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**Original Article**

# Health, Hygiene and Sanitation Practice of Santalis and Hindus in Rural Sectors of East Medinipur District, West Bengal, India: A Preliminary Survey

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**ABSTRACT:** Right to health and hygiene is an important prerequisite of human life. But a large number of world's population is deprived of these basic needs. We did a preliminary survey work in Santali and neighbouring Hindu villages of Chorpalia and Negua region of Egra subdivision of East Medinipur district, West Bengal to find out economic condition, concept of health, hygiene and sanitation habit of the villagers. Local people were found to be highly vulnerable to diseases like diarrhoea, cholera, gastroenteritis etc. Malnutrition, hostile environment, lack of access to safe drinking water, poor sanitation and blind beliefs of villagers compound their misery. This work explores the dismal condition of the people, especially their health, hygiene and sanitation status, which is not at all satisfactory. Attention to provide safe drinking water, to make arrangement of toilets for the villagers and public awareness camp about the benefits of proper sanitation might be helpful in prevention of diseases, and to restore a healthy sustainable environment, in broader aspect.

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## INTRODUCTION

The prosperity of a nation depends on the development of health, hygiene and sanitation of the people in their own society. Health is an essential component of the well-being of mankind and is a prerequisite for human development [1]. Factors like socio-culture, demography, economy, education and health consciousness of common people influences the health status of a community. Hygiene is a science of the establishment and maintenance of health. Sanitation is the establishment of conditions favourable to health.

WHO defines basic sanitation as the "lowest cost technology ensuring hygiene excreta and silage disposal and a clean and healthful living environment both at home and in the neighbourhood of users". An improved sanitation facility is one that hygienically separates human excreta from human contact [2, 3]. India is home of large number of indigenous people with various ethnic, linguistic, cultural, religious and moral values. According to 2011 census report of India, tribal population is 104.28 million, constituting 8.61% of the total population of the country [4].

There are numbers of tribes, namely Gord, Santali, Khasi, Bhil, Munda, Bhutia living all over the country. Out of them, Santali is an important tribe which contributes more than 50% of the Indian tribal population [5]. In West Bengal, 2,280,540 people are Santals, i.e. 51.8% of the total tribal population (4,406,794) and 5.5% of the total population (80,176,197) [6].

The Santalis belong to Proto-australoid racially and linguistically to austro-asiatic (Munda languages) group. They are the largest, most integrated and possibly the most resilient tribe in eastern India. They spread over in the states of West Bengal, Odisha, Jharkhand, Bihar, Tripura and Assam. In West Bengal, they are mostly concentrated in the district of East and West Medinipur.

Earlier, their traditional occupation was hunting and gathering which has now been changed to cultivation, forest resource collection, fishing etc. Their primary language is "*Santali*" or "*Olchiki*" [7], however, they also speak Oriya, Hindi and Bengali. They are dark brown to black in colour and have curly hair. Their life is mostly associated with poverty, illiteracy, malnutrition, hostile environment, poor maternal and child health services, ineffective coverage of national health and nutritional services, poor sanitation, lack of safe drinking water, blind beliefs, etc. They are highly vulnerable to diseases with high degree of malnutrition, morbidity and mortality [8]. According to WHO 2010, provision of access to enough safe drinking water, proper facilities for sanitary disposal of excreta, and introduction of sound hygiene behaviour are of capital importance [9]. Unclean water, lack of sanitation and poor hygiene are responsible for transmission of various diseases like diarrhoea, cholera, typhoid and several other parasitic infections. So, it is necessary to provide improved water source and an improved sanitation facility to all the people of the society. The present work was attempted to survey and correlate economic condition, concept of health, hygiene and sanitation habit in Santalis and in neighbouring Hindu villages of a subdivision of East Medinipur district of West Bengal.

## MATERIALS & METHODS

This prospective correlation study has been performed in the Chorpalia and Negua villages belonging to Egra subdivision of East Medinipur district of West Bengal. A total of 120 people between age groups (18 – 60 years) were enrolled in the study with their consent. Among the 120 people, 60 were Santalis and the remaining 60 were Hindus. The subjects were divided into two groups (Santali as case individuals and the other as control group). All subjects answered a questionnaire which contained details of age, gender, religion, caste, subcaste, educational qualification, occupation, socio-economic status, family income, general appearance, height, weight, complications/diseases (if any). Height and weight of the study subjects were measured using standard protocol. The questionnaire also included details of their regular sanitation habit and personal hygiene.

## RESULTS

Age and anthropometric assessment data like height and weight of the 120 studied individuals were presented gender-wise in Table 1 and in Fig. 1 & 2. All data were expressed as mean ± SD. Age of the study group from both Hindus and Santalis were well-matched. There was no significant difference in height, when compared between Hindu male-Santali male and Hindu female-Santali female group but significant difference ($p<0.05$) in weight was observed between Hindu females and Santali females. Average weight of Santali females was found to be 45.8±5.92 kg as compared to 51.8±7.36 kg in case of Hindu females. However, males did not show any significant alteration in weight in both the groups. BMI was calculated from the obtained data of height and weight and it was observed that 3 Hindu females and 5 Santali females were underweight (BMI<18kg/m$^2$) among the 120 studied individuals and the rest were normal with BMI 18-25 kg/m$^2$.

**Table 1: Four parameters (age, height, weight and BMI) of the study group**

| | Hindu (n=60) | | Santali (n=60) | |
|---|---|---|---|---|
| | Male (n=32) | Female (n=28) | Male (n=38) | Female (n=22) |
| Age (years) | 45.68±11.24 | 46.29±8.72 | 46.23±9.88 | 45.94±9.25 |
| Height (cm) | 160.2±8.76 | 153.67±6.84 | 158.93±6.69 | 150.93±7.04 |
| Weight (kg) | 55.4±7.37 | 51.8±7.36 | 55.53±7.54 | 45.8±5.92 |
| BMI (kg/m$^2$) | 22.68±1.98 | 20.32±2.04 | 22.61±2.18 | 21.04±1.96 |

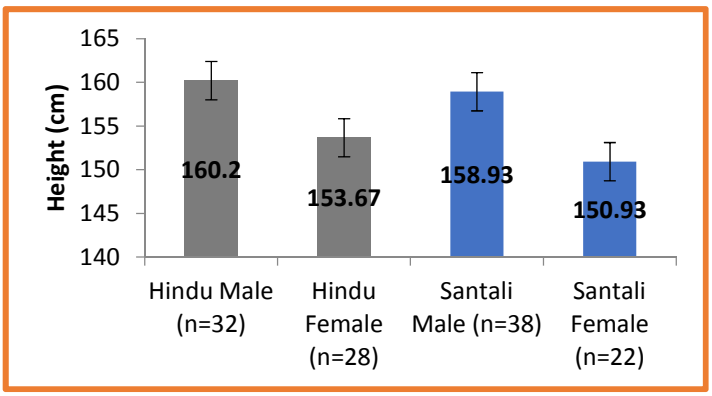



Fig. 1: Comparison of height (cm) of Hindus and Santalis (Gender-wise)

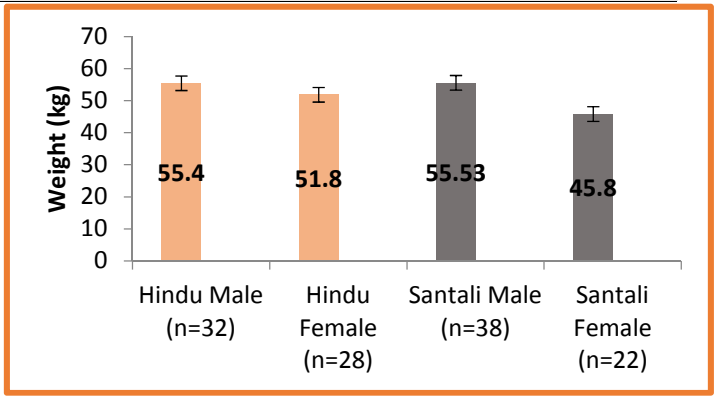



Fig. 2: Comparison of weight (kg) of Hindus and Santalis (Gender-wise)

Literacy rate, socio-economic status and details about daily habit and sanitation practice of the study group were presented here in Table 2. Our data revealed that literacy rate among the Hindus was much higher (93%) as compared to the Santalis (20%) and this was clearly reflected in their socio-economic status (Fig. 3 & 4).

**Table 2: Socio-economic status and facts of daily habit and sanitation practice of the study group**

| Parameters | | Hindu (n=60) | | Santali (n=60) | |
|---|---|---|---|---|---|
| Literacy rate | Literate | 28 | 93.33% | 6 | 20% |
| | Illiterate | 2 | 6.66% | 24 | 80% |
| Socio-economic status | Middle class (monthly family income less than Rs 10,000/-) | 12 | 40% | 2 | 6.66% |
| | Lower class (monthly family income less than Rs 5,000/-) | 18 | 60% | 28 | 93.33% |
| Liqour consumption | Ever | 6 | 10.00% | 50 | 83.33% |
| | No | 54 | 90.00% | 10 | 16.67% |
| Water used for consumption purpose | Pondwater | 4 | 6.67% | 8 | 13.33% |
| | Tube well water | 56 | 93.33% | 52 | 86.67% |
| Infected with Food/ water borne disease | Ever | 14 | 23.33% | 18 | 30% |
| | No | 46 | 76.67% | 42 | 70% |
| Toilet using habit | Toilet user | 32 | 53.33% | 12 | 20% |
| | Toilet non-user (defecates in open) | 28 | 46.67% | 48 | 80% |

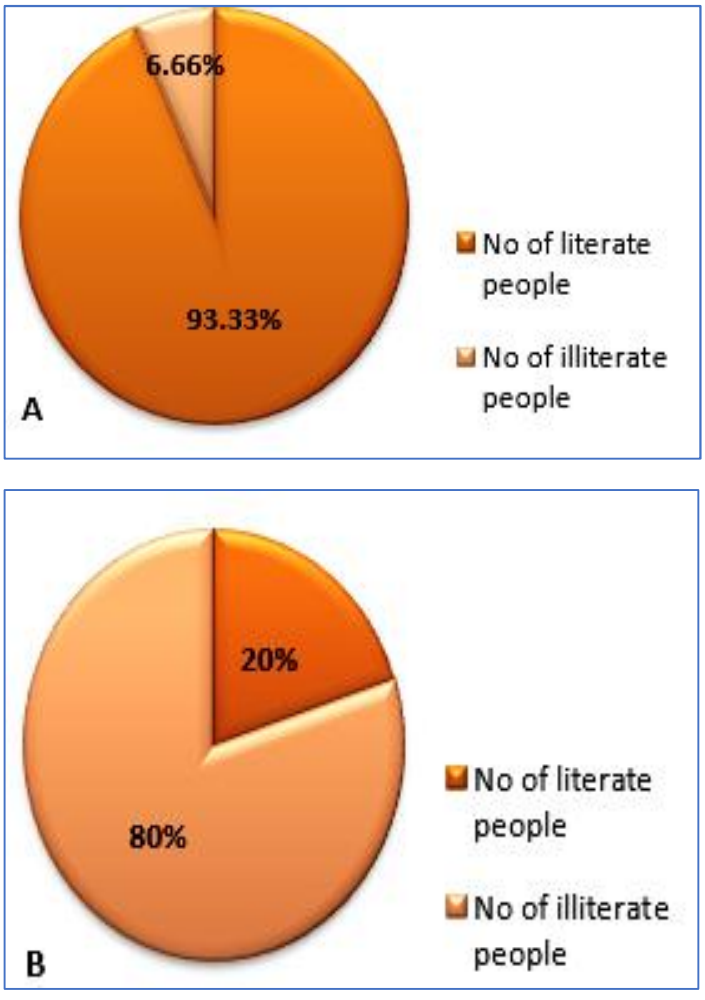



Fig. 3: Pie diagram representing the literacy rate of Hindus (A) and Santalis (B)

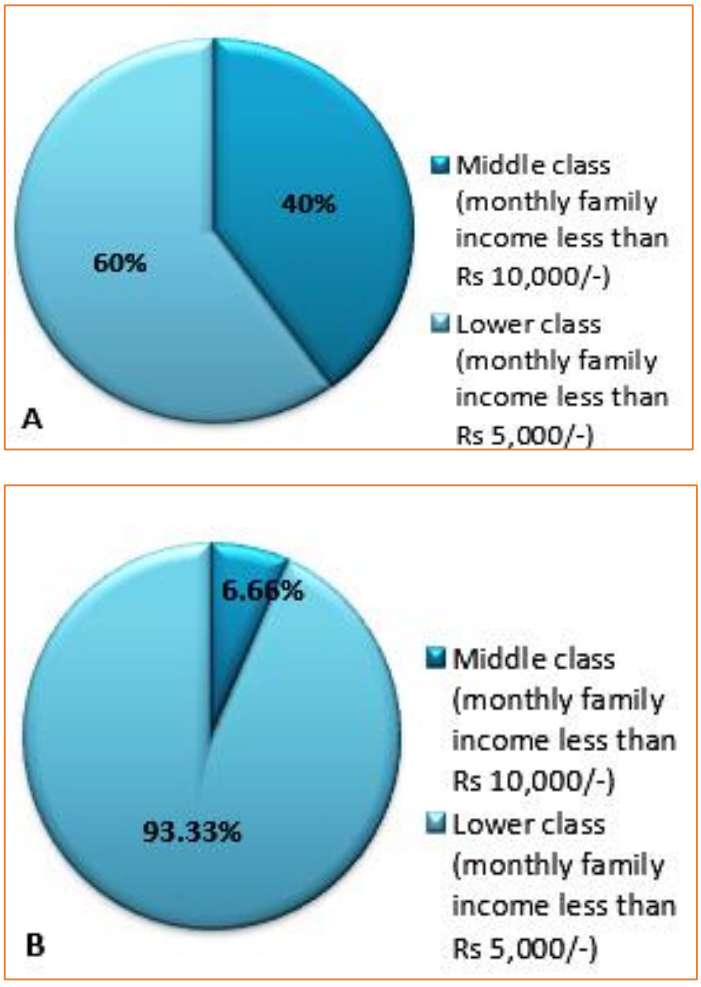


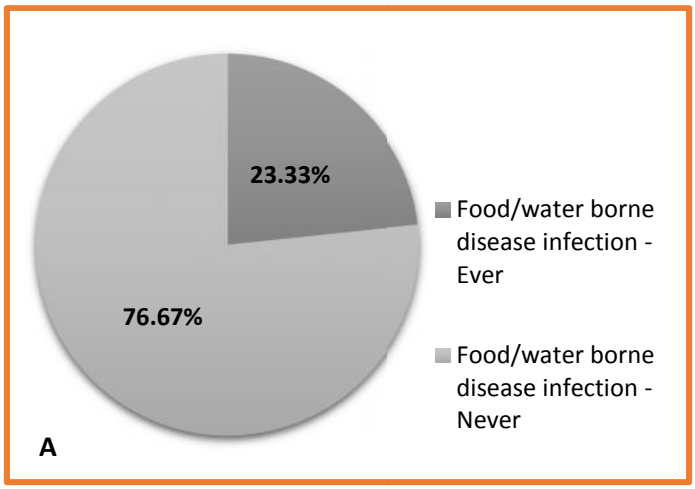

Fig. 4: Pie diagram representing the socio-economic status of Hindus (A) and Santalis (B)

Socio-economic condition was found to be very poor for both the Hindus and the Santalis and this was prominent in their attire and household condition (Fig. 5-7). 40% of the Hindus and only 6.66% of the Santalis were in the middle-class group with a monthly income of Rs 5,000/- to 10,000/-. About 94% of the Santalis were very poor with an average monthly income of less than Rs. 5,000/-. The meagre condition of the Santalis was much more aggravated by their addiction to liquor. As, there was no provision of drinking water supply by the Govt. to villagers, 93% Hindus and 87% Santalis used tube well water from their own or Panchayat made tube well for drinking and cooking purpose. Seldom, they used pond water for cooking. Almost 90-95% people of both the communities used pond water for taking bath, washing clothes and utensils. The concept of consuming filtered water was a luxury here. 23% Hindus and 30% Santalis had got infected with food or water borne diseases at least once or more in their life (Fig. 8).

**Fig. 5: A Santal family in front of their home, which is made of asbestos**

**Fig. 6: Household condition of a Hindu family**

**Fig. 7: Cooking place of a Santali family**



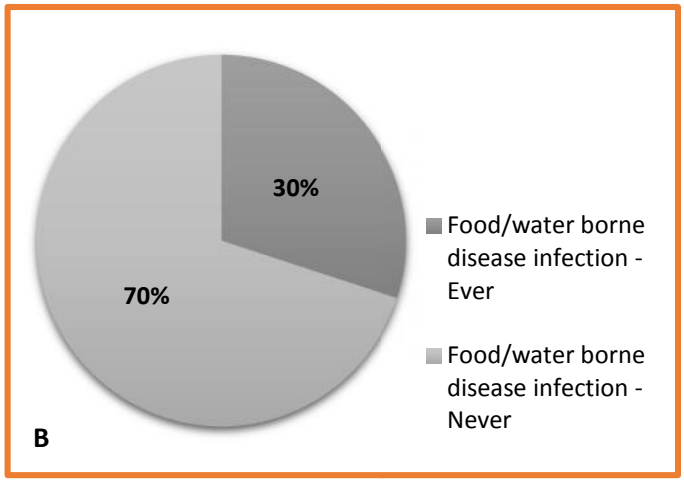




**Fig. 8: Pie diagram representing people with food/water borne diseases in Hindus (A) and Santalis (B)**

In our country, open defecation is still a tradition of the villagers who have no toilets of their own. In our area of survey, the sanitation system for both the Hindus and Santalis was very poor.

Only one toilet room was found in Santal para of Chorpalia village of Egra subdivision, that was built in 2012-13 from BRGF (Backward Regions Grant fund) sponsored by Central Government, and this toilet was shared between around 50-60 people (Fig. 9). Six makeshift bathrooms and four toilets were found in our study area, that was made by the initiative of villagers (Fig. 10 & 11). But what is most alarming being that, about 47% Hindus and as many as 80% Santalis still practise open defecation (Fig. 12). Human excreta in the fields, road side, shore of pond and canal pollutes surface water and underground water by leaching.


**Fig. 9: Common toilet for Santals in Chorpalia area prepared in the project under Swatchh Bharat Mission from BRGF Scheme**

**Fig. 10 & 11: Makeshift bathroom and toilet**

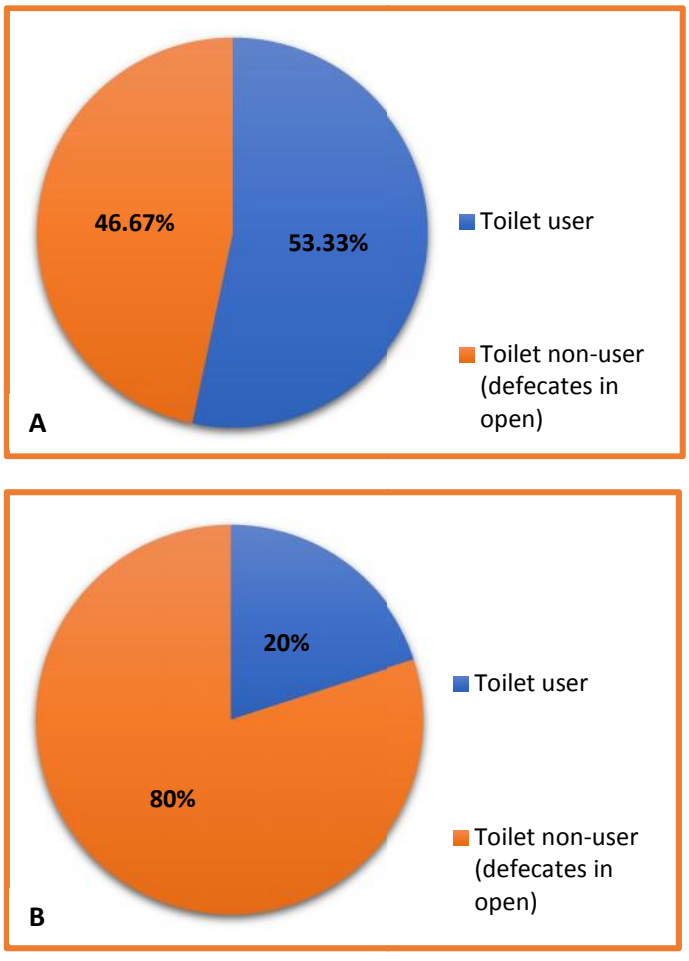



**Fig. 12: Pie diagram representing toilet user and non-user in Hindus (A) and Santalis (B)**

## DISCUSSION

The survey work on the Hindu and Santali people in the rural areas of Egra subdivision of East Medinipur district was performed to record and correlate the life style of these people to their education, health, hygiene and sanitation. Literacy rate was much higher for Hindus (93.33%) than Santalis (20%). Economically, Santalis were found to be very poor. The widespread poverty, illiteracy, malnutrition, absence of safe drinking water and sanitary conditions, ineffective coverage of national health and nutritional services were the major contributing factors for their dismal health condition. People got affected by various diseases like fever, cough, cholera epidemics, viral gastroenteritis, itching, typhoid, acute respiratory infections, viral hepatitis, helminth and schistosomiasis infections. It was found that the most common disease was Diarrhoeal diseases, and children under 5-years of age were mostly affected. Girls came across menstrual problems during their teens. Poor sanitation and malnutrition was supposed to be the main causative factor. Lack of balanced nutritious diet made them underweight and in our study, 22.73% of the Santali females were underweight, as compared to 10.71% of Hindu females.

Nutritious food was not consumed by women during the pregnancy period due to the fear of vomiting, and moreover, they ate little, thinking that baby would be small, and delivery would be easy. Hard physical work during advanced pregnancy, unhygienic and primitive practices of parturition caused maternal mortality. In the Santali area, provision of safe drinking water was in dismal condition. The Swajal Dhara Scheme under Rajiv Gandhi National Drinking Water Mission was not found to be operative here. People normally collect drinking water from one or two common tube wells established by the local Gram Panchayats. But, there was no regular monitoring of the water condition, which is necessary. There was no use of filtered water and even some of them used pond water for cooking and washing. Sanitary condition in the studied place was also found to be deficient. 80% of the Santalis and 46.66% of the Hindus practiced open defecation. Use of latrine or closet is the first step on the sanitation ladder. Beliefs, values, norms and cultural ideology against home sanitation support the practice of open defecation which invited transmission of infection through the faecal-oral pathway diminishing growth, cognitive abilities and human productivity [10]. Plenty of waste and excreta led to rapid spread of communicable diseases. Faecal pollution was responsible for drinking water pollution, which is a serious threat and causes various water borne diseases and organic pollution.

One common sanitary toilet room was found for Santalis in each of the two studied villages, provided by the Central Government. People were not aware about the fact that food and water borne diseases could be happened due to improper sanitation. Hence, public awareness camps need to be held in these places to encourage the necessity of toilet and latrine for defecation and its importance in prevention of diseases. People should be made aware about these facts that improved sanitation and hygiene conditions can be effective in reducing a range of health diseases, including diarrhoeal diseases.

Not only that, it also provides significant secondary benefits to the overall livelihood of the community [11] by lowering basic cost of living, rreducing stress, better learning capacities of children and greater agricultural productivity, due to greater time availability. Health education campaigns relating directly to personal hygiene are also very much important [12] in these places to encourage people to adopt practices such as hand washing after defecation, before food preparation and consumption.

This survey work was attempted to find the condition of hygiene and sanitation in Chorpalia and Negua villages of East Medinipur district of West Bengal. It was found that the sanitation condition needs to be much more improved. Policy makers and development partners should come forward along with the Government to provide better health and sanitation facility to local people as improved sanitation has great positive impacts on social and economic development, in terms of health, environmental sustainability, environmental safety and water resources.

**CONFLICT OF INTEREST:** Nil.

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