

**Original article**

# AN ASSESSMENT OF THE IMPACT OF ONE DAY TRAINING PROGRAMME ON KNOWLEDGE AND ATTITUDE OF UNDERGRADUATE STUDENTS ON LEPROSY AT G. R MEDICAL COLLEGE, GWALIOR, MADHYA PRADESH

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## ABSTRACT

**Background:** Leprosy which is also known as hansen's disease is probably the oldest disease known to mankind. It is imperative for the young medical students who become future physicians to be well aware about the signs and symptoms along with management of leprosy in India.

**Objectives:** The present study was under taken with the objective to assess the knowledge and attitude of medical students towards leprosy and leprosy affected patients. The present study also aims to study the impact of one day training programme on the change of knowledge and attitude towards leprosy and leprosy affected patients.

**Material & Methods:** The study was a cross sectional study. It was a part of a one day training programme oriented for the up gradation of knowledge about the recent advances in the field of leprosy management and also to highlight the salient features of National Leprosy Eradication Programme (NLEP). All the students who reported on that day were given a questionnaire to be filled before the start of the training programme and after the completion of the training programme.

**Result:** It was noted that majority of the study participants were aware about Multi Drug Therapy (MDT) but awareness about the other aspects of leprosy was very low. The majority of the study participants were having a negative attitude towards the leprosy affected persons which changed significantly after the training programme.

**Conclusion:** Such training programme should be regularly organized for the undergraduate student as these may not only increase the knowledge of the undergraduate students but also have a positive change in the attitude of students

**Keywords:** Leprosy, NLEP, Knowledge and Attitude

## INTRODUCTION

Leprosy, also known as hansen's disease, is probably the oldest disease known to mankind. Its description can be traced back even up to 377 BC.<sup>1</sup> In India leprosy is still consider to be a dreaded infection and the patients find them-

selves to be outcast as the people tend to avoid any social interaction with leprosy affected.

Government of India has started Leprosy Control Programme in 1955 and subsequently renamed in 1983 as National Leprosy Eradication programme (NLEP). India achieved its elimination

target of prevalence rate of less than one per 10000 populations in Dec 2005.<sup>1</sup> Current prevalence rate is 0.68 per 10000<sup>2</sup> and for Madhya Pradesh its 0.63 per 10000 populations.<sup>3</sup>

However, the new case detection for June 2011 was 10.28 per 100000 which is still an indication that the disease is still active in the society and its transmission is still going on.<sup>2</sup> The achievement of elimination of less than one per 10000 populations can give a sense of false satisfaction. However the disease has a very long incubation period of three to five year and even more. So the cases could be seen even after long period.

So it is imperative for the young medical students who become future physicians to be well aware about the signs and symptoms along with management of leprosy in India. The students had to make sincere efforts towards sustained elimination of leprosy in India. With this background the present study was undertaken with the objective to assess the knowledge and attitude of medical students towards leprosy and leprosy affected patients. The study also aims to find out the impact of one day training programme on the change of knowledge and attitude towards leprosy and leprosy affected patients among undergraduate students.

## METHODOLOGY

This cross sectional study carried out in October 2009 by the Department of Community Medicine, G. R. medical College, Gwalior. It was a part of a one day training programme oriented for the upgradation of knowledge about the recent advances in the field of leprosy management and also to highlight the salient features of National Leprosy Eradication Programme (NLEP).

There was a total of 97 pre final year undergraduate students of which 95 participated in the training programme. They were divided into four groups. The first group had 23 students while the remaining three groups comprised of 24 students each. The day of training was fixed and was communicated to all the students. All the students who reported on that day were given a questionnaire to be filled before the start of the training programme. The questionnaire was divided into two part. The first part was related to the assessment of knowledge about the signs and symptoms, diagnosis and treatment of leprosy. It also had few questions related to the

assessment on the recent scenario of National Leprosy Eradication Programme in India. All the questions were allotted one point and the total correct response was calculated at the end.

The second part was related to the assessment of attitude of undergraduate students towards the leprosy patients and its management. A five point Likert scale was used to assess attitude. Statements were made by the research team and the participants were asked to respond on a scale ranging from strongly agree to strongly disagree. Those who showed strong agreement or agreement were rated to have positive attitude and those who showed strong disagreement or disagreement or no comments were rated to have negative attitude.

The students were then allowed to participate in the training programme. After the training programme the students were given the same set of questionnaire to assess the impact of training. Thus for each student there was a set of two questionnaire, the first one was taken as a pre-test questionnaire and the other one was taken as post-test questionnaire.

All the data was transferred to Ms Office excel software. Proportion and McNemar chi square test were applied for the analysis of data.

## RESULT

Of the total batch of 97 students, 95 students participated in the training programme. Thus the final sample was limited to 95 students only. Of 95 students, 51 were male and 44 were female. The mean age of male students was 22 ( $\pm 1$ ) years compared to 21 ( $\pm 1$ ) years for females. About 91 students reported that they have seen one or more leprosy affected patients in their life.

On analysis of questions related to the assessment of knowledge regarding signs and symptoms of leprosy, it was noted that majority of the study participants were aware about Multi Drug Therapy (MDT) but awareness about the other aspects of leprosy was very low. Majority of the students were aware that leprosy is a curable disease and that it affect mostly children and young adults. However awareness about the fact the leprosy bacilli can be seen in the discharges from the ulcers but it is not secreted in the breast milk were very low. Similarly the awareness about the fact that leprosy can lead to the blindness and that now NLEP has been universalized was also very low. (Table - I).

**Table I: Distribution of study participants on the basis of result of knowledge regarding signs and symptoms of leprosy.\***

Question	Pre test		Post test		Change in response: Incorrect (Pre test) to correct(Post test)	p value#
	Correct response	Incorrect and No response	Correct response	Incorrect and No response		
Leprosy affect children and young adult	81	14	89	6	8	0.013
It is curable disease	81	14	86	9	5	0.073
It is more common in males than in females	39	56	76	19	37	<0.0001
It is not genetically transmitted	69	26	82	13	13	<0.001
Bacilli is not secreted in the breast milk	23	72	88	7	65	<0.0001
The common source of infection is lepromatos or borderline cases	85	10	94	1	9	0.007
Bacilli can be seen in the discharge of ulcers in nose throat or skin	36	59	92	3	56	<0.0001
Anesthetic, hypo or erythomatus patches are the most common early symptoms	84	11	95	0	11	0.002
Ulnar nerve is the most common nerve affected in leprosy	74	16	94	1	20	<0.001
Leprosy can lead to blindness especially in lepromatous leprosy patients	19	76	81	14	62	<0.0001
Rifampicin is the most important Anti-Leprosy drug in MDT regimen.	83	12	89	6	6	0.042
Active Hepatitis is a contra indication of MDT	21	74	79	16	58	<0.0001
Treatment duration for Multi bacillary case is one year and for Pauci bacillary case is six months	57	38	94	1	37	<0.0001
NLEP now covers all the country	24	71	95	0	71	<0.0001
NLEP is now integrated with NRHM with ASHA acting as a link work between community and Health system.	7	88	91	4	84	<0.0001

\* None of the student changed its response from Correct in the pretest to incorrect in the post test; #Mc Nemar Chi-square test

**Table -II: Distribution of study participants on the basis of attitude toward the leprosy affected persons**

Question	Pre test		Post test		Change in response from negative(Pre test) to positive correct(Post test)	$\chi^2$ value# & p value
	Positive attitude	Negative attitude	Positive attitude	Negative attitude		
Leprosy affected persons should not be separated from rest of the society	21	74	89	6	68	$\chi^2=66.01$ p<0.0001
Leprosy affected persons should not be discriminated from normal persons at work places	32	63	91	4	59	$\chi^2=57.01$ p<0.0001
Leprosy affected persons should go for marriage and take part in all social activities	49	46	93	2	44	$\chi^2=42.02$ p<0.0001
Leprosy affected persons should be treated with MDT provided free of cost at Government hospital or government accredited hospitals	89	6	93	2	4	$\chi^2=2.25$ p=0.133
Leprosy patients should be treated in general OPDs	24	71	88	7	64	$\chi^2=62.01$ p<0.0001

\* None of the student changed its response from positive in the pretest to negative in the post test; #Mc Nemar Chi-square test

On assessment of questions related to the attitude of study participants, it was noted that majority of the study participants were having a negative attitude towards the leprosy affected persons which changed significantly after the training programme. Majority of the students were having a negative attitude toward the fact that Leprosy affected Persons should avoid participating in any social activities which got changed to positive attitude after the training programme. Similar changes were also noted on the issue of treatment of leprosy affected patients in the general OPD. (Table -II)

## DISCUSSION

The present study has found that there is a significant impact on the knowledge and attitude toward the Leprosy Affected Persons among the undergraduate students of a one day training programme especially directed towards them.

There is a significant improvement in the knowledge of undergraduate students regarding the etiopathogenesis, signs and symptoms, treatment and National Leprosy Eradication Programme (NLEP). Majority of the students were unaware of the fact that leprosy is more common in males than females.<sup>4</sup> This difference is more marked in higher age group and could probably be attributed to more mobility and more opportunity to contact leprosy patients among males of this age group.<sup>4</sup> Similarly, the awareness about the fact that the bacilli are not secreted in the breast milk but can be present in the discharges from the ulcers present in nose, throat & skin was very low among the study participants.<sup>4</sup> These findings could be attributed to the fact that leprosy now losing its status of a disease of huge public health importance and less emphasis is been paid on the etiopathogenesis in the medical curriculum. However, there was no significant difference in the level of awareness among the study participants towards the fact that leprosy affect children and young adults more than any other age group and that it's a curable disease.<sup>5</sup> The level of awareness was high among study participants on these issues in both pre and post test evaluation. These finding are similar to the finding of Giri PA et al<sup>6</sup> and Rao PV et al<sup>7</sup> but against the finding of Briden A et al.<sup>8</sup> Similarly, a higher level of awareness was also noted on the issue of most common source of infection. Most of the participants were aware that an untreated open case of lepromatous and borderline leprosy is the major source of infection in the communi-

ty.<sup>5</sup> Majority of the participants were also aware that anesthetic hypopigmented or erythematous patches are the most common early symptoms.<sup>5</sup>

The present study has noted that there is a significant improvement in the knowledge on the question of most common nerves affected and that the leprosy can lead to the blindness especially in lepromatous leprosy patients. This is similar to the findings of Giri PA et al<sup>6</sup> and Kas S et al.<sup>9</sup> Participants were aware that Rifampicin is the most important Anti Leprosy Drug in the Multi drug Regimen used for the treatment of leprosy.<sup>4</sup> These were against the finding of Briden A et al<sup>8</sup> study where majority of the study participants were unaware about the importance of leprosy. However in the present study majority of the study participants were unaware that Active Hepatitis is a contraindication to the use of MDT.<sup>10</sup> Similar confusion was also noted on the question of the duration of treatment of Multibacillary and Paucibacillary leprosy. Only 60% of the participants were aware that the total duration of treatment for Multibacillary leprosy is one year and that of Paucibacillary leprosy is six months.<sup>1</sup> These finding corresponds with the finding of Giri PA et al.<sup>6</sup>

It was also observed in the present study that majority of the study participants were unaware of the recent advances in the National Leprosy Eradication Programme (NLEP). Only 33% of the study participants were aware that NLEP now cover all the country and only 9.8% were aware about the role of ASHA in NELP. Government of India has universalized NELP and in 2005 they have integrated NELP with National Rural Health Mission (NRHM).

ASHA is supposed to act as a link worker between the community and health system.<sup>1</sup> Giri PA et al<sup>6</sup> had also noted that the awareness about the recent advances in NELP were also low in their study participants.

### Attitude towards leprosy patients:

On analysis of questions related to the assessment of the attitude of participants towards leprosy affected patients, it was noted that majority of the study participants were having negative attitude towards the leprosy affected patients. Majority of the study participants were of the opinion that leprosy affected patients should be separated from the rest of the community and that they should not be allowed to work with normal persons. This negative attitude of these study participants could lead to the fact

that there is a lot of social stigma associated with leprosy, and these participants represent the perceptions of the community to which they belong. However there is a significant change in the attitude of the study participants toward these issues in the post test evaluation. These changes can be attributed to the fact that there is significant improvement in the knowledge of the study participants and this has led to the change in attitude towards leprosy affected patients.

Similar attitude and change in attitude were also noted on the issues of social involvement of leprosy affected persons and on the treatment of these patients in the General OPD. These finding corresponds with Giri PA et al<sup>6</sup> and Briden et al.<sup>8</sup>

The present study also noted that majority of the study participants were aware about the availability of MDT at the government hospitals or government accredited hospitals free of cost and were of the opinion that all leprosy patients should be treated with MDT at these centres.

## CONCLUSION

The authors of the study hereby want to conclude that such kind of the training programme are the need of the hours as these not only improves the knowledge of the students but they also have a positive impact on the attitude of the students especially for diseases like leprosy which has a huge social stigma associated with it. The authors also like to conclude that such kind of the training programme will again create awareness among the students for the diseases like leprosy which is losing its status of a disease of huge public health importance

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## REFERENCES

1. Kishore J. National Health Programm of India. 10<sup>th</sup> Edition, Century Publication, New Delhi, 2012. p-399.
2. Central leprosy Division. NLEP Progress report 2011-12. New Delhi: Directorate General of Health Services, Nirman Bhawan, 2012. p8. Available at <http://nlep.nic.in/pdf/ProgressReport2011-12.pdf>. Accessed on 20/10/2012.
3. Central leprosy Division. NLEP Progress report 2011-12. New Delhi: Directorate General of Health Services, Nirman Bhawan, 2012. p7. Available at <http://nlep.nic.in/pdf/ProgressReport2011-12.pdf>. Accessed on 20/10/2012.
4. Govt. of India. Training manual for Medical officers, 2009. Directorate General of Health Services. Ministry of Health & Family welfare, New Delhi, p7.
5. Park K. Textbook of Preventive and Social Medicine. 21<sup>st</sup> Edition. M/s Banarsidas Bhanot, Jabalpur, 2012. p 288-03.
6. Giri PA, Phalke DB, Aarif SM. A study of knowledge, attitude and practices regarding leprosy among undergraduates and interns of a medical college and hospital from rural India. *Indian J Lepr.* 2011;83(2):75-80.
7. Rao PV, Rao SL, Vijayakrishnan B, Chaudhary AB, Peril S, Reddy BP, Reddy GS. Knowledge, attitude and practices about leprosy among medical officers of Hyderabad urban district of Andhra Pradesh. *Indian J Lepr.* 2007;79(1):27-43.
8. Briden A, Maguire E. An assessment of knowledge and attitudes towards amongst leprosy/Hansen's disease workers in Guyana. *Lepr Rev.* 2003;74(2):154-62.
9. Kar S, Ahmad S, Pal R. Current Knowledge, Attitudes, and Practices of Healthcare Providers about Leprosy in Assam, India. *J Glob Infect Dis.* 2010;2(3):212-5.
10. Harrison's. Principles of Internal Medicine. 17<sup>th</sup> Edition. Mc Graw Hill Medical, New York, 2008. p1025-26.