



KNOWLEDGE AND ATTITUDE OF INDIAN RURAL COMMUNITY TOWARDS LEPROSY AFTER POST ELIMINATION PHASE: A SURVEY FROM KARAD BLOCK, INDIA

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INTRODUCTION

Leprosy, one of the chronic and oldest infectious disease riddled with so many myths and carries grave social stigma and ostracism which compels the patients to hide disease resulting in manifestation of deformities which results in multidimensional problems not only to patient and family but also to Community and Nation¹. It has been observed that 95% general population have negative attitude about leprosy in India as well as other countries and the horror and the dread of disease was rooted in this deformity². Planning and implementation of National Leprosy Elimination Programme (NLEP) required community participation for better impact, continuity and wider acceptance of programme activities. Knowledge and

attitude of community leaders about leprosy patient not only change the attitude but also influence the behavior of patient and but also improve the health seeking behavior of patient and general people³.

The knowledge of community members towards leprosy are of paramount in the management of disease, drug therapy, communication and counseling skill, follow up, problem solving skills, motivation of patient, family members, and community is essential for reduce the burden of disease in community. India achieved leprosy elimination by the end of year 2005⁴. The disease was highly endemic in Satara district with prevalence rate (PR) 61/ 10000 population in 1990. NLEP started in Sa-

ABSTRACT

Introduction: Excellent knowledge and positive attitude of general public towards leprosy would improve hidden case detection rate, eliminate stigma and reduce the deformity. The study aimed to assess the knowledge and attitude of rural community towards leprosy and to determine the correlation among them.

Methods: A community based survey was conducted in Karad Block, India in year 2013. 570 community members were selected by randomly and interviewed by using semi-structured proforma.

Results: Among the total 570 community members, max 35.96 % were belonged to 30 to 40 yrs and 30.87% agriculturist by occupation. Max, 78.94% and 68.59% respondents had good quality of knowledge and positive attitude towards leprosy respectively. Age, education and occupation of respondents were significantly associated with good knowledge and positive attitude towards leprosy whereas, gender in addition played significant role with positive attitude. A positive correlation was observed between knowledge and attitude of community members towards leprosy.

Conclusion: The study revealed good knowledge and positive attitude of community towards leprosy which could be an important determinant of leprosy elimination in Karad rural block.

Keywords: Leprosy, knowledge, attitude, community, association, correlation

tara district during July 1990, subsequently Modified Leprosy Elimination Campaign and Block Leprosy Awareness Campaign was started to overcome the disease burden^{5, 6}. The low prevalence of leprosy is often associated with lack of accurate knowledge about leprosy in community could be an important factor in hindering leprosy control. The knowledge and attitude of leprosy among the community individuals play major role in leprosy control⁷.

The main purpose of this study was to assess knowledge and attitude of rural community towards Leprosy disease.

MATERIAL AND METHODS:

A cross sectional survey was carried out in Karad Block of Satara district, India over a period of 6 months in year 2013 with prior permission of District Health Officer and Add. Director Leprosy Control Unit, Sarata. At the time of study, there were 11 primary health centers (PHCs) and 1 urban leprosy center (ULC) catering services under NLEP in Karad Block area. A total of 570 individuals from community were interviewed by assuming the proportion of individuals aware about disease Leprosy is 80%, probability of type 1 error, $\alpha=0.05$ with beta 0.2 (power 0.80) from adults of age group 20-60 yrs.

The sample size is calculated by statistical formula $4PQ/L^2 \times \text{design effect (2)} + \text{non response rate(10\%)}$ with considering worst acceptable range taken was 5 % with 95% confidence interval. The calculated sample size was 563 and we considered 570 as round up sample size for present study.

Utilizing multistage followed by simple random sampling technique (lottery method), the desired sample size was achieved from the selected villages using the voter list. Semi- structured proforma was used to assess the knowledge and attitude which was tested for its validity and reliability from experts in leprosy followed by pilot study to correct ambiguations included for knowledge specific questions like cause of leprosy, route of transmission, sign and symptoms, infectivity, curability, multi drug therapy etc. The attitude specific variables were to conduct leprosy survey, sheering of food, separate colony, ashamed to tell about leprosy family member etc.

Data were collected after written consent from the study respondents by personal interview method at household level with the help of peripheral health workers. Data were entered in MS Excel 2007, coding and decoding was performed and analyzed for knowledge and attitude as, who expressed correct were given scored '1' and with no

or don't know, scored as '0' and total score was obtained. The data were presented in tabular form with frequency percentage distribution and Chi-square test was applied to determine the association between socio-demographic variables with knowledge and attitude and correlation coefficient was applied to determine the relationship between knowledge of community members with their attitude towards leprosy by using statistical software InStat.

RESULTS

In present study, total of 570 community members were interviewed. The age of study subjects was ranged from 21 to 57 yrs respectively with max 35.96 % were belonged to age group 30 to 40 yrs.

Table 1: Socio demographic distribution of community members (N=570)

Socio demographic characteristic	Freq. (%)
Age (yrs.)	
20-30	144(25.26)
30-40	205(35.96)
40-50	138(24.21)
50-60	83(14.56)
Gender	
Male	347(60.87)
Female	223(39.12)
Education	
Illiterate	11(1.92)
Primary	31(5.43)
Secondary	89(15.61)
Higher secondary	296(51.92)
Gradates	143(25.08)
Occupation	
Daily wage labor	92(16.14)
Housewife	166(29.12)
Salaried	107(18.77)
Agriculturist	176(30.87)
Businessman	29(5.08)

The higher proportion of respondents, 60.87% was males, 51.92% completed higher secondary education and 30.87% were agriculturist respectively (Table 1). The proportion of knowledge about disease, route of transmission, disease and poverty association and health education about leprosy was more than 90% among community members.

Whereas, knowledge about NLEP, cause of disease, sign & symptoms, heredity and leprosy, curability, effective treatment and free availability of drugs ranges from 60-90% respectively. Highly effective anti-leprosy treatment, complete curability of disease, sign and symptoms of disease was 78%, 82%, 74% and 81% respectively. However, knowledge about infectivity of disease was noticed in 51.92% individuals (Table 2).

Table 2: Leprosy knowledge specific distribution of community members

Knowledge Variables	Knowledge (%)	
	Present	Absent
Awareness about leprosy	559(98.00)	11(1.92)
Awareness about NLEP	456(80.00)	114(20.00)
Cause of disease	376(65.96)	194(34.03)
Sign & symptoms	462(81.05)	108(18.94)
Infectivity	296(51.92)	274(48.07)
Hereditary	399(70.00)	171(30.00)
Route of transmission	530(92.98)	40(7.01)
Major public health problem	542(95.08)	28(4.91)
Complete curable	422(74.03)	148(25.96)
Disease of poor people	559(98.07)	11(1.92)
Highly effective treatment	467(81.92)	103(18.07)
Freely available drugs	445(78.07)	125(21.92)
Health education	564(98.94)	6(1.05)

Table 3: Distribution of Attitude of community members about leprosy

Attitude Variables	Attitude (%)	
	Positive	Negative
House to house survey	484(84.91)	86(15.08)
Leprosy patients mix in Community	308(54.03)	262(45.96)
Share with patient	353(61.92)	217(38.07)
Fear about patient	433(75.96)	137(24.03)
Stigma about disease	399(70.00)	171(30.00)
Ashamed to tell leprosy patient in family	524(91.92)	46(8.07)
Separate room for patient	433(75.96)	137(24.03)
Separate colony	473(82.98)	97(17.01)
Separate hospital	484(84.91)	86(15.08)
Rehabilitative services	465(81.57)	105 (18.42)

Table 4: Knowledge and Attitude category distribution of respondents

Knowledge category	Frequency (%)	Attitude category	Frequency (%)
Poor : 0-4	26(4.56)	Poor : 0-3	51(8.94)
Fair : 5-8	94(16.49)	Fair : 4-6	128(22.45)
Good : 9-13	450(78.94)	Good : 7-10	391(68.59)

The proportion of attitude of community members regarding not ashamed to talk about family leprosy patient was 91.92% whereas, towards house to house leprosy survey for identification cases, fear and stigma about disease, no separation (isolation) of patients and provision of rehabilitative services was ranges from 70% to 85% respectively. However, attitude towards sharing with leprosy patient and community participation was 61.92% and 54.03% respectively (Table 3).

According to knowledge category, community members were categorized as poor knowledge category (0-4), fair knowledge category (5-8) and good knowledge category (9-13).According to attitude category, they were categorized as poor attitude category / negative (0-3), fair attitude cate-

gory/ fairly positive (4-6) and good attitude category/ positive (9-13).

Table 5: Demographic distribution of knowledge of community members about leprosy

Demography	Poor(%)	Fair(%)	Good(%)	p value
Age (yrs.)				
20-30	10(1.75)	43(7.54)	91(15.96)	0.0001*
30-40	6(1.05)	16(2.80)	183(32.10)	
40-50	4(0.70)	22(3.85)	112(19.64)	
50-60	6(1.05)	13(2.28)	64(11.22)	
Gender				
Male	17(2.98)	57(10.00)	273(47.89)	0.8
Female	09(1.57)	37(6.49)	177(31.05)	
Education				
Illiterate	7(1.22)	4(0.70)	0(0.00)	0.0001*
Primary	9(1.57)	13(2.28)	9(1.57)	
Secondary	7(1.22)	37(6.49)	45(7.89)	
Higher secondary	2(0.35)	29(5.08)	265(46.49)	
Gradates	1(0.17)	11(1.92)	131(22.98)	
Occupation				
Dailywage labour	8(1.40)	25(4.38)	59(10.35)	0.0001*
Housewife	13(2.28)	29(5.08)	124(21.75)	
Salaried	1(0.17)	12(2.10)	94(16.49)	
Agriculturist	2(0.35)	19(3.33)	155(27.19)	
Businessman	2(0.35)	9(1.57)	18(3.15)	

Table 6: Demographic distribution of attitude of community leaders towards leprosy

Demography	Poor (%)	Fair posi- tive (%)	Good/Po- sitive (%)	P value
Age (yrs.)				
20-30	15(2.63)	31(5.43)	98(17.19)	<0.001
30-40	11(1.92)	21(3.68)	173(30.35)	
40-50	17(2.98)	39(6.84)	82(14.38)	
50-60	8(1.40)	37(6.49)	38(6.66)	
Gender				
Male	20(3.50)	51(8.94)	276(48.42)	<0.001
Female	31(5.43)	77(13.50)	115(20.17)	
Education				
Illiterate	9(1.22)	2(0.70)	0(0.00)	<0.001
Primary	19(1.57)	12(2.28)	0(1.57)	
Secondary	20(1.22)	22(6.49)	47(7.89)	
Higher secondary	2(0.35)	81(5.08)	213(46.49)	
Gradates	1(0.17)	11(1.92)	131(22.98)	
Occupation				
Daily wage labor	19(3.33)	27(4.73)	46(8.07)	<0.001
Housewife	17(2.98)	39(6.84)	110(19.29)	
Salaried	6(1.05)	22(3.85)	79(13.85)	
Agriculturist	7(1.22)	34(5.96)	135(23.68)	
Businessman	2(0.35)	6(1.05)	21(3.68)	

Max, 78.94% community members had good quality of knowledge about leprosy whereas, 16.49 % and 4.56 % had fair and poor knowledge respectively. The higher percentage,68.59 % had positive attitude towards leprosy whereas, 22.45 % and 8.94% had fairly positive and negative (poor) attitude towards leprosy respectively (Table 4).

The knowledge score ranges from 4 to 13 with mean 10.69 and SD 5.15. The attitude score ranging from min1 to max 10 with mean 7.36 and SD 4.67.

Table 5 described the association between knowledge and demographic variables. The higher proportion of respondents, 32.10% were belonged to age group 30-40 years had good quality of knowledge and age is significantly associated with knowledge of respondents ($p=0.0001^*$). In context to gender, proportion of male was higher, 47.89% as compared to female with respect to good knowledge. Max, 46.49% of community members were educated up to higher secondary, had good knowledge of leprosy and education is significantly associated with knowledge as indicated by statistical analysis ($p=0.0001^*$). The higher percentage, 27.29% of respondents were agriculturist had good knowledge of leprosy and occupation is significantly associated with knowledge ($p=0.0001^*$).

According to table 6, out of a total 570 community members, maximum, 30.35% had positive attitude towards leprosy were in age group of 30-40 years and as age increases, attitude also became positive ($p=0.0001^*$). The proportion of male respondents was higher, 48.42% than females with respect to positive attitude about leprosy ($p=0.0001^*$). The higher secondary education individuals, 46.49% had good/positive attitude towards leprosy and as level of education increases the perception towards leprosy became positive ($p=0.0001^*$). The max, 23.68% respondents were agriculturist had good attitude about leprosy and at rural/village level, occupation is significantly associated with attitude of community individuals towards leprosy ($p=0.0002^*$).

Fig. 1 depicts perfect positive and strong correlation between knowledge of community members about leprosy and their attitude towards disease. As knowledge level increases, the positive perception of community is also observed and denoted by correlation coefficient ($r = 0.960$ and $p = 0.0001^*$).

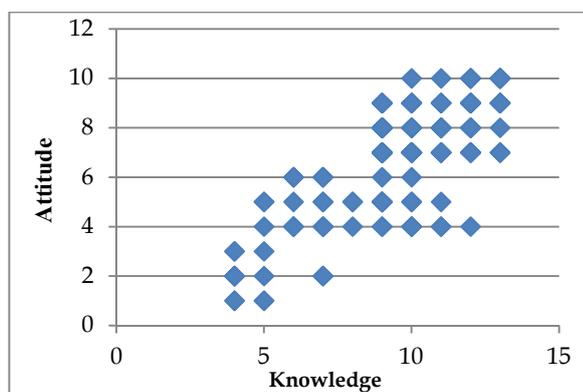


Fig 1: Correlation of knowledge and attitude towards leprosy among community members

DISCUSSION

WHO suggested that effective leprosy control requires integration of leprosy services into general health services which further lead to rendering the quality services to the door step of community, in close vicinity of community, improve case finding, case holding, increase the awareness about leprosy, reduced stigma as well as improve knowledge and skill among health care personals also.

The present study revealed, 78.94% community members had overall a good knowledge about leprosy whereas, overall positive attitude was observed in 68.59% respondents. Similar findings have also been reported by Raju⁸ from Andhra Pradesh that community members had a high knowledge levels as well as had a positive attitude towards leprosy, indicating that good knowledge and a positive attitude towards disease goes in hand and hand. However, Kopparty⁸ in Orrisa, India showed that respondents had a good knowledge about leprosy but had a negative attitude towards disease. Similar findings have also been reported by Stephen T⁹ in a rural Tamil Nadu community and this difference in results could be due to high literacy level, sound economic conditions and proper implementation of NLEP services at the corner of community by district leprosy control unit in the present study area.

This study described the knowledge of community members about leprosy, route of transmission and health education about disease was more than 90%. However; no one study claims such type of knowledge in community members. The knowledge about cause of disease, sign & symptoms, heredity and leprosy, curability, effective treatment and free availability of drugs ranges from 60-90% respectively. Similar findings have also been reported by Mankar MJ¹⁰ and Adhikari B¹¹ from Maharashtra and Nepal. However, Nisar N¹² from Karachi, Pakistan and Barkataki P¹³ from Uttar Pradesh, India reported poor knowledge about leprosy among community members.

The study depicted attitude of community members regarding not ashamed to talk about family leprosy patient was 91.92% whereas, towards house to house leprosy survey for identification cases, fear and stigma about disease, no separation (isolation) of patients and provision of rehabilitative services ranges from 70% to 85% respectively. However, attitude towards sharing with leprosy patient and community participation was 61.92% and 54.03% respectively. A study conducted by Tesema AA¹⁴ reported that 59.8% members are not ashamed to talk about family leprosy patient but their attitude towards sharing of food was 3.38%. The community attitude towards leprosy noticed by Mankar MJ¹⁰ from Maharashtra state was

ranges from 39.6% to 67.2%. A study conducted by Nisar N¹² from Karachi, Pakistan noticed very poor attitude towards leprosy in fishing community.

The study revealed age, education and occupation of community members were significantly associated with knowledge about leprosy whereas age, gender, education and occupation were significantly associated with positive attitude towards leprosy. Study conducted by Tesema AA¹⁴ from Ethiopia also reported similar findings i.e. age and education was significantly associated with knowledge and positive attitude in community members. This study also estimated the strong correlation between knowledge and attitude of community towards leprosy. A study conducted by Subramaniam P¹⁵ from Singapore has also been reported that an increased knowledge score were significantly correlated with a positive attitude. However; low correlation between knowledge and attitude among the community with relation to leprosy was reported by Mutatkar RK¹⁶.

The study described good knowledge and positive attitude of rural community towards leprosy could be due to quality education, training and retraining of health care workers by district leprosy control unit and their motivation and positive attitude towards disease, intensive implementations of NLEP services by public health care system, involvement of private medical college and NGOs for improving awareness about leprosy in community, high literacy rate, sound economic conditions, availability and access of health care services as reported by Mohite RV¹⁷ from Satara district, Maharashtra.

CONCLUSION

The Karad rural block achieved leprosy elimination by the end of March 2005 which could be due to good knowledge and positive attitude of community towards leprosy and reflected the perfect positive correlation among them.

RECOMMENDATION

Though leprosy elimination achieved, need continue support from government as well as non governmental agencies to achieve zero prevalence rate of leprosy which further reduce the burden and stigma of disease in the community.

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