

Measurement of Change in the Knowledge and Attitude about Leprosy in Physiotherapy Students Undergoing Intensive One Week Training in Leprosy

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Leprosy is a disease that causes not only physical problems, but also mental and social problems. In the post integration era, every health care professional needs to understand about leprosy, to be able to diagnose and treat them. Physiotherapy students, in their usual syllabus, have minimal exposure to leprosy, in spite of the fact that they have a major role in preventing impairments and disabilities caused by leprosy, as well as treating such impairments. In order to educate physiotherapy students on leprosy, a one-week intensive training course was organised. This study was done to assess if the intensive training to physiotherapy students resulted in increase in their knowledge on leprosy and change their attitude positively. A batch consisting of 42 physiotherapy students went through the one-week training programme. The improvement in knowledge and attitude were assessed through a pre-test and a post-test design. Results showed that there was significant improvement in knowledge (53.05%) and brought positive change in attitude (75.0%). Such training programmes are recommended for all physiotherapy students.

Key words: Knowledge, Attitude, Physiotherapists, Leprosy, Karigiri

Introduction

Leprosy is a disease that causes not only physical problems, but can also lead to mental as well as social problems. There are many studies on the knowledge and attitude by different groups of people including healthcare professionals about leprosy (Barkataki et al 2006, Croft and Croft 1999, John and Rao 2009, Rao et al 2007). A study in northwestern Botswana, found that attitude of service providers towards leprosy was influenced

by poor knowledge (Kumaresan and Maganu 1994). About two thirds (65%) of final year nursing students believed that leprosy was highly infectious and that deformities were inevitable in leprosy (Awofeso 1992).

It was found that general medical practitioners had lack of knowledge and treatment practices regarding Leprosy (Briden and Maguire 2003, Chen et al 2000). There are very few studies those assessed the change in the knowledge and

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attitude of people after active or passive intervention (Selvapandian et al 1972, Rajkumar et al 2011). A study on school children demonstrated that though there was a change in knowledge, there was negligible change in their attitude even after an intensive training (Jacobs et al 1994). It was found that the physiotherapy students in Nigeria had fairly good knowledge about leprosy but the attitude towards the leprosy-affected was negative (Iyor 2005). Age, gender, educational level and religion had been found to play significant role in the beliefs with respect to leprosy (Wong and Subhranium 2002).

Physiotherapy students have an education programme with very minimal exposure to leprosy, in spite of the fact that they have a major role in preventing impairments and disabilities caused by leprosy, as well as treating such impairments. The important role played by physiotherapists in the rehabilitation team that works with the leprosy affected is well known (Yawalkar 1992). Health professionals get their knowledge and attitude towards patients while they are in their college and as part of their routine curriculum. The syllabus of almost all health professional courses has very little information about leprosy. This could cause stigma and fear in the minds of the students instead of them being made to shed the fear and stigma towards leprosy. Unless proper knowledge and positive attitude is imparted, the therapist will not be able to play a fulfilling role in the rehabilitation team. An investigation is necessary to find out the gap between what is taught and what should be taught. This study was done to assess if a one-week intensive training to physiotherapy students was able to increase their knowledge on leprosy and overcome the mental barriers that they had towards leprosy.

Materials and Methods

The study participants were 42 physiotherapy interns (Bachelor of Physiotherapy) who had completed their Physiotherapy education elsewhere and came to Schieffelin Institute of Health-Research and Leprosy Centre, Karigiri, for clinical training. All the participants were given an intensive one-week training covering the clinical, social, psychological and other aspects of leprosy. A questionnaire was prepared; to elicit their knowledge of leprosy, determine their attitude towards the disease and also to shed light on the practices followed by the respondents when they deal with those affected by leprosy. This questionnaire was completed by the participants before commencement of training (pre-test) and after the end of the training (post-test). All 42 students participated in the pre-test and 2 did not participate in the post-test. One of the remaining 40 completed only the section on attitude and did not complete the one assessing the knowledge. *t*-test for paired observations was used for testing the significance of difference between post-test scores and pre-test scores. Pearson correlation coefficient was used to ascertain extent of correlation between knowledge and attitude scores.

Assessment of Knowledge

To assess the knowledge of students regarding leprosy, a questionnaire with 22 questions covering various aspects of leprosy was created. These questions were validated by three experts as relevant for a physiotherapist. Each question had three options for the students, a correct response, a wrong response and a response that meant they did not know the answer. A score of 1 was given to each correct answer and a score of 0 was given to a wrong answer or if the student did not know the answer. The possible maximum score of the knowledge questionnaire was 22.

Assessment of Attitude

To assess the attitude of students towards leprosy, a 5- point Likert scale was used. The scale had 8 statements of which 4 statements were stated positively and the other 4 statements were stated negatively. For every positive statement, a score of two was given; if it was ticked as strongly agree. A score of one was given; if it was ticked as agree. A score of zero was given if it was ticked as don't know, disagree or strongly disagree. Similarly, for every negatively stated statement, a score of two was given; if it was ticked as strongly disagree. A score of one was given if it was ticked as disagree and a score of zero was given if it was ticked as don't know, agree or strongly agree. The maximum possible score was 16.

Results

The pre-test as well as the post-test were taken into consideration for assessing change in knowledge and change in attitude as well as the overall scores for all students (Table 1). The minimum knowledge score obtained was 2 (9.1%) and the maximum score was 17 (77.3%) in the pre- test, while in the post-test it was 6 (27.3%) and 21 (95.5%) respectively. The minimum score for attitude was 1 (6.3%) and the maximum was 16 (100%) in the pre-test while in the post-test, the minimum score was 3 (18.8%) and the maximum was again 16 (100%). The minimum overall score obtained in the pre-test was 7 (18.4%) while it was 12 % (31.6%) in the post-test. The maximum overall score on the other

Table 1 : Results: Pre and Post-test Scores of Knowledge and Attitude on Leprosy

Test	N	Minimum	Maximum	Mean	Std. Deviation	t and p
Pre-test Knowledge	42	2 (9.1%)	17 (77.3%)	10.79 (49.0%)	3.5	
Post-test Knowledge	39	6 (27.3%)	21 (95.5%)	16.56 (75.3%)	2.9	
Improvement* in Knowledge	39			5.74 (53.1 %)	2.8	t =12.78 p=0.00
Pre-test Attitude	42	1 (6.3%)	16 (100%)	5.48 (34.3%)	3.4	
Post-test Attitude	40	3 (18.8%)	16 (100%)	9.80 (61.3%)	3.6	
Change* in Attitude	40			4.2 (75.0%)	3.4	t=7.87 p=0.00
Pre-test Total	42	7 (18.4%)	30 (78.9%)	16.26 (42.8%)	5.6	
Post-test Total	39	12 (31.6%)	37 (97.4%)	26.23 (69.0%)	5.8	
Change* in Total Score	39			9.82 (59.8%)	4.4	t=14.01 p=0.00

* Improvement % or Change % = (Post-test mean - Pre-test mean) 100 / (Pre-test mean)

* Only the scores of the students who participated in both the pre and post tests were included.

hand, was 30 (78.9%) in the pre test and it 37 (97.4%) in the post-test.

The mean knowledge score was 10.79 (49.0%) in the pre-test and it was 16.56 (75.3%) in the post-test. The mean improvement score was 5.74 (53.1%) which was statistically significant ($t=12.78$, $p=0.00$). Similarly, a significant positive change in the mean attitude score of 4.20 (75.0%) was obtained ($t=7.87$, $p=0.00$). The mean overall score also increased from 16.26 (42.8%) to 26.23 (69.0%). The mean change in overall score was 9.82 (59.8%) which was significant ($t=14.01$, $p=0.00$). The improvement in the knowledge score was 53.05%, and the change in the attitude score was 75.0% and change in the overall score was 59.84%.

The Pearson correlation coefficient between pre-test knowledge score and pre-test attitude scores was significant ($r=0.318$, $p=0.04$) and also between post-test knowledge score and post-test attitude scores ($r=0.996$, $p=0.00$).

Discussion

The objective of the study was to find out the effectiveness of a one-week intensive course on leprosy in bringing out the changes in the knowledge and attitude among physiotherapy interns. The resulting scores given in the table 1 showed a definite improvement in the knowledge (53.05%) as well as change in the attitude (75.0%) after the intensive one-week course on leprosy. The interesting observation is the high percentage of positive change in attitude score.

The scores also pointed out to a low level of knowledge and attitude of the candidates before the training. The low pre-test knowledge score may indicate that they were taught in their regular curriculum much less than what they ought to have taught about leprosy. This may be because the Physiotherapy colleges do not focus on leprosy exclusively at any time during the

course of study. Only the deformities that occur in leprosy and the management of these deformities are concentrated upon. This causes a lot of misconception in the minds of the students about leprosy. Instead of developing positive attitude towards the disease, they develop not only negative attitude but increase in the already existing negative attitude. The healthcare professional who ought to decrease the stigma of the lay people, themselves have some kind of stigma towards leprosy and the leprosy-affected. This is reflected in the attitude score of the students in the pre-test.

Since the students are trained as health professionals, and they will be called upon to treat leprosy patients, in the integrated set-up, they should have clear understanding of all aspects of the disease, and clear concept of cure. They obtained this information through the intensive course here. This could possibly explain the drastic and significant improvement in their knowledge and change in the attitude within one week of intensive training in leprosy.

The correlation coefficients indicate that the knowledge and attitude were positively related. This indicates that increase in knowledge is associated with increase in favourable attitude. This is contradictory to the findings of Raju and Kopporty (1995) who reported that high knowledge level did not necessarily generate positive attitude. This may be because the population studied by Raju and Kopporty (1995) were lay people whose mindset was not readily changed because of preconceived ideas that were mired in tradition and superstitions. This is not the case with the students who are young and also a part of the health profession.

The knowledge as well as the attitude of the physiotherapy students is very important because these professionals are the ones who will be involved in leprosy patient care in the integrated

set up. Adequate knowledge and favourable attitude will help in providing better health care to the leprosy patient. The positive change in the attitude of the students could also help in reduction of stigma on the disease and patients in their practice.

After finding out low level of knowledge among the PHC medical officers of Hyderabad urban districts of Andhra Pradesh, Rao et al (2007) recommended training of all PHC medical officers in leprosy. Further they also recommend periodic reorientation. Similarly Physiotherapists also need training in leprosy. However, as the time available for the working staff is limited, this one-week training course in leprosy may be desirable.

The study also highlights the fact that though health professionals work with patients with many diseases, some of the general attitudes that were prevalent in the society remained with them till an intervention is used. It would be interesting to check if a similar kind of misconception and negative attitude is also present when other stigmatised diseases are focused upon.

Recently Rajkumar et al (2011) showed that when the nurses are trained in an institution attached to a hospital treating leprosy, they get more knowledge and acquire positive attitude towards leprosy. This may indicate that such training provided by similar leprosy institution has added advantage of increasing the knowledge and change in attitude many fold.

In this study the post-test evaluation was done immediately after the completion of the training. An evaluation after a long period of time may be needed to establish holding of the knowledge gained and sustainability of the attitude acquired.

Conclusion

The scores indicated a definite improvement in the knowledge as well as change in the attitude after the intensive one-week course on leprosy.

Therefore this intensive training course on leprosy is recommended for the physiotherapists. Similar courses may be planned and conducted for other health professionals who diagnose and treat leprosy, and evaluated.

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