

# Public Healthcare Infrastructure to Address Tribal Health Issues and Awareness

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## Abstract

India's central and state governments have significantly increased basic health care infrastructure and introduced several important health schemes to reduce morbidity and increase quality of health and life expectancy. NHM is committed to provide accessible and essential health services to every citizen of India especially rural and tribal people. This fact indicates the concern and commitment of the government towards rural and tribal health. However, despite the committed efforts of the government, many issues such as excessive use of alcohol, tobacco and other intoxicants, lack of health literacy, animal attacks, unrealistic healthcare beliefs, disease burden and high birth and death rates are still prevalent in tribal areas, which are different and more complex than other contemporary communities. This fact indicates that due to many reasons the benefits of various health schemes and services are not reaching effectively to the tribal areas properly. Against this backdrop, the present paper aims to critically review and discuss the inadequate rural healthcare infrastructure and personnel in India with a detailed focus on tribal health issues and their causes.

**Keywords:** Health Infrastructure; Tribal Health; Disease Burden; Healthcare Beliefs; Malnutrition; Intoxication; Health Literacy and Awareness.

## INTRODUCTION

Human communities all over the world depends significantly on their level of health

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and thus one of the most crucial components of human advancement and growth is believed to be health. Now, India is the most populous country in the world, in which around 8.6 percent of the population is tribal. The well-being and improved health of the people of any country or society largely depends on accessible and effective healthcare infrastructure, which is an important indicator for the analysis of healthcare policy and welfare systems. Promoting wellness for all is the goal of healthcare infrastructure, regardless of different communities, classes, backgrounds and ages. According to Kumar and Gupta<sup>1</sup>, health infrastructure broadly includes five components, namely, skilled workforce, integrated electronic information systems, public health organizations,

resources, and research. In order to achieve health advantages for every segment of society as a whole, special attention must be paid to the development of these components when it comes to the development of health infrastructure.

However, India has achieved strong economic growth over the past few decades and is ranked fifth among the world's most dynamic large economies. The fast growing economy indicates strong economic growth for the coming future of the country. Despite this, many studies prove that India is lagging behind in health development, especially in terms of rural tribal health. When it comes to tribes, we find that they face various healthcare issues, such as malnutrition and poverty, high birth and death rate, lack of quality healthcare services, unrealistic healthcare beliefs and practices, unawareness about health, burden of disease and excessive use of alcohol and tobacco, etc. which have an impact on their physical and emotional well-being. Hence, it is imperative to first strengthen the health infrastructure, which will result in an improvement in the tribal health status. The main purpose of this paper is to evaluate the major tribal healthcare issues, their causes and health care infrastructure available in rural tribal areas for addressing these issues and to present necessary recommendation for their solution.

For an in depth analysis, relevant data have been taken from Rural Health Statistics, various research papers and Census reports of the Government of India.

### *Rural Healthcare Infrastructure in India*

A large population of India, about 70 percent, lives in rural areas; tribes are also an integral part of this population. Recognizing the importance of the country's rural and tribal population, the government launched the National Rural Health Mission (NRHM) in 2005 to improve the well-being, health of the people and to strengthen the rural health care infrastructure. Later on, the name of NRHM was changed to National Health Mission (NHM), which extends its working area and represents the whole country. As per the Rural Health Statistics 2020-21<sup>2</sup>, the rural health care infrastructure under NHM has been developed as a three tier system. In this system Sub-Center (SC), Primary Health Center (PHC) and Community Health Center (CHC) have been developed as three pillars. Under this system, the sub-centers (SC) are considered to be the interface between primary health care and rural and tribal communities, paving the way for the progress of the entire rural health care system.

**Table 1: Norms for Rural Healthcare Infrastructure**

Indicator	National Norms		Status (2022)	
	General	Tribal Area	Total	Tribal Area
Rural Population				
Sub Centre (SC)	5000	300	157935	25383
Primary Health Centre (PHC)	30000	20000	24935	3833
Community Health Centre (CHC)	120000	80000	5480	960

*Data source:* Rural Health Statistics (2020-21)[3, p. 13]

In the last few years after the launch of NHM, there has been a significant increase in the number of SCs and PHCs and many PHCs have been upgraded to the level of CHCs in many states to provide better health facilities to rural and especially tribal communities. The number of health centres at the national level has increased significantly by 2022 compared to 2005, as shown by the Rural Health Statistics 2021-22, which show numerical increases of 11909SCs, 1699 PHCs, and 2134 CHCs, respectively. There have been significant improvements in terms of manpower strength in all categories of health care infrastructure, but still there are many gaps without addressing which rural health care cannot be strengthened. The number of ANMs at Sub Centres and PHCs has increased from

133194 in 2005 to 207587 in 2022 which amounts to an increase of about 55.9%. As on 31st March, 2022 the overall shortfall (which excludes the existing surplus in some of the States) in the posts of HW(F)/ANM is 3.5% of the total requirement as per the norm of one HW(F)/ANM per Sub Centre and PHC. There is vacancy of 14.4% HW (Female)/ANM (at SCs+PHCs) when compared with the sanctioned posts. The allopathic doctors at PHCs have increased from 20308 in 2005 to 30640 in 2022, which is about 50.9% increase. There is shortfall of 3.1% of allopathic doctors at PHC, out of the total requirement at all India level. The specialist doctors at CHCs have increased from 3550 in 2005 to 4485 in 2022. Moreover, as compared to requirement for existing infrastructure, there is a short fall of 83.2% of

Surgeons, 74.2% of Obstetricians & Gynecologists, 79.1% of Physicians and 81.6% of Pediatricians. Overall, there is a shortfall of 79.5% specialists at the CHCs as compared to the requirement for existing CHCs. In addition to the specialists, about 17348 General Duty Medical Officers (GDMOs) Allopathic and 661 AYUSH Specialists along with 2971 GDMO AYUSH is also available at CHCs as on 31st March, 2022. In addition to this, there are 696 Anesthetists and 228 Eye Surgeons are also at CHCs as on 31st March 2022. A total of 1275 Sub Divisional/Sub District Hospital and 767 District Hospitals (DHs) are functioning as on 31st March, 2022 throughout the country. There are 18643 & 29817 doctors and 45992 & 95444 paramedical staffs are available at SDH and DH respectively. There are total of 134224, 184175, 109937, 162749 and 224679 numbers of beds available at the level of PHC, CHC, SDH, DH and MC.[3, pp. 13-14]

Hence overall, the existing infrastructure has more deficiencies at CHCs level than SCs and PHCs. This is a huge gap, which has a direct impact on the quality of rural tribal health care. Whenever an action plan is started, its success rate depends on the efforts being made to make it successful. The paradigm shift brought in all categories of rural health care infrastructure after the NHM was launched in 2005, which can be attributed to the meaningful and dedicated efforts of the Government of India. Despite the government's concern for the rural and tribal population and meaningful efforts being made to improve their health, there are still many shortcomings in the rural health care infrastructure, due to which tribal health remains a serious issue. Progress is yet to be made on many issues in terms of availability and access to health services on a large scale in tribal dominated areas.

### ***Major tribal health care issues and their responsible causes***

The issue of healthcare in tribal areas is a matter of great concern as it seems that this section of society is still in a relatively deprived condition and is lagging behind other contemporary communities in the development process. Despite the tireless efforts being made by the Government of India for the upliftment of the tribal health, many such issues hinder the tribal from living a healthy life.

- 1) ***Malnutrition and Poverty:*** Malnutrition and poverty is a very serious issue in tribal dominated areas, which causes many fatal diseases such as night blindness, tuberculosis, rickets in children, and mumps in women

etc. According to the National Family Health Survey 1998–1997<sup>4</sup>, infant and child mortality rates and maternal malnutrition rates are substantially higher among tribal people in India than among non-tribal people. Anaemia affects around 64.9% of women and 80% of children. Similarly, Arsenault<sup>5</sup> has reported that the poverty rate is highest among tribal's, 47% in rural areas and 30% in urban areas. There is a problem with food poverty in almost every tribal family. This ranges from 25% to 53% below the suggested dietary allowance for low-calorie and protein intake. Studies of a similar nature were also carried out by Balgir<sup>6</sup>, Yadav and Roy<sup>7</sup>, Mitra *et al.*<sup>8</sup>, Chakma *et al.*<sup>9</sup>, and Kapur and Dhall<sup>10</sup>, in which malnutrition was regarded as a major tribal health issue. All of the authors agree that the main causes of malnutrition and poverty include a lack of healthcare knowledge, illiteracy, lack of clean drinking water and adequate sanitization, poor living conditions, unemployment, etc. Several measures have already been implemented by the Government of India to reduce poverty, improve sanitation, fortify foods with essential nutrients, and enhance health education. Such as Mid-day Meal Scheme (MDM) in 1995, National Food Security Act (NFSA), 2013, Village Health Sanitation and Nutrition Committee (VHSNC), 2005, Food Safety and Standard Authority of India (FSSAI) 2008 etc. But due to lack of proper implementation and operation of these services, the problem of malnutrition still exists in tribal areas.

- 2) ***High birth and death rate:*** High birth and death rate is also a very serious tribal health issue that have been affecting them for centuries. This situation directly or indirectly affects the economies of the country apart from the health of the tribal communities. Such as Sharma and Dwivedi<sup>11</sup> state that both birth & death rates are high in the Baiga tribe, with IMR (Infant Mortality Rates) being particularly high due to almost zero family planning. Similarly, in another study De<sup>12</sup> and Suresh & Swamy<sup>13</sup> reported that high child birth and malnutrition lead to high IMR (Infant Mortality Rate) and MMR (Maternal Mortality Rate). Lack of proper health education, family planning and irrational beliefs, the average age at marriage of rural and tribal women is 15.8 years, and 43% girls have their first child before age of 19

years. This condition has given deep impact on high child birth, because women who marry at a young age have longer gestation periods on average, which increases the birth rate in tribal areas. To control this issue, there is a dire need for grassroots proper operation of family planning services created by the government and intensive education programs in this regard.

- 3) **Lack of quality healthcare services:** Another major health issues in tribal regions that has a negative impact on the health of remote tribal people is lack of health care services. The Indian government launched the NRHM in 2005. This initiative has worked very hard to enhance tribal and rural health. According to the Rural Health Statistics 2021-2022 the number of SCs, PHCs, and CHCs has significantly increased over time. This conveys the Indian government's dedication to promoting rural and tribal health. Despite this increase, a lack of high quality healthcare services continues to be a major issue. As a result, improving the quality of basic medical services is more crucial for ensuring high quality health care. Despite the presence of hospitals in tribal regions, barriers to getting health care include the distance from the hospital, a lack of funding, the poor quality of health care provided, as well as age, gender, illiteracy, and the behaviour of health care providers. For this reason, tribal people generally avoid using rural hospitals, whether they are open or closed.
- 4) **Unrealistic healthcare beliefs & practices:** In rural tribal areas, healthcare beliefs have a significant impact on health. Most tribes believe that supernatural forces, rather than biological or natural causes, are more to blame for the beginning, development, and transmission of any disease. According to Azeez & Sebastian<sup>14</sup>, the majority of the tribe adheres to a magico religious system of healthcare and believes in supernatural power. Aside from Basu<sup>15</sup>, revealed that the majority of tribes have the belief that taking iron, vitamins, and calcium during pregnancy is harmful to health and can even result in the death of both the mother and the child. Insufficient vaccination rates exist for both women and children in tribes. Such taboos and beliefs among the tribes further compound existing health issues. These kinds of beliefs prevent tribal people from using contemporary government healthcare

services, which is harmful to their health. Such problems are also present in other rural communities apart from castes, which can be overcome by proper information about services and dissemination of importance of modern health services.

- 5) **Unawareness about health upkeep and facilities:** Unawareness regarding health upkeep, facilities and schemes is a major problem, which has a negative impact on people's health in both tribal and other contemporary rural communities. According to Chandraker *et.al.*<sup>16</sup>, lack of awareness caused 51.72% of the Gond tribal women to skip antenatal check-ups, 41.38% of them to skip tetanus shots, and 56.32% of them to skip taking iron and folic acid supplements during pregnancy. The majority of births 57.47 percent were carried out at home by untrained midwives, accounting for 94.83 percent of all deliveries. De<sup>12</sup> notes that more than 75% of rural residents experience skin conditions, STDs, and reproductive tract infections (white discharge and discomfort) as a result of bathing in pond water. The tribal people experience several terrible diseases as a result of their lack of awareness regarding their transmission, effects, and causes. Similar in tuberculosis instances, lack of awareness causes the majority of patients to forgo taking their medications, which results in the disease coming back. He also believes that reproductive health care services in tribal areas should be improved to reduce infant mortality, use of various tools suitable for family planning, and increasing awareness about hygiene during delivery is highly desirable.
- 6) **Burden of disease:** It is a biggest issue in tribal health in India that is disease burden. According to Bang *et al.*<sup>17</sup> the tribal population in the country is facing triple burden of diseases. Communicable diseases such as malaria and tuberculosis and also malnutrition continue to be rampant. On the other hand, increasing urbanization, environmental crisis and rapidly changing lifestyles have also resulted in an increase in the prevalence of non-communicable diseases such as cancer, hypertension and diabetes. Apart from this, due to the increasing addiction among the tribes, they are suffering from a heavy burden in the form of mental illnesses. According to De<sup>12</sup>, due to unclean conditions, poverty, a lack

of safe drinking water, and other resources, around 21% of scheduled castes and 24% of scheduled tribes in India suffer from serious diseases like diarrhoea, malaria, filarial, TB, and anaemia. It is known from these facts that the burden of diseases is directly related to other issues such as poverty, health illiteracy and lack of resources. Therefore, there is the need to improve the overall aspects of health in order to reduce the burden of disease in tribal communities.

- 7) **Excessive use of alcohol and tobacco:** Alcoholism and tobacco intoxication is an immense health issue, which affects millions of people nationwide, particularly tribal communities. As Shaner *et al.*<sup>18</sup> confirm that Alcoholism is a multi-faceted issue that affects society in a variety of ways in addition to the individual. The culture of a specific society or community plays effective role among the primary causes of excessive alcohol intake. Such as Mandelbaum<sup>19</sup> and Mahanta & Sengar<sup>20</sup>, stated that tribal people pick up drinking alcohol from their families because it is ingrained in their culture. As a result, the tribal people drink a lot to harmful level, which is the root of much deadly disease. According to the National Family Health Survey (NFHS3)<sup>21</sup>, 72% of the tribal male population uses tobacco, compared to 56% of the male population aged 15-54. On the other hand, when it comes to consumption of alcohol, this proportion was found to be 30% higher than that of the non-tribal male population. This situation has a negative and serious impact on the tribal population. Excessive use of intoxicants causes the emergence of serious diseases such as tuberculosis and cancer, which spoils the environment of society and family along with causing serious impact on the economic condition of the effected person and their family.
- 8) **Animal attacks:** According to the "Expert Committee of Tribal Health"<sup>17</sup>, India has one of the world's highest mortality rates due to snakebites between 45,000 and 50,000 annually. That is, about 125 people die every day only due to snakebite. This mortality rate increases even more in tribal areas as tribes live in forests, mountains and near rivers, streams, lakes or ponds, where animal bites such as snakes, dogs and scorpions are common. On the other hand, tribal people believe more on unrealistic health care

practices instead of using modern treatment for animal bites, which somewhat results in an increase in the death rate.

Based on the summary of all studies, it has been found that tribas in India have poor health status and a high prevalence of morbidity, several factors are responsible for this, which are mentioned here in a holistic manner. Such as illiteracy, difficult geographical territory, prevalence of malnutrition, poor sanitation and hygiene inadequate access to potable water and electricity, hostile environment lack of adequate food resources, faulty feeding habits and irrational beliefs associated with health, poor healthcare services (maternal and child), poor living conditions, ignorance of the causes of infectious diseases, difficult habitual physical activity, alcoholism, tobacco smoking, poor socioeconomic status (widespread poverty and hunger), etc.

## CONCLUSION

The Indian government is making significant efforts to solve the problems and challenges associated to the health of the rural people, especially the tribal community, as a result of its commitment and concern for them. The prime example of which is the launch of NHM (National Health Mission) in 2005 at the national level. The rural healthcare infrastructure under NHM has been developed in the form of a three-tier system SC, PHC and CHC. As compared to 2005, India has increased the number of Sub Centers by around 6.9%, PHCs by 8.2% and CHCs by around 63.8% by 31 March 2021<sup>2</sup> and it is further increased in 2022 and 2023. Therefore, it can be said that NHM is committed to provide essential and accessible health services to every citizen of the country, especially the rural and tribal people. Despite this achievement, there are many such issues related to tribal health, due to which tribal health is still in a serious condition than other contemporary communities. Such as excessive use of alcohol, tobacco and other intoxicants, lack of health literacy, animal attacks, unrealistic healthcare beliefs, disease burden and high birth and death rates etc. This situation is quite complex among the tribes in India and different from other contemporary communities. Every tribal community has different situations and need and to properly resolve their health related issues, it is primarily needed to first of all understand their actual condition, before making and implementing various development plans and schemes related to tribal health.

It has been proved by many studies that the socio-cultural, economic and political background of tribes is different from other contemporary communities, due to which their health issues are also different and complex. Therefore, without understanding these issues at the grass root level, the plans being made for the tribal development cannot be imagined to be fully successful. Therefore, it is necessary that the participation of local tribal population in the health care plans being prepared for tribal development should be ensured so that the local socio-cultural, economic and ecological factors at the grassroots level are included in the tribal welfare plans. It is also a well known fact that tribal people have their indigenous traditional healthcare system to lead a healthy life, which treats many diseases according to their socio-cultural values and local symptoms. This oral and vital knowledge is getting lost day by day due to the influence of modernity and changing life style. Therefore, under AYUSH more sincere efforts should be made for proper documentation of traditional medicinal knowledge and linking it with the modern scientific methods of the medical system. Which also supports livelihood of tribal people and this traditional knowledge can be protected and spread. Apart from this, special attention should be paid to the proper implementation and operation of the schemes and services being provided to bring effective overall improvement in tribal health scenario.

## RECOMMENDATIONS

Tribal Health related issues and debates are not new topic in India; rather this issue has always been a matter of discussion, and it will remain so in the future till this issue is adequately resolved. Providing few suggestions herewith for betterment in tribal health status:

- 1) **Enhance the health literacy in tribal areas:** The best medicine and the best vaccination for any nation's or society's development is knowledge. In the case of health education becomes even more important because how a people or society thinks has a direct impact on their health. Thus, a huge health literacy programme is required to provide tribal men, women, youth, and children with ongoing health education. To provide the tribal people with better health education, the following things can be done.
  - Meaningful results of health literacy in tribal areas can be achieved only when tribal participation is ensured in communication strategies and programs by understanding tribal lifestyles. Such important efforts can bring changes in health seeking behaviour of tribal people.
  - Health services should be written systematically on a wall or board near health centres and each village, so that people have clear information about the services available in the area.
  - Children can be the easiest and most reliable stakeholders to spread health literacy in tribal areas. Therefore, health literacy should necessarily be included in the school level curriculum.
  - Health literacy should be spread on a large scale through various street plays, awareness camps, social and communication media sources and Anganwadis (pre-school).
- 2) **Improving the quality of health care services:** One of the most crucial conditions for raising the level of health in any community is the provision of better healthcare services. As was already mentioned, since the launch of NHM in 2005, there has been an increase in both the number of health centers and staff, reflecting the government's commitment to rural health. However, improving services is more important than building hospitals, which cannot be deemed good for many reasons. It is imperative to adopt certain unique measures to enhance health services in tribal regions.
  - In addition to the quality of services, the behavior of workers working in health centers also has an impact on the use of healthcare services by tribal. So, the health workers should be aware of their responsibilities which can generate interest for the tribal people to use the health services.
  - Maternal and child health in tribal areas is a very sensitive issue which needs special attention. The focus should be on safe delivery and not on institutional delivery. Therefore, in addition to institutional delivery, traditional birth attendants and midwives should be trained and equipped with TBA (Trained Birth Attendant) Kit.
  - Arrangement of emergency transport is very essential for maternal health complications.
  - A comprehensive plan for women's health should be prepared, especially for vulnerable tribal groups and women.

- Necessary equipment, lab facility for all types of tests and necessary manpower should be available in the health centers.
- 3) **Reduce the malnutrition and poverty:** The incidence of malnutrition in tribal regions may be caused by a variety of factors. Anganwadi (pre-school centres) is the most important and easiest way to tackle the all kind of malnutrition prevailing in the tribal areas. In this action, Anganwadi centres will need to be given the ability to allocate more budgetary funds, provide the necessary resources, and address the critical issue of malnutrition.
- There can be some key points to reduce malnutrition which are as follows.
  - Minimum and essential food security should be ensured in Anganwadis and in every tribal house.
  - Integrated child development services (ICDS) should be strengthened in every Anganwadi.
  - Local foods should be used more in Anganwadis, Schools and Homes on the basis of nutritional value.
  - Mothers should be given proper counselling about local foods and food habits, especially in pregnancy time so as to ensure nutrition in the diet of children and mothers.
  - Preventive measures and treatment of various types of infections should be ensured at each village level.
  - In addition, better economic condition in tribal areas will also be an add promote proper nutritious food intake.
- 4) **Providing better family planning and infertility care services:** It has been proved by many studies that both birth rate and infant mortality rate are high among the tribes in India. Therefore, family planning services must be implemented in tribal areas to address this disparity.
- In tribal areas where the fertility rate is high, the government should ensure the availability of safe family planning services, especially under 'reproductive and child health (RCH) program'.
  - Tribal people should be made aware through various mediums about various benefits of family planning, so that the quality of life can be increased by curbing population growth.
  - Various evils related to infertility among the tribes should be removed through the dissemination of scientific reasons and sharing of scientific methods to overcome infertility.
- 5) **Integrating traditional medicine into primary healthcare (AYUSH):** Many tribal communities first approach traditional healers for primary treatment. Most of the tribal people believe that diseases are caused due to displeasure of supernatural forces or breaking of some taboo. They therefore consider it worthwhile to seek early treatment because they see the traditional healer as a medium between man, nature and a supernatural being who protects their community and provides spiritual protection.
- Tribal people should be empowered to take care of their own health.
  - In order to strengthen primary health care in tribal areas and increase access to these services, traditional tribal healers should be brought into primary health care and given opportunities to hone their health care skills.
  - Traditional medicine should be linked to the market, so that the livelihood of the people involved in its promotion can increase and other communities can also be benefited from traditional medicine.
  - Traditional medicinal plants should be identified and cultivated so that traditional medicine can be conserved.
  - Health workers working in tribal areas should be exposed to local health traditions and medicine to further enhance their health care proficiency.
  - Health campaigns in tribal areas must necessarily have a mix of a strong endorsement of good practices rooted in tribal cultures and a rational rejection of harmful practices.
- 6) **Ensuring timely treatment for the animal bite:** The tribes of India mostly live in wooded and mountainous areas, where encounters with different types of animals are very common, which account for most of the animal attacks. Therefore, it is very important that special attention is paid to its management.
- The main reason for early death due to animal bite is the fast effect of poison and lack of timely treatment. Therefore, there should be proper arrangement of transport in tribal areas so that the affected person can get timely treatment.
  - A comprehensive system should be developed for the management of animal bites in tribal areas so that the lives of the

affected persons can be protected.

- Most of the tribes consider supernatural powers responsible for animal bites. Therefore, by disseminating information through various mediums in tribal areas, people should be made aware of the deadly consequences of animal bites so that modern treatment can be provided on time.
- 7) **Controlling intoxication:** Often people do intoxication for personal pleasure, but when it becomes an addiction, it negatively affects the family and society along with the addict. Controlling intoxication is essential for social harmony along with health benefits.
- The tribal people should be made aware of the menace of intoxication through various street plays and various cultural programs.
  - A network of effective de-addiction centers should be established in tribal areas.
  - Community based strategies and support groups should be formed for de-addiction. In which the local people participate.

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