Available online at www.sciencedirect.com
www.jdds.org

ScienceDirect

Journal of Dermatology & Dermatologic Surgery 20 (2016) 46–50

Original article

Knowledge and confidence in the diagnosis and management of leprosy among Family Medicine Specialists in Malaysia

Felix Boon-Bin Yap [a,b,*], Sze Ting Kiung [c]

[a] *Faculty of Medicine and Health Sciences, Universiti Tunku Abdul Rahman, Sungai Long Campus, Jalan Sungai Long, Sungai Long, 43000 Kajang, Selangor, Malaysia*
[b] *Department of Dermatology, Hospital Kuala Lumpur, Jalan Pahang, 50586 Kuala Lumpur, Malaysia*
[c] *Department of Anaesthesiology and Intensive Care, Hospital Kuala Lumpur, Jalan Pahang, 50586 Kuala Lumpur, Malaysia*

Received 2 August 2015; accepted 26 November 2015
Available online 5 December 2015

Abstract

Background: Family Medicine Specialists (FMS) play a pivotal role in the detection of leprosy in primary care. This study determines the knowledge and confidence among FMS in Malaysia. *Method:* Pre-intervention questionnaire was conducted followed by a 3 day educational intervention. Post-intervention questionnaire was conducted again 2 months thereafter. The questionnaire assessed knowledge and confidence in the diagnosis and management of leprosy. *Results:* The mean total mark for the pre-intervention knowledge questionnaires was 35.4 out of 50 and the mean confidence was 4.0 out of 10 for diagnosis and 3.3 out of 10 for management. Knowledge improved 24.0% post-intervention ($p < 0.001$). Knowledge on pathogenesis and clinical features improved the most with 38.5% and 32.4% respectively whereas knowledge on leprosy reactions improved the least with only 15.1%. The confidence level improved 85% to 7.4 for diagnosis and 118.2% to 7.2 for management post-intervention ($p < 0.001$). FMS with more experience, seeing more than 5 patients in their working life, had better confidence pre-intervention but it became insignificant post-intervention. *Conclusion:* Knowledge of FMS was good but their confidence was low pre-intervention. They improved significantly post-intervention. It is hoped that the improvement can allow for earlier detection of leprosy to prevent clinical and epidemiological sequelae.

Keywords: Leprosy; Family Medicine Specialists; Knowledge; Confidence

1. Introduction

Leprosy is a chronic granulomatous disease caused by Mycobacterium leprae affecting predominantly the skin and the peripheral nerves. It has been eliminated as a public health problem in Malaysia, with less than 1 case per 10,000 population reported, since 1994 (Yap, 2009a). However, leprosy cases are still actively seen in Malaysia with increasing trend over the years (Yap, 2009a,b; Dony et al., 2004).

Malaysia has 13 states and 1 federal territory. Leprosy cases are mainly detected in 5 states namely Sabah, Sarawak, Selangor, Pahang and Kelantan (Yap, 2009a; Dony et al., 2004). Of these 5 states, Sabah has most cases of leprosy followed by Sarawak. Leprosy in these 2 states in the East Malaysian Borneo is mainly seen in the immigrant workers from Philippines and Indonesia (Yap, 2009a; Dony et al., 2004). There are also cluster of cases among

* Corresponding author at: Faculty of Medicine and Health Sciences, Universiti Tunku Abdul Rahman, Sungai Long Campus, Jalan Sungai Long, Sungai Long, 43000 Kajang, Selangor, Malaysia. Tel.: +60 3 9019 4722.
E-mail address: woodzlamp@yahoo.com (F.B.-B. Yap).
Peer review under responsibility of King Saud University.

Production and hosting by Elsevier

http://dx.doi.org/10.1016/j.jdds.2015.11.005

Penan population in the interior of Sarawak (Yap, 2009a, b). Cases in West Malaysia are mainly seen among workers from Indonesia, Nepal and Myanmar (Yap et al., 2012). On average, there are 70 new cases of leprosy in Sabah, 35 in Sarawak, 30 in Selangor, 15 in Pahang and 10 in Kelantan yearly (unpublished data from Ministry of Health, Malaysia). All these states have a yearly prevalence of less than 1 in 10,000 populations.

The health care system in Malaysia is two-tiered, consisting of public health care sector and the private health care sector (Yap, 2011). The public health care sector consists of three levels. The primary level which is run by Family Medicine Specialists and medical officers is the backbone of the medical services. Primary care clinics and community clinics are the main providers for the public. Dermatology services constituted the tertiary level of care, providing services for referral cases from the primary care health clinics and secondary level hospitals. Family Medicine Specialists in the primary care level play a vital role in the care of the general public, particularly those who could not afford private care. This constituted majority of patients in Malaysia. Patients with leprosy are usually from the lower socioeconomic group who will seek treatment in government facilities with Family Medicine Specialists. Thus, it is of utmost importance that Family Medicine Specialists be equipped with adequate knowledge and confidence in diagnosing and managing these patients to prevent the public health and medical complications of this disease.

Assessing the knowledge and confidence of Family Medicine Specialists in diagnosing and managing patients with leprosy is important nowadays because of the increasing trend of leprosy cases seen in Malaysia. However, the knowledge and confidence among these primary care doctors is unknown. Based on their limited training and education, it is hypothesized that the knowledge and confidence would be low.

Thus, a study is done to determine the knowledge and confidence in the diagnosis and management of leprosy among Family Medicine Specialists in Malaysia. Based on the hypothesis, an interventional programme is also performed during the study period to educate Family Medicine Specialists in order to enhance their knowledge and confidence.

2. Method

This is a prospective interventional study to determine the knowledge and confidence in the diagnosis and management of leprosy among Family Medicine Specialists on leprosy in Malaysia. It was conducted between January 2012 and June 2012. The study was approved by the Ethics Committee, Ministry of Health, Malaysia.

Family Medicine Specialists in the states of Malaysia where leprosy cases are mainly seen were identified. This included 5 states i.e. Sabah, Sarawak, Kelantan, Pahang and Selangor. There are a total of 58 Family Medicine Specialists covering these 5 states.

This questionnaire study used questionnaire containing a section on knowledge and another on level of confidence in diagnosis and management of leprosy. The section of knowledge included 10 questions. Each question contains 5 true or false statements. This will give an eventual minimum score of 0 and maximum score of 50. There were 2 questions on pathogenesis (possible maximum of 10 marks), 1 question on the clinical features (possible maximum of 5 marks), 2 questions on investigation (possible maximum of 10 marks), 2 questions on leprosy reactions (possible maximum of 10 marks) and 3 questions on the treatment and management (possible maximum of 15 marks). On the section on level of confidence in diagnosis and management, a Likert scale of between 0 and 10 was used. A score of 0 indicates no confidence whereas the score of 10 indicates full confidence.

All the 58 Family Medicine Specialists were invited to participate in a leprosy course. Before the course, they were required to complete the questionnaire. The course was the intervention programme to improve the knowledge and confidence among the Family Medicine Specialists on leprosy. The course was a 3 day course consisting of lectures and hands on sessions. The lectures covered epidemiology of leprosy in Malaysia, pathogenesis, investigations, treatment and leprosy reactions. The practical sessions consisted of clinical clerking, physical examination and slit skin smear examination of patients with leprosy in the Hansen's Clinic, Hospital Kuala Lumpur and hands on session in skin biopsy in Department of Dermatology, Hospital Kuala Lumpur. The course also included a trip to the Sungai Buloh National Leprosy Control Centre. National Leprosy Control Centre is the site for the previous Sungai Buloh leprosarium. It still houses the old inmates of the leprosarium in new housing areas and has a hospital for these inmates. This allows the Family Medicine Specialists to interact with these inmates and to examine them for the complications of leprosy. The National Leprosy Control Centre also houses the mice laboratory where the participants of this course visited. The Family Medicine Specialists were briefed and participated in the mouse foot pad cultures performed in this laboratory.

Two months after the course, the similar set of questionnaires was sent via mail to the Family Medicine Specialist who participated in the course. They were advised not to refer to the notes or books when competing the questionnaire. Returned questions were collected and analysed.

The data collected were analysed using SPSS ver. 13 (SPSS Inc., Chicago, IL, USA). Categorical data are expressed as frequencies $\pm$ percentages whereas continuous data are presented as means $\pm$ standard deviations. The data were analysed with Student's t test and paired t test. Level of significance was set at 0.05.

3. Results

A total of 52 out of 58 Family Medicine Specialists participated in the interventional programme. There were