely increasing the health centres (Debroy et al., 2023; Kumar et al., 2020; World Bank, 2012).

DISCUSSION & CONCLUSION:

It has been affirmed from the above cited studies that the tribal population in India is marginalized and lag behind the nutrition and health indicators in contrast to its non-tribal counterparts. Poverty, marginalization, illiteracy, unemployment, and food insecurity are very common among them, which cause an alarming nutritional deficiency among the tribal population and persisting the gap with the non-tribal counterpart (Kumar et al., 2020; Mohindra & Labonté, 2010; World Bank, 2012; Xaxa, 2014). The children and women were found to be more vulnerable in terms of nutrition, though the situation for the adults of the both gender, is unsatisfactory (Ravindran et al., 2022). There are no significant changes in the prevalence of malnutrition, stunting, wasting, etc. as argued in various studies, which are not sufficient to

Nutritional inequities and challenges to improve Tribal Health in India: A review of secondary sources

meet the global action against undernutrition proposed by WHO (Mukherjee et al., 2022; Swaminathan et al., 2019).

After the analysis of the selected existing literature, four major grounds for nutritional inequities have been identified. They are based on: (A) Socio-economic conditions, (B) Connectivity, coverage, and infrastructure, (C) Dietary patterns and nutritional support, and (D) Marginalization, and deprivation. However, it is also true that there are some other existing casual factors, such as gender, education, migration, etc., which may have impact on the nutritional status of the tribals as indicated by several authors. The major contemporary challenges to improve tribal health based on these inequities are also multidimensional, but in this paper four themes were recognized and affirmed by many studies and reports. These challenges are: (A) In-tribe differences, (B) Budget allocation, (C) Traditional belief systems & care-seeking behaviour, and (D) Lack of trained manpower, and discrimination by the healthcare providers (Islary, 2024; Thomas et al., 2021). However, there is a definite need and scope for more in-depth exploration to uncover the pathways of nutritional inequities. Many authors came up with recommendations, such as revising the existing policies, developing the infrastructure and coverage (reaching the unreached), implementing culturally oriented tribal-centric development programs, monitoring and regular supervision of the frontline healthcare providers and up-skilling the healthcare providers to develop the situation (Barua & Baruah, 2014; Mohindra & Labonté, 2010; Mukherjee et al., 2022; Nallala et al., 2023; WHO, 2018; World Bank, 2012). These recommendations are proposed with enough facts and logics by the concern authors.

Tribal centric healthcare is a real concern in India as well as in the World. Treating all the indigenous or tribal groups as a single group

namely 'Schedule Tribes' (STs) in India, is not wise while preparing any policy for their development considering the diversities among them. The connectivity is obviously a major factor while accessing any facilities. In healthcare, especially during the emergencies, transport become the key factor. In reality, it is found that at the grassroot level the policies are not implemented as expected or the services are not been provided to the beneficiaries effectively. This issue can be managed through rigorous monitoring and evaluation. Another major concern is that, the frontline health providers often belong to the non-tribal counterpart, and as a matter of fact, they are also not trained with tribal cultural orientation. This makes the frontline workers less productive and, in many cases, either the tribals do not seek healthcare from them, or in other case the workers see the tribals with derogatory vision and do not provide the services with dignity, care and effectiveness. To reduce these inequities among the tribals in India, all the mentioned issues need to be considered minutely, and in doing so, intensive research in this domain is expected.

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