

RESEARCH ARTICLE

Utilisation of public healthcare services by an indigenous group: a mixed-method study among Santals of West Bengal, India

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Abstract

A barrier to meeting the goal of universal health coverage in India is the inequality in utilisation of health services between indigenous and non-indigenous people. This study aimed to explore the determinants of utilisation, or non-utilisation, of public healthcare services among the Santals, an indigenous community living in West Bengal, India. The study holistically explored the utilisation of public healthcare facilities using a framework that conceptualised service coverage to be dependent on a set of determinants – viz. the nature and severity of the ailment, availability, accessibility (geographical and financial), and acceptability of the healthcare options and decision-making around these further depends on background characteristics of the individual or their family/household. This cross-sectional study adopts ethnographic approach for detailed insight into the issue and interviewed 422 adult members of Santals living in both rural (Bankura) and urban (Howrah) areas of West Bengal for demographic, socio-economic characteristics and healthcare utilisation behaviour using pre-tested data collection schedule. The findings revealed that utilisation of the public healthcare facilities was low, especially in urban areas. Residence in urban areas, being female, having higher education, engaging in salaried occupation and having availability of private allopathic and homoeopathic doctors in the locality had higher odds of not utilising public healthcare services. Issues like misbehaviour from the health personnel, unavailability of medicine, poor quality of care, and high patient load were reported as the major reasons for non-utilisation of public health services. The finding highlights the importance of improving the availability and quality of care of healthcare services for marginalised populations because these communities live in geographically isolated places and have low affordability of private healthcare. The health programme needs to address these issues to improve the utilisation and reduce the inequality in healthcare utilisation, which would be beneficial for all segments of Indian population.

Keywords: healthcare utilization; public healthcare; indigenous group; rural-urban areas; mixed method

Introduction

In National Health Policy 2017, the Government of India aimed to strengthen the public health sector to provide universal access to good quality healthcare service at minimal cost to every citizen (National Health Policy, 2017; Government of India, 2021). To achieve universal access to healthcare, various measures have been taken by the Government, such as infrastructure development, increased availability of health service providers across the nation including tribal areas (Government of India, 2022), integration of traditional and alternative medicine with modern health system (Government of India, 2022), effective use of community health workers

(Agarwal *et al.*, 2019), and the introduction of public health insurance (National Health Profile, 2019). In spite of these measures, utilisation of public healthcare services is still low among people in general (Kumar and Prakash, 2011; Rout *et al.*, 2021), and except for maternal and child healthcare (MCH) services the people in India mostly rely on private health sector, incurring high out-of-pocket expenditure (Yadav *et al.*, 2022), especially in rural areas (Guo *et al.*, 2019). Therefore, the utilisation of public healthcare services requires an assessment with a different approach, addressing people's perspectives on this issue (Boro and Saikia, 2020).

In India, healthcare services are offered by a blend of public and private healthcare systems (Government of India, 2021; Selvaraj *et al.*, 2022). Public healthcare services are provided through a multi-tiered system where sub-centres provide services at the grass-root level, primary health centres provide the basic health services, community health centres, the first referral units are at the secondary level, and the district hospitals and medical colleges are at the tertiary level (Government of India, 2022). The private health care system is built on medical shops in the communities, which are equipped with pharmacists, quacks, and solo practitioners. At the next level, there are small private hospitals, nursing homes, and clinics run by non-governmental organisations. At the top level lies the big corporate private hospitals along with a limited number of non-profit making/trust hospitals (Sengupta and Nundy, 2005). In parallel, there are non-allopathic AYUSH practitioners in both public and private setups (Gogtay *et al.*, 2002). Additionally, several types of indigenous healers treat their clients with natural, herbal, or spiritual methods. These healers remain popular among folks but do not fall into officially recognised categories of 'Indian medicine' (Lambert, 2012). Understanding the utilisation of public healthcare system by a community, therefore, requires recognising the existing pluralistic health system of the locality and the health-seeking behaviours of the community and its determinants (Chaturvedi *et al.*, 2023).

Indigenous communities of India, designated as scheduled tribe communities, constitute diverse ethnic groups and make up about 8.9% of the total population of the country (Government of India, 2017). These indigenous communities encompass their own medical systems, which constitute their own ethno-botanical and magico-religious knowledge, skills, and medicine practitioners (Government of India, 2017). These communities are often hesitant to utilise existing healthcare services and exhibit poor health status (George *et al.*, 2020; Kumar *et al.*, 2020). The Government in India have special budgetary provisions for health infrastructure development and programme implementation in areas mostly inhabited by such Scheduled Tribe groups that aim to increase utilisation of public healthcare services by these communities (Government of India, 2021). However, gross inequality exists in the health status and healthcare utilisation of indigenous communities compared to the general population (Moosan *et al.*, 2019; Chauhan and Jungari, 2021).

Inequalities in utilisation between indigenous and non-indigenous groups are prevalent across several other countries in the world, (Zhao *et al.*, 2013; Anderson *et al.*, 2016) even in developed countries (Zhao *et al.*, 2013; Sim and Mackie, 2019). In India, it has been reported that indigenous people only utilise public healthcare services for MCH issues (Moosan *et al.*, 2019; Chauhan and Jungari, 2021); but inequality remains in service utilisation by socio-economic (Prusty *et al.*, 2015), cultural (George *et al.*, 2020), and regional (Adhikari *et al.*, 2016) characteristics of the communities. Studies on healthcare utilisation of indigenous groups often cite the unavailability and inaccessibility of services in rural areas (Gandhi *et al.*, 2017; Moosan *et al.*, 2019) and urban slums (Babu *et al.*, 2010) as reasons for under-utilisation. Other barriers range from financial to perceived un-welcoming behaviour of healthcare providers (Boro and Saikia, 2020). Studies also emphasised caste, education, and economic status as determining factors for the choice between public or private healthcare (Rout *et al.*, 2021), along with the factors like severity of diseases, duration of hospitalisation (Chatterjee *et al.*, 2019), and place of residence (Oladipo, 2014). All these factors compel indigenous people to choose locally available traditional medicine and home remedies (Guite and Achaarya, 2006) instead of utilising existing public healthcare services.

Increasing the utilisation of public healthcare among the indigenous groups, therefore, requires examining the issue from the people's perspective – examining the healthcare utilisation by an array of demographic, socio-economic, and behavioural factors. Ethnography, a well established method of Anthropology, would be a useful approach to studying the healthcare utilisation of the indigenous people. Ethnographic studies can provide a holistic and intensive insight into the behaviours of a group of people, and contextualising such behaviour to their cultural and local settings. Ethnographic approaches are gaining popularity among researchers to explain the healthcare practices of different populations – especially indigenous groups – by direct observation of people's behaviour in their local context and documenting both ideal and behavioural patterns and ideas (Black *et al.*, 2021). Utilisation of healthcare services depends on how the healthcare system interacts with the target population and how the system is able to serve the people who need the services. This service utilisation involves a set of factors such as availability of health infrastructure, trained providers, supply and logistics, geographic distribution and proximity of the healthcare facilities to the target population, affordability of the healthcare cost, and people's attitudes towards health and healthcare system (Tanahashi, 1978).

Andersen (1968, 1995) proposed a behavioural model to determine healthcare utilisation of a family as well as the community. Further, Kroeger (1983) developed a model that studied healthcare utilisation in developing countries from an anthropological perspective. In recent years, anthropological studies on utilisation of healthcare services revealed critical perspectives on underlying factors shaping the acceptance or refusal of available healthcare services such as maternal and child health services (Westgard *et al.*, 2019), tuberculosis management (Gerrish *et al.*, 2013), geriatric services (Uhrenfeldt *et al.*, 2014), services of HIV-AIDS (Baim-Lance *et al.*, 2019), and acceptability or resistance to COVID-19 vaccination (Ali *et al.*, 2021; Ali, 2023).

Scholars in India use Andersen's behavioural model (Sunil *et al.*, 2006; Chatterjee *et al.*, 2019) as well as Kroeger's model (Majumder, 2006) to study determinants of healthcare utilisation of non-indigenous population in the public and/or private sector. However, fewer studies have been conducted among the rural population (Dodd *et al.*, 2016; Das *et al.*, 2022) and urban slum dwellers (Hulton *et al.*, 2007), and to the best of authors knowledge, such a study has not been conducted on an indigenous population yet.

Conceptual framework of healthcare utilisation

For the study, a conceptual framework has been developed and presented in Fig. 1. The framework conceptualises that the utilisation of healthcare will depend on a series of determining factors and decision-making around those, not necessarily in a particular order. The factors include the nature and severity of ailments, availability of the healthcare options in the locality, accessibility of the options both in geographical and financial terms, and acceptability of the healthcare options among the community members. Furthermore, decision-making around these factors also depends on the background characteristic of the individual or their family/household.

The decision-making starts with the assessment of the severity and nature of the ailment. Once the individual or their family members decides to seek care from a particular healthcare provider or visit a facility, they consider their options, which could be a public, private, or traditional healthcare system, available in their locality. The other determining factor is the accessibility of the available healthcare options, which could be of two types: geographic accessibility and financial accessibility. The geographic or physical accessibility depends on the physical distance of available facilities, availability of the road connections, transport facility, or the availability of the ambulance service. The financial accessibility of the healthcare service depends upon the cost of treatment and affordability of the cost from the family or individual. Even though a provider or a facility is available and accessible to an individual or a community, the acceptability of the service also determines its utilisation. Acceptability in terms of belief in the provider/system's capability to treat a particular ailment plays a vital role in service utilisation. Other factors such as the

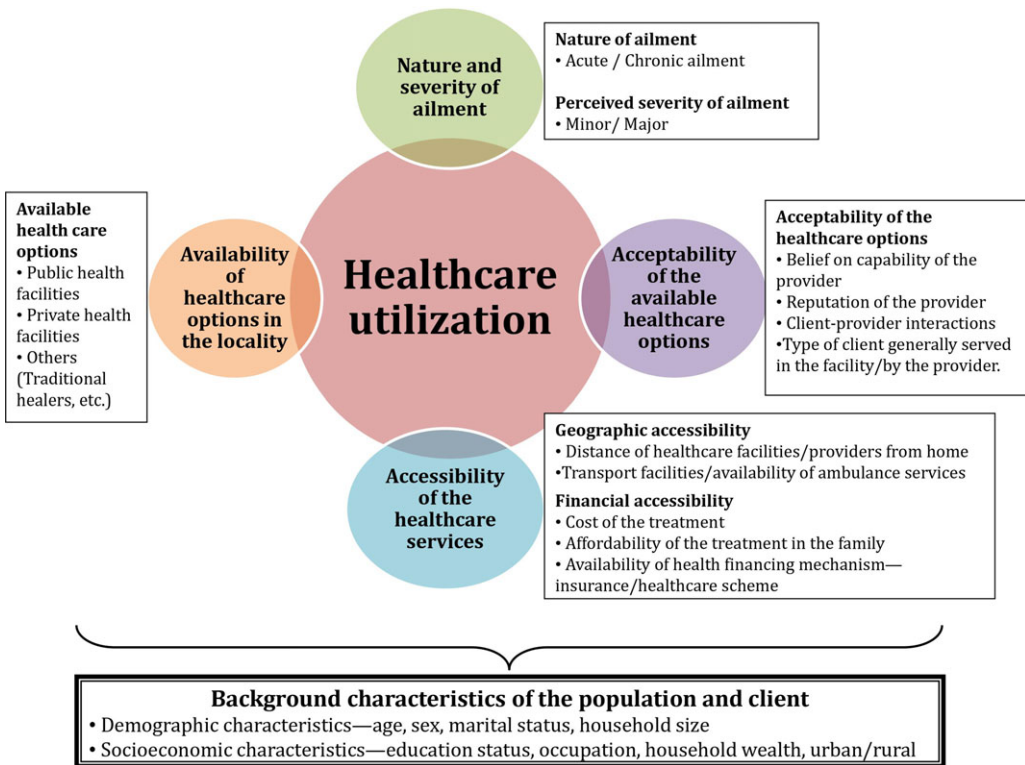


Figure 1. Conceptual framework of healthcare utilisation and its determining factors.

reputation of the provider or the past experiences of client-provider interaction often determine the choice of options regarding healthcare services. Moreover, the decision-making around all these factors depends on the background characteristics of the individual and their household. The demographic characteristics such as age, sex, marital status, household size, and socio-economic characteristics, such as educational status, social group, household wealth, and combining all living in urban/rural locality, also determine how the decision will be made on the utilisation of particular healthcare services.

In view of these, the present study aims to explore the utilisation or non-utilisation of public healthcare services among the Santals of West Bengal. Using a mixed-method approach, this study will holistically explore the determinants of utilisation of public healthcare services by the study participants, using the conceptual framework described above.

Methods

Population

This mixed-method cross-sectional study was conducted among Santals, an indigenous community, enlisted as Scheduled Tribe (ST) community in India. They are the third-largest ST community in India and largest in the state of West Bengal (Census of India, 2011). The Santals live in almost all the districts of the state and their primary occupation is agricultural activity, especially as daily labourer. Santals have “Proto-Australoid” ethnic identity (Guha, 1944). They originated from Santal Parganas of eastern India, speaking ‘Santali’ – a Mundari branch of the ‘Austro-Asiatic’ language family (Mukherjee, 1962). Traditionally, Santals have their own medical system, which includes traditional healers – generally the village priests – who have

knowledge of many ailments, symptoms, and diseases and curative measures for those. The Santal communities also have indigenous perceptions of health and healthcare (Bodding, 2011); a few scholars reported traditional healing practices of Santals (Karua, 2015; Sikder and Biswas, 2016) but literature on health-related behaviour and utilisation of existing healthcare system among contemporary Santal communities are scanty.

Study area

This paper used both quantitative and qualitative data that was collected in a larger research project on health and health behaviour of the Santals living in rural and urban areas (Das, 2015). Data on the rural group were collected from four adjacent small villages of Beliatore area under the administrative block of Barjora in Bankura district, while data for the urban group were collected from the 'Santragachi Press Quarter' locality under the authority of Howrah Municipal Corporation, Howrah district. Both the study areas were purposively selected because a large number of Santal people live in these two areas. There was considerable variation in socio-economic conditions among the study population in terms of education, occupation, and income, between the rural and urban areas. However, a socio-economic homogeneity prevailed within each area.

Data types and collection

At the beginning of the fieldwork, a complete enumeration of the study area was carried out, covering all households, for the collection of demographic and socio-economic data. To avoid inter-observer error, a single researcher (BMD) collected the quantitative data on socio-economic condition of the households and demographic characteristics of all members of the households, using a pre-tested questionnaire. These data included age, sex, marital status, education, occupation, relationship with household-head for all household members, item-wise monthly household expenditure, and household assets. A total of 315 (183 rural and 132 urban) households of Santal community were enumerated, which were inhabited by 1449 (892 rural and 557 urban) people, out of these 1027 were adults (18 years or more) with 600 individuals from rural areas and 427 from urban areas.

At least one adult member from each household was approached to participate in a survey on healthcare utilisation. At first, the researcher approached the head of the household for interview, in case the person was not present or not in a position or not willing to take part in the interview, his spouse or any other adult member of the household, present at the time of visit, was interviewed. In case of bigger households (a household of 8 members or more), two members from two generations were interviewed to record the variations in healthcare utilisation behaviour. In total, 422 adult individuals (from both rural and urban area) of Santal community were interviewed constituting about 40% of the adult Santal population of the study area. Out of them, 241 were males and 181 were females.

Data on healthcare utilisation behaviour were collected using a data collection schedule, which consisted of a mix of close-ended and open-ended questions that allowed researchers to write verbatims of the selected questions focused on description of and explanations of certain healthcare behaviours. The schedule was adopted from a standard data collection schedule tested in earlier studies of healthcare utilisation, conducted in other indigenous communities of North-eastern and Eastern India (Roy *et al.*, 2010; Das, 2015). Healthcare utilisation behaviour data included beliefs, attitudes, and practices regarding healthcare service utilisation and related issues at times of participant's health crisis. No audio recording of the interview was done. The researcher wrote the verbatims at the time of interview in Bengali – the language of communication between the researcher and the participants – which were later translated into English. Apart from these ethnographic data, the researcher collected data on the existing

healthcare facilities/providers available in the study area. No statistical sampling was adopted to collect data for this intensive study because the researcher wanted to recruit as many participants as possible from the study areas to capture the variations in the responses.

Recoding of quantitative data

For the ease of statistical analysis, the quantitative data collected in the survey were re-categorised as follows. Participants' ages were categorised into 3 groups i.e. '18–39 years', '40–59 years', and '60+ years'; place of residence as 'rural' and 'urban'; marital status was classified as 'unmarried', 'married', and 'widowed/separated'; household size was categorised as 'up to 4 members', '5–6 members', and '7 or more members'; level of education as 'non-literate', 'up to secondary'(standard 1st to 10th), and higher secondary (above standard 10th); and occupational types were categorised as 'agricultural activity' (including daily wage/labour), 'salaried' (service person/pensioner), and 'others' (housewife/business/students/dependent/unemployed).

To assess the economic condition of the household, wealth index score (WIS) was calculated for each household using household characteristics and assets data following the standard procedure of generating wealth index as adopted in the National Family Health Survey (IIPS & Macro International, 2007). Wealth index is a standard indicator of economic condition of the household – mostly used in Demographic and Health Surveys across the world – and is consistent with household's income and expenditure measures. After generating the score, each household was classified into one of the three categories using the tertiles of the distribution of WIS as 'low' (<−0.869), 'medium' (−0.869 to 0.838), and 'high' (> 0.838). Therefore, all the members of a household are supposed to have the same WIS.

Data on healthcare-related issues viz. availability of the healthcare service provider (in terms of distance) was classified into 'within 1 kilometer', '2–3 kilometers', and '4 kilometers and more'; available health practitioner/provider into 'public allopathic', 'private allopathic', and 'homeopathic and others' (include pharmacist, quack, and traditional healer); position in household data into 'head/main earner' and 'other member'; having any health insurance coverage into 'covered' and 'not covered'; and perceived severity data were classified into 'minor' and 'major'.

Statistical analysis

Descriptive statistics were used to study the distribution of socio-demographic characteristics of the study participants and their healthcare utilisation behaviour cross-tabulated by their place of residence. Multivariable logistic regression analyses were undertaken to examine the association between socio-demographic variables, other healthcare issues, and utilisation of public healthcare facilities. Here, two different logistic regression models i.e. multivariable (enter) and multivariable (backward stepwise) were used. In the logistic regression models, utilisation of public healthcare facilities was used as dichotomous dependent variables (Yes vs. No) and socio-demographic and healthcare issues-related variables were considered as independent variables. All the independent variables were categorical as described earlier. For most of the categorical independent variables, the category with the highest frequency was considered as reference category and the associations of other categories with the dependent variable were presented in terms of adjusted odds ratios (AOR) and 95% confidence interval (CI). All statistical analyses were performed using SPSS software 16.0 (SPSS Inc., Chicago, IL, USA) and Microsoft Excel 2010 software packages.

Ethnographic and qualitative data

Findings from the quantitative data on healthcare behaviours were complemented with ethnographic and qualitative data. These data also helped to understand the cultural and local

context of healthcare utilisation by the study population. The authors prepared a guideline for the collection of qualitative ethnographic data, which included the following area of enquiry – description of the existing healthcare system of the area, illness patterns in the study population, concept of health and health-seeking behaviours, past experiences of treatment at public health facilities, local private clinics, and with traditional healthcare providers; and reasons for non-utilisation of public healthcare facilities for healthcare seeking. Select quotes from the participants are presented to explain the findings of the statistical analysis. While presenting the analysis, to maintain the anonymity and confidentiality, the names and personal identification of the participants have not been included in the text.

Results

Availability and accessibility of the public healthcare facilities

This sub-section presents a brief ethnography of the healthcare practice of the study population and the options available to them. Following the conventional practice of ethnography writing, this section is written in the present tense. The ethnographic data revealed that participants of both rural and urban areas had faith in their traditional medical system, but urban participants rarely availed of it. To utilise a public healthcare facility, the villagers residing in rural areas mostly go to the primary health centre (PHC) in Chhandar village. This PHC was just 1 kilometre away from the nearest of the 4 study villages, and about 5 kilometres away from the furthest village. They also go to another PHC at Beliatore *bazaar* (market) (distance 5–9 kilometres, depending on the location of the village) and rarely go to the block primary health centre at Barjora block (approximate distance 19–23 kilometres away). However, in case of any medical emergencies, the villagers went to Bankura Sammilani Medical College in Bankura city (approximate distance around 30 kilometres), and for serious illnesses, villagers prefer to go to different medical colleges and hospitals located in Kolkata city (approximate distance 200 kilometres). People in the rural area also went to health providers practising ayurvedic, homoeopathic and unani medicine nearby. Additionally, people also went to private clinics run by allopathic doctors (only one doctor with MBBS degree and rest with either medical diploma or certificate holder; 3 other MBBS doctors come to various medicine shops once a week or month to treat patients) at Beliatore *bazaar* and a few nursing homes in Bankura city. People of the rural area go to traditional healers living within and in some far-remote area from the studied villages, for treating minor ailments and for those health conditions believed to be caused by supernatural reasons.

The study participants in the urban area mostly migrated from other places due to occupational needs and, therefore, do not have any traditional medicine practitioner in the locality. Nearby public health facilities in urban areas include Baltikuri General Hospital, Baltikuri Employees' State Insurance Hospital and a Dispensary under Central Government Health Scheme. All these public sector health facilities are located within 6 kilometres of the study location for urban areas. The area is well connected with metropolitan city of Kolkata by surface and water transportation, and for any health crisis, people go to other bigger public and private hospitals in Kolkata or Howrah. Apart from these, plenty of private allopathic and homoeopathic practitioners, pharmacists, physiotherapists, and mid-wives were easily available in and around the study areas. Also, there are several private nursing homes and hospitals to provide emergency care.

Socio-demographic and health-related characteristics of the study population

Table 1 shows the demographic and socio-economic characteristics of the study participants by place of residence. In rural areas, out of 260 participants, 50% were men; while in urban areas, out of 162 participants, 69% were men. Majority of rural participants belonged to the age group of 18–39 years (52%) and 40–59 years (30%); while urban participants belonged to the age group

Table 1. Demographic, socio-economic, and healthcare-related characteristics of the studied Santals

| Variables | Variable categories | Rural (N = 260) | Urban (N = 162) |
|---|------------------------|-----------------|-----------------|
| | | % | % |
| Position in household | Head/main earner | 40.0 | 51.2 |
| | Other adult members | 60.0 | 48.8 |
| Age groups | 18–39 years | 51.9 | 41.4 |
| | 40–59 years | 30.0 | 51.9 |
| | 60+ years | 18.1 | 6.8 |
| Sex | Male | 49.6 | 69.1 |
| | Female | 50.4 | 30.9 |
| Marital status | Married | 75.0 | 77.2 |
| | Unmarried | 12.7 | 21.0 |
| | Widowed/Separated | 12.3 | 1.9 |
| Household size | Up to 4 members | 34.2 | 67.9 |
| | 5–6 members | 40.4 | 25.9 |
| | 7 and more members | 25.4 | 6.2 |
| Educational level | Non-literate | 49.6 | 1.9 |
| | Up to secondary | 43.5 | 30.3 |
| | Above secondary | 6.9 | 67.9 |
| Occupational types | Agricultural activity | 66.2 | – |
| | Salaried | 4.2 | 58.0 |
| | Others* | 29.6 | 42.0 |
| Economic status (Wealth Index Score) | Low | 54.6 | – |
| | Middle | 45.4 | 14.2 |
| | High | – | 85.8 |
| Availability (Distance) | Within 1 kilometre | – | 33.3 |
| | 2–3 kilometres | 77.7 | 66.7 |
| | 4 kilometres & more | 22.3 | – |
| Available health practitioner | Public allopathic | 85.0 | 29.0 |
| | Private allopathic | 9.2 | 67.3 |
| | Homoeopathic & others# | 5.8 | 3.7 |
| Having any health care cost coverage | Not covered | 95.4 | 14.2 |
| | Covered | 4.6 | 85.8 |
| Perceived severity of current health condition@ | Minor | 83.9 | 69.1 |
| | Major | 16.2 | 30.9 |

*Others include housewives, aged dependents, petty businesspeople, students, and unemployed.

#Others include pharmacists, quacks, and traditional healers.

@Severity of ailment/disease as perceived by the study participants.

of 40–59 years (52%) and 18–39 years (41%). Overwhelming majority of the participants were married both in rural (75%) and in urban (77%) areas. Majority of rural households were composed of 5–6 members (40%), followed by up to 4 members (34%), and more than 7 members (25%); while urban households were mostly composed of up to 4 members (68%) and 5–6 members (26%). Majority of the rural participants were non-literate (50%) or had education up to secondary level (43%); while majority of urban participants had education above secondary (68%), or up to secondary (30%) level. Higher percentage of rural participants were engaged in agricultural activities (66%) compared to 58% of salaried urban participants. Economic status in terms of WIS of the Santals indicated that rural individuals mostly belong to ‘low’ (55%) to ‘middle’ (45%) wealth groups, while urban individuals belong to ‘middle’ (14%) to ‘high’ (85%) wealth groups.

Table 1 also demonstrates the healthcare-related characteristics of the study participants. Around 40% of rural participants and 51% of urban participants were either head or main earners of the household, who accessed healthcare services from a public healthcare facility for the last time prior to the survey. In total, 78% of rural and 67% of urban participants reported that they had accessed the nearest public healthcare facility, located within 2–3 kilometres of their home. Most of the rural participants went to public allopathic practitioner (85%) in their locality for any treatment, but most of the urban participants went to private allopathic practitioner (67%). An overwhelming majority of rural participants (95%) were not covered under any kind of healthcare financing scheme (insurance coverage, employees healthcare scheme, etc.), while majority of urban participants (86%) were covered for their healthcare costs under different types of health insurance schemes. Majority of the study participants (84% of rural and 69% of urban) perceived their current health condition/illness/disease as ‘minor’ (not very serious) during their last visit to any healthcare facility.

Utilisation of public healthcare services by the study population

Table 2 presents the utilisation of public healthcare services, when the participants fell sick for the last time, and visited a health practitioner for treatment of ailments/symptoms/diseases – separated by socio-demographic groups and healthcare-related issues. Around 79% of the rural and 30% of the urban participants reported that they utilised public health services at least once within the last 2 years prior to the survey. When they utilised any healthcare services for the last time, only 37% of the rural and 12% of the urban participants utilised public healthcare services, while majority of them went to a private allopathic practitioner (43% of rural and 70% of urban participants). Although the utilisation pattern was similar by age group, a higher percentage of participants of younger age group (18–39 years) reported utilisation of public health facilities as compared to older age groups. The utilisation of public health facilities did not significantly differ by sex of the participants; however, married participants reported higher usage of public health facilities, while unmarried participants reported a greater reliance on private allopathic doctors. Utilisation of public healthcare services increased with larger household size (from 50% for a family of less than 4 vs. 76% among families of 7 or more) and the higher percentage of participants of the small households went to private allopathic doctors for their last health issues. The utilisation of public health facilities was higher among participants with low literacy, less wealth, and those who were agricultural workers, on the other hand, the visit to private allopathic doctors were higher for the last visit among participants from economically well-off families, highly educated, and having salaried occupation.

The utilisation of public healthcare facilities was not just related to its proximity to the participant’s household; participants living closer to a healthcare facility (within 1 kilometre) utilised the services with less percentage (26%) than the participants living 4 or more kilometres away; (86%). The participants, whose nearest practitioner was a public allopathic doctor, utilise the public health services with higher percentage (78%) than those whose nearest practitioner was a private allopathic doctor (29%), or a homoeopathic doctor or others (33%). The choice of health

Table 2. Utilisation of public healthcare services and last time when the participants utilised a health practitioner for treatment of ailments/symptoms/diseases across socio-demographic groups and healthcare-related issues

| Socio-demographic characteristics | Number of participants | Used public healthcare facilities (%) | Last utilised health practitioner | | | |
|---|------------------------|---------------------------------------|-----------------------------------|----------------------|------------------------|-------------------------|
| | | | Public allopath (%) | Private allopath (%) | Private homoeopath (%) | Others [#] (%) |
| Place of residence | | | | | | |
| Rural | 260 | 78.8 | 36.9 | 43.1 | 16.9 | 3.1 |
| Urban | 162 | 30.2 | 12.3 | 70.4 | 11.1 | 6.2 |
| Age groups | | | | | | |
| 18–39 years | 202 | 65.8 | 31.2 | 48.5 | 16.8 | 3.5 |
| 40–59 years | 162 | 54.3 | 23.5 | 58.6 | 12.3 | 5.6 |
| 60+ years | 58 | 56.9 | 25.9 | 56.9 | 13.8 | 3.4 |
| Sex | | | | | | |
| Male | 241 | 62.7 | 27.8 | 54.8 | 13.3 | 4.1 |
| Female | 181 | 56.9 | 27.1 | 51.9 | 16.6 | 4.4 |
| Marital status | | | | | | |
| Married | 320 | 61.9 | 27.8 | 52.5 | 15.6 | 4.1 |
| Unmarried | 67 | 58.2 | 26.9 | 58.2 | 10.4 | 4.5 |
| Widowed/Separated | 35 | 48.6 | 25.7 | 54.3 | 14.3 | 5.7 |
| Household size | | | | | | |
| Up to 4 members | 199 | 50.2 | 23.6 | 59.8 | 12.1 | 4.5 |
| 5–6 members | 147 | 65.3 | 29.9 | 46.3 | 18.4 | 5.4 |
| 7 and more | 76 | 76.3 | 32.9 | 51.3 | 14.5 | 1.3 |
| Educational level | | | | | | |
| Non-literate | 132 | 72.0 | 38.6 | 40.2 | 16.6 | 4.6 |
| Up to secondary | 162 | 67.3 | 29.0 | 51.8 | 13.0 | 6.2 |
| Above secondary | 128 | 39.1 | 14.1 | 69.5 | 14.8 | 1.6 |
| Occupational types | | | | | | |
| Agricultural worker | 172 | 86.6 | 43.6 | 36.6 | 16.3 | 3.5 |
| Salaried | 105 | 32.4 | 10.9 | 74.3 | 11.4 | 3.8 |
| Others* | 145 | 49.0 | 20.7 | 58.6 | 15.2 | 5.5 |
| Economic status (Wealth Index Score) | | | | | | |
| Low | 142 | 81.7 | 41.5 | 35.9 | 19.0 | 3.5 |
| Medium | 141 | 67.4 | 26.2 | 54.6 | 14.2 | 5.0 |
| High | 139 | 30.9 | 14.4 | 70.5 | 10.8 | 4.3 |
| Distance of nearest public health facility | | | | | | |
| Within 1 kilometre | 54 | 25.9 | 11.1 | 66.7 | 14.8 | 7.4 |
| 2–3 kilometres | 310 | 61.3 | 26.4 | 52.3 | 16.8 | 4.5 |
| 4 kilometres & more | 58 | 86.2 | 48.3 | 48.3 | 3.4 | – |

(Continued)

Table 2. (Continued)

| Socio-demographic characteristics | Number of participants | Used public healthcare facilities (%) | Last utilised health practitioner | | | |
|---|------------------------|---------------------------------------|-----------------------------------|----------------------|------------------------|-------------------------|
| | | | Public allopath (%) | Private allopath (%) | Private homoeopath (%) | Others [#] (%) |
| Available health practitioner | | | | | | |
| Public allopathic | 268 | 77.6 | 36.9 | 46.3 | 13.8 | 3.0 |
| Private allopathic | 133 | 29.3 | 10.5 | 72.9 | 10.5 | 6.0 |
| Private homoeopathic & others [#] | 21 | 33.3 | 14.3 | 23.8 | 52.4 | 9.5 |
| Position in household | | | | | | |
| Other adult members | 235 | 61.3 | 28.1 | 51.5 | 16.2 | 4.3 |
| Head/main earner | 187 | 58.8 | 26.7 | 56.2 | 12.8 | 4.3 |
| Having any health care cost coverage | | | | | | |
| Not covered | 271 | 77.1 | 37.3 | 43.5 | 16.2 | 2.9 |
| Covered | 151 | 29.8 | 9.9 | 71.5 | 11.9 | 6.6 |
| Perceived severity of current health condition[@] | | | | | | |
| Minor | 330 | 62.7 | 26.4 | 51.2 | 17.6 | 4.8 |
| Major | 92 | 51.1 | 31.5 | 62.0 | 4.4 | 2.2 |

[#]Others include pharmacists, quacks, and traditional healers.

^{*}Others include housewives, aged dependents, petty businesspeople, students, and unemployed.

[@]Severity of ailment/disease as perceived by the study participants.

services did not affect whether the patient was the head of the household or not as around 59% of the head or main earner of the households and 61% of the other adult household members reported that they utilise public healthcare services. During the last health crisis, although less than half of the participants utilised the public healthcare services, it did not matter whether the patient was the main earner of the household or not. An overwhelmingly higher percentage of the participants (77%), who were not covered under any health financing scheme (health insurance coverage, employee's health scheme, social insurance schemes, etc.), utilised public healthcare services than those who were covered under any health financing scheme (30%). About half of the participants, who perceived the severity of their illness/disease as 'major', seek healthcare at public healthcare facilities (51%); however, during the last health crisis, much higher percentages (63%) sought healthcare services from private allopathic doctors (62%) for their major health problems.

A significantly higher percentage of participants from rural areas (79%) utilise public healthcare services than participants from urban areas (30%) (Table 3). The researcher also asked the participants which types of health problems they would usually utilise public health facilities. Some rural-urban differences could be noticed in types of health problems for which they went to public healthcare services. Rural participants usually went to public healthcare facilities for the ailments like fever (30%), gastrointestinal problems (15%), cough and cold (8%), and reproductive healthcare (8%); whereas urban participants went to public healthcare facilities for health problems like blood-pressure related problems (18%), fever (12%), and other health problems (16%), which include blood sugar, piles, ear problems, snake bites, and nerve-related problems.

For those who reported that they did not usually go to public health facilities, the researcher also asked them the reason for their choice. Most of such participants blamed the poor quality

Table 3. Utilisation of public healthcare facilities by Santals living in rural and urban areas

| Public healthcare utilisation | Rural (%) (N = 260) | Urban (%) (N = 162) |
|--|------------------------|------------------------|
| Avail public facilities for healthcare services | 78.8 | 30.2 |
| Health problems for which participants generally utilise public health facility | N = 205 | N = 49 |
| Fever | 29.8 | 12.2 |
| Cough & cold | 8.3 | 8.2 |
| Headache/head turmoil | 6.3 | 8.2 |
| Gastro-intestinal problem | 14.6 | 6.1 |
| Body pain | 7.3 | 8.2 |
| Weakness | 4.4 | 2.0 |
| Reproductive health services (including childbirth) | 8.3 | 4.1 |
| Blood pressure/heart issues | 2.0 | 18.4 |
| Eye problem | 4.4 | 2.0 |
| Skin problem | 2.4 | 4.1 |
| Jaundice | 1.5 | 2.0 |
| Injury/Accident | 2.4 | 2.0 |
| Operated (Tumour, gallstone, etc.) | 2.4 | 6.1 |
| Others [#] | 5.9 | 16.3 |
| Reasons for not availing public health facility | N = 55 | N = 113 |
| Poor quality of service | 32.7 | 25.7 |
| Less confidence in ability of provider | 27.3 | 31.0 |
| Distance | 5.4 | 14.2 |
| No severe illness | 18.2 | 23.9 |
| Others [*] | 16.4 | 5.3 |

[#]Others include blood sugar, piles, ear problems, snake bites, and nerve problems.

^{*}Others include medicine/service/doctor not available always and take long time to recover from illness.

of service in public health facilities (33% in rural and 26% in urban). The other main reason for non-utilisation of public health facilities was less confidence in provider and their ability to treat ailments (28% in rural and 31% in urban). A higher proportion of urban participants reported that they did not go to public facilities because they did not suffer from any severe ailment (24%), and for minor ailment, they preferred to go to private health facilities. Few participants from both urban (14%) and rural (5%) areas reported distance from home to facilities was among the reasons for not utilising the public healthcare services. A higher proportion of rural participants (16%) reported that they do not go to the public health facilities because of 'other' reasons including lack of availability of medicine, doctors, and longer recovery time from the treatment they received from the public health facilities.

Determinants of public healthcare utilisation of the study population

Table 4 shows the results of multivariable logistic regression predicting utilisation of public healthcare services with respect to different socio-demographic and health-related characteristics

Table 4. Multivariable logistic regression on determinants of utilisation of public healthcare services by Santals (*N* = 422)

| Variables | Logistic regression models | |
|---|-------------------------------|---|
| | Multivariable AOR (95% CI) | Backward Stepwise (step-10) AOR (95% CI) |
| Place of residence | | |
| Rural | Ref. | Ref. |
| Urban | 0.298* (0.075–1.182) | 0.334** (0.165–0.675) |
| Age groups | | |
| 18–39 Years | Ref. | Removed on step-3 |
| 40–59 Years | 1.237 (0.627–2.440) | |
| 60+ Years | 0.980 (0.363–2.643) | |
| Sex | | |
| Male | Ref. | Ref. |
| Female | 0.412 (0.162–1.049) | 0.419** (0.237–0.743) |
| Marital status | | |
| Married | Ref. | Removed on step-6 |
| Unmarried | 0.599 (0.222–1.613) | |
| Widowed/Separated | 0.822 (0.280–2.417) | |
| Household size | | |
| Up to 4 members | Ref. | Removed on step-2 |
| 5–6 members | 1.097 (0.617–1.948) | |
| 7 and more members | 1.039 (0.455–2.377) | |
| Educational status | | |
| Non-literate | Ref. | |
| Up to secondary | 2.354* (1.017–5.450) | Removed on step-10 |
| Above secondary | 3.347* (1.009–11.103) | |
| Occupational status | | |
| Agricultural activity | Ref. | Ref. |
| Salaried | 0.237* (0.073–0.767) | 0.216*** (0.091–0.510) |
| Others [§] | 0.449 (0.199–1.012) | 0.429* (0.218–0.842) |
| Economic status (Wealth Index Score) | | |
| Low | Ref. | Removed on step-8 |
| Medium | 0.621 (0.304–1.267) | |
| High | 0.721 (0.193–2.687) | |
| Availability (Distance) | | |
| Within 1 kilometre | Ref. | Removed on step-9 |
| 2–3 kilometres | 1.444 (0.657–3.173) | |
| 4 kilometres & more | 2.370 (0.667–8.422) | |

(Continued)

Table 4. (Continued)

| Variables | Logistic regression models | |
|---|-------------------------------|---|
| | Multivariable AOR (95% CI) | Backward Stepwise (step-10) AOR (95% CI) |
| Availability of health practitioner in the locality | | |
| Public allopathic | Ref. | Ref. |
| Private allopathic | 0.360** (0.200–0.649) | 0.341*** (0.192–0.604) |
| Homoeopathic & Others [#] | 0.160** (0.052–0.488) | 0.162** (0.058–0.457) |
| Position in household | | |
| Other adult members | Ref. | Removed on step-7 |
| Head/main earner | 0.687 (0.258 – 1.826) | |
| Having any healthcare cost | | |
| Not covered | Ref. | Removed on step-5 |
| Covered | 0.713 (0.258–1.972) | |
| Perceived severity of current health condition[@] | | |
| Minor | Ref. | Removed on step-4 |
| Major | 0.909 (0.500–1.656) | |
| R Square (Nagelkerke) | 0.433 | 0.409 |
| Model correctly predicted | 78.7% | 76.8% |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Ref.: reference category.

AOR = adjusted odds ratios; CI = confidence interval.

[#]Others include pharmacists, quacks, and traditional healers.

[§]Others include housewives, aged dependents, petty businesspeople, students, and unemployed.

[@]Severity of ailment/disease as perceived by the study participants.

of the Santals. In this analysis, the multivariable logistic regression (enter) model found significant associations of utilisation of public healthcare services with place of residence (urban AOR = 0.298), educational status (up to secondary AOR = 2.354 and above secondary AOR = 3.347), occupational status (salaried AOR = 0.237) of the study participants and availability of private allopath doctors (AOR = 0.360), and homoeopath & others practitioner (AOR = 0.160) in the locality. However, the backward stepwise logistic regression model only found place of residence, sex, occupational status, and availability of health practitioner in the locality as significant determinants of public healthcare utilisation among the study population. Participants residing in urban area (AOR = 0.334), being female (AOR = 0.419) and being salaried (AOR = 0.216) or pursuing 'other' (AOR = 0.429) occupational status, were less likely to utilise public healthcare services than their respective counterparts. Among all health-related issues, the participants residing in localities with the availability of private health providers (allopathic practitioner AOR = 0.341 and homoeopathic and other practitioners AOR = 0.162) were less likely to utilise public healthcare services than those residing in localities with availability of public allopathic practitioner in the locality. The R Square values and the percentages of correctly predicted cases in both multivariable logistic models were similar (enter model $R^2 = 0.433$, 79% and stepwise model $R^2 = 0.409$, 77%) showing that using fewer predictor variables the stepwise model could predict the public healthcare utilisation as accurately as the enter model.

Table 5. Satisfaction to utilisation of public healthcare services by Santals

| | Rural (%) (N = 205) | Urban (%) (N = 49) |
|---|------------------------|-----------------------|
| Public healthcare utilisation | | |
| Satisfaction on public health services | | |
| Yes | 64.4 | 59.2 |
| Perceived reasons for not satisfaction* | N = 73 | N = 20 |
| Doctors are not available | 5.5 | 10.0 |
| Don't give medicine | 47.9 | 45.0 |
| Don't check up properly | 27.4 | 40.0 |
| Available medicine does not work properly | 30.1 | 10.0 |
| Less effective/Time consuming too | 4.1 | 10.0 |
| Doctor prescribed without touching/asking problem | 16.4 | 30.0 |
| Quality of interaction with public healthcare provider | N = 132 | N = 29 |
| Satisfactory interaction | 83.4 | 77.5 |

*Multiple answers considered.

Narratives on determinants of public healthcare utilisation among the study participants

Participants from rural areas who utilised public healthcare services reported their satisfaction with healthcare services with higher percentage (64%) than the urban participants (59%) (Table 5). Even some urban participants reported their confidence in public healthcare services.

'I visited a government hospital for my cyst operation. I am satisfied with the service and behaviour of the healthcare personnel and treatment was done almost free of cost. Even though my father has a health insurance policy, but we afraid of wrong treatment as well as unnecessary expenditures in private facilities'. [Participant of urban area, male, 21 years]

When asked the reasons for non-satisfaction on services they received in public healthcare facilities, the participants reported that the health providers at public facilities didn't give medicine (48% of rural and 45% of urban), didn't perform a proper 'check-up' (28% of rural and 40% of urban), available medicine didn't work properly (30% of rural and 10% of urban), and doctors sometimes prescribe without touching body or asking the problem from the client (16% of rural and 30% of urban).

'Doctor at Government healthcare facilities give any of the three medicines for all ailments/diseases every time. Those three medicines help to recover from some minor and common ailments like fever, cough and cold, or stomach upset, etc. Therefore, it is very difficult to recover from severe ailments/diseases using medicines available in the Government facilities'. [Participant of rural area, male, 35 years]

Few participants also cited reasons like unavailability of the doctors at the facility (6% of rural and 10% of urban), or the public healthcare set up as 'less effective and time consuming' (4% of rural and 10% of urban).

'I am a daily labour, need to go to work early in the morning and return home from work in the afternoon . . . if I became ill and want to visit doctor for my treatment in Hospital [public healthcare facility], I have to sacrifice the day's wage, as [public] hospital's healthcare services

are not available in the early morning . . . ultimately my family will suffer and that is why I sometimes overlook my ailment'. [Participant of rural area, male, 42 years]

'I did not fall ill . . . till date I never suffered from any severe illness, that is why it is not required to visit any hospital [public healthcare facility], the day if I suffer from minor ailment, I take medicine from nearby medicine shops'. [Participant of rural area, male, 21 years]

'Most of the time we have to purchase medicine from outside the [public] hospital premises. Very few medicines are available in the [public] healthcare facility; however those medicines do not work efficiently. It takes a long time to recover from illness'. [Participant of rural area, male, 27 years]

Apart from the issue of unavailability and lack of accessibility, the poor quality of care in public healthcare facilities was cited as a barrier to avail the treatment from such facilities.

'We reached [public] hospital very early morning to avoid queue or rush, and after getting the ticket [registration for treatment], we waited for long in a queue before reaching in front of a doctor. But the doctor did not listen to us [pay attention to us] and prescribed medicine before asking much about the illness or disease and they did not even touch us [to diagnosed the problem clinically]!' [Participant of rural area, female, 23 years]

'I am not satisfied with the behaviour of the healthcare personnel especially the sisters [nursing staff] in the government hospital, she misbehaved with me very harshly, when I asked to explain the prescribed medicines for the second time'. [Participant of urban area, male, 29 years]

'We are bound to go to the hospital [public] for the treatment of our illness/diseases, because we the poor people . . . don't have much money to spent on health . . . even we are unable to purchase medicine, sometimes they (the sister) behave rough with us, but we don't have any other options'. [Participant of rural area, male, 65 years]

Apart from issues of availability and accessibility, lack of acceptability was another issue that the participants expressed. This was reported mostly by the urban participants. They often believed that due to lack of doctors, infrastructure, and medicine, the good treatment was not possible in public healthcare facilities and therefore they had lack of confidence in their ability to provide a proper treatment.

'Because of poor service I have not visited government hospital for a long time . . . it may be more than 10 years . . . I have faith on government doctors, they have expertise and knowledge on health issues but they are helpless to perform, or to provide good treatment or operation within poor government infrastructure . . . the same doctor can show their excellences in a private healthcare setting'. [Participant of urban area, male, 51 years]

'[My] wife's heart problem will not be cured in government hospital, I know that some of the government hospital in Kolkata has the facility for the treatment of heart patient, but I don't have faith on their treatment and service-related issues. Moreover, an individual's heart is an important organ, it required very serious attention, which never be possible in a government hospital'. [Participant of urban area, male, 62 years]

'I never visit a government hospital . . . [the investigator pointed out to a Central Government Health Scheme (CGHS) Card on the table in front of the participant and asked what is the

utility of the card if he don't visit a public healthcare facility] . . . we collect medicines only for our [participant and his wife] blood sugar and blood pressure problems from the government hospital using the [CGHS] Card, otherwise for any other health problems we prefer to visit private health practitioner for better treatment and quick service'. [Participant of urban area, male, 55 years]

'Once upon a time, we used to visit [public] hospital regularly for the treatment, but now we would like to visit Dr. Kisku [name changed] at Sonamukhi, Bankura for any treatments anytime, because he is from our community, he understands us (communicate with their dialect or language), we have a good faith on him and at the same time his medicine works very efficiently'. [Participant of rural area, female, 48 years]

Some urban participants also believed that only poor people, who could not afford a treatment in private hospitals, went to the public healthcare facilities. Otherwise, it would take a lot of time to get treatment in public health facilities.

'Now-a-days, it is very difficult for us to spend more time in queue for treatment in government hospital. They [the providers in public facilities] ask for multiple visits, even in the same . . . we have health insurance policies, so we expect much better service in government hospital'. [Participant of urban area, female, 42 years]

'Why should we go to a government hospital? We have better option for treatment in private health sector . . . government hospitals are the only option for those people [indicating poor people] who don't have other options to treat themselves'. [Participant of urban area, female, 37 years]

Among those who reported satisfaction on the service that they had received in public healthcare facilities, an overwhelming majority of both the urban (76%) and rural (83%) participants reported satisfaction on the quality of interaction with health care provider.

'We the poor people, don't have much money to purchase medicine, if we visit [public] hospital, the treatment cost is free and they also give medicine, only thing is that we have to wait long time before doctor came'. [Participant of rural area, female, 62 years]

'In recent times, during the birth of my last child at Beliatore hospital [public], I received many things (delivery kits) along with money of INR 500/-, even we did not pay any amount for the process, Sarkar (the Government) is taking care for the poor people . . . we are happy with their efforts'. [Participant of rural area, female, 28 years]

Discussion

This study documented utilisation, or non-utilisation, of public healthcare services among the Santals (an indigenous community) of West Bengal and tried to find out the determinants behind it. It adopted a conceptual model, which includes nature and severity of ailment, availability of healthcare options in the locality, acceptability of the available healthcare options, and accessibility of the healthcare services. Authors argue that all these factors along with demographic, socio-economic characteristics in background are related to the behaviour of healthcare utilisation. The study further tried to identify the significant predictors and interventions, which will increase the public health care utilisation among study population and will be helpful in reducing gap in healthcare utilisation between indigenous and non-indigenous groups, towards achieving universal health coverage in the country.

Geographical and financial inaccessibility of healthcare in rural areas and low acceptability in urban areas along with poor service availability contribute towards low utilisation of public healthcare services

The findings of the study reveal utilisation of public healthcare services was low across the groups, although comparatively higher percentage of rural individuals and a lower percentage of urban individuals reported that they utilised the public healthcare facilities at least once within last 2 years before the interview. Low utilisation of public healthcare services was reported among the indigenous groups across the world (Marrone, 2007), including such groups from both developed (Zhao *et al.*, 2013, Sim and Mackie, 2019) and developing countries (Leyva-Flores *et al.*, 2014), even among indigenous communities living in non-remote areas (Pulok *et al.*, 2020) or in urban areas (Snyder and Wilson, 2012). In India, utilisation of public healthcare services among indigenous communities was found low both in rural (George *et al.*, 2020) and urban areas (Babu *et al.*, 2010). Also, Santals of Birbhum district, West Bengal exhibited lower utilisation of public healthcare services (Chakraborty *et al.*, 2022). However, compared to the finding of the previous studies in general populations of rural areas (Kumar *et al.*, 2019) and especially among the Santal population (Chakraborty *et al.*, 2022), the percentage of participants who utilised the public health facility was much higher in this study, but the percentage was much lower in urban groups of the present study than in other indigenous communities living in urban areas (Babu *et al.*, 2010) as well as non-indigenous groups dwelling in urban slums (Patil *et al.*, 2016).

The notable reasons behind low utilisation of public healthcare were geographical inaccessibility, poor service availability (unavailability of required medicine and poor quality of care by the doctors, and poor client-provider interaction), and low acceptability of public healthcare at least for non-severe ailments. However, people who visited the public health facilities were mostly satisfied with the services. Educational status of the participants and non-availability of private healthcare facilities in the locality played an immense role in reporting of satisfaction. Educated people have higher expectations from the healthcare system therefore inadequate infrastructure in public healthcare facilities does not give them much satisfaction, while the unavailability of private healthcare facilities in the area, especially in the rural area, gives much satisfaction to the users of public healthcare facilities as it is the main source of healthcare. Distance and inaccessibility appeared as basic reasons behind low public healthcare utilisation of indigenous people globally (Marrone, 2007; Michiel Oosterveer and Kue Young, 2015) and also in India (Babu *et al.*, 2010). However, study by George and colleagues (2020) mentioned cultural differences and non-acceptability were primary reasons for low utilisation.

Majority of study participants across all socio-economic groups, except agricultural labourers and individuals of low economic groups, seek care from private allopath practitioners, while a good percentage of women rely on private homoeopathic practitioners. Urban people reported that they take medicine from the pharmacist. This finding was in line with other studies in India, where indigenous communities living in urban areas went to pharmacist for allopathic medicine (Raushan and Acharya, 2018). The choice of allopathic medicine was also reported by other studies among rural (Kumar *et al.*, 2019) and urban populations (Patil *et al.*, 2016) and the preference was similar among indigenous and non-indigenous populations (Moosan *et al.*, 2019). The greater availability of allopathic treatment in the locality made it popular among indigenous communities, as reported by Mazumdar and Gupta (2007). In their study, they mention that allopathic treatment was the first choice in their study population and failure of allopathic medicine to treat the ailments led people to opt for other forms of treatments as seen in other communities (Albert *et al.*, 2015). Sheehan (2009), however, argued that lack of availability, poor quality of care, and higher costs of allopathic medicines often force people to choose alternative forms of medicines. Cultural influences (Basu, 1990) often play a significant role in such choices of treatment. Thus, urban study participants reported that private doctors were more capable and effective in treating severe ailments/diseases, especially at the time of a quick recovery.

This finding was in line with other studies (Levesque *et al.*, 2006; Rout *et al.*, 2021), which reported urban people of higher educational and economic status to seek private healthcare because of its quick service and effectiveness.

Socio-economic status of the present study participants also played a role in healthcare service utilisation of the studied group, which is evident in other studies (Leyva-Flores *et al.*, 2014; Pulok *et al.*, 2020). Although a fair percentage of rural participants opted for free public healthcare to treat ailments/diseases like fever, cough and cold, gastrointestinal problem, and reproductive health issues, especially pregnancy and childbirth, they chose costly private healthcare to treat severe illnesses. Jana and Basu (2017) reported that rural people seek treatment mostly from private providers because of unavailability of services in public healthcare facilities in remote areas. This study too observed an increase in public healthcare utilisation in recent decades, especially in rural areas. On the other hand, a large percentage of participants, especially from urban areas, choose public healthcare when they require treatment for chronic health problems like high blood pressure, heart disease, and high blood sugar. Urban participants visited private practitioners because of their faith in the capabilities of private doctors to treat such diseases, their prescribed medicine, and their easy access to urban localities.

Rural people visited traditional healers for treatment of those diseases or conditions which are believed to be caused by supernatural powers. Urban participants too expressed their faith in their traditional medicine and the efficacy of their traditional healers in treating illnesses, especially in the treatment of chronic diseases like diabetes, or cancer. However, due to absence of traditional healers in the urban areas, the urban participants did not have a chance to utilise them, unless they arranged such treatment through their acquaintances living in rural areas.

Urban residence, being female, having higher education, having a salaried occupation, and availability of private health facilities in locality associated to non-utilisation of public healthcare services

The findings revealed that residents in urban areas, being female, having education up to secondary and above level, engaged in salaried occupation, and getting private allopathic and homoeopathic doctors in the locality had lesser odds of utilising public healthcare services. A combination of factors ranging from physical distance, demographic traits, and socio-economic status contributed toward utilisation of public healthcare, which is corroborative to other studies (Babu *et al.*, 2010; George *et al.*, 2020; Podder *et al.*, 2021; Chakraborty *et al.*, 2022). To increase the utilisation, Browne and colleagues (2016) called for inequity-responsive, culturally-safe care for indigenous people, that may be implemented through partnership with indigenous leaders and community agencies. Kumar and colleagues (2020) sought for involvement of tribal traditional healer and tribal youth as community health worker. However, Leyva-Flores and colleagues (2014) argued socio-economic conditions, not only the ethnicity, determine healthcare utilisation. Basu (1990) held the notion that within similar socio-economic conditions, cultural differences play a vital role in accessing healthcare. Therefore, some careful interventions should be taken to increase the use of public health services, considering the acceptability of the healthcare among the indigenous communities.

Strength and limitations

The study tried to explore the healthcare utilisation with emphasis on public healthcare sector, among a single indigenous community that migrated and settled in two distinct localities with socio-economic disparities but having similar beliefs mostly regarding traditional healing system. The study was able to gather local context in utilising public health services and embedded these local contexts, the study created a conceptual model to study the healthcare utilisation behaviour and suggest ways to improve the utilisation. However, the limitation of the study is the lack of

insights of health practitioners to understand the context thoroughly. The other limitation could be the representativeness of the study population in the study area as the sampling was completely purposive. However, due to limited resources of the present study, only one researcher collected all data, which eliminated the inter-observer errors. Rural and urban participants belong to distinct socio-economic disparities, which helps to gather different perspectives but makes the context larger and tougher to compare. Again, emphasis was given mostly on outpatient care involving primary health centre but the study did not make it exclusive.

It was beyond the scope of the study to explore the utilisation of private health sector in study population. Although participants of the study rely mostly on the private health practitioners, these practitioners range from traditional healers to local quacks to homoeopathic and allopathic practitioners. They reported to be cost-effective, easily available, and trustworthy by their patients but it was beyond the purview of the study to verify their skill, knowledge, and infrastructure, and thus excluded from the scope. Studies on utilisation of private health sector by indigenous people were limited globally (Strong *et al.*, 2021). Studies on increasing universal health coverage among indigenous communities through private sector with public-funded insurance coverage are also inadequate (Prinja *et al.*, 2012). Montagu and Chakraborty (2021) reported mixed healthcare systems (public and private) remain prevalent in different countries, across regions, and across wealth levels within countries and effective management of mixed public and private healthcare systems will only determine the success or failure to achieve universal health coverage for many countries. Despite these limitations, this study will provide valuable insight in policy formulation to bring all such marginalised populations under universal health coverage.

Conclusion

Following the proposed conceptual framework, the study revealed that the utilisation of public healthcare facilities was higher where the private facilities were not available and unaffordable to the people. The public healthcare services were not the first choice in the community because of poor quality of care in terms of unavailability of proper medicines, and poor client-provider interactions. In India, especially in remote rural areas where most indigenous communities live, a scarcity of the medical facilities providing Western medicine prevails till today. A large section of the rural people, therefore, relies on alternative forms of medicine, including the traditional healers to treat the ailments/diseases. In recent years, the government's initiatives like the National Rural Health Mission have made the western medicine popular even in the remote corners of rural areas, and that increased the coverage and utilisation of public health services. However, this increase in demand was not supplemented with the improvement in supply-side factors like availability of trained human resources, medicine, and quality of care in public health facilities. As a result, those who can afford to have treatment from private health services choose to visit the private allopathic doctors. The higher availability of private doctors in cities and a greater number of well-off families in those areas resulted in higher utilisation of private facilities in urban areas than utilisation of public facilities, even among those people who were entitled to get subsidised treatment and medicine from public health facilities. Public health facilities are often utilised for chronic diseases that require extended treatment. These diseases are such that even individuals living in urban areas find it financially challenging to afford long-term private healthcare, leading them to rely on public health services. As India is now aiming for the Universal Health Coverage, it is important to have a balance between the utilisation of private and public health sectors. Having a sustainable private sector is a welcome sign for health financing; however, at the same time, neglecting public health sector could increase out-of-pocket expenditure and that could lead to catastrophic consequences for poor indigenous people living in remote rural settings.

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