

SHORT REPORT

Report on a month course in clinical and surgical leprosy for undergraduate students of physiotherapy

PANKAJ GUPTA*

**The Leprosy Mission Community Hospital, Delhi, India*

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Introduction

The Leprosy Mission Community Hospital Shahdara, India is one of the tertiary care hospital and a referral centre for treatment of leprosy. The Leprosy Mission Hospital, is involved in the training of medical officers, nurses, physiotherapists and other medical and paramedical workers who are involved directly or indirectly under NLEP (National leprosy eradication programme).¹

This report is on the 1 month training programme which is specifically designed for physiotherapists and undergraduate physiotherapy students. This report is based on the data which is collected from the training programme for undergraduate students of physiotherapy during January 2010 to December 2013. The main focus of the training programme was to give an overview of clinical and surgical leprosy. The name of this course was ‘One month training course for physiotherapists in clinical and surgical leprosy’.

PARTICIPANTS

The participants of the course were undergraduate students of physiotherapy who were enrolled in various colleges located in the Delhi-NCR (National capital region) and were studying in the final year of the undergraduate physiotherapy programme. The participants were from the University of Delhi, ChoudharyCharan Singh University and Guru Gobind Singh Indraprastha University as these universities are located in the Delhi-NCR region. A total of 370 students attended the training programme. Out of the 370 participants 111 were males and 259 were females. All the participants were day scholars as no boarding and lodging facility was available in the hospital. Furthermore, all the students who were enrolled in the 1 month training programme were also regular students of the undergraduate programme of physiotherapy at various universities. These students attended regular scheduled classes from 2pm onwards in their respective colleges.

Correspondence to: Pankaj Gupta, The Leprosy Mission Community Hospital, Delhi, India (e-mail: therapist_pankaj2002@yahoo.co.in)

COURSE CURRICULUM

The course curriculum was designed by the training unit committee of The Leprosy Mission in 2004 during training of trainers workshop (TOT) conducted at The Mission hospital Naini, Allahabad during December 2004 to February 2005. The main focus of the curriculum was to cover various aspects of clinical and surgical leprosy. The domains which were covered during the course were clinical leprosy, anatomy of the hand and foot, therapeutic management of the deformities of eye hand and foot, peripheral nerve function assessment, care of anesthetic limbs, medical management of leprosy, surgical management of the deformities and pre & post –operative rehabilitation after tendon transfer surgeries and biomechanics of the foot. The course curriculum covered most of the topics related to clinical and surgical aspects of leprosy and rehabilitation. Most of the above mentioned topics were not covered under the regular university curriculum, which has minimal exposure to leprosy.²

DURATION OF THE COURSE

The formal course was designed for the period of 1 month in which the students were posted from their different colleges to The Leprosy Mission hospital. As students were enrolled in the regular formal undergraduate degree programme of physiotherapy, a Memorandum of Understanding between The Leprosy Mission hospital and college students was placed for clinical posting from 9 am to 12.30 pm daily and through Monday to Saturday except during national holidays and Sunday.

COURSE INSTRUCTOR/TRAINER

A physiotherapist with a Bachelor's degree in physiotherapy and with relevant experience in the field of leprosy was appointed as the overall trainer-in-charge for the course. The course instructor was responsible for implementing the course curriculum during the period of the training. He was also responsible for collaborating with different departments in the hospital and scheduling of clinical and practical classes of the students with assistance from the regular hospital staff employed in the hospital.

SCHEDULE OF TRAINING DURING 1 MONTH

Training during the month was divided in a way that morning 9 am to 10.30 am period was devoted for theory classes and a tea break was given between 10.30 and 10.45 am. The period from 11.00 am to 12.30 pm was devoted to practical sessions. Training classes were conducted throughout the week from Monday to Saturday; Sunday was given as a day off.

At the beginning of the course students were oriented regarding the course curriculum and span of the course. They were also oriented regarding the course module. As students were also doing regular classes in their respective colleges, the main focus the course was to cover all the important topics. Weekly assignments were also given to the students during the course.

The main emphasis during the practical session was voluntary muscle testing (VMT), sensory testing (ST), ulcer care, pre-operative and post-operative assessment for tendon transfer surgery and splinting. After the splinting demonstration, all the participants were

Table 1. Categorisation of the pre-test and post test questions

S. No	Subject	No. of questions
1.	Clinical leprosy	20
2.	Anatomy of hand and foot	15
3.	Community based rehabilitation	10
4.	Splinting	15
5.	Therapeutic management of deformities of eye, hand and foot in leprosy	15
6.	Care of anesthetic limbs	5
7.	Voluntary muscle testing and sensory testing	5
8.	Medical management of leprosy	5
9.	Surgical management of deformities	8
10.	Footwear	2

allowed to fabricate splints from plaster of Paris (pop), although participants were only allowed to practice on themselves.

ASSESSMENT

Assessment of the training was done on the basis of a written test with the question paper developed by the training unit at The Leprosy Mission hospital Naini in 2004 during the training of trainer's (TOT) workshop conducted from December 2004 to February 2005 at The Leprosy Mission Hospital Naini, Allahabad. This question contained 100 questions covering various domains and dimensions of clinical, surgical and rehabilitation aspects of leprosy. Categorisation of the questions is given in Table 1.

A pre test was taken at the start the course and same question paper was given as post test at the end of the course. A practical test of voluntary muscle testing and splinting fabrication was taken at the end.

Results

The results of the assessment in the theory examination can easily be compared from Figure 1, which shows a substantial increase in the percentage of marks of the participants in the post test examination (Figure 1).

Further the percentage of the practical marks obtained can be seen in Table 2, there is no comparison of pre and post test marks for practical examination as practical examination was taken after training.

FINDINGS

- The average post-test score in all the fields was better than pre-test score.
- There was significant improvement in the post-test score in most of the fields area related to leprosy.
- The practical exam score was not as good as theory scores.

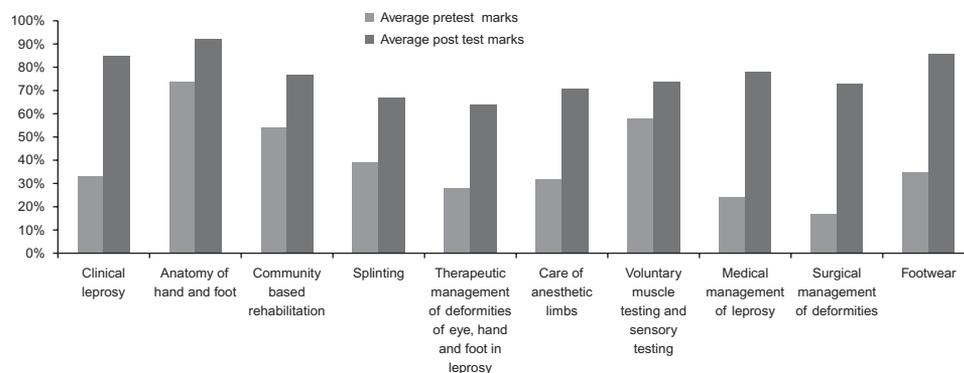


Figure 1. Average pre- and post-test marks.

Discussion

India is a country in which the most number of new leprosy cases are diagnosed every year.³ Therefore the expertise to deal with leprosy and its related complications will be required for years to come.⁴ Rehabilitation related to leprosy, for some reason, is not well covered under undergraduate and post graduate physiotherapy programmes in India.² Such courses with a well-defined curriculum will be helpful in the capacity-building of physiotherapists to work in the field of leprosy in the coming years. Further, as the course was flexible and tailored according to the needs of the students, this course was well taken up by colleges as well as by students.

As this course is inculcated in to the normal curriculum of the undergraduate physiotherapy programme, students do not have to devote extra time and effort to be part of this course. But as the course has to be adjusted with regular university programmes, sometimes students find it difficult to concentrate on both. Sometimes during the training period classes were adjusted according to regular college schedules and sometimes course hours were adjusted according to college programmes. But in spite of all the above situations and conditions it can be seen from the results that there was a substantial increase in the knowledge of students in leprosy, which can easily be appreciated in comparing the pre- and post-test marks. Further in this post-elimination era, when expertise in leprosy is declining, such training programmes can play a crucial role for the future.

Table 2. Percentage of average marks obtained by the trainees in practical exam

S. No	Practical skills tested	Average marks obtained
1.	Voluntary muscle testing	72%
2.	Sensory testing with monofilaments	64%
3.	Fabrication of upper limb splints from plaster of Parislike median neuritis splint, Lumbrical slab, ulnar neuritis splints, cylindrical splints.	58%
4.	Fabrication of lower limb splints from plaster of Paris posterior slab.	52%
5.	Viva- voice	69%

Conclusion

- A substantial increase in the post-test scores related to leprosy shows the impact of this 1 month training.
- The scores also reflected that although trainees had a good knowledge of anatomy and biomechanics, their knowledge of leprosy was superficial.
- There was improvement in theoretical aspects but there was not much improvement in the practical skills of the trainees.
- Although this course, being short, is not able to cover all the domains and dimensions of leprosy-related rehabilitation, it was very helpful in orienting the young and future physiotherapists in clinical and surgical leprosy. Such courses which can be inculcated along with regular undergraduate physiotherapy programmes will be helpful because they will not demand extra time.

Recommendation

- Longer duration of training.
- More emphasis on practical aspects.

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