



Research Paper

## Impact of Covid-19 on Tribal Healthcare in the Wayanad District of Kerala

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**ABSTRACT:** *The covid-19 pandemic has made an everlasting impact on all sectors of the Indian economy, but its effect on the healthcare system caused grave concern for the safety and security of the people. As in the case of any disaster, the hardships of this pandemic were also distributed unequally in society, with marginalized communities suffering a disproportionately higher burden. Across the world, indigenous communities were at risk of suffering the brunt of the damage of the ensuing pandemic. Spread across 705 tribes, Tribal communities of India, accounting for 8.6% of the country's population and ranking the lowest in various health, educational, and social indicators, were disproportionately affected by the pandemic. Wayanad is a hilly district of Kerala hosting the highest tribal population in the state. Even before the pandemic, the district faced a shortage of Health Centres, Diagnostic Centres, and Specialist consultation services, preventing access to early diagnosis of severe illnesses, particularly among the tribal communities. The pandemic caused severe disruptions in the proper delivery of the already weak healthcare services, further exacerbating the Tribal Health Status. Even though the implications of this condition are evident to an onlooker, there is very little data and studies available in this regard, and the matter received only a marginal level of attention from the responsible institutions. This particular scenario has forced us to conduct a Study on the impacts of Covid-19 on the tribal healthcare system of the district. Six Panchayats from within the district with sufficient tribal population and the various Peripheral Health Centres from within the panchayat were the source for the first level of data collection. Tribal Development Department, Agencies like CDS, NGOs, Tribal Promoters, and Tribal Activists were the source for the second level of data collection. The major hurdle faced during the entire course of data collection was the unavailability of segregated data on the health aspects of the communities. Data collected from all available sources through In-depth interviews and Government documents were analysed and interpreted to form the findings. The study provided valuable insight into the severe disparity in health standards between the tribal communities and the general population. The study showed that the peripheral health centres within the district were already understaffed and under-equipped, which hindered them from achieving their objective, a condition that aggravated during the pandemic. The study proves that when compared to the general population, the tribal communities are at higher risk of suffering the brunt of the impact in the event of a major catastrophe like a public health failure. The suggestions given by the tribal community members and professionals on overcoming these concerns will also be of significance for future endeavours in tribal health care.*

**KEYWORDS:** Covid-19, Tribal Healthcare

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### I. INTRODUCTION

The quality of the healthcare system of a nation determines the health and well-being of its citizens. The plethora of healthcare programs and projects being undertaken by the government to ensure the equal distribution of its services to meet the varying needs of a diverse population are quintessential for the development of a nation. Compared to the general population, meeting the healthcare needs of the marginalized sections of society requires a completely different approach as in the case of Scheduled castes and Scheduled Tribes (SCs and STs). A 2014 report by the High-Level Committee on the Socio-Economic, Health, and Education Status of Tribals in India has highlighted that a disproportionately large segment of the tribal population continues to suffer from poor health outcomes, high morbidity, and mortality. The advent of a pandemic has made a significant impact on the routine delivery of healthcare services in the nation (Ramesh, 2022). For a socially and economically disadvantaged section like tribals, public healthcare systems are the only

available option. Any unforeseen change in the existing system like those that occurred during the pandemic can be detrimental to the health status of this already underprivileged community. This study is focused on understanding the impact that the Covid-19 pandemic has had on the health of the tribal communities and the healthcare systems of the district.

### **1.1 Tribes in India**

As per the Census of India 2011, the Scheduled Tribes population in the country is 104 million, and it constitutes 8.6% of the total population of the country. Tribals in India are a heterogeneous group who differ from each other socially, culturally, and economically. Their living standards vary from state to state, district to district, and even within a district. In places where more than one tribe coexists, there exists a hierarchy between them which makes their lives and experiences different from each other. The single common aspect of tribal communities in India is their poorer health indicators, a greater burden of morbidity and mortality, and very limited access to healthcare services. In the state of Kerala, which is considered one of the most progressive states within the nation on the Human Development Index, tribal groups bear a higher burden of underweight (46.1 vs. 24.3%), anemia (9.9 vs. 3.5%) and goitre (8.5 vs. 3.6%) compared to non-tribes (Ministry of Health and Family Welfare and Ministry of Tribal Affairs, 2018). Tribals in Kerala are living on the hill ranges, mainly on the Western Ghat, bordering Karnataka and Tamil Nadu. As a natural border, the mountain has branches in Kerala as well as in Tamil Nadu and Karnataka (Harikrishnan, 2015). According to the 2011 census, the state has a tribal population of 4,84,839 which constitutes 1.45% of the state's population. The largest population of Tribals in Kerala lives in the Wayanad district.

### **1.2 The Concentration of Tribal Communities in the Wayanad District of Kerala**

Wayanad is a hilly district in northern Kerala with a population of 8,17,420. It has the largest tribal population in the state (1,51,443) (Muhammed, 2019). They belong to various sects like Paniyas, Kurumas, Adiyars, Kurichyas, Kattunaikkans, and UraaliKurumas amongst which Kattunaikkans are recognized as a (KIRTADS, 2022). The largest among them is the Paniya tribe with a population of 88450 as per the Census 2011 (KIRTADS, 2022). These communities are divided into three based on their history and present condition, Semi-landowning communities (Kurumas and Kurichyas), laborer communities (Paniyas and Adiyas), and the PVTG or Particularly Vulnerable Tribal Group (Kattunaikkans). The district is divided into three blocks, Mananthavady, Sultan Bathery, and Vythiri among which Sultan Bathery hosts the largest population of tribals.

### **1.3 Tribal Health Status in the District**

There exists a significant disparity in health standards among the different tribal populations of the district. Kurichyas and Kurumas, the forward Tribes of the district are better off when compared to the tribes of Paniyas and the PVTG Kattunaikkans. The former is suffering from lifestyle diseases such as Diabetes and hypertension like the general population, whereas the latter fares poorly in Health, Disease burden, and Nutritional aspects. Cases of scabies are also prevalent among children in the communities, especially in crowded settlements. Tribals are considered to have higher immunity to infectious diseases compared to the general population as per the opinion of some experts. This can be attributed to their diet consisting of leafy vegetables and forest products. This diet is currently changing and is considered a cause of concern.

Cases of sickle cell anemia are prevalent in the communities, which compromises all their other health outcomes. Currently, 33 cases of the condition have been diagnosed, just in the Sultan Bathery Taluk of the district. Anemia rising from malnutrition and diarrhea is also widely observed in the communities. In the case of infectious diseases, TB is prevalent among the communities, particularly among the Paniya and Kattunaika communities. The use of alcohol and tobacco products is high in the communities and this has led to a higher incidence of cancer cases among them. The use of alcohol has further contributed to malnutrition cases among the population. Also, as the habit starts from a very young age itself, it has even led to mental health problems in many cases. The community in general has a higher prevalence of mental health diseases, though a majority of these cases are undiagnosed. The inaccessibility of the tribal settlements to basic healthcare institutions is the major cause of severe health issues faced by the tribes. (Subudhi, 2019)

### **1.4. Tribal Healthcare Status in the district**

#### **1.4 (a) Public Healthcare Infrastructure**

##### **1. Primary care centres**

- 32 Peripheral Health centres (PHC, CHC, and FHC) - among which one in Nalloornd is designated as a cancer care centre and it also provides secondary care.
- 6 Tribal Mobile Medical Units or TMMU - conducts camps in tribal settlements providing primary consultations, tests, and medicines to the tribal population. Working in Vythiri, Kalpetta, Mananthavady, Panamaram, Noolpuzha, and Ambalavayal regions of the district.

2. Secondary care centres
  - Sultan Bathery Taluk Hospital
  - Vythiri Taluk Hospital
  - General Hospital Kalpetta,
  - Government Medical College Mananthavady.

The shortage of Specialist doctors is a major concern for both the general and ST populations within the district. Even the District Hospital and Government Medical College the district doesn't have a specialist in Cardiology and Neurology. The tribal community used to depend on Government Medical College, Kozhikode for secondary consultation. To bridge this gap there are three Remote Secondary care providers working in the district. They are

- eSanjeevani – funded by the state government provides secondary care services through video conferencing using doctor-to-patient interaction from the PHC itself and provides consultation for cases other than cardiology, oncology, and neurology
- Mobile Telemedicine Unit under Sree Chitra Tirunal Institute of Medical Sciences for secondary care. It is working exclusively for patients from the Wayanad district with a special preference for Tribal communities and provides Secondary Care to the patients in need of specialist consultation at the Peripheral Health centres of the district through video conferencing with their two vans. They provide consultation in neurology, oncology, Adult and Pediatric cardiology, nephrology, pulmonology, and dermatology.
- The Nalloor nad cancer centre located at Nalloor nad provides consultation for oncology cases for the tribal and general population of the district.

3. Tertiary Care Centres
  - Sultan Bathery Taluk Hospital
  - Vythiri Taluk Hospital
  - General Hospital Kalpetta,
  - Government Medical College Mananthavady.

#### **Concerns raised by the respondents from the Tribal population over the working of Public Healthcare facilities in the district.**

- Time delay in the delivery of services in public health facilities
- Absence of follow-up on tribal health cases reported at the health centres
- Negative behaviour of staff from Govt Hospitals toward tribal patients
- Shortage of doctors in health centres, and the unavailability of In-patient services in the PHCs.
- Shortage of specialist doctors in all the required specializations in secondary and tertiary care centres
- Shortage of testing facilities and medicines at the health centres and financial burden for getting these from outside.
- Economic burden for traveling large distances for getting secondary consultation.

#### **1.4 (b) Private Healthcare Infrastructure**

There are 20 Private healthcare providers in the district which include dialysis centres, and eye clinics. But apart from some hospitals such as DM WIMS Hospital, Meppadi which provides treatment for tribal communities with the support of the tribal department, the rest are not used by the majority of the tribal population. But the semi-land-owning tribal communities of Kurichya and Kuruma use these centres much more compared to the other groups.

#### **1.4 (c) Healthcare services provided by ITDP and LSGs**

There are also schemes by the central and state governments delivered through the ITDP such as the financial support of 2500 Rupees per month provided for sickle cell patients, Janani Janmaraksha Yojana providing support of 2000 Rupees for pregnant tribal members for a period of 18 months starting from the 3rd month of pregnancy, and a new project named OorumUyirum with the support of UNICEF for anemia detection started on 17th September 2022. Apart from this, there are also projects and camps being implemented at the LSG level such as the one called SthreerogaNirnaya Camp, a program designed to detect cancer cases among women from both the general and ST populations.

## **II. OBJECTIVES OF THE STUDY**

The main objectives of the paper are

- To study the effects of the Covid-19 pandemic and lockdown on the health status of tribal communities in the Wayanad district of Kerala
- To study the aftereffects of Covid-19 infection and the prevalence of post-covid complications among the different tribal populations of the district

- To study the impact of Covid-19 on the healthcare systems of the district with particular emphasis on the effect on tribal healthcare services.

### III. MATERIALS AND METHODS

**3.1 Type of Study:** Qualitative Nature and Exploratory Study Method

**3.2 Target and Sample Population:** Public Healthcare professionals, Tribal Development Department officials, LSG Representatives, NGOs, and Tribal Activists from Wayanad District

**3.3 Study Period:** From 15th August 2022 to 20th August 2022.

#### 3.4 Data Collection Procedures

The respondents of the study constitute Doctors from Public Health Centres and TMMUs, ITDP officials, TDO officers, LSG Representatives Tribal activists, and Representatives from NGOs working or residing in the Wayanad district. As the respondents were not homogenous, the researcher adopted quota sampling for the first phase and used convenience sampling to select respondents from each quota.

Semi-structured Interview was used to collect the data from the respondents. The tool used was a Guided Interview Schedule. The following Inclusion and exclusion criteria were adopted for selecting the 19 samples for the study.

#### Inclusion:

- Doctors working in the Public Health Centres or units (PHC, CHC, DH, and TMMU) of Wayanad District
- ITDP officials and TDO officials working in Wayanad District
- Tribal activists belonging to the tribal communities of Wayanad District and currently residing in the district.
- NGOs working for Tribal development within the Wayanad District

#### Exclusion:

- Doctors working in the Private Health Centres or units of Wayanad District
- Doctors working in the Public Health Centres or units (PHC, CHC, DH, and TMMU) outside of Wayanad District
- ITDP officials and TDO officials working outside of Wayanad District
- Tribal activists belonging to the tribal communities of any district of Kerala other than Wayanad
- NGOs working for Tribal development in districts other than Wayanad.

#### 3.5 Ethical Consideration

The researchers have followed all the ethical issues concerning the study. All the information was collected from the respondents only after getting their permission for the same. The recording of the phone calls while conducting phone interviews were done after receiving their consent. The researchers have also ensured the confidentiality of the data.

## IV. RESULTS AND DISCUSSION

The narrative analysis method coming under the Qualitative data analysis technique was used in analysing the collected data.

#### 4.1 Details of the Respondents

Quota	Number of Respondents	Area of Residence or Working
Doctors from Public Health Centers	5	Begur PHC Kottathara FHC Meenangadi CHC Pozhuthana FHC Pulpally CHC
Doctors from TMMU	4	Kalpetta Sultan Bathery Vazhavatta Vythiri
ITDP	1	Kalpetta (District office)
TDO	1	Sultan Bathery
NGO	2	Wayanad
LSG	2	Kottathara Thariyode
Tribal Activists or Representatives	4	Ambalavayal Kambalakkad Pulpally Sultan Bathery

#### **4.2 Impact of Covid-19 Lockdowns on Tribal Health and Healthcare Services**

From the interviews conducted with all the respondents, it was found that since the start of the pandemic, both the Government authorities and Tribal Community members worked together towards minimizing the burden of disease spread among the population. The major impacts of the lockdowns which happened in two phases (March 25 – May 31, 2020, and May 8 to June 16, 2021) on Tribal health and Healthcare services are as follows.

##### **4.2 (a) Impact on Tribal Health**

Amongst the major tribal population within the district, Paniyas and Kattunaikas living in squalid and overcrowded tribal settlements were at higher risk of spreading the diseases amongst themselves. But the Kurichya and Kuruma community members who are considered to be at the top of the tribal hierarchy within the district are better off compared to the others. But due to their higher rates of lifestyle diseases, they were also at higher risk. There are higher cases of sickle cell anemia amongst all the tribal population within the district and combined with comorbid conditions, it posed a serious risk to the health and safety of the population at the time of the pandemic. The nutritional supplements provided by the government were also helpful in ensuring proper nutrition amongst the population. Due to the pandemic, jobs were not easily available and would have easily led to food shortage and malnutrition, but these nutritional supplements provided by the authorities and the extra rice of 10kg provided during the lockdown along with the monthly 30kg helped reduce this risk. Alcohol and Tobacco use is common amongst the communities, but during the lockdown, the availability of alcohol was completely restricted and the use of tobacco was also reduced to a minor extent. This can be considered as a positive effect of the lockdown as diseases arising due to the use of these substances are reported in high numbers among them. The death rate due to Covid-19 was less among the tribal population. Experts consider their high immunity to be the reason for that. The number of cases reported was less among the Paniya and Kattunaika communities and it was high among Kurichya and Kuruma communities. This can be attributed to the reluctance of the former groups in getting tested and treated for the disease. Mental health illness has also increased during the period.

##### **4.2 (b) Impact on Tribal Healthcare**

Primarily masks, sanitizers, and other essential supplies were provided for the tribal population by LSGs, Health Department, and Civil Society organizations. Further DCCs and CFLTCs were installed across the district and many of these DCCs were installed in Tribal Hostels for quarantining tribal patients who had contracted the disease. On the contrary, as per the experience of two Tribal community members, there have been instances of the authorities taking Covid patients to the quarantine facilities forcefully due to the strict covid lockdown and quarantine guidelines enforced during the lockdown and this has forced the community members to not test for covid and is not reporting any of their illness to the authorities. The fear of getting more diseases also prevented the community members from visiting hospitals for illnesses, the symptoms of which were identical to that of Covid-19. This scenario shows that the proper diagnosis of the disease amongst the population would have been seriously affected and that the incidence and prevalence of the disease could have been underrepresented to an extent during the period. Even with these concerns in place, more than two-thirds of the respondents have unanimously agreed that the tribal community had adhered to the covid-19 guidelines without fail when compared to the general population. Healthcare professionals have also expressed an opinion that the awareness of tribal communities towards health and well-being has significantly increased since the pandemic.

The Tribal Mobile Medical Units working in the district for providing treatments and medicines for tribal communities met with a constraint in conducting visits during the pandemic owing to the pooling system of health workers adopted due to the pandemic from May 2020 to Dec 2020. But it was later converted to its normal mode of working from January 2021 onwards. The patients who needed to be tested for covid-19 were sent to PHCs by the units as the necessary facilities were not available to them. The secondary consultations were done for patients requiring a review by specialist doctors from District Hospitals and Govt Medical Colleges Kozhikode and also through telemedicine services like Mobile telemedicine Team of Sree Chitra Tirunal Institute of Medical Sciences and Technology decreased during the period. As per the details provided by the Tribal Community members, in certain cases, Civil Society Organizations and Tribal Development Departments took initiative in taking the patients to Specialist Hospitals for emergency cases and secondary consultations.

The Tribal respondents have unanimously said that the work of Asha workers and ST promoters were praiseworthy during the lockdown even with some isolated instances of slight imperfections. The instances were accusations of bias at the hands of these staff in the delivery of certain services. They were considered the First POC for any matter concerning tribal health and tribal respondents have reported that the bulk of grassroots works and the blame for any issues concerning the same were laid on their shoulders and that this has been a

burden for them. So generally, their work was instrumental in ensuring tribal health in the region as they conducted visits and communicated concerns and worries within their constraints.

During the second phase of the lockdown, the vaccination process had started in the state, and the turnout for vaccination was first very less due to lack of awareness and also due to the spread of disinformation amongst the members of the community. But the coordinated approach of the Health and Tribal Departments combined with the efforts of NGOs and Tribal activists in educating the community proved beneficial in raising the turnout for vaccination.

#### **4.3 Post Covid-19 Scenario**

After the end of the pandemic-induced lockdown phase 1, Post covid clinics were started as per the direction of the health department in all the healthcare centres in the hospitals from Nov 2020. The Doctors from the Public Health Centres of the district have noted a larger number of cases with the below-given complications amongst the patients consulting the hospitals. Only those patients who had a record of Covid-19 infection in the past three months were consulted in the Post Covid clinics. Post covid symptoms reported in the health centres of the district are as follows:

- Fatigue – Post-exertional malaise (tiredness interfering with daily life)
- Fever
- Recurrent infections of the respiratory tract especially among the old and children
- Respiratory symptoms
- Acute Respiratory infections (Upper and lower tract infections)
- Dyspnoea mostly women
- Exacerbation
- Fibrosis
- Cough
- Chest pain
- Palpitations
- Skeletal pain
- Joint and Muscle pain

Most of these patients had symptoms of Covid-19 infections, but a large majority of them didn't undergo testing. So, they have not consulted in post covid clinics, and therefore, identifying the case as post covid complications were not possible. As the number of tests decreased, the number of cases consulted in Post covid clinics also reduced substantially. Most of the centres had only reported a consultation of 10 to 15 cases per month from July 2021 to January 2022.

#### **4.3 (a) Effect of Covid Infection on the Health of Tribal communities and Prevalence of Post-Covid Complications**

Sufficient data on the effect of Covid-19 infection on the health of tribal communities of the district was not available from the health department or tribal department. As per the opinion of the Doctors, the post covid complications are the same for all the populations, but the reluctance of tribal communities in consulting the health centres for their illness could hinder the identification and treatment for these complications. It was noted that the turnout for consultation in post covid clinics was almost negligible from the tribal populations of the district. Some healthcare practitioners also shared an opinion that due to the vitamin-rich diet of the communities; the prevalence of these complications is less among them. But these opinions cannot be substantiated due to lack of evidence over this matter. Identification of covid cases was also less among the population as testing was only done for symptomatic patients under the direction of the doctor, nurse, Asha worker, or ST promoters. Therefore, compared to the general population, the identification of cases was tougher among the tribal population. The members from Kurichya and Kuruma communities had a good turnout for getting treatment for Covid and Post-covid complications when compared to the communities of Paniyas and Kattunaikas. Healthcare professionals have also noted that lifestyle diseases like Diabetes and Hypertension are increasing among the tribal population when compared to the period before the pandemic. TMMU Doctor consulting in Sultan Bathery shared their observation that about 85% of the population of Kuruma consulting them in Sultan Bathery shows diabetic symptoms. But it is still unclear which of the other tribal communities are showing this phenomenon.

On the contrary, the experience and observation of tribal respondents showed that post-Covid complications were prevalent among the population. The community members show respiratory symptoms, joint body pain, fatigue, and loss of strength and stamina when compared to the period before the pandemic. These communities, particularly from the Adiya and Paniya communities are majorly employed as daily wage laborers and this has in turn adversely affected their working capability. TDO officials and LSG representatives shared a concern about decreasing number of tribal community members reporting for MGNREGA works.

Recurring respiratory infections have become a regular phenomenon amongst the population among children and old tribal populations as in the case of the general population. The change in the food habits of the communities during the pandemic can also be a reason for the change in their health status.

Unlike the general population, who visits the hospital consultation for every illness, the tribal community member's reluctance to take the consultation due to shyness or fear has severely affected their health during and after the pandemic. The post covid complications which can be identified and treated to an extent have become a burden for the population, particularly for those working as laborers.

#### **4.3 (b) Response of the Healthcare Systems on addressing Post-Covid Complications among Tribal Population**

The TMMUs who have been visiting the tribal settlements have identified the presence of recurring cases of respiratory tract infections, fatigue, and joint and muscle pain cases. Treatment for post covid complications in the health centres of the district was limited to those who get a consultation under OPD. The post covid clinics which are still functioning in the health centres are just for namesake as identifying cases as post covid cases is difficult during these days when people have stopped testing for covid altogether. These clinics are working for just one day a week as the number of consultations is less or none. Healthcare professionals have expressed their concern that the reluctance of the communities in seeking healthcare treatment would have affected the identification of post covid complications among the tribal populations of the district. The Tribal Development Department has continued providing nutritional supplements. The healthcare welfare systems of the district have more or less resumed their former working pattern, but these this issue faced by the tribal communities were not addressed.

### **V. CONCLUSION AND SUGGESTIONS**

The Government's response to the pandemic was an effective one and it took tribal health and wellness into consideration while implementing the healthcare guidelines. The Tribal communities worked along with the government agencies and followed all the healthcare guidelines provided by them. Use of alcohol and tobacco products which had decreased during the lockdown has again increased among the population. Apart from this, the lockdown has not affected the health of tribals. Post-Covid Complications were found to be prevalent amongst the communities and the reluctance towards visiting Health centres has prevented the reporting of these cases. The health issues arising out of these complications are affecting the working potential of the tribal communities. Failure in addressing this issue can be considered a shortcoming on the part of the authorities, as the presence of Post Covid clinics started for the identification of these cases was not enough for treating the post covid complications among the tribal population. The suggestions for bridging these gaps are as follows:

- Schedule Tribes Development Department and the Health Department of the state should work together in addressing and mitigating the issue arising due to post covid complications among the tribal population, by conducting more studies on this aspect.
- A wider study should be conducted on the health status of Tribal communities with special reference to the presence of post-covid complications.
- Pulmonary Function Tests or PFTs should be done on all symptomatic tribal populations within the district.
- The Public Health Centres within the district should be equipped with more investigation and laboratory facilities.

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