

Knowledge, Attitude and Practices Regarding Leprosy Among General Practitioners at Hyderabad

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ABSTRACT

Objective: To assess the level of knowledge, social attitude towards patients, and diagnostic and management capabilities of general practitioners (KAP) regarding leprosy, practicing at Hyderabad, Pakistan.

Study Design: Cross-sectional study.

Place and Duration of Study: Hyderabad, Sindh, Pakistan, during October to December 2007.

Methodology: A pre-tested and well-structured questionnaire consisting of 54 questions was administered to general practitioners working at various areas in Hyderabad. The questions were grouped under different headings and covered clinical features, common and uncommon presentations, complications, referral practices and stigma. The sum of correct answers marked by doctors was taken to classify the respondents. The doctors who responded correctly for upto 10 questions were assigned level 1 (poor), from 11 to 25: level 2 (average), from 26 to 40: level 3 (good), while those who marked correct answers for more than 40 questions were assigned level 4 (excellent). Chi-square test was used to determine significance at $p < 0.05$.

Results: A total of 200 doctors were surveyed. Fourteen doctors (7%) had poor knowledge of disease (number of correct answers less than 10), 32 (16%) had average (number of correct answers between 11 and 25), 140 (70%) doctors good (number of correct answers between 26 and 40) while 14 (7%) had excellent (number of correct answers more than 40) knowledge of the disease.

Conclusion: There is inconsistency and deficiencies in the knowledge, referral pattern and treatment of leprosy among general practitioners, which needs to be improved by conducting awareness activities.

Key words: Leprosy. Hansen's disease. Knowledge attitude and practice. General practitioners.

INTRODUCTION

Leprosy is an infectious disease caused by *Mycobacterium leprae* (*M. leprae*). It is acquired through droplet infection. It affects primarily skin and nerves.¹ Clinical spectrum of the illness varies from very mild and limited cutaneous disease to very severe one with extensive nerve and systemic involvement. The latter form of the disease is attended by various mutilating deformities and disabilities with disability index as high as 55%.² If the infection is left untreated at initial stages, it may progress slowly to its severe and complicated form. Therefore, early recognition and prompt therapeutic intervention is prudent to halt the disease at its initial stages and spare the patients from gruesome complications and resultant prejudice of late disease.³ The magnitude of stigma to leprosy is quite high often paralleling to AIDS (acquired immuno-deficiency

syndrome).⁴ The social prejudice of leprosy is as grave as its morbid complications like bony deformities.⁵

Leprosy is a fairly common infectious disease with a worldwide distribution. Its prevalence in Pakistan is estimated to be 0.05/10,000, with an incidence of 0.3/100,000.⁶ Its prevalence and incidence in Sindh is estimated as 0.05 and 0.3 respectively. In Sindh, it is more prevalent at Manghopir, Karachi. Total case load in Pakistan is 21,766 patients, in Sindh it is 16,207 cases.⁶

General Practitioners (GPs) running private clinics or working at primary health care facilities are the frontline health-service providers of our population. A majority of patients visit them for acute and short illnesses as they have little access to tertiary hospitals and more specialized services. Therefore, sufficient knowledge of leprosy regarding presentation, clinical features and further work-up is essential for them to effectively participate in disease control programme.⁷ There is a dearth of data regarding awareness of this infection in the young practicing doctors.

This study was conducted with an aim to assess the level of knowledge, social attitude towards patients, and diagnostic and management capabilities (KAP) of GPs regarding leprosy, practicing at Hyderabad, Sindh, Pakistan.

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METHODOLOGY

This study was carried out at different areas of Hyderabad city from October to December 2007. Doctors of either gender were enrolled in the study including private practitioners, government employed medical officers, doctors running out-patient departments (OPDs) at private hospitals, medical centres and polyclinics. The doctors who had worked in leprosy clinics during their job or training were excluded. The age and gender of respondents were recorded and information regarding their previous attachment with skin department was noted. A carefully structured questionnaire was administered to them. It comprised 54 questions. It was designed to cover common and uncommon presentations of leprosy, clinical features, prognosis, referral pattern and attitude towards leprosy patient. Thirteen questions covered mode of presentation, 7 general symptoms, 11 characteristic features of leprosy lesion, 7 the mode of transmission of disease, 4 the late complications, 5 the cure and treatment, 4 the referral practice and 3 the social attitude towards leprosy. Last 3 questions were especially designed to assess the level of stigma attached with this disease. All the questions had "Yes" or "No" options or were multiple-choice. The respondents were asked to tick appropriate response given against each item. In addition, an open ended root was also inserted in clinical features and presentation groups of questions. The subjects had a choice of not responding to any question, the answer of which they did not know. The sum of correct answers marked by doctors was taken to classify the respondents. The doctors who responded correctly for upto 10 questions were assigned level 1 (poor), from 11 to 25: level 2 (average), from 26 to 40: level 3 (good), while those who marked correct answers for more than 40 questions were assigned level 4 (excellent).

The doctors were visited on their private clinics or other places of their work as was convenient to them. They were given questionnaire and asked to fill it in front of authors conducting the survey. Prior consent for their inclusion in the study was obtained on telephone. Responses obtained were evaluated in statistical programme SPSS version 16.0. Pearson's Chi-square test was applied among categorical variables. The percentage and mean were calculated as well. P-value ≤ 0.05 was considered significant.

RESULTS

The study included 200 doctors, among whom 130 (65%) were males and 70 (35%) females with a mean age of 32.5 ± 0.7 years. About half were government employees and posted at various primary and taluka level hospitals. Remaining half did only private practice. Eighty doctors (40%) had done their graduation within

previous 5 years. The remaining 120 (60%) were old graduates (time interval since graduation > 05 years).

Almost all subjects admitted not having attended continuing medical education sessions/refresher courses/tutorials after starting their practice. They admitted that they had occasional self-study regarding common ailments they encountered in their practice.

The overall ratio of correct responses was comparatively higher in doctors working simultaneously at government sector hospitals and doing evening private practice than those doing only private practice. A high ratio of correct responses was also observed among old graduates as compared to fresh ones ($p=0.024$).

Table I depicts the questions asked and the responses obtained. Fourteen doctors (7%) had poor knowledge of disease (number of correct answers less than 10), 32 (16%) had average (number of correct answers between 11 and 25), 140 (70%) doctors good (number of correct answers between 26 and 40) while 14 (7%) had excellent (number of correct answers more than 40) knowledge of the disease.

Table I: Knowledge, attitude and practices among doctors at Hyderabad.

Questions	Responses (%)	Correct responses (%)	Incorrect responses (%)
Itch: a symptom of disease or not	172 (86%)	66 (33%)	106 (53%)
Loss of sensation: a feature of disease or not?	194 (97%)	152 (76%)	42 (21%)
Area of numbness: feature of disease or not?	198 (99%)	182 (91%)	16 (8%)
Scaling: a feature of disease or not?	186 (93%)	92 (46%)	94 (47%)
Pain in lesions	186 (93%)	100 (50%)	86 (43%)
Milky white patches	178 (89%)	104 (52%)	74 (21%)
Unexplained weakness/wasting of hand, foot	188 (94%)	140 (70%)	48 (24%)
Thickened palpable nerves: a feature of disease or not?	192 (96%)	146 (73%)	46 (23%)
Nasal symptoms/fatigue/lassitude: present or not	198 (99%)	144 (72%)	54 (27%)
Mode of transmission:			
Through inhalation of droplets:	194 (97%)	112 (56%)	82 (41%)
By shaking hands/sitting close/hugging/sleeping with:	198 (99%)	100 (50%)	98 (49%)
Leprosy curable or not	190 (95%)	146 (73%)	44 (22%)
Would they prefer to mingle with treated case or not	194 (97%)	154 (77%)	40 (20%)
Referral pattern	200 (100%)	142 (71%)	58 (29%)

DISCUSSION

It is essential to have an effective leprosy control programme. This is already in place in the form of chain of hospitals and specialized centres spread throughout the country.⁶ However, it can be effective only when cases with early disease reach there.

General Practitioners (GPs) see a lot of patients daily with minor and major ailments. They are the first contact point for leprosy patients when the disease is still in its initial stages. To arrest the disease in the bud and to

prevent late complications with resultant stigma, it is important that our GPs are able to suspect and diagnose it, and subsequently refer these patients to proper place.^{8,9} For this, they are expected to have sufficient knowledge, skills and attitudes for this disease. Various studies have been conducted in this regard around the globe.^{10,11} Such a study has not been conducted in Pakistan. Some investigators have done such a study in general population.^{12,13}

The doctors employed at government hospitals and doing evening practice had better knowledge and skills than those doing full-day private practice only. This may be because the latter get fewer chances to attend continuing medical education programmes and training courses.

Leprosy is a neural disease affecting sensory, motor and autonomic functions of affected nerves. Therefore, itch and pain are characteristically absent in lesions. For the same reason, there is conspicuous loss of sensation. Itch, whenever present, would exclude leprosy. Patient is deliberately asked about these symptoms to differentiate it from other itchy dermatoses. In the present study, more than half of participants gave incorrect response by appreciating itch and pain as the symptoms of leprosy. Sensory loss was not appreciated as a feature of disease by a quarter of participants. This means that they would not be able to differentiate leprosy from other dermatoses.

Similarly, an ill-defined area of numbness on body also favours leprosy, which was not recognized as a feature by 8% of doctors. There is discrepancy in responses here. The above two are related questions anticipated to elicit similar response, but the number of correct responses to both questions differed.

Marked scaling of lesions is a feature typical of fungal and inflammatory dermatoses. It is never a significant feature of leprosy. In this study, less than half of doctors responded correctly.

Lesions of leprosy are hypopigmented, but never totally depigmented, as occurs in vitiligo. This question was deliberately included in proforma to see whether the practicing physicians are able to differentiate between two diseases just by appreciating the degree of depigmentation. Again only half responses (52%) were correct implying that remaining half would confuse leprosy with vitiligo.

Unexplained weakness or sudden palsy is though, not a common but a well-recognized presentation of leprosy. Similarly, leprosy is regarded as a common cause of thickened palpable nerves in our population. To both these questions, the responses were encouraging. This implies that there is substantial awareness among the physicians regarding neural nature of disease.

Leprosy is a multi-organ disease with systemic manifestations like malaise, fever, fatigue and nasal

symptoms like rhinorrhoea, nasal congestion. These features occur especially in lepromatous leprosy. Here, less than a third of doctors gave incorrect response. This implies that they would not consider leprosy in differential of unexplained general/nasal symptoms.

Painless planter ulceration is a late complication of untreated cases. This happening is not uncommon in our population. Leprosy should always be considered in the differential of this complication. Here, the responses were more accurate only in 9%. Others marked frequently (18%), and less frequently (20%). A significant proportion would either consider it occasionally (44%) or were ignorant (9%) of this feature of disease.

Knowledge regarding mode of transmission of any infectious disease is very important for its control and prevention. This was poor in our physicians, as only half of the respondents knew droplet mode (56%) and rejected body contact e.g. shaking hands, sitting next to or occasional hugging (49%) as routes of transmission of this disease. A similar number didn't know the correct mode of transmission of infection. This may prove a bar to prevent dissemination of leprosy and is also a cause for damaging prejudice against the leprosy patients.

Regarding cure and modern Multi-Drug Therapy (MDT), a substantial proportion knew about MDT and believed leprosy a curable disease. Only a quarter did not have such knowledge. This ignorance in physicians may be a source of grim picture of leprosy in general population.

Regarding the existence of leprosy centres, again, a substantial number of practitioners knew about these facilities and would refer patients there. One-third either did not know about such centres or would refer them to wrong places.

The last question referred to social attitude to patients. The doctors were asked whether they would like to mingle with patients, have a chat and take a cup of tea with treated cases of leprosy. Here, the responses were quite encouraging as 77% would like to chat with or employ treated patients as domestic servants. They felt no stigma in taking a cup of tea with patients. This reduction in stigma, as compared to previous cases is due to improved education and awareness programmes among physicians and mass campaign with social marketing in general public.¹⁴

This study shows that the practicing physicians had relatively good knowledge but they were deficient regarding the correct mode of transmission, existence of leprosy centres and prognosis of the disease. These results are in accordance with the studies conducted in China and India.^{10,15} However, results of this study contrast with those in another study in which the practicing physicians had gross lack of knowledge and awareness about leprosy.¹⁶ A similar study done at

Bostwana also showed conflicting results. The participants in this study didn't know the causative agent of leprosy. They were ignorant of duration of treatment.¹⁷

Briden conducted a similar study on health workers and concluded that participants had good knowledge but were ignorant of the curable nature of the disease. Some prejudices and misconceptions among them were also found.¹⁸

Regarding stigma, a significant minority still felt such effects and was reluctant to mingle with patients, which shows that some prejudices and misconceptions still exist. These need to be tackled by vigorous education and awareness programmes. It is also prudent to take these measures at general public level. Patients may be encouraged to form and join organizations that would allow them exchange their fears and discuss with each other the ways of coping with these stigma.¹⁹

We recommend education and awareness among practicing physicians through regular refresher courses, seminars, hands-on-workshops, and continuing medical education programmes. In order to assess the role of experience and explore any gender influence on this subject, further studies are needed to be done.

CONCLUSION

This study has revealed inconsistency and deficiencies in the knowledge, referral pattern and cure of leprosy among general practitioners. A significant number of participants in this study had poor knowledge of the mode of transmission, referral pattern, cure and prognosis of leprosy.

REFERENCES

1. Bryceson A, Pfaltzgraff RE. Leprosy, 3rd ed. Edinburgh: *Churchill Livingstone*, 1990.
2. Soomro FR, Pathan GM, Abbasi P, Bhatti NS, Yoshihashiguchi. Deformity and disability index in patients of leprosy in Larkana region. *J Pak Assoc Dermatologists* 2008; **18**: 29-32.
3. Van Brakel WH. Measuring leprosy stigma: a preliminary review of the leprosy literature. *Int J Lepr Other Mycobact Dis* 2003; **71**: 190-7.

4. Van Brakel WH. Measuring health-related stigma: a literature review. *Psychol Health Med* 2006; **11**:307-34.
5. Kaur H, Gandhi A, People's perception of leprosy: a study in Delhi. *Indian J Lepr* 2003; **75**:37-46.
6. Marie-Adelaide Leprosy Organization website for leprosy awareness available at www.malc.org/pk. visited on May 6, 2008.
7. Barkakaty BN. How can the private practitioners support leprosy elimination in India. *J Indian Med Assoc* 2006; **104**:673-4.
8. Arole S, Premkumar R, Arole R, Maury M, Saunderson P. Social stigma: a comparative qualitative study of integrated and vertical care approaches to leprosy. *Lepr Rev* 2002; **73**:186-96.
9. Rafferty J. Curing the stigma of leprosy. *Lepr Rev* 2005; **76**:119-26.
10. Chen SM, Zhang L, Liu DC, Liu HX. Assessment of knowledge and skills in early diagnosis of leprosy and attitudes towards leprosy amongst doctors working in dermatological services, Shandong Province, People's Republic of China. *Lepr Rev* 2004; **75**:348-56.
11. Barkataki P, Kumar S, Rao PS. Knowledge of and attitudes to leprosy among patients and community members: a comparative study in Uttar Pradesh, India: *Lepr Rev* 2006; **77**: 62-8.
12. Croft RP, Croft RA. Knowledge, attitude and practice regarding leprosy and tuberculosis in Bangladesh. *Lepr Rev* 1999; **70**:34-42.
13. Shetty JN, Shivaswamy SS, Shirwadkar PS. Knowledge, attitude and practices of the community and patients regarding leprosy in Bangalore: a study. *Indian J Lepr* 1985; **57**:613-9.
14. Brown W. Can social marketing approaches change community attitudes towards leprosy? *Lepr Rev* 2006; **77**:89-98.
15. Rao PV, Rao SL, Vijayakrishnan B, Chaudhary AB, Peril S, Reddy BP, et al. Knowledge, attitude and practices about leprosy among medical officers of Hyderabad, urban district of Andhra Pradesh. *Indian J Lepr* 2007; **79**:27-43.
16. Uplekar MW, Cash RA. The private GP and leprosy: a study. *Lepr Rev* 1991; **62**:410-19.
17. Kumaresan JA, Maganu ET. Knowledge and attitude of health workers towards leprosy in north-western Botswana. *East Afr Med J* 1994; **71**:366-7.
18. Briden A, Maguire E. An assessment of knowledge and attitudes towards amongst leprosy/Hansen's disease workers in Guyana. *Lepr Rev* 2003; **74**:154-62.
19. Heijnders M, Van Der Meij S. The fight against stigma: an overview of stigma-reduction strategies and interventions. *Psychol Health Med* 2006; **11**:353-63.



