Neurology Asia 2007; 12 : 47 – 52

Training and certification of neurologists in South East Asia

Shih-Hui LIM, *Chong-Tin TAN

*National Neuroscience Institute, Singapore; *University of Malaya, Malaysia*

Abstract

South East Asia has 8% of world population, but only has 2% of the total number of neurologists in the world. Seven of the 11 countries in South East Asia have training programmes in Neurology. Brunei, Laos, Malaysia, Myanmar and Singapore require prior training and certification in Internal Medicine before admission to training to Neurology. Most training programmes are 3 years in duration, inclusive of mandatory rotation to clinical neurophysiology. Assessment and certification processes are vigorous in most countries. Mature age, lack of funding, inadequate direct clinical responsibilities, and poor literacy in English are other issues in some of the countries. There is need to improve the quality as well as quantity in the training of neurologists in the region.

INTRODUCTION

Training of neurologist is an important issue for neurology education in South East Asia. In March 2007, the author (SHL) wrote to the several neurologists in various South East Asian countries to ask specific questions on neurology training in the respective countries. The questions included the number of neurologists in the country, availability of training program in neurology, prior requisites including Internal Medicine before entering training, the number of years of training, subspecialty rotation during training, requirements for research and basic sciences, certification process, and fees payable. The findings were presented at the 7th Biennial Convention of the ASEAN Neurological Association (ASNA) in Cha-Am, Thailand, March 2007. This article is based on the presentation, and the subsequent discussions with the participants.

CURRENT NEUROLOGY TRAINING PROGRAMME IN SOUTH EAST ASIA

South East Asia has a total of 540 million populations, about 8% of the world population of 6,500 million. There are close to 1,900 neurologists in South East Asia (Table 1). According to WHO, there are about 85,000 neurologists in the world. Thus, only about 2% of the neurologists in the world practice in South East Asia.[1] Of the 11 countries in South East Asia, only Singapore and Brunei achieve the ratio more than one neurologists per 100,000 populations. On the other hand, Myanmar, Cambodia and Laos have one neurologist serving 2 to 5 million populations while East Timor has no certified neurologist. Further more, in most South East Asian countries, the neurologists are concentrated in the capital and big cities, some practice in the private sector exclusively. There is thus clearly a need to train more neurologists in this part of Asia.

Four of the 11 countries (Brunei, Cambodia, Laos and East Timor) do not have neurology training programme. There is only one training center with less than a handful of trainees in Myanmar with 50 million populations. Thus, for Cambodia, Laos, East Timor and Myanmar, it may be sometime before the countries have a ratio of neurologists similar to that of the developed world.

ELIGIBILITY FOR NEUROLOGY TRAINING

The eligibility for neurology training and the prior requirement of Internal Medicine training and certification before commencement of neurology training in the various South East Asian countries are listed in Table 2 & 3, respectively. The differences in the eligibility and requirement largely reflect the differences in the British or American system of specialization.

Prior certification in Internal Medicine, usually obtaining the membership examination of the Royal College of Physicians of the United Kingdom (MRCP-UK) or equivalent, is required in countries that were previously part of the British colonies, i.e., Brunei, Malaysia, Myanmar

Address correspondence to: Prof CT Tan, Neurology Laboratory, University Malaya Medical Centre, 59100 Kuala Lumpur, Malaysia

Table 1: Number of neurologists, neurologist per population and availability of Neurology training programme in South East Asian countries

	No. of neurologists (as of 1st March 2007)[1]	Population (as of 1st March 2007)	Neurologist per population[1]	Training programme	No of training center / hospital
Brunei	4	370,000	92,500	Nil	0
Cambodia	3	11 millions	3.6 millions	Nil	0
East Timor	0	800,000	-	Nil	0
Indonesia	720	223 millions	310,000	Yes	13
Lao	3	5.9 millions	2.0 millions	Nil	0
Malaysia	50	25 millions	500,000	Yes	4
Myanmar	10	50.5 millions	5.1 millions	Yes	1
Philippines	270	83 millions	307,000	Yes	6
Singapore	53	4.3 millions	81,000	Yes	3
Thailand	359	64 millions	179,000	Yes	9
Vietnam	402	84 million	209,000	Yes	12

and Singapore. On the other hand, Indonesia, Philippine, Thailand and Vietnam do not require prior Internal Medicine certification, although Internal Medicine is part of training in neurology in some of these countries. Many of the South East Asian countries belong to the developing economy and patients in general may not have adequate education to express themselves when presenting to clinicians with medical problem which may or may not be neurological in nature. A stronger foundation in internal medicine would be of advantage to neurologists.

THE NEUROLOGY TRAINING PROGRAMME

Table 4 lists some of the details of the neurology training program in the various South East Asian countries. As shown, most of the programmes are of 3 years duration. The programme in Vietnam is relatively short at 2 years and without prior internal medicine certification. Most of the programmes require a period of mandatory rotation to clinical neurophysiology (EEG and EMG). Many neurologists in South East Asia have to work independently. Full time clinical

Table 2: Eligibility for neurology training

Country	Requirement
Indonesia	Pass Screening Tests on Knowledge, Attitude and Skills
Malaysia	3 years Post MRCP or Master of Medicine
Myanmar	Master of Medical Science (M.Med.Sc.) (Internal Medicine) and/or MRCP; <50 yrs; 2 years experience in Neuro-Medical Ward
Philippines	Register with Professional & Licensing Board; Completed Internship; Diplomat in Internal Medicine (in one hospital)
Singapore	Be registered to practice Medicine in Singapore by Singapore Medical Council; Hold a relevant postgraduate medical degree recognized by Specialists Accreditation Board; Completed ≥ 18 months of Internal Medicine training
Thailand	MD from Thailand or accepted university; Thailand Practicing License
Vietnam	Selective Examination

Table 3: Prior requirement in internal medicine

	No. of Years	Qualification
Brunei	3	MRCP (UK)
Indonesia	0	Internal Medicine rotation of 1 year as part of neurology training programme
Lao	3	Diplomat in Internal Medicine
Malaysia	3	MRCP (UK) or Master of Medicine (Internal Medicine)
Myanmar	3	Master of Medical Science (Internal Medicine) or MRCP
Philippines	0 in 5 centers 0.5 – 1 in 1 center	Philippine Board of Internal Medicine Certification
Singapore	2 – 3	MRCP (UK) or Master of Medicine (Internal Medicine)
Thailand	0	Internal medicine rotation of 1 year as part of Neurology training programme
Vietnam	0	Internal medicine as part of Neurology training in university training programme

neurophysiologists are rare in the region. It is thus essential that all neurology trainees achieve a necessary competency in EEG and EMG.

Rotation to other hospitals during the period of training is not necessary in some training centers. However, it is important that trainees are exposed widely to clinicians and centers with different interests and strength. A period of attachment at overseas centers of excellence is ideal. The Malaysian Ministry of Health trainees are required to spend a year of the training overseas, with funding from the Government. The trainee from Singapore, after completion of General Neurology training locally, often spend 1-2 years in subspecialty fellowship program overseas, also funded by the Government. Many of the trainees in Thailand and Philippine seek further work experience in North America after completion of their local training.

For trainees who intend to pursue their career in teaching institutions, a period of training in research is essential. However, even for others who intend to practice predominantly Clinical Neurology, an exposure to research during training will help the trainees to appreciate how clinical and other knowledge are being acquired, thus enhance the ability to evaluate scientific studies.

It is generally observed that most practicing neurologists in South East Asia do not have strong interest in basic sciences. Thus it is rare to find neurologists in South East Asia whose research directly involve basic sciences. Hopefully this will change with MD-PhD or clinician-scientist programme being started in Thailand and Singapore.

ASSESSMENT AND ACCREDITATION

The assessment and accreditation in Neurology training of the various South East Asian countries are listed in Table 5. As shown, there are differing methods and emphasis of formative and summative assessment leading to accreditation by relevant regulatory and/or professional bodies. In both Malaysia and Singapore, the entrance to neurology training requires prior certification in Internal Medicine. The certification with MRCP (UK) or Master of Medicine in Internal Medicine is a very vigorous process. The successful candidates are generally highly competent and motivated. The emphasis in Neurology training is thus on direct clinical responsibilities, adequate exposure and assessment of the supervisors based on continuous progress.

Nevertheless, a competence based objective assessment and accreditation process is essential in enhancing the level of Neurology care in the region. As Neurology education is still in a developing stage in South East Asia, it is helpful to have cooperation of assessment and accreditation process internationally. The recently introduced EEG Certification jointly by ASNA-ASEPA (Asian Epilepsy Academy of the International League Against Epilepsy) and Neurosonology examination by the American Society of Neuroimaging in the region are welcome developments.

Table 4: Details of neurology training programmes

	Duration in years	Mandatory subspecialty training	Rotation to another hospital	Research	Basic science training
Indonesia	4	EMG, EEG, Neuroradiology, Child Neurology, Psychiatry, Neurosurgery, Vascular Ultrasound, Neuro-intensive Care	Compulsory in some, optional in others	At least 1 presentation at national conferences	Yes
Malaysia	3	EEG, EMG	Ministry of Health trainees are rotated to university hospitals and one year overseas	Encouraged	No
Myanmar	3	Nil	Optional	Thesis required	Yes
Philippines	3	EEG, EMG, Child Neurology, Psychiatry, Neuropathology	Optional, unless the training hospital lacks facilities	At least 1 paper / year	Optional
Singapore	3	EEG, EMG, Neuroradiology	Optional	Encouraged	Optional
Thailand	3	Neuroradiology, Psychiatry, Neupathology	Compulsory except in one center	At least 1 presentation at final year	Yes
Vietnam	2	EEG, EMG, Neuroradiology, Psychiatry, Neurosurgery	Compulsory	Yes for those in university programme	Yes but rudimentary

Table 5: Assessment and accreditation process

	Formative Assessment (yearly)	Summative Assessment		Assessment / Accreditation / Regulatory body	Title awarded
		Written	Clinical / Oral		
Indonesia	MCQ, clinical bedside test, viva	MCQ	Clinical bedside test, viva	National Board for Neurology of the Indonesian Neurological Association	Specialist in Neurology (Spesialis Penyakit Saraf)
Malaysia	No	No	Supervisor's report, viva	Ministry of Health with Academy of Medicine, Malaysia	Nil
Myanmar	MCQ, multiple short questions, viva	Thesis	Viva	Board of Study for Neurology in University of Medicine 1, Yangon	Doctor of Medical Science (Dr.Med.Sc.) (Neurology)
Philippines	Viva	MCQ	Neuroanatomy, EMG, EEG, Neuroradiology, long case	Philippine Board of Neurology of the Philippine Neurological Association	Fellow of the Philippine Neurological Association (FPNA)
Singapore	Supervisor's report, Log Book Review on clinical, EEG and EMG cases by Specialist Training Committee, Mini Clinical Skill Test	No	Structured assessment on clinical management and data interpretation (EEG, EMG, EP, Neuroradiology)	Specialist Training Committee for Neurology of the Specialist Accreditation Board & Academy of Medicine Singapore	Fellow of the Academy of Medicine, Singapore (FAMS)
Thailand	No	Basic & clinical science	Long and short cases, viva	National Board of Neurology of the Neurology Society of Thailand	Thai Board of Neurology
Vietnam	No	Thesis for university programme	Long case	Faculty of School of Medicine of respective universities	Master in Neurology

MCQ: Multiple Choice Questions

OTHER ISSUES

Due to emphasis on rural health, in many South East Asian countries such as Malaysia and Indonesia, trainees are required to undergo lengthy period of rural services in primary care medicine, before they are given the privileges of training opportunity for medical specialists. In Malaysia, after certification in Internal Medicine, the candidates again have to undergo a couple more years in national service as Internists, before they are admitted to Neurology training program. By this time, many are already in their mid-thirties, anxious to build up the finances for their young family. As the economy progresses and the primary health care services improve, the health administrators should view Neurology not as luxury, but essential in improving health services, thus allow Neurology training soon after graduation.

In Vietnam, Myanmar and Indonesia, trainees have to pay tuition fees when they undergo training, and do not receive salaries for living expenses. As the trainees are often rather mature in age, some already having children, they resort to doing locum in the evenings and weekends to make ends meet. In reality, they are part-time students with limited time committed to study. It is essential that their Governments provide funding so that the trainees are able to concentrate in their study during the training.

In South East Asia, the trainees are often required to take independent responsibilities immediately after accreditation. It is essential that trainees should have adequate direct clinical responsibilities during the training period, both in Clinical Neurology and Neurophysiology. In some of the training centers such as in Indonesia, there are up to 40 trainees at any one time. Adequate direct clinical responsibilities are difficult to achieve when the patient load per trainee is low.

English language skill is another issue for the young trainees particularly for countries such as Vietnam and Laos. None of the South East Asian countries has extensive up to date Neurology literature published in the local languages. It is thus essential that the students are exposed to English early, and not burdened with too many foreign languages that they have to master.

It is also important to promote training in subspecialty such as stroke, epilepsy, movement disorders and neuromuscular disorders. This is essential particularly for strengthening the training centers in the region. There are few centers in South East Asia offering fellowship at subspecialty level. Greater international cooperation is essential. Fellowships in epilepsy offered by the Epilepsy Research Foundation of Japan, Asian Epilepsy Academy and Epilepsy Society of Australia are examples of international cooperation most welcomed.

ACKNOWLEDGEMENTS

The authors like to thank Michael Rajendran (Brunei), Nurdjaman Nurimaba, Abdulbar Hamid, Dede Gunawan (Indonesia), Vang Chu (Laos), Khean Jin Goh (Malaysia), Nyan Tun, Tin Htar Nwe (Myanmar), Albert Ty (Philippines), Siwaporn Chankrachang, Yotin Chinvarun (Thailand), Minh Le and Quoc Hung Le (Vietnam) for their assistance.

REFERENCE

1. Poungvarin N. Resources and organization of neurology care in South East Asia. *Neurol Asia* 2007; 12: 41-6.