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Original Article

Leprosy Knowledge, Attitude, and Health Seeking Behavior in the General Population of Deoghar, Jharkhand

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Leprosy, also known as Hansen's disease, remains a pressing public health concern globally, especially in developing regions. Deoghar district in Jharkhand, India is notably affected, with a high prevalence of leprosy cases and significant challenges in accessing and adhering to treatment. This study explores the knowledge, attitudes, and health-seeking behaviours related to leprosy among Deoghar general population. A cross-sectional survey was conducted using a structured questionnaire that included four key sections: socio-demographic characteristics, knowledge of leprosy (causes, symptoms, and treatment options), attitudes toward individuals affected by the disease, and health-seeking behaviours regarding awareness and utilization of available healthcare services. Among the 95 participants surveyed, the findings revealed substantial knowledge gaps and widespread misconceptions about leprosy. These factors contribute to stigma, discrimination, and delays in seeking treatment. To address these barriers, a multifaceted strategy is essential, comprising targeted educational campaigns to dispel myths, improve awareness, and provide accurate information. Additionally, enhancing access to early diagnosis and effective treatment, alongside robust social support mechanisms, is crucial to reducing stigma and promoting social inclusion. Collaborative efforts among healthcare professionals, community organizations, and local authorities are vital for the successful implementation of these measures. Furthermore, a nuanced understanding of the cultural and social context of Deoghar is critical for designing sustainable, community-centered leprosy control programs.

Keywords: Leprosy, Hansen's Disease, Knowledge, Attitude and Health-Seeking Behaviour

Introduction

Leprosy is a chronic infectious disease caused by the bacterium *Mycobacterium leprae*. The disease primarily affects the skin, peripheral nerves, upper respiratory tract, and eyes. Leprosy is a major public health concern in many parts of the world, particularly in developing countries. While the prevalence of leprosy has declined globally, certain regions, such as eastern India, continue to face challenges in managing the disease effectively (Lastória & Abreu 2014).

Leprosy can have a significant impact on the health and well-being of individuals affected by the disease. Studies have shown that leprosy patients often experience physical impairments and disabilities, which can lead to difficulties in performing daily activities and social participation (Somar et al 2020). Moreover, the stigma and

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discrimination associated with leprosy can have a profound impact on the mental health and quality of life of those affected (Tsutsumi et al 2007). For instance, a study conducted in eastern India found that leprosy patients had a lower quality of life compared to the general population, particularly in the domains of physical, social, and psychological well-being (Das et al 2020).

In addition to the physical and psychological impact, leprosy can also pose a significant financial burden on individuals and families. Studies have shown that the cost of treatment, transportation, and lost productivity due to the disease can create a significant economic burden, particularly for those living in resource-constrained settings (Xiong et al 2017). A study in South Konawe Regency, Indonesia, found that the financial burden of leprosy was a significant barrier to accessing and adhering to treatment. Many people with leprosy were reluctant to seek treatment due to the costs involved, further exacerbating the spread of the disease and the risk of complications (Dharmawan et al 2023).

In India, the state of Jharkhand has been identified as one of the high-burden areas for leprosy. The district of Deoghar, located in Jharkhand, has a significant number of leprosy patients, many of whom face challenges in accessing and adhering to treatment (Kumar et al 2022, Majumder 2015). It is known that leprosy can have severe physical, social, and psychological consequences for those affected, including stigma, discrimination, and disability. As such consequences have relationship with socio-cultural characteristics of population/ communities, this study aimed at assessing the knowledge, attitudes, and health-seeking behavior related to leprosy among the wider population of Deoghar, Jharkhand.

Materials and Methods

This study employed a cross-sectional survey design to collect data from a representative sample of the population in Deoghar, Jharkhand.

A structured questionnaire was used to gather information on the following domains which consist of four sections. Section-I questionnaire related to sociodemographic characteristics of the participants, Section-II questions related knowledge about leprosy, including its causes, symptoms, and treatment, Section-III related to attitudes towards individuals affected by leprosy and Section-IV related to health-seeking behaviors related to leprosy, such as awareness and utilization of available services. The questionnaire was pre-tested, validated and reliability (r=0.85) was checked before the actual data collection.

The institutional ethics committee approved the study under approval number 2024-359-IND-04. Ethical principles were carefully followed throughout the research, including obtaining informed consent from all participants and safeguarding the confidentiality of their responses.

Results

Bio-demographic variables of 95 participants interviewed are given in Table 1. The study found that the majority of the participants (80%) had no history of leprosy. Most of the participants were in the age group of 35-39 years, and there were more male participants than females. A significant proportion of the participants belonged to the Other Backward Classes category, and the majority were Muslims and had matriculate level of education (Table 1).

Findings related to knowledge about leprosy, including its causes, symptoms and treatment are presented in Table 2. The knowledge scores indicate that a significant proportion of the participants had limited knowledge about leprosy, its causes, transmission, and treatment. Only a small percentage knew that leprosy is caused by bacteria, and many believed that it

Table 1 : Bo-demographic variables (N=95).

S.N.	Variables	Options	Frequency	Percentage
1.	History of Leprosy	Yes	19	20
		No	76	80
2.	Age (Years)	18-24 years	18	18
		25-29 years	12	13
		30-34 years	14	14
		35-39 years	25	28
		40-44 years	14	14
		More than 45 years	12	13
3.	Gender	Male	53	56
		Female	42	44
4.	Residence	Belongs to Deoghar district	32	33
		Belongs to Jharkhand state	22	23
		Belongs to Others state	41	44
5.	Marital status	Married	68	71
		Unmarried	21	22
		Widow/Widower	06	07
6.	Type of family	Nuclear family	36	38
		Joint family	56	59
		blended family	03	03
7.	Anybody in family affected by Leprosy?	Yes	15	16
		No	80	84
8.	Occupation	Farmer	17	18
		Laborer	26	28
		Business	06	07
		Housewife	22	23
		Student	12	12
		Employed	06	06
		Unemployed	06	06
9.	Belongs to which category	OBC Category	67	70
		UR Category	10	11
		SC Category	16	17
		ST Category	02	02
10.	Religion	Hindu	37	39
		Muslim	58	61
11.	Educational status	Matriculate level	69	73
		Intermediate level	16	17
		Bachelor level	08	08
		Doctorate level	02	02

Table 2 : Knowledge about leprosy.

S.N.	Variables	F (%)
1.	**Have you heard about leprosy? where did you get the information from?**	
	a. No	42 (46)
	b. Hospital- Doctor/Health worker/Anganwadi worker	18 (18)
	c. Awareness program	14 (14)
	d. TV/Newspaper/Radio	13 (14)
	e. Friend or family	06 (06)
	f. All of the above	02 (02)
2.	**Do you know what causes leprosy?**	
	a. Bacteria	27 (28)
	b. Curse of God	34 (37)
	c. Poor hygiene	16 (17)
	d. Runs in family (Heredity)	06 (06)
	e. All of the above	12 (12)
3.	**Do you have any idea that how leprosy can be transmitted?**	
	a. From animals/ mosquitoes	13 (14)
	b. Sitting close to the leprosy patients	08 (09)
	c. Sharing personal items (toothbrush, towels etc.) with leprosy patients	21 (22)
	d. Air droplet	06 (06)
	e. Skin infection	15 (15)
	f. All of the above	32 (34)
4.	**Do you think leprosy is curable?**	
	a. Yes	28 (30)
	b. No	67 (70)
5.	**Do you think leprosy can be treated either by?**	
	a. Allopathic drugs	59 (62)
	b. Homeopathy	02 (02)
	c. Others	34 (36)
6.	**Do you think leprosy is a severe disease?**	
	a. Yes	75 (79)
	b. No	20 (21)
7.	**Do you know what happens if leprosy occurs?**	
	a. Skin discoloration/pigmentation/Patches	17 (17)
	b. Disfigurement of body/Deformity	22 (24)
	c. Skin ulcers	06 (06)
	d. All the above	50 (53)

8.	**To whom do you go either to a doctor/hospital as soon as you get to know of yourself being leprosy affected?**	
	a. Have to ask head of the family	07 (08)
	b. Feel ashamed	06 (06)
	c. Social stigma/Health practitioner stigma	10 (11)
	d. Wait for self-cure	33 (35)
	f. All of the above	38 (40)
9.	**Where would you advise your relative or friend to seek treatment if he/she had leprosy?**	
	a. Health facility, medical doctor, nurse	55 (58)
	b. Government leprosy hospitals	40 (42)
10.	**What would you like to advice to the leprosy patients?**	
	a. Seek immediate doctor consultation if any doubt of leprosy	49 (52)
	b. Avoid crowding places	04 (04)
	c. Don't miss to take treatment regimens daily	02 (02)
	d. All the above	40 (42)

Table 3 : Attitudes of public towards leprosy.

S.N.	Attitude towards Leprosy	Yes	No
1.	Do you wish to sit next to a person undergoing treatment with leprosy in a public conveyance	15 (15)	80 (85)
2.	Do you avoid interacting with a leprosy treated person, such as by not sharing food or activities with them	40 (42)	55 (58)
3.	Will you allow the leprosy cured person to stay at your home	14 (14)	81 (86)
4.	Will you or allow your children to marry someone from a leprosy treated prone family	-	95 (100)
5.	Do you work alongside a leprosy person taking drugs in the same space	-	95 (100)
6.	Will you allow your kids to play with a leprosy person's child	02 (02)	93 (98)
7.	Do you feel humiliated to disclose to others if you or a member of your family has leprosy	32 (33)	63 (67)
8.	Are you going to support and encourage leprosy patients to overcome social stigma	95 (100)	-
9.	Will you support the affected family members during the course of their treatment	48 (51)	47 (49)
10.	Will you share clothing or other items with leprosy persons who have recovered	06 (07)	89 (93)

Table 4 : Health seeking behavior towards leprosy.

S.N.	Behavior towards leprosy	F (%)
1.	**Ready to speak out to correct myths and stereotypes about leprosy**	
	Yes	44 (46)
	No	51 (54)
2.	**Socially isolating a person of a community because they are having leprosy**	
	Yes	24 (26)
	No	71 (74)
3.	**Do not allow the person to stay at house**	
	Yes	10 (10)
	No	85 (90)
4.	**Participate on healthy education regarding leprosy if any**	
	Shows interest	32 (33)
	Doesn't show	63 (67)
5.	**Help leprosy patients financially if he or she is unable to work**	
	Yes	48 (50)
	No	47 (50)
6.	**Known patient details keep confidential / guide her/him for recovery**	
	Yes	32 (34)
	No	63 (66)
7.	**Choice of treatment prefer to visit**	
	a. Govt. hospital	37 (39)
	b. Private clinic/hospital	58 (61)
8.	**Suggestion to seek treatment**	
	a. Allopathic medicine	59 (62)
	b. Don't know	36 (38)
9.	**Choice of consult after being diagnosed with leprosy**	
	a. Doctor	68 (71)
	b. Do not consult anyone due to social stigma/health practitioner stigma	27 (29)
10.	**Facility suggested for leprosy management**	
	a. Allopathic Health facilities	63 (67)
	b. Don't know	32 (33)
11.	**Time to seek medical attention in case of suspicion**	
	a. As soon as I realize the symptoms could be due to leprosy	63 (67)
	b. Don't know	32 (33)
12.	**Reasons for delay in treatment**	
	a. Not sure where to go	37 (38)
	b. Because of social stigma	58 (62)

Table 5 : Total scores of knowledge, attitude and health seeking behavior.

Variables	Options	Frequency	Percentage
Knowledge Score (7-36)	Less Knowledge (7-16)	08	08
	Adequate Knowledge (17-26)	60	64
	Excellent Knowledge (27-36)	27	28
Attitude Score (0-10)	Unfavorable attitude (0-5)	95	100
	Favorable attitude (6-10)	00	00
Health seeking behavior (6-18)	Poor behavior (6-12)	93	97
	Good behavior (13-18)	02	02

is a curse from God or due to poor hygiene. The majority of the participants were unaware that leprosy is curable, and a significant proportion believed that it can only be treated through traditional methods rather than allopathic medicines. Many of the participants reported that they would be hesitant to seek immediate medical attention if they suspected they had leprosy, due to feelings of shame, social stigma, and a belief that it will self-cure. Many of the participants also reported that they would seek immediate doctor consultation if any doubt of leprosy occurs (Table 2).

The findings related to attitude towards leprosy are summarised in Table 3. The results explored that attitudes of the participants towards individuals affected by leprosy. The results indicate a significant degree of stigma and discrimination towards those with leprosy. Majority of the participants reported that they would avoid interacting with or sitting next to a person undergoing treatment for leprosy. Many also expressed reluctance to allow a leprosy-cured person to stay in their home or to allow their children to marry someone from a family with a history of leprosy.

However, a large proportion of the participants also expressed a willingness to support and encourage leprosy patients to overcome social stigma. Majority agreed that they will support their affected family members during the course of their treatment but will not share clothing or other items with leprosy persons who have recovered (Table 3).

The findings of health seeking behavior are presented in Table 4. The attitudes of the participants towards individuals affected by leprosy showed a significant degree of stigma and discrimination towards those with leprosy. Majority of the participants reported that they would avoid interacting with or sitting next to a person undergoing treatment for leprosy. Many also expressed reluctance to allow a leprosy-cured person to stay in their home or to allow their children to marry someone from a family with a history of leprosy.

However, a large proportion of the participants also expressed a willingness to support and encourage leprosy patients to overcome social stigma. These findings highlight the need for targeted interventions to address the social stigma and discrimination faced by individuals affected by leprosy, in addition to improving knowledge and awareness about the disease (Table 4).

The total scores of knowledge, attitude and health seeking behavior are shown in Table 5. This research paper has examined the knowledge,

attitudes, and health-seeking behaviors related to leprosy among the general population in a region with a high burden of the disease. The key findings from the study indicate that there are significant gaps in knowledge about leprosy, with many participants experiencing stigma, not prepared to speak out against the myths, not sure where to go for treatment, delaying/ hiding their problem and not approaching government health system in time (Table 5).

Discussion

Overall, leprosy remains a significant public health challenge in the region, with a high burden of disability and social stigma among those affected. The study findings suggest the need for a multifaceted approach to address the issue, including improved access to early diagnosis and treatment, as well as targeted educational and awareness-raising campaigns to dispel misconceptions and reduce stigma (Abdul Rahman et al 2022).

The study's findings reveal significant knowledge gaps about leprosy, its causes, transmission, and treatment among the Deoghar population. This lack of awareness is particularly concerning given that leprosy is a curable disease with effective treatment readily available. Misconceptions about leprosy being a curse or caused by poor hygiene contribute to stigma and discrimination, creating barriers to early detection and treatment-seeking. These beliefs, often rooted in cultural and religious traditions, can override scientific understanding and influence health-related behaviors. These knowledge gaps are consistent with findings from other studies in India, highlighting the need for targeted educational interventions to improve awareness and dispel myths about leprosy. Several studies conducted in different parts of India have reported similar levels of inadequate knowledge and persistent misconceptions about leprosy, indicating a widespread problem that requires a coordinated national response.

The study observed high levels of stigma and discriminatory attitudes towards individuals affected by leprosy, reflecting a pervasive social problem that extends beyond the Deoghar district. Reluctance to interact with, accommodate, or include leprosy-affected individuals in social activities reflects deep-seated prejudices and a lack of empathy, which can have devastating consequences for those living with the disease. This social exclusion can lead to isolation, loneliness, and a diminished quality of life, hindering their ability to participate fully in society. These attitudes are similar to those reported in other regions of India, underscoring the pervasive nature of leprosy-related stigma and the urgent need for interventions to promote social inclusion and reduce discrimination (Sharma & Singh 2022). Studies conducted in various states of India have documented similar patterns of stigma and discrimination, suggesting that leprosy-related prejudice is a widespread issue that requires a multi-faceted approach to address (Ahad et al 2023).

This lack of understanding has contributed to the perpetuation of stigma and discrimination towards individuals affected by leprosy (Marahatta et al 2018). The survey results reveal a high degree of social isolation and exclusion of leprosy patients, with many participants reporting that they would avoid interacting with or accommodating someone with the disease.

The research highlights the need for targeted educational and awareness-raising campaigns to dispel myths and misconceptions about leprosy, as well as the importance of improving access to early diagnosis and effective treatment. By addressing the social and cultural barriers to leprosy control, the study findings can inform the development of more holistic and comprehensive

interventions to improve the health and well-being of individuals affected by the disease. This lack of understanding has contributed to the perpetuation of stigma and discrimination towards individuals affected by leprosy, with many participants reporting that they would avoid interacting with or accommodating someone with the disease.

The research also suggests a willingness among a significant proportion of the population to support and encourage leprosy patients in overcoming the social stigma. This finding presents an opportunity for targeted educational and awareness-raising campaigns to dispel myths and misconceptions about leprosy, and to promote more inclusive and compassionate attitudes towards those affected by the disease. In addition to addressing the social and cultural barriers, the study highlights the need to improve access to early diagnosis and effective treatment for leprosy. The research findings can inform the development of more holistic and comprehensive interventions to address the multidimensional challenges of leprosy control, including improved access to healthcare, social support services, and community-based rehabilitation programs.

Study Limitations

The study's findings should be interpreted in light of several limitations. The sample size of 95 participants obviously limits the generalizability of the findings to the entire population of Deoghar. A larger, more representative sample would provide a more accurate reflection of the knowledge, attitudes, and behaviors of the community. The cross-sectional design does not allow for establishing causality between knowledge, attitudes, and health-seeking behaviors. Longitudinal studies with adequate numbers and representative groups are needed to examine the complex relationships between these variables over time. Reliance on self-reported data may introduce bias due to social desirability or recall errors, as participants may be reluctant to admit to stigmatizing attitudes or behaviors. This bias can be minimized by using anonymous questionnaires and ensuring confidentiality.

Future Research Directions

Future studies should employ larger, representative samples to enhance the generalizability of the findings and provide a more accurate picture of the situation in Deoghar and other similar settings. Longitudinal studies are needed to examine the causal relationships between knowledge, attitudes, and health-seeking behaviors over time, providing a better understanding of the factors that influence leprosy control efforts. Qualitative research methods, such as in-depth interviews and focus group discussions, can provide a deeper understanding of the social and cultural factors influencing leprosy-related beliefs and behaviors, complementing the quantitative findings of the survey. These qualitative methods can provide valuable insights into the lived experiences of individuals affected by leprosy and the challenges they face.

Recommendations for Interventions

Based on the study's findings and limitations, several recommendations can be made for future research cum interventions. Implement targeted educational programs to dispel myths and promote accurate awareness about leprosy, focusing on the cause, transmission, treatment, and prevention of the disease. These programs should be tailored to the specific needs and cultural context of the Deoghar community. Efforts should be made to enhance access to early diagnosis and effective treatment through strengthened healthcare services, including training healthcare workers, providing access

to diagnostic testing, and establishing referral pathways. Addressing the accessibility and quality of healthcare services is crucial for improving treatment outcomes. Robust social support systems should be established mitigate stigma and social exclusion, including community-based programs, peer support groups, and counseling services. Providing social support can help individuals affected by leprosy cope with the psychological and social challenges they face.

Conclusions

This research highlights the complex challenges associated with leprosy control in Deoghar, Jharkhand, revealing critical knowledge gaps, pervasive stigma, and poor health-seeking behaviours. These findings emphasize the urgent need for a holistic and integrated strategy. Key recommendations include implementing targeted educational programs to dispel myths and promote accurate awareness about leprosy, enhancing access to early diagnosis and effective treatment, and establishing robust social support systems to mitigate stigma and social exclusion. Collaborative efforts involving healthcare providers, community organizations, and local authorities are essential to the success of these initiatives. Furthermore, incorporating an understanding of the cultural and social dynamics within the Deoghar community will be pivotal in designing sustainable and effective leprosy control programs. By addressing these challenges, this research can significantly contribute to improving health outcomes and reducing the stigma associated with leprosy, ultimately enhancing the quality of life for affected individuals.

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