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Original Research Article

Assessment of Socio-Demographic Profile and Pattern of Diseases in a Tribal District of Madhya Pradesh

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Abstract

Background: India has 104 million tribal people, with Madhya Pradesh having the highest tribal population. Tribal communities remain marginalized with poor health indicators.

Objectives: To assess the socio-demographic profile and disease pattern among individuals attending community-based medical camps in a tribal district.

Methodology: A community-based cross-sectional study conducted in Jhabua district. All camp attendees were assessed for demographic and clinical details.

Results: 78.9% women (15–49 years) had anemia. 26.6% attendees had diagnosed sickle cell anemia. 13.2% adults were hypertensive. 30% women had leucorrhoea. 20% children had worm infestation.

Conclusion: High burden of anemia, reproductive infections, sickle cell disease, hypertension, and parasitic infections was observed.

Keywords: Tribal health, Disease pattern, Anemia, Sickle cell disease, Non-communicable diseases, Community-based health camp.

Introduction

India is home to 104 million tribal people. One of the most populous states in India, Madhya Pradesh, is home to the largest number of tribal people in the nation—15.31 million—representing 21.1% of the state's total population.[1]

The tribal population of M.P. is one of the most marginalized and disadvantaged groups in society, and they mostly live in rural and isolated locations.Tribes are the most marginalized social group in the nation, and the real number and distribution of ailments they experience are poorly understood.[2]

The socioeconomic change of MP will not be complete if the issues of this vulnerable population are not addressed, which will make it difficult to meet the Sustainable Development Goals of the UN [3].

The major tribal groups of Madhya Pradesh consist of Gond, Bhil, Baiga, Korku, Bhariya, Halba, Kol, Mariya and Sahariya. Jhabua district lies in the western part of Madhya Pradesh. [1] It is surrounded by Panchmahal and Dahod districts of Gujarat, Banswara district of Rajasthan, Alirajpur, Dhar and Ratlam districts of Madhya Pradesh. Bhil tribe is the third largest tribe in India and, second largest in Madhya Pradesh. Habitat of Bhil tribes is found mostly in Jhabua, Alirajpur, Dhar and West Nimar districts.[3]

Objectives:

- To assess the socio – demographic profile of persons attending community based camp in a tribal district of Madhya Pradesh
- To study the pattern of disease among persons attending community based camp in a tribal district of Madhya Pradesh.

Material and Methods:

Study Design: Community-based cross-sectional study.

Study Area: Jhabua district, Madhya Pradesh.

Study Participants: All the residents of Jhabua district who attending community-based medical camps.

Inclusion Criteria: All the residents who gave consent to participate in the study**.**

Exclusion Criteria: None

Data Collection: Data was collected from the beneficiaries who were attending the community camp through pre – validated, semi – structured questionnaire and History taking and clinical examination, one-on-one interview.

Data Analysis: Descriptive statistics (counts, frequencies, proportions) were used to summarize data. Analysis was done using MS Excel**.**

Observation and Results:

Table 1: Socio-demographic profile of study participants

Variable	Years	%
Age group	**0-18**	**24**
	18–59	**42**
	≥60	**34**

Table 1 depicts the socio-demographic characteristics of individuals attending the community-based health camp in the tribal district. A substantial proportion of attendees were adults in the economically productive age group, reflecting good community participation in the health camp.

Table 2: Age and sex distribution of participants

Variable	Category	%
Sex	**Male**	**57**
	Female	**43**
Occupation	**Agriculture / Daily wage labour**	**65**
	others	**35**

Table 2 shows the age and sex distribution of the study population. The majority of participants were in the 15–49 years age group, followed by children and elderly individuals. Female participants outnumbered males in most age groups, particularly in the reproductive age group, possibly due to the availability of maternal and general health services at the camp.

Table 3: Pattern of morbidity among study participants

Health condition	%
Anemia present	**78.9**
Anemia absent	**21.1**

Table 3 presents the pattern of diseases identified among individuals attending the camp. Anemia emerged as the most common morbidity, particularly among women aged 15–49 years, with 78.9% diagnosed as anemic.

Table 4: Prevalence of sickle cell disease among attendees

Sickle cell disease status	%
Diagnosed cases	**26.6**
No Sickle cell disease	**73.4**

Table 4 highlights the prevalence of sickle cell disease among the study population. About **26.6%** of the attendees were already diagnosed cases of sickle cell anemia, underscoring the high genetic disease burden among tribal populations of central India.

Table 5: Reproductive and child health-related morbidities

Condition	Study group	%
Leucorrhoea	**Women**	**30.0**
Worm infestation	**Children**	**20.0**

Table 5 describes selected reproductive and child health conditions observed during the camp. Among women participants, 30% were diagnosed with leucorrhoea, reflecting poor menstrual hygiene and limited access to reproductive health services. Among children, 20% were found to have worm infestation, indicating suboptimal sanitation and hygiene practices.

Table 6: Distribution of non-communicable diseases

Disease	%
Hypertension	**9.2**
Diabetes mellitus	5.2

Table 6 summarizes the distribution of non-communicable diseases. Communicable diseases, including anemia and parasitic infestations, constituted a major share of morbidity. However, the presence of non-communicable diseases such as hypertension and hypertension highlights the ongoing epidemiological transition in tribal populations. The coexistence of both disease categories reflects a double burden of disease in the study area.

Discussion

There are not many studies done on tribal health but there are reports on tribal health that reveal 65% of tribal women in the 15-49 years age group suffer from anemia. In this study, 78.9 % women aged 15-49 years had anemia. As per the reports on tribal health [5], Sickle cell anemia is prevalent 1 in 86 births among tribal communities in central India. In this study 26.6%, already diagnosed cases of Sickle Cell Anemia attended the medical camp. As per the tribal health report [3] one out of every four tribal adults suffers from hypertension. In this study, 13.2% adults got diagnosed with hypertension.

In this study, 30% women were diagnosed with leucorrhoea. The awareness sessions regarding sexual and menstrual hygiene were provided by the team of medical experts. 10000 sanitary pads were distributed. In this study, 20% children had worm infestation. Deworming was done stat. Biannual de worming advise was given to the parents of the children. The present community-based study provides valuable insights into the socio-demographic profile and morbidity pattern among individuals attending a health camp in a tribal district of Madhya Pradesh.

The findings highlight a substantial burden of preventable and manageable health conditions, reflecting persistent health inequities faced by tribal populations. A significant observation of the study was the high prevalence of anemia (78.9%) among women aged 15–49 years, which is considerably higher than national estimates reported for tribal women. This finding underscores the continued burden of nutritional deficiencies among tribal women, likely attributable to poor dietary intake, recurrent infections, early marriages, repeated pregnancies, and limited access to nutrition-related health services. The high prevalence emphasizes the need for strengthened implementation of anemia control programs in tribal areas. The study also revealed a high proportion of already diagnosed sickle cell disease cases (26.6%), which is consistent with reports from central India identifying haemoglobinopathies as a major genetic health problem among tribal communities. The substantial burden observed in the present study highlights the importance of routine screening, genetic counseling, and long-term follow-up services at the community level to prevent complications and improve quality of life. Although communicable and nutritional disorders predominated, hypertension was detected in 13.2% of adult participants, indicating an emerging burden of non-communicable diseases in the tribal population. This finding reflects the ongoing epidemiological transition, possibly driven by changing lifestyles, dietary patterns, and reduced physical activity. The coexistence of under nutrition and non-communicable diseases suggests a double burden of disease among tribal communities. Reproductive and child health problems were also notable in the study. Leucorrhoea was diagnosed in 30% of women, indicating poor menstrual hygiene practices and inadequate access to reproductive health services. Similarly, worm infestation was identified in 20% of children, highlighting poor sanitation, unsafe water practices, and gaps in regular deworming coverage. These findings emphasize the need for integrated reproductive, child health, and sanitation interventions in tribal areas. Overall, the study findings reflect long-standing structural determinants such as poverty, low literacy, limited health awareness, and inadequate health infrastructure, which continue to adversely affect the health status of tribal populations. Community-based health camps serve as an effective platform for early detection and health education but must be complemented by sustained outreach and follow-up services.

Conclusion

The present study demonstrates a high burden of nutritional, genetic, communicable, and non-communicable diseases among the tribal population of Madhya Pradesh. Anemia among women of reproductive age, sickle cell disease, and emerging non-communicable conditions such as hypertension constitute major public health concerns. Reproductive tract infections and parasitic infestations among children further indicate gaps in hygiene, sanitation, and access to essential health services. Strengthening community-based outreach services, enhancing screening and early diagnosis, promoting health education, and ensuring continuity of care are crucial to improving tribal health outcomes. Targeted, culturally appropriate interventions involving community participation and integration of preventive, promotive, and curative services are essential to address the complex health needs of tribal populations.

Village Volunteers/ Tribal Health volunteers- From among the local tribal youth, 5 boys and 5 girls per village should be identified as Health Volunteers. Their work would be to spread information related to good health practices, after they have received due training and capacity building. Folk Media,

folk theatres, street plays, cultural groups, the health education content, and language must be locally appropriate.

Empowering the local tribal women groups and building their capacity in the provision of health care.

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