https://doi.org/10.48047/AFJBS.6.Si4.2024.2541-2549

African Journal of Biological Sciences

Journal homepage: http://www.afjbs.com

Research Paper Open Access

ASSESSMENT OF HEALTH STATUS OF TRIBAL COMMUNITIES IN NASHIK DISTRICT- MAHARASHTRA

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Article History
Volume 6, Issue Si4, 2024
Received: 16 May 2024
Accepted : 25 June 2024
Doi:
10.48047/AFJBS.6.Si4.2024.2541-2549

ABSTRACT

This study examines the assessment of the health status of tribal communities in Nashik District, Maharashtra. The present research paper is based on primary data collected from 607 sample tribal households in 48 sample villages in 15 tehsils of Nashik district in 2023. A wide range of fifteen health status indicators were considered in this study, mainly the percentage of households using public or household toilets, the percentage of households having safe drinking water facilities, the percentage of households processing drinking water, the percentage of households using mosquito control measures, the percentage of households having no solid waste management facility, the percentage of households having no wastewater management facility, the status of health insurance, the percentage of infants who are fully immunized against EPI diseases, the percentage of households using government health care facilities, the percentage of households using family planning, The percentage of normal weight falls under the 0–5-year-old child age group. The proportion of children aged 0–5 who are moderately underweight also falls within this age group. The percentage of severely underweight children in the age group of 0–5 years, the percentage of respondents smoking, and the percentage of respondents consuming alcohol. The study uses the Min-Max Normalisation Index technique to analyse the health status level in tribal communities. The health status of tribal communities in the study region reflected the regional diversity under analysis. This study observed that Niphad, Sinnar, and Baglan tehsils exhibited high levels of health status. The tehsils of Yeola, Nashik, Nandgoan, Kalwan, Dindori, Igatpuri, Chandwad, and Malegaon fall into the moderate health status region. Deola, Triembak, Surgana, and Peint tehsils have seen low health status in tribal households. We identified all tehsils in the study region as having extremely low standards for the use of public or household toilets, safe drinking water facilities, drinking water processing facilities, solid waste management facilities, and wastewater management facilities. Therefore, physical features such as physiography and rainfall, as well as manmade features such as agriculture, industry, education, literacy level, and healthcare facilities, all play an important role in the health status levels of tribal households in the study regions.

(Keywords- Health status, Safe drinking water facilities,Solid waste management facility,Family planning, Health care facilities,)

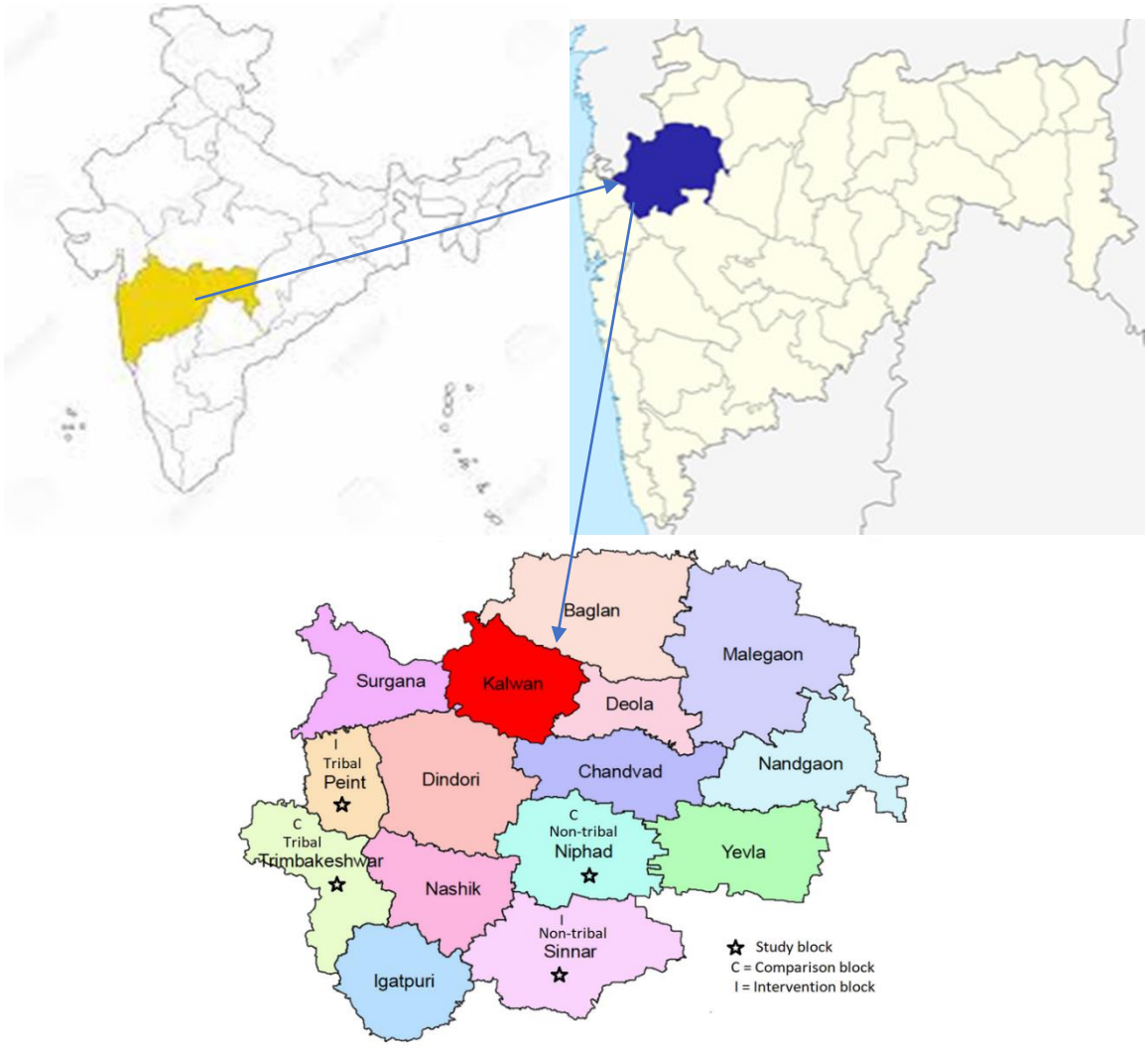
INTRODUCTION-

Scholars have published numerous research papers, articles, and reports regarding the level of health status in tribal communities. Dr. G.M. Gare (1979) submitted a report to the government of Maharashtra regarding the health conditions of the tribal population. His study focused on the diseases and health conditions common among tribal communities in Chandrapur, Thane, Nashik, and Amravati districts.[1] Rao, Sujata K. (1998), wrote an article on 'Healthcare Services in Tribal Areas of Andhra Pradesh: A Public Policy Perspective'. In this article, she observed that poverty, lack of access to the right food, iron, protein, and micronutrient deficiency are major causes of poor health among tribal people in Andhra Pradesh.[2]Bhasin, Veena (2007) published a research paper on the health status of tribals in Rajasthan. She concluded that tribal communities in Rajasthan face multiple health challenges, including inadequate access to healthcare facilities, poor sanitation, malnutrition, and limited healthcare-seeking behavior.[3]Dr. Prakash Patil (2010) researched the impact of the geographical environment and dietary patterns on the health of tribal communities in the Jalgaon district. The study elucidates the significance of nutrition in health and addresses the prevalent issue of malnutrition among tribal children, highlighting various dietary challenges faced by this population.[4] D. Solomon Raj (2015) authored the book "Health Status in Tribal India," offering insights into the health status of tribal communities in India. The book discusses various factors contributing to their poor health outcomes, such as poverty, limited access to healthcare, and a lack of education and awareness.[5]Dr. Abhay Banga (February 2016, Yojana Magazine) authored an article addressing health facilities in tribal areas, both present and future. The article underscores the prevalence of malnutrition among tribal populations, particularly highlighting deficiencies in protein, iron, vitamin A, B complex, and fats.[6]The Indian Council of Medical Research conducted a report on the health status of the primitive tribes of Orissa, highlighting the unique health challenges faced by these tribal communities. These challenges include limited access to healthcare facilities, inadequate nutrition, and a high prevalence of communicable diseases such as malaria, tuberculosis, and leprosy.[7]Wetal (2023) completed research on the perspective of health issues in the tribal tehsil of Nashik District, Maharashtra, shedding light on the complex dynamics impacting health outcomes in these marginalized communities. His findings reveal a multifaceted landscape where various factors intertwine to shape the health status of tribal populations.[8]

STUDY AREA-

The Nashik district is located within the upper Godavari basin and the partly Tapi river basin, spanning from 19°35' to 20°52' North latitudes and 73°16' to 75°56' East longitudes. It comprises a distinct geographical unit covering an area of 15,530 square kilometers. According to the 2011 census, the population of Nashik district was 6,107,187, with tribal people accounting for 1,564,369 (25.62%). The district, situated in the *Khandesh* and North Maharashtra regions, comprises 1,929 villages and 18 towns. Nashik District shares its borders with Jalgaon and Aurangabad Districts to the east, Dhule District to the north, Thane District to the southwest, Ahmadnagar District to the south, and Dang District to the northwest.

Location Map- Nashik District



OBJECTIVES

1. To study the health status of the tribal community in Nashik district.
2. To explore regional disparities in the health status of tribal communities in Nashik district.
3. Torecommendfor balanced health status for the tribal community in Nashik district.

MATERIAL AND RESEARCH METHODOLOGY

This study is based on primary data. We selected the tribal tehsils using a stratified random sampling method. We prepared a list of tribal villages, selecting villages with more than 50% tribal population for each tehsil of the district from the secondary data of the 2011 Nashik district population census. We selected 5% of the tribal villages in each tehsil for our research. We obtained a list of tribal households for each sample village from the 2011 population census data. We selected an average of 10% of the total tribal households in each respective sample village for the interview. This study gathered primary data from 607 sample households spread across 48 villages in Nashik district's 15 tehsils. We processed and edited the collected data for analysis using various statistical methods presented in tables. To calculate the level of health status in the tribal community in the study region, use the Min-Max Normalisation Index method. This method involves applying the NITI Aayog for Health Index in India. The formula is used:

$$\text{Variable Indexfor positive indicator} = \frac{Xi - Min\ X}{Max\ X - Min\ X}$$

$$\text{Variable Indexfor negative indicator} = \frac{Max\ X - Xi}{Max\ X - Min\ X}$$

Where
Xi= value of the variable Min
X= Minimum value of X in the scaling Max
X= Maximum value of X in the scaling

Different indicators included in the health status Index components have been scaled and normalized to take a value on a scale ranging from 0 to 1. The scaled least achievement corresponds to zero whereas the best achievement corresponds to 1.

The level of health status was grouped under four heads:

Category	Composite health status score
High health status region	More then 0.60
Moderate health status region	0.41 to 0.59
Low health status region	Below 0.40

Table 1- Indicators of health status

X1	Percentage of households using public or household toilets
X2	Percentage of households having Safe Drinking water facilities
X3	Percentage of households having the Processing of drinking water
X4	Percentage of households have Usage of Mosquito Control Measures
X5	Percentage of households having no Solid Waste Management facility
X6	Percentage of households having no Wastewater Management Facility
X7	Status of health insurance
X8	Percentage of infants who are fully immunized against EPI diseases
X9	Percentage of households using government health care facilities
X10	Percentage of households using Family planning
X11	The percentage of normal weight falls under the 0–5-year-old children age group
X12	The percentage of moderately underweight 0–5-year-old children in the age group
X13	The percentage of Severely Under-Weight children in the age group of 0-5 years
X14	Percentage of respondents smoking
X15	Percentage of respondents consuming alcohol

(Source: Compiled by the Researcher)

Result and discussion –

HEALTH STATUS OF TRIBAL COMMUNITIES –

We determined and grouped the levels of health status into three categories: high, moderate, and low, based on the Min-Max score method for each tahsil of the tribal community in Nashik district. Lower-level values of the composite index indicated a lower rate of health status, and higher values of the ranking composite index indicated a higher rate of health status.

I) High Health Status Region-

The level of health status is high, with a min-max range above 0.60. The sampled tribal households in the Nashik district categorise three tahsils as having high health status: Niphad (0.75), Sinnar (0.63), and Baglan (0.62). According to a detailed assessment of fifteen health status indicators in Niphad Tehsil, ten are classified as high. A similar pattern exists in Sinnar Tehsil, where eight is the high category; in Baglan Tehsil, eight out of the health status indicators fall into the high category. These tahsils get high and moderate ranks in many indicators. Specifically, the percentage of households using public or household toilets Specifically, the highest percentage of households have safe drinking water facilities; the highest percentage of households have processing facilities for drinking water; the highest percentage of households have solid waste management facilities; and the highest percentage of households have wastewater management facilities. High status of health insurance, High percentage of infants who are fully immunized against EPI diseases,

High percentage of households using government health care facilities, The high percentage of households using family planning, the highest percentage of children whose normal weight falls under the 0–5-year-old age group, the lowest percentage of moderately underweight 0–5-year-old children in the age group, the lowest percentage of severely underweight children in the age group of 0–5 years, and the lowest percentage of respondents consuming alcohol, combined with the interplay of these indicators, have observed to the high health status in tribal communities.

Table: 2 Nashik districts: Level of health status Indicators

Tahsil	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15
Surgana	38.61	36.63	17.82	12.87	63.37	83.17	19.80	78.75	53.47	71.29	70.00	26.25	3.75	48.65	32.66
Peint	33.73	33.73	25.30	14.46	61.45	83.13	10.84	81.48	56.63	78.31	67.24	29.31	3.45	50.42	37.11
Triembek	35.14	31.08	35.14	10.81	55.41	78.38	16.22	76.71	47.30	85.14	78.08	16.44	5.48	45.48	26.06
Kalwan	43.28	46.27	38.81	16.42	53.73	76.12	14.93	80.36	67.16	82.09	78.18	20.00	1.82	52.92	25.43
Dindori	37.14	41.43	52.86	8.57	68.57	68.57	22.86	83.02	68.57	84.29	77.36	18.87	3.77	45.40	24.85
Igtpuri	36.84	36.84	28.95	13.16	55.26	73.68	10.53	79.49	81.58	76.32	81.58	15.79	2.63	42.50	29.00
Baglan	54.05	54.05	54.05	10.81	59.46	64.86	16.22	89.13	75.68	75.68	89.36	8.51	2.13	48.15	29.63
Deola	50.00	35.71	35.71	0.00	57.14	64.29	0.00	76.92	71.43	78.57	61.54	38.46	0.00	36.07	36.07
Chandwad	43.75	43.75	56.25	18.75	68.75	68.75	25.00	81.82	56.25	75.00	54.55	45.45	0.00	37.88	21.21
Niphad	50.00	68.75	68.75	43.75	56.25	62.50	31.25	83.33	68.75	100.00	80.00	20.00	0.00	50.00	28.79
Nandgaon	43.75	56.25	56.25	25.00	56.25	68.75	0.00	86.96	62.50	81.25	77.27	22.73	0.00	55.00	32.50
Sinnar	63.64	45.45	18.18	18.18	54.55	63.64	18.18	80.00	72.73	81.82	77.78	22.22	0.00	38.30	23.40
Yeola	60.00	53.33	60.00	20.00	46.67	46.67	0.00	66.67	66.67	60.00	73.33	26.67	0.00	48.98	24.49
Malegaon	46.67	40.00	40.00	0.00	60.00	73.33	6.67	81.82	60.00	80.00	81.82	18.18	0.00	49.33	24.00
Nashik	35.29	44.12	52.94	11.76	52.94	70.59	8.82	85.29	67.65	85.29	79.41	17.65	2.94	47.56	18.90

(Source: Compiled by the Researcher)

Table: 3 Nashik districts: Min-Max score of health status indicator

Tahsil	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	Total	CS
Surgana	0.16	0.15	0.00	0.29	0.00	0.24	0.63	0.54	0.18	0.28	0.44	0.52	0.32	0.34	0.24	4.34	0.29
Peint	0.00	0.07	0.15	0.33	0.00	0.33	0.35	0.66	0.27	0.46	0.36	0.44	0.37	0.24	0.00	4.03	0.27
Triembek	0.05	0.00	0.34	0.25	0.13	0.60	0.52	0.45	0.00	0.63	0.68	0.79	0.00	0.50	0.61	5.54	0.37
Kalwan	0.32	0.40	0.41	0.38	0.19	0.68	0.48	0.61	0.58	0.55	0.68	0.69	0.67	0.11	0.64	7.39	0.49
Dindori	0.11	0.27	0.69	0.20	0.40	0.01	0.73	0.73	0.62	0.61	0.66	0.72	0.31	0.51	0.67	7.23	0.48
Igtpuri	0.10	0.15	0.22	0.30	0.26	0.61	0.34	0.57	1.00	0.41	0.78	0.80	0.52	0.66	0.45	7.17	0.48
Baglan	0.68	0.61	0.71	0.25	0.50	0.42	0.52	1.00	0.83	0.39	1.00	1.00	0.61	0.36	0.41	9.29	0.62
Deola	0.54	0.12	0.35	0.00	0.52	0.53	0.00	0.46	0.50	0.46	0.20	0.19	1.00	1.00	0.06	5.93	0.40
Chandwad	0.33	0.34	0.75	0.43	0.40	0.00	0.80	0.67	0.26	0.38	0.00	0.00	1.00	0.90	0.87	7.14	0.48
Niphad	0.54	1.00	1.00	1.00	0.57	0.57	1.00	0.74	0.63	1.00	0.73	0.69	1.00	0.26	0.46	11.19	0.75
Nandgaon	0.33	0.67	0.75	0.57	0.40	0.57	0.00	0.90	0.44	0.53	0.65	0.62	1.00	0.00	0.25	7.69	0.51
Sinnar	1.00	0.38	0.01	0.42	0.54	0.64	0.58	0.59	0.74	0.55	0.67	0.63	1.00	0.88	0.75	9.38	0.63
Yeola	0.88	0.59	0.83	0.46	1.00	1.00	0.00	0.00	0.56	0.00	0.54	0.51	1.00	0.32	0.69	8.38	0.56
Malegaon	0.43	0.24	0.44	0.00	0.27	0.40	0.21	0.67	0.37	0.50	0.78	0.74	1.00	0.30	0.72	7.07	0.47
Nashik	0.05	0.35	0.69	0.27	0.34	0.72	0.28	0.83	0.59	0.63	0.71	0.75	0.46	0.39	1.00	8.08	0.54

(Source: Compiled by the Researcher)

II) Moderate Health Status Region-

The moderate level of health status ranges from 0.41 to 0.59 (min-max score). The sample tribal households in Nashik district categorise eight tehsils: Yeola (0.56), Nashik (0.54), Nandgoan (0.51), Kalwan (0.49), Dindori (0.48), Igatpuri (0.48), Chandwad (0.48), and Malegaon (0.47), under the moderate health status region. A detailed assessment of fifteen health status indicators in Yeola Tehsil classifies six as high and five as moderate, Nashik Tehsil as seven as high and two as moderate, Nandgoan Tehsil as six as high and four as moderate, Kalwan Tehsil as six as high and four as moderate, Dindori Tehsil as eight as high and one as moderate, Igatpuri Tehsil as five as high and four as moderate, Chandwad Tehsil as six as high and one as moderate, and Malegaon Tehsil: five as high and three as moderate. This technique demonstrated leadership in several of the health status indicators. The highest proportion of households purify their drinking water, the highest proportion of infants fully immunized against EPI diseases, the highest proportion of households utilizing government health care facilities, and the highest proportion of households adopting family planning, The age group of 0-5-year-old children has the highest percentage of normal weight, the lowest percentage of moderately underweight children, and the lowest percentage of severely underweight children, all of which contribute to a moderate-level health status on this scale.

III) Low Health Status Region-

The low level of health status ranges below 0.35 min-max scores. The sampled tribal households in Nashik district categorise four tahsils, namely Deola (0.40), Triembak (0.37), Surgana (0.29), and Peint (0.27), under the low health status region. A detailed assessment of fifteen health status indicators in Deola and Trimbakeshwar Tehsil classifies seven as the lowest level; Surgana and Peint Tehsil classify eleven as the lowest level; Only a high percentage of infants with full immunisation against EPI diseases and a high percentage of households using family planning demonstrate high levels of these tehsils. In contrast, other indicators show a low percentage of households using public or household toilets, a low percentage of households having access to safe drinking water, a low percentage of households processing drinking water, a low percentage of households using mosquito control measures, a high percentage of households without a solid waste management facility, a high percentage of households without a wastewater management facility, a low status of health insurance, and a low percentage of households using government health care facilities, the age group of 0–5-year-old children has the lowest percentage of normal weight, there is a significant proportion of moderately underweight 0–5-year-old children, a high percentage of severely underweight 0–5-year-old children, and a high proportion of respondents who smoke. These indicators contribute to the lowest health status in these tehsils' tribal communities.

CONCLUSION

The health status of tribal households in the study area is not uniform. Only three tehsils have found a high health status in tribal communities. As agriculture, industrial development, transport connectivity, and communication are developed in this tehsil, it exhibits a high-level health status. In these tehsils, all the health indicators are found at sufficient levels. Yeola, Nashik, Nandgoan, Kalwan, Dindori, Igatpuri, Chandwad, and Malegaon tehsils exhibit moderate levels of health status. Most of these tehsils are concentrated in the Nashik district's northern and eastern parts. These tehsils observe high levels of health indicators such as infants immunized against EPI diseases, use of government health care facilities, family planning, and body mass index. However, they do not sufficiently observe basic health indicators such as households using public or household toilets, safe drinking water facilities, water processing, mosquito control measures, and solid waste management facilities. The tribal population region of the Nashik district, such as Triembak, Surgana, and Peint tehsils, has seen low health status in tribal households. All indicators of the health status of these

tehsils have not been observed at sufficient levels This study found that all tehsils in the study region had extremely low standards for the use of public or household toilets, safe drinking water facilities, drinking water processing facilities, solid waste management facilities, and wastewater management facilities. Physical features such as physiography and rainfall, as well as manmade features such as agriculture, industry, education, literacy level, and health care facilities, all play an important role in the health status levels of tribal households in the study regions.

RECOMMENDATION

1. In all tehsils in the study region, there is an urgent need to increase health status-related indicators such as public or household toilet facilities, safe drinking water facilities, mosquito control measures, and solid waste management facilities for households in tribal communities.
2. In all the tehsils, the high percentage of respondents who smoke and drink alcohol. it is necessary to raise awareness among tribal communities about the harmful effects of smoking and alcohol consumption.
3. In Surgana, Pent Trimbek, Kalwan, Dindori, Igatpuri, and Baglan tehsils, very low-birth-weight children in the age group of 0–5 years have been observed. It is necessary to give nutritious food to malnourished children in this tehsil.
4. The utilization of government health facilities is very low in all tehsils, especially tribal tehsils. There is a need to create awareness among the tribal people regarding the use of government health facilities.
5. In all tehsils, the number of tribal households with health insurance is significantly lower. It is necessary to inform the tribal people about the government's health insurance schemes (*Ayushman Bharat*, Awaz Health Insurance Scheme, *Aam AadmiBimaYojana, BhamashahSwasthyaBimaYojana*, Central Government Health Scheme) and take away health insurance from as many tribal households as possible through government agencies.

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