

Chapter 5

Effect of Education on the Rehabilitation Staff in the Study Countries

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Chapter 5

Effect of Education on the Rehabilitation Staff in the Study Countries

5.1. Overview

We report on education for rehabilitation staff in Viet Nam, Cambodia, and Lao PDR. We investigated the countries' rehabilitation situation and set training goals and training curricula according to each country's circumstances. We conducted training to foster rehabilitation human resources who can work beyond their job descriptions, if necessary: e.g., PTs who are willing to do the jobs of OTs and STs and can develop a seamless rehabilitation plan from acute care to home care, and acquire the required professional knowledge and treatment techniques. The content and results of the training are in section 6.5, including case reports of 12 trainees.

5.2. Education Systems of Rehabilitation-related Professionals in the Study Countries

5.2.1. Viet Nam

After completing medical school, which takes at least 6 years, and interning for 18 months, students can apply for a doctor's license (The Japan Institute for Labour Policy and Training, 2017). Doctors with clinical experience of 3 years or more are qualified to join a master's course (2 years). They mainly engage in research during the master's course but they may take the 2-year rehabilitation specialist level 1 course. After getting a master's degree, they are qualified to get a doctorate degree (3–6 years). After completing the rehabilitation specialist level 1 course, they are qualified to take the 2-year level 2 course. The level 1 and 2 courses are provided only by Ha Noi Medical University and Ho Chi Minh City Medicine and Pharmacy University. Short-term courses for nurses, rehabilitation doctors, and traditional medicine practitioners are also available (Le, 2018).

Viet Nam has created about 5,000 PTs since 1972 and has four PT training schools: Hai Duong Medical Technical University in the north, Da Nang University of Medical Technology and Pharmacy in the central part of the country, Ho Chi Minh City Medicine and Pharmacy University in the south, and Tokyo Human Health Sciences University (founded in 2016) in the north. The language of instruction is Vietnamese. Students learn fundamental anatomy, physiology, and physical therapy for each disease. Clinical training makes up a third of the courses.

Viet Nam has no national licensing system for PTs. The physical therapy certificate is issued when trainees complete 9 months of clinical training after graduating from a training school. The use of the title 'PT' is not restricted to graduates of physical therapy training schools. Nurses who have taken short-term physical therapy courses may call themselves PTs or may work as PTs.

Training courses for physical therapy vary from 2 to 4 years, but all 2-year training courses will be abolished by 2020. Ho Chi Minh Medicine and Pharmacy University established a 4-year course only in 2006. Even those who hold a physical therapy certificate must take university classes to keep their licenses.

There is no official occupational therapy curriculum and some PTs call themselves OTs and STs after completing short-term courses for occupational or speech-language-hearing therapy. However, occupational therapy courses are being prepared with the support of India. As of 2018, five Vietnamese faculty members from Hai Duong Medical Technical University and Ho Chi Minh Medicine and Pharmacy University were studying in India (Manipal University). They will obtain a bachelor's degree in occupational therapy after completing the 4-year course and play a central role in establishing the occupational therapy bachelor's course in Viet Nam. Viet Nam has recently received much support from other countries besides India. Occupational therapy short-term courses were held in cooperation with overseas expert tutors. Some physical therapy schools even offer occupational therapy training. Ho Chi Minh Medicine and Pharmacy University, for example, has ADL rooms, which provide occupational therapy training. A total of 57 students who have acquired physical therapy qualifications – 21 in Ho Chi Minh City and 36 in Hai Duong – are taking occupational therapy courses. Occupational therapy is not included in the physical therapy curriculum in either university, so those who wish to become PTs and learn occupational therapy must do so after they get the physical therapy qualification.

There is no official standard curriculum for speech-language-hearing therapy qualification, but the country has 33 STs because of support from the University of Sydney and the Trinh Foundation in Australia. Trainees can choose to either study in Australia for 2 years or participate in ST lecture courses and practical skill training in Viet Nam. The Physical Therapy Association is creating a speech-language-hearing therapy master's course. Cho-Ray Hospital in Ho Chi Minh City is promoting speech-language-hearing therapy education in collaboration with Japan-based Seirei Christopher University.

5.2.2. Cambodia

The first course to train new PTs in Cambodia was opened at the Technical School for Medical Care in 1987. The training course has two sub-courses – a bachelor's degree course, which started in 2017 and graduated 18 students in 2019, and a 3-year associate degree course, in which an average of 15 students are enrolled every year. Both sub-courses include lectures and clinical training. Graduates can obtain national qualification for physical therapy if they pass the national exam. There are no training institutions for OTs or STs. The CPTA organises training courses lasting a few days for qualified PTs four or five times a year, and invites lecturers from outside Cambodia. Details of the training courses are shared through social networking services such as Facebook and through e-mail. However, the courses cannot be regarded as regular or systematic career education, and the shortage of PTs and the low quality of physical therapy education are still big problems.

5.2.3. Lao People's Democratic Republic

With the support of the World Health Organization, Lao PDR started training PTs in 1968 and developed a 3-year PT curriculum in 1972. In 1981, the Technology Health College was established, the first institution providing medical education to graduate medical doctors in Lao PDR, and the University of Health Science (UHS) was established in 2009 to transfer management of medical education from the Ministry of Education to the Ministry of Health and to provide integrated medical services.

There used to be 2- and 3-year education programmes for PTs, which were replaced by a 4-year programme in 2015. In the first year, students attend lectures on mathematics, English, and psychology, and on anatomy and neurology, and in the second year, on biomechanics, physical therapy, and first aid. In the third year, students move from classroom to clinical activities and must take 320 hours of practice and four case studies and group learning. In the fourth year, in addition to lectures and graduation exams, students receive 640 hours of practical training at several national hospitals and 3 weeks of practice in rural areas. The criteria for admission are graduation from high school and passing the entrance exam. The students obtain a certificate when they graduate. A national exam for PTs has not been introduced. There are no training institutions for OTs and STs, but the UHS physical therapy curriculum offers optional lectures on occupational and speech-language-hearing therapy and provides opportunities for clinical training and for attendance of a 2-month training course at Khon Kaen University in Thailand.

As of June 2018, 1,072 PTs were registered in Lao PDR. They may work as nurses, radiologists, and pharmacists if there is a shortage of medical staff in rural areas. Unfortunately, there are only about 200 PTs working in hospitals because many PTs look for better-paying jobs in healthcare.

Post-graduate education programmes are provided by Humanity & Inclusion, an international non-governmental organisation for PTs, at national hospitals in Vientiane every 2 months. PTs from national hospitals are dispatched to local hospitals to help improve their knowledge and skills. The establishment of an association for PTs is under consideration.

5.2.4. Education of Rehabilitation Staff in Japan

In 1963, the School of Rehabilitation, Tokyo National Chest Hospital, was founded as the first physical therapy training school in Japan. Since then, 261 similar schools (as of 2018) have produced 161,487 PTs. Those wishing to be PTs need national qualifications and must study at a training school for more than 3 years to take the national exam. There are several kinds of training schools – 4-year colleges, 3-year junior colleges, 3- or 4-year vocational colleges, and special schools targeting the visually handicapped. The number of postgraduate schools offering master's and doctoral degrees in specialised knowledge and research is increasing. The training school curriculum is roughly divided into general liberal arts, specialised basic subjects, specialised subjects, and clinical training. To develop expertise and research skills of qualified PTs and to contribute to the academic development of physical therapy, those

who have completed the education programme may enter the Professional Physical Therapist System, which is managed by the Japan Physical Therapy Association (JPTA). The JPTA introduced the national qualification system and the PT certification system. The JPTA issues certificates to PTs whose high professional clinical skills and expertise in physical therapy are approved by the association. The system is effective in maintaining PTs' skills and expertise and can open up job opportunities for certified PTs. PTs can easily find education programmes other than those managed by the JPTA, either in or outside of Japan.

5.3. Kitahara Group's Capacity-building Programme

During the study period, 12 staff members of target institutions in the three study countries participated in training we provided. Clinical training was conducted in line with the concept of clinical clerkship. Unlike other training programmes that assign patients to trainees and focus on case reporting, clinical clerkship encourages them to participate in medical team to acquire practical clinical skills.

At the same time, we conducted educational activities for medical staff members in the study countries.

Table 7. Trainees Who Trained in Japan

	Country	Job Category	Period of Stay
Trainee 1	Viet Nam	Doctor	19–25 October 2017
Trainee 2	Viet Nam	Physical therapist (PT)	25 March–22 April 2018
Trainee 3	Viet Nam	PT	25 March–9 April 2018 26 April–16 June 2018
Trainee 4	Viet Nam	Doctor	25–27 April 2018
Trainee 5	Viet Nam	PT	9–16 June 2018
Trainee 6	Cambodia	PT	15 May–28 November 2015
Trainee 7	Cambodia	PT	21 July 2015–30 January 2016
Trainee 8	Cambodia	PT	21 July 2015–30 January 2016
Trainee 9	Cambodia	PT	7 May–29 July 2018
Invitee 10	Lao PDR	Doctor	7–11 May 2018
Trainee 11	Lao PDR	Nurse	7 May–1 June 2018
Trainee 12	Lao PDR	PT	7 May – 1 June 2018

Source: Authors.

5.3.1. Capacity Building for Vietnamese Staff Members

Record of Training in Japan

1) Vietnamese trainee 1

Basic Information	[Age] 53 [Sex] Female [Affiliation] Viet Duc University Hospital [Job Category] Doctor [Duration] 7 days
Purpose of training	Visit facilities of KNI, a medical corporation Understand provision of seamless medical care from emergency to chronic phase after discharge, which is the basic philosophy of KNI Understand acute care and acute phase rehabilitation Especially focus on early rehabilitation intervention and risk management Understand the system of post-operative management mainly by doctors and nurses
Training place	Kitahara International Hospital, Kitahara Rehabilitation Hospital
Training content	Participation in ward rounds: Learn about patient care before and after surgery for risk management and stroke complications Learning in rehabilitation unit: Stroke rehabilitation, evaluation of exercise therapy and swallowing function, and methods of oral intake training Participation in doctor's conference: Learn about diagnostic technologies, especially those important for diseases requiring brain surgery Visit to emergency department and ICU: Learn the roles and job descriptions of the ICU nurse and the emergency room nurse Visit to rehabilitation hospital and home rehabilitation: Learn integrated and seamless medical services from acute care to chronic phase
Summary	She is a physician specialising in rehabilitation at the National Viet Duc University Hospital in Viet Nam and is head of the Department of Rehabilitation. She observed how rehabilitation was administered in the hyperacute period and participated in joint conferences involving several occupations. She learned about seamless provision of medical services from the acute phase to the recovery period and home care. She understood the importance of early rehabilitation and learned how to practise it. Before training in Japan, she believed that after a stroke the patient should rest in bed for 1 month, but after training, she started instructing staff of other occupations to let the patient get out of bed as early as possible, depending on the patient's condition.

2) Vietnamese trainee 2

Basic Information	[Age] 26 [Sex] Female [Affiliation] Viet Duc University Hospital [Job Category] PT[Duration] 28 days
Purpose of training	Promote better understanding of the Kitahara Group's philosophy and action policy Enrich the understanding of Kitahara-style rehabilitation Improve knowledge and techniques for rehabilitating patients with brain injury
Training place	Kitahara International Hospital, Kitahara Rehabilitation Hospital
Training contents	New-employee training at KNI (partial participation) Lecture and practical training (following the rehabilitation department curriculum) Attendance in lectures by the KNI president, Shigemi Kitahara, and project-planning events (overseas business) held by the Kitahara Group
Summary	<p>She is a PT at the rehabilitation department of the National Viet Duc University Hospital. She had basic English conversation skills but an interpreter was required for communication about technical subjects. Although Japanese language skills would be important for her to join the training course in Japan, she had no time to learn Japanese before departure. We encouraged her to communicate as much as possible in Japanese and she learned the language by herself. Before training in Japan, she worked with the staff of the Kitahara Group in Viet Duc University Hospital, and Japanese experts deployed by the Kitahara Group provided her with basic knowledge and skills of Kitahara-style rehabilitation and carried out pre-departure training.</p> <p>The training period in Japan was 1 month. During this period, two Vietnamese staff members studied in Japan. We assigned another Vietnamese trainee who could speak English fluently to interpret tutors' instructions for her. She learned Japanese and built close relationships with Japanese people. Before starting the technical knowledge and skills sessions, she was provided with instructions on basic principles and descriptions of the Kitahara Group and social norms of Japanese society, such as greeting, punctuality, tidiness and cleanliness, and general manners. She learned the Kitahara Group's integrated service delivery model, from acute-phase rehabilitation to home-care services, by observing them in practice. She learned occupational therapy and speech therapy to provide rehabilitation not limited to physical therapy. We</p>

	<p>believe building the capacity of human resources will improve rehabilitation provision in Viet Nam.</p> <p>She disseminated what she learned, especially principles of organising the workplace, to the rehabilitation department of Viet Duc University Hospital. She lectured on the 5S (Jiménez et al., 2015): <i>Seiri, Seiton, Seiso, Seiketsu, and Shitsuke</i>, in Japanese. These words mean organisation, sorting, putting things in order, streamlining, shining, cleaning, and standardising. They refer to the basic discipline needed to work in an organisation and guide hospital staff. She reviewed the conduct of morning meetings where patient information was shared amongst staff members. She is engaged in rehabilitation practice in the hospital, collaborating with Japanese PTs deployed by the Kitahara Group. She is actively involved in services that should be provided by OTs or STs.</p>
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3) Vietnamese trainee 3

Basic Information	[Age] 23 [Sex] Female [Affiliation] KMSI [Job Category] PT [Duration] 15 days and 51 days (twice)
Purpose of training	Promote a better understanding of the Kitahara Group's philosophy and action policy Enrich the understanding of Kitahara-style rehabilitation Improve knowledge and techniques of rehabilitation for patients with brain injury
Training place	Kitahara International Hospital, Kitahara Rehabilitation Hospital
Training contents	New-employee training at KNI (partial participation) Lecture and practical training (following the rehabilitation department curriculum) Attendance in lectures by the KNI president, Shigemi Kitahara, and project-planning events (overseas business) held by Kitahara Group
Summary	Whilst training, she studied Japanese language on her own and proactively communicated with Japanese staff members and patients, although with difficulty. She acquired the skills to comprehend the status and problems of patients from the perspective not only of PTs but also other healthcare professionals. In Viet Nam, she shared her knowledge of speech-language-hearing therapy learned in Japan with other staff members. She became more responsible. For example, if she could not understand a patient's condition, she actively tried to ask questions about the patient's condition to doctors, unlike before training, when she

	passively depended on Japanese staff members. She is young has the potential to lead the Vietnamese staff, which can strongly support the development of our business in Viet Nam.
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4) Vietnamese trainee 4

Basic Information	[Age] 32 [Sex] Male [Affiliation] Viet Duc University Hospital [Job Category] Doctor (Neurosurgeon) [Duration] 2 days
Purpose of training	Deepen understanding of the Kitahara Group Improve knowledge as a neurosurgeon
Training place	Kitahara International Hospital, Kitahara Rehabilitation Hospital
Training contents	Observation of surgical procedures Participation in conferences Visit to rehabilitation hospital
Summary	He is in charge of many patients and always tries to find the best solutions for them. He has wide experience in prolonged neurosurgical operations. Through training in Japan, he learned a series of activities, from treatment (surgery) to rehabilitation, as practised in Kitahara hospitals. After returning to Viet Duc University Hospital, he began to actively communicate with the rehabilitation staff, thus strengthening cooperation between the departments of brain surgery and rehabilitation.

5) Vietnamese trainee 5

Basic Information	[Age] 27 [Sex] Male [Affiliation] KMSI [Job Category] PT [Duration] 7 days
Purpose of training	Promote better understanding of the Kitahara Group's philosophy and action policy Enrich the understanding of Kitahara-style rehabilitation Improve rehabilitation knowledge and techniques for patients with brain injury
Training place	Kitahara International Hospital, Kitahara Rehabilitation Hospital
Training contents	Visit to rehabilitation hospital

	<p>Instruction on Kitahara’s healthcare system philosophy (the role of the rehabilitation hospital, total life support, digital hospital)</p> <p>Participation in clinical activities</p> <p>Participation in conferences</p> <p>Training in managing organisations and keeping the workplace clean</p>
Summary	<p>He has been working for KMSI under the instruction of Japanese experts deployed by the Kitahara Group to Viet Nam since September 2017. When he started working with us, communication even in English was difficult, so an interpreter was required. But his English language skills have improved significantly. Before training in Japan started, Japanese experts from the Kitahara Group in Viet Nam met with him to explain the Kitahara project’s aims and to orient him so he would quickly adjust to the working environment in Japan. He studied Japanese by himself. The training period was 1 week. The training aimed to deepen his understanding of healthcare and long-term care systems in Japan and Viet Nam and of the Kitahara project. His stay in Japan was too short for him to make progress in Japanese language and language lessons were not provided. But he appeared to enjoy communicating with Japanese staff members. He had a positive attitude to understanding the project and, despite language barriers, he asked the staff many questions. The training was excellent motivation to learn Kitahara's philosophy in depth. His interest in not only clinical matters but also the project will greatly contribute to its development in Viet Nam and to the rehabilitation industry.</p>

Capacity-building Programmes in Viet Nam

Activities took place in Viet Duc University Hospital in Ha Noi starting in August 2017. They are classified by job category and workplace:

- (i) Project staff of the Kitahara Group (three Vietnamese PTs)
- (ii) Rehabilitation staff of Viet Duc University Hospital (rehabilitation physician, PTs)
- (iii) Nurses of Viet Duc University Hospital
- (iv) Other medical rehabilitation personnel

Project staff of the Kitahara Group (three Vietnamese PTs). We involved three local PTs for the study from September 2017, using on-the-job training. They received lectures and practical guidance 4 days a week on rehabilitation of patients with brain injury. The training was designed so they can pass on clinical knowledge and skills to other staff members, become managers who can oversee projects and research activities in collaboration with Japanese staff members, and learn how to behave as medical professionals. Communication between project staff and Japanese staff was in English or through a Japanese–Vietnamese interpreter.

Rehabilitation staff at the Viet Duc University Hospital. The Kitahara Group’s Japanese PTs gave 16 lectures to the hospital’s rehabilitation staff from August 2017 to June 2018 to improve their skills in rehabilitating patients with brain or nerve injury. After the lecture series, a clinical training session was held for 1 month, giving the staff an opportunity to practise the knowledge and skills gained in a clinical setting. We administered exams to confirm that the staff had acquired the knowledge and to know whether further capacity development activities were required. Most staff cannot speak English. Communication was done mainly through a Japanese–Vietnamese interpreter or English–Vietnamese interpreter.

Nurses at the Viet Duc University Hospital. Nine lectures were given from August 2017 to May 2018. Previously, the hospital’s neurosurgical and neurological wards provided little rehabilitation to patients. After the lecture series, we regularly shared ideas and rehabilitation methods for patients with brain and nerve injury and tried to create a system to provide rehabilitation as effectively as possible in collaboration with ward staff. The lectures were mainly done through a Japanese–Vietnamese interpreter.

Other medical rehabilitation personnel. A workshop was held on rehabilitation for patients with brain injury at Viet Duc University Hospital on 29 January 2018. About 100 people working in rehabilitation in northern and central Viet Nam participated. The Kitahara Group introduced physical, occupational, and speech therapy and discussed the situation and challenges of rehabilitation in each region.

Table 8. Lectures in Viet Nam

Date	Title	Participant or Target	
2017			
23 August	Introduction Outline of Neuro-brain Disease	15	Viet Duc University Hospital (PTs)
29 August	Introduction Positioning of Swallowing	25	Viet Duc University Hospital (nurses)
7 September	Traumatic Brain Injury Evaluation of GCS	12	Viet Duc University Hospital (PTs)
14 September	Range of Motion	28	Viet Duc University Hospital (nurses)
21st September	Brain Anatomy Evaluation of BI	11	Viet Duc University Hospital (PTs)
29 September	Higher Brain Dysfunction Evaluation of MMSE	12	Viet Duc University Hospital (nurses)
4 October	Stroke Evaluation of MMSE	13	Viet Duc University Hospital (PTs)
13 October	Criteria for Stopping Rehabilitation	12	Viet Duc University Hospital (nurses)
18 October	Clinical Reasoning	9	Viet Duc University Hospital (PTs)

8 November	Transfer from Bed to Wheelchair	14	Viet Duc University Hospital (nurses)
16 November	Observation of Posture and Motion, 1	14	Viet Duc University Hospital (PTs)
23rd November	What Is OT?	11	Viet Duc University Hospital (nurses)
29 November	What Is OT?	13	Viet Duc University Hospital (PT)
28 December	What Is Spasticity? 1	13	Viet Duc University Hospital (PTs)
2018			
10 January	What Is Frontal Lobe Symptom	15	Viet Duc University Hospital (nurses)
11 January	Practice of GCS and MMSE	9	Viet Duc University Hospital (PTs)
23rd January	Observation of Posture and Motion, 2	12	Viet Duc University Hospital (PTs)
6 February	Higher Brain Dysfunction (Aphasia, Apraxia)	15	Viet Duc University Hospital (nurses)
28 February	Brunstrom Stage	13	Viet Duc University Hospital (PTs)
14 March	What Is Swallowing?	8	Viet Duc University Hospital (nurses)
29 March	What Is Ataxia?	12	Viet Duc University Hospital (PTs)
19 April	Test	7	Viet Duc University Hospital (PTs)
10 May	Submission of test and review	8	Viet Duc University Hospital (PTs)
15 May	What Is Spasticity? 2	14	Viet Duc University Hospital (PTs)
5 July	Standing Motion	16	Viet Duc University Hospital (PTs)

BI = Barthel index, GCS = Glasgow Coma Scale, MMSE = Mini Mental State Examination, OT = occupational therapist, PT = physical therapist.

5.3.2. Capacity-building Activities for Cambodian Staff Members

Training in Japan

1) Cambodian trainees 6–8

Basic Information	<p>[Age] 32 [Sex] Male [Affiliation] Sunrise Japan Hospital [Job Category] PT [Period] 6 months in 2015</p> <p>[Age] 33 [Sex] Male [Affiliation] Sunrise Japan Hospital [Job Category] PT [Period] 6 months in 2015–2016</p> <p>[Age] 29 [Sex] Male [Affiliation] Sunrise Japan Hospital [Job Category] PT [Period] 6 months in 2015–2016</p>
Purpose of training	<p>Carry out daily operations in accordance with the philosophy of the Kitahara Group</p> <p>Enhance inter-departmental and inter-occupational collaboration</p> <p>Be familiar with the duties of every hospital section, comprehend how a hospital works, and be able to perform the minimum duties of any section, if required</p> <p>Develop basic Japanese conversation skills</p> <p>Acquire professional knowledge and skills as physical therapy experts</p> <p>Acquire enough managerial knowledge and skills to establish a Kitahara hospital in Cambodia</p>
Training place	Kitahara International Hospital, Kitahara Rehabilitation Hospital
Training content	<p>Training at the Facility Maintenance Division (tour of hospital facilities, lecture on maintenance and cleaning methods)</p> <p>Rotation training (assignment to departments other than specialty to learn the work of other occupations)</p> <p>Philosophy training (lecture on the Kitahara hospital philosophy, favourable attitude towards clients, medical professionals' code of conduct)</p> <p>Training in basic medicine (lecture on minimum-level medical science and technology required for any hospital professional)</p> <p>Technical training in each department (training of expert skills in physical therapy, occupational therapy, and speech-language-hearing therapy departments)</p> <p>Team-building activities (encouraging teamwork and skills to find solutions in the field)</p> <p>Visit to private companies (learning about Japanese technology, organisational capabilities, corporate philosophy by visiting Japanese</p>

	<p>companies)</p> <p>Japanese language training (learning Japanese greetings and daily conversation to ease communication between trainees and Japanese staff)</p> <p>Group training (forming a group, including Japanese staff, and conducting simulation training, assuming training participants work in the emergency room; designed to leverage teamwork and problem-solving skills, and to develop the skills to use the expertise of every group member as effectively as possible)</p>
Summary	<p>The training was conducted in 2015–2016 with support from JICA. The Kitahara Group planned to establish a hospital in Cambodia, to disseminate Kitahara-style medical care and rehabilitation, which we believed the Cambodian people wanted. We employed several Cambodian staff members, who needed training before the new hospital opened. They received training from Japanese staff members of Kitahara International Hospital in Japan to fully understand the Kitahara management philosophy and practical operations of a hospital. The Cambodian staff members have been deeply engaged in managing the hospital, from launch to daily operation. All those who trained in Japan are PTs, and we employed Cambodian physicians, nurses, laboratory technicians, accountants, and management staff. The training in Japan focused not only on acquiring expertise but also on inter-occupational cooperation. After the training, Sunrise Japan Hospital opened in Phnom Penh in October 2016.</p>
Continuous training	<p>The trainees have been assigned to the rehabilitation department as PTs. In countries where rehabilitation provision systems are well established, PTs specialise only in clinical physiotherapy. The trainees engaged in physiotherapy when they returned to Cambodia, but they are expected to lead in other activities, as well, utilising what they learned in Japan, such as hospital management, marketing, and local community service. The trainees have shown their ability to engage in these activities. They take on most of the training sessions for new employees and instruct them in the Kitahara Group philosophy and clinical techniques. The former trainees take their responsibilities seriously. As leaders, they are expected to provide the best medical services they can.</p> <p>They learned physiotherapy for acute-phase stroke patients at Kitahara International Hospital, from the basics to the advanced level, as well as other rehabilitation categories, i.e. occupational therapy and speech-language-hearing therapy. When they returned to Cambodia, they were keen to improve their skills in and knowledge of any rehabilitation category regardless of their own physical therapy expertise. For</p>

	<p>continuous training of local staff members, a remote education system connects Cambodia with Kitahara International Hospital, which regularly sends Japanese OTs and STs to Cambodia.</p> <p>The demand for rehabilitation services, such as support for feeding and swallowing, home care, and care guidance for families, is rapidly growing as the number of stroke patients increases in medical facilities. Our activities to train local staff will help improve rehabilitation service provision in Cambodia.</p>
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2) Cambodian trainee 9

Basic Information	[Age] 23 [Sex] Female [Affiliation] Sunrise Japan Hospital [Job Category] PT [Period] 3 months in 2018
Purpose of training	<p>Improve skills in and knowledge of feeding support and swallowing rehabilitation, which Cambodia provides few opportunities to learn</p> <p>Learn inter-occupational cooperation</p> <p>Promote better understanding of the Kitahara Group's philosophy, activities policy, and rehabilitation projects</p> <p>Share experiences in training in Japan with Cambodian colleagues and help develop rehabilitation services in Cambodia</p> <p>Build up a strong human network between Japan and Cambodia and strengthen bilateral collaboration</p>
Training place	Kitahara International Hospital, Kitahara Rehabilitation Hospital
Training content	<p>Orientation (about the Kitahara Group project, living in Japan)</p> <p>Lectures, practical exercises, and visits to all-around hospitals in line with the curriculum for new employees of the department of rehabilitation</p> <p>Case study of patients with dysphagia</p> <p>Attending the lecture of Dr. Shigemi Kitahara, president of the Kitahara Group, and participation in the Kitahara Group's business planning workshop</p> <p>Networking event with Cambodian people living in Japan and the Cambodian Embassy in Japan</p>
Lecture series	(i) Dysphagia introduction, (ii) essential information that should be collected through interviews with dysphagia patients, (iii) types of screening tests and vital points to achieve reliable results, (iv) cervical auscultation for dysphasia patients, (v) case study of pseudobulbar paralysis, (vi) how STs provide oral care, (vii) indirect training (without using food) applicable to patients with consciousness disorder, (viii) higher

	<p>brain dysfunction part 1, (ix) higher brain dysfunction part 2, (x) higher brain dysfunction part 3, (xi) throat ice massage for dysphagia patients, (xii) pathophysiology of cognitive impairment and its treatments, (xiii) pathophysiology of oral dysfunction and its treatments, (xiv) pathophysiology of disorders of mastication and food bolus formation in oral cavity and their treatments, (xv) pathophysiology of the disorder of the transfer of food bolus from oral cavity to pharynx and its treatments, (xvi) pathophysiology of transport disorder from pharyngeal passage to oesophagus and its treatments, (xvii) monitoring and risk management during direct swallowing training (using food), and (xviii) criteria that require the suspension of direct swallowing training</p>
<p>Summary</p>	<p>She was employed by Sunrise Japan Hospital immediately after graduated from a training school. She trained in Japan after receiving on-the-job training at Sunrise Japan Hospital for about 1 year. She is quick to understand and keen to learn what is important to improve services, such as professional ethics, attitude as a medical professional, and cleanliness and tidiness. Perhaps she was quick to learn because our hospital was her first workplace after the graduation. Her understanding of swallowing rehabilitation was at a level equivalent to 6 months of ST clinical experience based on the criteria of training organisers. Therapists who meet this criterion are considered capable of understanding evaluation screening tests and practicing training procedures. They can be engaged in the patients' first trials of resumption of oral intake after its suspension caused by brain injury, and to modify the meal form in accordance with the dysphagia level under the supervision of more skilled therapists.</p> <p>She learned the importance of teamwork and sense of responsibility by interacting with other occupations in Japan. Our training programme still has several challenges: (i) lack of reliable indicators that can objectively evaluate the improvement level of comprehension and knowledge of trainees, (ii) few opportunities to experience swallowing rehabilitation for severe cases, and (iii) necessity to regularly hold conferences and case study sessions that include STs.</p> <p>She is expected to share her knowledge and experience gained in Japan with her colleagues in Cambodia.</p>

Effects of Training in Japan on Cambodian Staff Members

Local staff members at Sunrise Japan Hospital have several weaknesses that should be addressed to satisfy demand for high-quality healthcare. For example, because of staff members' insufficient clinical knowledge and skills, patient assessments were not reliable and differed greatly from those of skilled Japanese experts. Patient assessments are directly linked to the planning and outcome of treatments. In ICU duties, local staff members'

understanding of risk management was not enough to treat the patients in the hyperacute phase after the onset of stroke or immediately after an operation, so we continued to support and advise them. Local staff members were not proactively involved in team building or improvement of the working environment and system, and they seemed unwilling to join the activities, which they probably thought would not help improve their clinical skills. They were not interested in mutual learning activities, especially for new employees. Above else, their lack of patient-centred thinking needed to be changed.

After the training in Japan, the skills, knowledge, and even work attitude of local staff members greatly improved. They have a reputation for great expertise and their correct clinical assessment attracts clients to Sunrise Japan Hospital. In ICU, local staff members no longer require the support of Japanese staff from the Kitahara Group and they understand the concept of risk management. They are willing to improve the work environment and to promote team building. They voluntarily suggest ways to improve the hospital to the manager, whom they selected from amongst themselves. They introduced a mentor system, which encourages mutual learning. Now they adopt patient-centred thinking and are willing to accept patients' requests regardless of time or their own personal affairs. Surprisingly, however, overtime working hours have been reduced although the hospital accepts more patients, probably because it has improved the quality of the work, such as management of time scheduling.

Kitahara Group Strategies to Develop Rehabilitation Human Resources in Cambodia

With growing demand for rehabilitation services for patients with brain injury and the shortage of rehabilitation experts, innovations in rehabilitation services, and multi-skilled rehabilitation experts are required. Innovative ideas can be developed by well-trained and skilled practitioners, and we encourage local staff members to continuously acquire clinical skills and knowledge so that they can provide services independently from Japanese experts. Local staff members are expected to participate in hospital management, share their ideas on how to meet clients' demands, and think of ways to improve services. Cambodians expect our services to expand and to improve healthcare, especially to treat patients with brain injury. We need to promote the networking of Cambodian PTs and to investigate more extensively the realities of rehabilitation provision system.

The Kitahara Group supports developing clinical skills through the following:

- (i) clinical skills guidance and instant feedback in front of patients (physical therapy, occupational therapy, and speech and hearing therapy);
- (ii) participation in morning and afternoon rounds and information exchange with other occupations;
- (iii) remote instruction from Kitahara International Hospital (including occupational therapy and speech and hearing therapy);
- (iv) short-term dispatch of staff members from Kitahara International Hospital (OT, ST);
- (v) regular case study meetings and practical lectures;
- (vi) periodic rehabilitation rounds, discussions with other occupations;
- (vii) regular departmental meetings;

- (viii) mentoring for new staff and follow-up; and
- (ix) participation in workshops planned by the CPTA.

The Kitahara Group builds capacity in nonclinical technical fields through the following:

- (i) promotion of committee activities and regular meetings (risk management, infection control team, basic life support, quality improvement, marketing);
- (ii) hosting of basic life support and infection control team lectures at the hospital;
- (iii) development and support of education programme for new staff members;
- (iv) participation in out-of-hospital activities (medical support for marathon contest, lecture for medical students);
- (v) participation in hospital management meetings (proposals and discussions on improving hospital administration); and
- (vi) marketing activities that introduce hospital services to other hospitals and healthcare or long-term care facilities.

5.3.3. Capacity-Building Activities for Lao People's Democratic Republic Staff Members

Programmes in Japan

1) Lao People's Democratic Republic invitee 10 (deputy director of Mittaphab Hospital)

Basic Information	[Age] 56 [Sex] Male [Affiliation] Mittaphab Hospital [Job Category] Doctor, neurosurgeon [Period] 7 days in May 2018
Purpose of visit to Japan	Understand the Kitahara Group's philosophy and action plan Understand the Kitahara Group's healthcare practice Observe neurosurgical operations and understand post-operative management for patients with brain injury
Visiting place	Kitahara International Hospital, Kitahara Rehabilitation Hospital, Kitahara Life Support Clinic
Summary	We offered our warmest hospitality to this most important guest, and the Kitahara Group president himself guided him around the Stroke Centre. Our guest seemed impressed and said he had high expectations for the Kitahara Group's contribution to upgrading Mittaphab Hospital, particularly the establishment of an up-to-date healthcare support system and the introduction of high-quality medical instruments. He discussed the problems for personnel in government hospitals, saying they are poorly paid and the wage structure is not based on performance or outcome and does not motivate staff to improve services. He observed neurosurgical operations that could not be performed in Lao PDR and envisioned the stroke centre that the Kitahara Group intended to establish in collaboration with Mittaphab Hospital. He visited the Tokyo Fire Department, which provides public ambulance transport. In Japan, an ambulance can be used free of charge as long as it is public; most local authorities have enough ambulances to respond to emergency calls promptly. Treatment before arriving at emergency room is critically

	<p>important for patients of acute brain injury so we showed him Japan's ambulance services. Lao PDR does not yet have ambulance services. Mittaphab Hospital has a big ongoing project to construct a building, supported by Austria. Despite his hectic schedule, he values discussions with nurses, rehabilitation therapists, and other staff members. His visit to Japan encouraged him to emphasise interaction amongst personnel of different occupation categories.</p>
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2) Lao People's Democratic Republic Trainee 11

Basic Information	[Age] 41 [Sex] Female [Affiliation] Mittaphab Hospital [Job Category] Nurse [Period] 28 days in May–June 2018
Purpose of training	Understand the Kitahara Group's philosophy and action plan Understand the Kitahara Group's healthcare practice Improve the knowledge and skills of post-operative management for patients with brain injury
Training location	Kitahara International Hospital, Kitahara Rehabilitation Hospital
Training content	Care of patients before and after operation, especially risk management of stroke patients, e.g. risk of falls from bed. The programme focused on perioperative care more than care during operation. Assessment of swallowing function, which is important because nurses in Mittaphab Hospital can decide when patients can start tube feeding after the onset of stroke or operation. Introduction of the latest hospital equipment Duties of nurses in the emergency room and ICU Observation of hospital rehabilitation and home-visit rehabilitation
Summary	<p>She observed neurosurgical operations, which are not performed in Lao PDR. The training programme provided her, as an expected counterpart of our project in Lao PDR, with the chance to learn what services are provided in a stroke centre, particularly post-operative care. After training in Japan, she shared the training content with nurses at Mittaphab Hospital.</p> <p>She has already altered the nursing care delivery system in Mittaphab Hospital:</p> <p>She introduced a primary nursing system under which a primary nurse is assigned to each patient and is responsible for planning nursing care. This system has heightened nurses' sense of responsibility. They can detect critical changes in patients' condition more quickly than before the introduction of the primary nursing system.</p> <p>She standardised the nursing process, particularly assessment of patients. Mittaphab Hospital did not have a standardised way of assessing stroke patients, including their sequelae, but she created manuals and forms to assess patients' condition and provided practical guidance on assessing methods. As a result, the nurses' work has been standardised and become more efficient.</p>

	She was invited to the International Rehabilitation Association in Ha Noi, which was organised by the Kitahara Group and sponsored by the Economic Research Institute for ASEAN and East Asia. She won the Best Poster Award.
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3) Lao People's Democratic Republic trainee 12

Basic Information	[Age] 38 [Sex] Male [Affiliation] Mittaphab Hospital [Job Category] PT [Period] 28 days in May–June 2018
Purpose of training	Understand the Kitahara Group's philosophy and action plan Understand the Kitahara Group's rehabilitation practice Improve the knowledge and skills of rehabilitation for patients with brain injury
Training places	Kitahara International Hospital, Kitahara Rehabilitation Hospital
Training content	Risk management of acute rehabilitation Visit to emergency room and learning of emergency medical services Observation of STs' activities Participation in clinical conferences on patient's condition and treatment explanations Participation in training in ADL outside the hospital, and home-visit rehabilitation services Lecture by the rehabilitation department supervisor on how rehabilitation skills can be transferred from experts to trainees (how to develop training courses)
Summary	The Kitahara Group is proud of our seamless intervention from the acute phase to home care. The trainee traced the whole process of treatment for one patient from immediately after the operation to discharge. He learned that rehabilitation services must be modified to suit patients' conditions. In Lao PDR, he applied what he learned from item (v) above and is involved in building the capacity of local staff members by, for example developing the content of lectures delivered by the Kitahara Group's Japanese experts.

Capacity-building Programmes in Lao People's Democratic Republic

In January 2018, the Kitahara Group started education in the National Rehabilitation Centre and Mittaphab Hospital about (i) rehabilitation in the acute phase of stroke; and (ii) seamless, integrated, and comprehensive rehabilitation services from the acute phase to home life, focusing on patients' daily lives at home.

We develop the capacity of local staff through on-the-job training and lectures. In on-the-job training, we focus on skills in assessing and treating patients. The lecture audience includes rehabilitation therapists, nurses, and students. By 13 July 2018, 24 lectures had been delivered (Table 9).

Table 9. Lectures in Lao People's Democratic Republic

Date	Title	Participant and Target	
2018			
6 February	Introduction	10	Nurses, PTs (Mittaphab Hospital), medical students
8 February	Introduction	14	Nurses, PTs (National Rehabilitation Centre), medical students
9 February	What Is Stroke?	13	Nurses, PTs (Mittaphab Hospital), medical students
23 February	Brain Function	14	Nurses, PTs (Mittaphab Hospital), medical students
2 March	Physical Assessment	15	Nurses, PTs (Mittaphab Hospital), medical students
13 March	Introduction: What Is Stroke?	10	Nurses, PTs (Mittaphab Hospital)
15 March	About Stroke	14	Nurses, PTs (National Rehabilitation Centre), medical students
16 March	Assessment (BI, GCS, MMSE)	13	Nurses, PTs (Mittaphab Hospital), medical students
29 March	Range of Motion	13	Nurses, PTs (National Rehabilitation Centre), medical students
30 March	How to Care for Stroke Patients	9	Nurses, PTs (Mittaphab Hospital)
6 April	Swallowing, 1	15	Nurses, PTs (Mittaphab Hospital), medical students
26 April	What is Ataxia	13	Nurses, PTs (National Rehabilitation Centre), medical students
27 April	Swallowing, 2	10	Nurses, PTs (Mittaphab Hospital), medical students
9 May	Swallowing, 3	14	Nurses, PTs (National Rehabilitation Centre), medical students
10 May	Swallowing, 1	15	Nurses, PTs (Mittaphab Hospital), medical students
24 May	Swallowing, 2	13	Nurses, PTs (National Rehabilitation Centre), medical students

25 May	Swallowing, 3	10	Nurses, PTs (Mittaphab Hospital)
25 May	What is Ataxia?	14	Nurses, PTs (Mittaphab Hospital), medical students
8 June	Shoulder Joint Pain, 1	13	Nurses, PTs (Mittaphab Hospital), medical students
14 June	Shoulder Joint Pain, 2	14	Nurses, PTs (National Rehabilitation Centre), medical students
28 June	Risk Management for Stroke, 1	14	Nurses, PTs (National Rehabilitation Centre), medical students
29 June	Risk Management for Stroke, 2	12	Nurses, PTs (Mittaphab Hospital), medical students
29 June	Risk Management for Stroke, 3	9	Nurses, PTs (Mittaphab Hospital)
13 July	Risk Management for Stroke, 4	10	Nurses, PTs (Mittaphab Hospital), medical students

BI = Barthel index, GCS = Glasgow Coma Scale, MMSE = Mini Mental State Examination, PT = physical therapist.

5.4. Discussion

An objective of our capacity-building programme is to help rehabilitation staff develop the skills to do more than their job descriptions. The study countries have established training courses for PTs but not for OTs, STs, and medical social workers, compelling PTs to respond to patients' various needs.

Our programme aims to establish integrated care systems that can provide seamless services from the acute phase to home care for patients with brain and nerve injuries. None of the study countries has an integrated or seamless service provision system: when patients are released from hospital their information is not shared amongst related healthcare facilities, or professionals do not provide care in patients' homes or communities. An integrated and seamless system is indispensable to bring patients back into communities and social activities after brain injuries. It will take a long time for governments to establish such a system, so we focus on building the capacity of rehabilitation professionals to provide it. They must be able to decide on services suitable for patients based on their needs, such as what is important for them after discharge and what type of services can improve their quality of life (QOL).

In Japan, the trainees learned how to improve patients' ADLs and how to provide seamless rehabilitation. They observed acute-phase hospitals, rehabilitation hospitals, and home healthcare services. Trainees observed the Kitahara Group's original clinical recording system and learned about the practical use of information and communications technology and artificial intelligence (AI). We introduced a facial recognition system to entrance and exit

management and an AI-based system to support building the rehabilitation plan, including forecasting prognosis and setting rehabilitation goals.

The trainees shared what they learned in Japan with their colleagues in Kitahara projects in their home countries. They acquired the skills and knowledge to develop specific and concrete goals and action plans in their daily duties, based on how to improve patients' overall QOL. They are willing to be involved in improving their countries' healthcare system.

Rehabilitation medicine and related professions are well developed mainly in North America, Europe, and Japan, as are rehabilitation education and training. Rehabilitation personnel are clearly categorised, with their occupations' requirements clearly defined. Such systems, however, cannot be applied to Southeast Asia, which has different healthcare and long-term care systems. Training programmes should be based on the needs and background of each country. In the study countries, the concept of rehabilitation is not well understood by patients and rehabilitation training systems are not established.

Much external aid has been provided to these countries to improve rehabilitation training but it has not always been successful. One reason is the focus on rehabilitation without a comprehensive view of patients' lives.

The Kitahara Group provided a good example of rehabilitation training through this study and established Kitahara-style training for health personnel in the study countries. The training is not the same as that in Japan but it is based on Japan's practices and modified for the target societies' realities. We encourage rehabilitation personnel to be involved in jobs beyond their duties, to share patient information with other staff and other healthcare facilities, and to develop people's awareness of healthcare and rehabilitation. These activities can help provide seamless care and improve patients' QOL.

The Kitahara Group envisions transforming conventional healthcare industries into a total life support industry (TLSI), which connects everything related to people's daily life, including healthcare, long-term care, food, exercise, and even community activities or public systems to support daily life from birth to death. The present healthcare industries are too specialised and lack a comprehensive perspective on people's daily lives. The whole world will witness unprecedented population ageing. TLSI will be required to cope with it. Client information is shared in TLSI, which will suggest solutions to maximise people's capacities. The goal of our training is to create human resources who can respond to the demand for TLSI. They can help improve healthcare and long-term care systems of every country, and we hope they will lead current healthcare industries and future TLSI.