



## Mapping Review

# Health status of tribes of Uttar Pradesh with special reference to health-seeking behaviour of uncharted *Tharu* tribe: A mapping review

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**Background & objectives:** The tribal population in India is considered as one of the vulnerable groups with respect to their achievements in health and other developmental issues. In this context, this mapping review attempted to understand the health profile of the *Tharu* tribal community residing in the northern State of Uttar Pradesh, India through literature mining. *Tharu* tribe is one of the indigenous groups living in the *Terai* plain on the Indo-Nepal border. In 1967, this tribe was documented as a Scheduled Tribe by the Government of India. The present review aimed to map the health-seeking behaviour of the *Tharu* population and review other factors pertaining to their health such as socioeconomic, developmental, employment, education, etc.

**Methods:** Online data search was carried out on PubMed and Google Scholar using search terms '*Tharu*' AND '*India*'. In addition, official reports available in public domain and grey literature was also searched.

**Results:** Twenty seven studies including reviews, articles, books/book chapters were evaluated along with 13 reports (including reports from government organizations and grey literature) were retrieved and analyzed. Of the 27 published reports, 16 were found relevant to *Tharu* tribe in India. A total of 29 (16 articles + 13 reports) were included in this review.

**Interpretation & Conclusions:** This mapping review highlights the health seeking behaviour of the *Tharu* tribe in India that can help inform future interventions to improve the health status of the *Tharu* tribe as well as other aspects of their development.

**Key words** Border - health - indigenous - Indo-Nepal - *Tharu* - tribes

Scheduled tribes (STs) are an integral part of India and contribute 8.6 per cent of the total population of the country<sup>1,2</sup>. They remain vulnerable to different health issues with comparatively lower literacy rates and higher poverty ratio<sup>3,4</sup>. The *Tharu* tribe is an ethnic group of indigenous people living in the *Terai* plain on the Indo-Nepal border of Uttar Pradesh (UP). In the State of UP, the distribution of the *Tharu* is scattered<sup>5</sup>. The total population of *Tharu* in UP is 105,291 (53,687 males and 51,604 females). Children under the age of

six constitute about 17 per cent of the total population of *Tharus* in UP<sup>6</sup>.

According to the 2011 census, STs make up for 0.6 per cent of the population of UP (1.13 million) and 1.1 per cent of the total tribal population of India<sup>7,8</sup>. The tribal sex ratio in UP is 959 females per thousand males in the rural areas and 884 females per thousand males in the urban areas which is less than the national tribal average<sup>6</sup>. Tribals live largely in the villages of UP, where the rural population is 1.03 million and the

urban population is 0.1 million. The tribal groups in UP include *Gond* (*Dhuria, Nayak, Ojha, Pathari, Raj Gond*; 50.2%); *Kharwar, Khairwar* (14.2%); *Tharu* (9.3%) and *Saharya* (6.2%). Other tribal groups include *Buksa, Jaunsari, Raji, Bhotia, Parehiya, Baiga, Pankha, Panika, Agariya, Patari, Bhuiya, Bhuninya* and *Chero*. The literacy rate of tribes is lower (55.7%) compared to the general population of UP (67.7%). Furthermore, there is a significant discrepancy in the literacy rate between males (67.1%) and females (43.7%) among the tribal population in the State<sup>6,7,9</sup>.

Lakhimpur Kheri is the largest district in UP that shares border with Nepal. Similarly, the other districts including Bahraich, Balrampur, Shravasti and Maharajganj also share a border with Nepal and most of the *Tharu* population of UP are found residing in these districts<sup>5</sup>, with 90 per cent of them residing in rural areas, their major occupation is land cultivation. Reports from the neighbouring country of Nepal indicate that the *Tharu* are prone to various health issues such as cardiovascular diseases, diabetes, hypertension, cancer, tuberculosis, leprosy, malaria, bacterial and parasitic infections as well as mental health issues such as stress<sup>10-15</sup>. The *Tharu* tribe in India may also be at risk of such health conditions as they share a common lifestyle, genetic makeup as well as socio-economic status as with the *Tharu* residing in Nepal<sup>16,17</sup>. Against this background, the current review was undertaken to understand the health-seeking behaviour of the *Tharu* population and other factors (socio-economic, developmental, education, employment, *etc.*) affecting their health.

### Material & Methods

The information summarized in this review was obtained from published articles, official reports available in public domain and unpublished grey literature. Review of published literature (original articles; review articles, books/book chapters, *etc.*) was carried out on PubMed and Google Scholar using the keywords '*Tharu*' AND '*India*'. Information was also gathered using the reports of the National Family Health Survey-5, Ministry of Health and Family Welfare, the Census Directorate, erstwhile Planning commission, the Ministry of Tribal Affairs, the National Commission for SC/ST, Government of UP. Furthermore, unpublished data were obtained from the local health and administrative authorities of the Balrampur and Maharajganj districts of UP regarding the health status, vaccination and socio-economic status of the *Tharus*, *etc.* Total thirteen reports were used for this study (Figure).

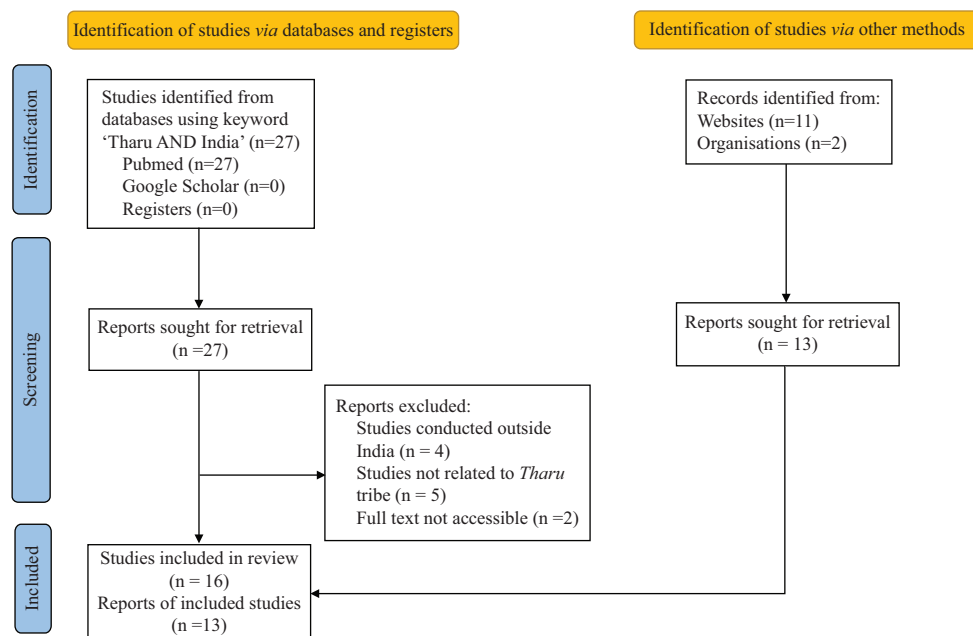
As per the available literature from the PubMed database, 27 studies were retrieved using the keywords '*Tharu* AND *India*', of which only 16 were found to be relevant to the *Tharu* tribe of India. The other 11 studies were excluded because they were either conducted on the *Tharu* tribe of Nepal ( $n = 4$ ) or were unrelated ( $n = 5$ ) or did not have complete text available ( $n = 2$ ). So, for this review total 29 sources of information were used (16 research articles + 13 reports). The scarcity of research on health among *Tharu* tribe in India was revealed through such limited search results.

### Results

The information extracted from the chosen studies is summarized in the Table.

In the study by Nigam *et al*<sup>16</sup>, haemoglobinopathies and thalassaemia were found in a considerable number of individuals in the Lakhimpur Kheri district and the study reported similar findings in *Tharu* communities in Nepal. Most of these studies, however, suffered from the limitations including small/inadequate sample size mostly related to genetic variation/ancestry analysis<sup>16-22</sup>, anthropological surveys or ethnomedicine related articles<sup>23-30</sup>. Only a few studies focused on the health status of the *Tharu* tribe none of which dealt with the behavioural determinants of health. Most of the studies were conducted in a subset of the *Tharus* (*Rana, Danguria* and *Pachchimaha*) with limited representation. A few specific diseases such as anaemia<sup>31</sup>, haemoglobinopathies and thalassaemias<sup>16</sup> were discussed in detail in these studies but none dealt with their overall health status including vaccination, utilization of antenatal and postnatal care, water usage and sanitation practices, *etc.*

*Health-seeking behaviour and other development issues*: Based on the grey literature collected from local health authorities of Maharajganj and Balrampur districts (one report each from the two districts, personal communication), it was identified that the health-seeking behaviour of the *Tharu* people contrasted sharply with the conventional idea of tribals relying on traditional medicine and healers and being opposed to modern medicine. Reportedly, *Tharus* were well versed with government health initiatives and actively participated in them. Furthermore, the participation of *Tharus* in health programmes and compliance with various directives regarding health practices such as vaccination was better than the general population of the region. This is reflected in the vast majority of them receiving COVID-19 immunization.



**Figure.** PRISMA flow diagram. PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses

Routine immunization among children and mothers was also reported to be close to 100 per cent. Their attitude towards modern medicine was reported to be positive; when unwell, the majority of them sought aid from modern medical institutions, with only a small percentage relying on traditional medicine and healers. As a traditional medicine, *Tharus* used *Dabarbarua* (local name) during fever and the bark of *Mahua* (*Madhuca longifolia*) during knee pain. They availed antenatal care and almost all the children were delivered in hospital settings.

While some of the grey literature indicated a lack of higher education facilities and employment opportunities closer to the residential villages/blocks and, impoverished and jobless situation for a few of the *Tharu*, some benefitted from Government assistance schemes for individuals under the reservation category. Migration of the members of the *Tharu* community to the States of Punjab, Gujarat, Haryana, Maharashtra and Karnataka was also on record for a gainful job engagement. Several reports indicated that genetic diseases such as thalassaemia, sickle cell anaemia and other haemoglobinopathies were common among the *Tharus* of Nepal but were not reported as such in India<sup>11,16</sup>. Addiction to smoking and alcohol was reported to be another health issue in the tribe, similar to reports from other parts of the globe<sup>32</sup>. Both men and women reportedly consumed tobacco and/or alcohol.

## Discussion

In order to promote health in tribes and popularize their culture, arts and, diverse crafts across the country, the Government of India has launched various schemes such as Pre- and Post-Matric Scholarship, Minimum Support Price for Minor Forest Produce, Tribal Festival, Research, Information and Mass Education, *Vanbandhu Kalyan Yojana*, *Eklavya* Model Residential School, Support to Tribal Research Institutes and Aid to Voluntary Organizations Working for the Welfare of STs<sup>33-35</sup>.

For the welfare of *Tharu* tribes in the different regions of UP, the State government launched various schemes and planned for better road connectivity to *Tharu* villages in the districts of Balrampur, Bahraich, Lakhimpur and Pilibhit bordering Nepal under the homestay schemes of the forest department of the State<sup>5</sup>. Under such schemes, domestic and international tourists would be provided with the opportunity to enjoy the special *Tharu* culture, food and habitats in an effort to raise awareness. Apart from this, the UP Government proposed various schemes such as road connectivity and village development for the welfare of *Tharu* and other tribal communities under sustainable development goals vision 2030<sup>35</sup>.

‘One District, One Eco Tourism Spot scheme’ also has the potential to benefit the tribes by uplifting their socio-economic status<sup>36</sup>. *Balaigaon*, a *Tharu* tribe-dominated village in Bahraich district was selected for development

**Table.** Major findings from the studies on Indian *Tharu* tribes

Study	Study population	Major highlights
Nigam <i>et al</i> <sup>16</sup> , 2020	<i>Tharu</i>	High level of haemoglobinopathies and thalassaemia incidence
Chaubey <i>et al</i> <sup>17</sup> , 2014	<i>Tharu</i>	Dual ancestry of <i>Tharu</i> ; East Asian and South Asian
Fornarino <i>et al</i> <sup>18</sup> , 2009	<i>Tharu</i>	Triple ancestry of <i>Tharu</i> ; East Asian, West Eurasian and Indian
Chakrabarti <i>et al</i> <sup>19</sup> , 2002	<i>Tharu</i> and other tribal groups	Genetic admixture of <i>Tharus</i> living in the sub-Himalayan region
Pandey <i>et al</i> <sup>20</sup> , 2003	<i>Tharu</i> and other tribes	The common ancestry of <i>Tharus</i> with Mushar, Santal, Dhobi, Julaha, Kulhaiya and Karan Kayastha
Kaur and Shrivastava <sup>21</sup> , 1983	<i>Rana, Tharus</i>	Absence of antigen Dd-reactivity in <i>Rana Tharus</i>
Srivastava <sup>22</sup> , 1965	<i>Rana, Danguria and Pachchimaha</i>	<i>Rana, Danguria and Pachchimaha Tharus</i> share a common biological pool
Kumar <i>et al</i> <sup>23</sup> , 2012	<i>Tharu</i>	Documentation of the phototherapeutic knowledge for curing various diseases
Sharma <i>et al</i> <sup>24</sup> , 2014	<i>Tharu</i>	Documentation of the phototherapeutic knowledge for curing skin diseases
Sharma <i>et al</i> <sup>25</sup> , 2013	<i>Tharu</i>	Documentation of ethnomedicinal plants used for treating epilepsy by <i>Tharu</i> and other tribal communities
Pandey <i>et al</i> <sup>26</sup> , 2017	<i>Tharu and Buksa</i>	Antidiarrhoeal activity of <i>Terminalia bellerica</i> Roxb. Fruits
Viswanatha <i>et al</i> <sup>27</sup> , 2018	<i>Tharu</i>	Cerebroprotective effect of methanolic root extract of the herbal plant being used by ethnic communities
Viswanatha <i>et al</i> <sup>28</sup> , 2017	Nomadic <i>Gujjars, Tharu and Bhoxa</i>	Pharmacological utility of traditional medicine used by tribes for epilepsy
Sharma <i>et al</i> <sup>29</sup> , 2012	Nomadic <i>Gujjars, Tharu and Bhoxa</i>	Documentation of medicinal plants used in Jaundice by tribes
Singh and Bisht <sup>30</sup> , 1999	<i>Tharu and Bhoxa</i>	Documentation of traditional treatment practices by tribes of Uttar Pradesh
Singh <i>et al</i> <sup>31</sup> , 2022	<i>Tharu</i>	High prevalence of anemia among reproductive-age females

as a tourist destination under this scheme by the UP Government. The construction of the road on the border is ongoing under Indo-Nepal Border Road Project and is in the first phase of eco-tourism facility development<sup>5</sup>.

In the context of aforementioned development initiatives, the present mapping review highlights the ground-level health status of the *Tharu* tribes of UP. The summary, presented here, provides a glimpse of the prevailing health issues among *Tharus*, and their health-seeking behaviour, which may help in conducting larger and in-depth studies on the health status of *Tharus* in the future. While doing so, the limitations of the previous studies, as mentioned above, should be kept in consideration. Such efforts will help in informing the development of future interventions as applicable in the local socio-cultural context. The present review serves an important public health purpose by highlighting the gaps in health research in this regard and suggesting further research needs where both quantitative and qualitative inquiries will play important roles.

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