Spinal Cord Injury Rehabilitation Service System: Notes from the 16th ASCoN Conference and the Proposal for Thai System Development

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ระบบบริการฟื้นฟูผู้ป่วยบาดเจ็บไขสันหลัง: ข้อคิดจากการประชุม ASCON ครั้งที่ 16 และข้อเสนอสำหรับการพัฒนาในประเทศไทย

ดลฤดี ศรีศุภผล

สถาบันสิรินธรเพื่อการฟื้นฟูสมรรถภาพทางการแพทย์แห่งชาติ จังหวัดนนทบุรี

The Asian Spinal Cord Network (ASCoN) is a platform in which organisations across the region working in the field of spinal cord injury (SCI) could share their knowledge. Currently there are 75 member organisations from 18 countries in Asia, including, Afghanistan, Bangladesh, Bhutan, Cambodia, China, East Timor, India, Indonesia, Japan, Korea, Laos, Myanmar, Malaysia, Nepal, Pakistan, Sri Lanka, Thailand and Vietnam[1].

The latest ASCoN conference was held in Chiang Mai, Thailand, during 7–10 December 2017. It addressed a wide range of issues from difficult medical situations related to spinal cord injury, i.e., urological complication, pressure injuries, digestive dysfunction, cardiovascular and exercise to the after care service system. The panel also allowed voices from customers to be heard, cherishing the lived experience of people with spinal cord injuries in a medical conference. The conference dedicated almost two main sessions to the discussion on SCI rehabilitation service system in members' countries[2].

SCI Rehabilitation service in ASCoN countries

An online survey was conducted prior to the conference on the aftercare for SCI patients in eight Asian countries, that is, Bangladesh, India, Korea, Malaysia, Nepal, Pakistan, the Philippines and Thailand. The results revealed that five countries, Bangladesh, Korea, Malaysia, Pakistan and Thailand reported having a structured protocol of SCI aftercare in which patients are taken care of in post-acute and long term phase by rehabilitation professionals. However, most of the responses are from ASCoN members' institute which might be only one or two hospitals or centers in the country. Many had raised concern over the reason why rehabilitation centers could not organize proper SCI aftercare; for example, the lack of rehabilitation professionals, the limitation of resources, the lack of knowledge and awareness of both healthcare personnel and people with SCI. The coverage and access to standardized SCI care still seems to be a huge problem in this region.

Debate in SCI service system development

The possibility of organizing specialized SCI unit is widely discussed in the conference. There is a preliminary report from Thai SCI registry which revealed that specialized SCI unit is an effective and efficient way to provide post-acute SCI rehabilitation and aftercare in terms of SCIM improvement[2]. Example from Denmark is also discussed of how two specialized SCI comprehensive rehabilitation center could cover the population of the entire country. It is obvious that the importance of specialized SCI unit could not be underestimated. However, debate still exists on the ability of people with SCI to access such specialized unit in a very low resource country. The remaining question is whether establishing many specialized units has higher cost-benefit than only a few specialized SCI units with widely distributed primary SCI after care at the community level. Moreover, the capacity and standard of current specialized SCI unit still varied from country to country.

SCI rehabilitation service in Thailand: challenges and potential solution

People with SCI in Thailand could receive post-acute rehabilitation care as the continuous transitional period from acute spinal orthopaedic care with the average length of stay at rehabilitation ward of 23 days[3]. The specialized rehabilitation unit could provide comprehensive rehabilitation including patient and caregiver education program from multidisciplinary professionals. The main problem is that such service is only available in some hospitals, mainly university hospitals.

According to the multicenter study of efficiency for rehabilitation service in 2014[4], there were only 345 beds in 13 hospitals available for in-patient rehabilitation. More than half are in university hospitals. Only 48 beds are available in three provincial hospitals under the Ministry of Public Health (MoPH). Moreover, access to rehabilitation service in government hospitals seems to be remarkably low. A study on payment of subacute and nonacute in-patient care predicted that more than

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30% of patients never received any rehabilitation services[5]. A study in one regional hospital, only 18% of all stroke patients access to rehabilitation unit and only 4% received intensive in-patient rehabilitation care[6]. Given that stroke is the health issue that receives far higher interest in health service management than SCI, the access to rehabilitation of people with SCI could probably be even lower.

Where is rehabilitation in Thailand's health service system?

Thailand's health service system is structured hierarchically as primary, secondary and tertiary care in each province. The higher the level, the more sophisticated treatment intervention is expected. The referral network from the community to regional level is settled mostly for acute care management. With the aim to lessen the overcrowded tertiary hospitals, the refer-back system from regional to provincial and community care level is gradually developed. The current MoPH policy and payment system does not really support the provision of intermediate care or subacute rehabilitation in tertiary care setting[7,8]. In order for the continuity of care after the acute phase to be effective, that is people could reach their functional health outcome, there is a crucial need for intermediate and long term care with appropriate rehabilitation service program to be in place in secondary and primary care facilities. Unfortunately, Thailand's current rehabilitation service resources, including human resource, in-patient beds, and equipment, are mostly pooled in tertiary and provincial hospitals. Knowledge and skills of healthcare providers in community level in rehabilitation, especially SCI rehabilitation, is very lacking[2,3].

Where should rehabilitation be in Thailand's health service system?

In order to organize a proper and feasible SCI rehabilitation service, development process needs to take into account the context of Thai healthcare system. SCI rehabilitation may need to be categorized into primary, secondary and tertiary SCI care and services should be tailored to each level of facility accordingly.

For example, SCI specialized center as tertiary unit with limited length of stay should be equipped with high technology to solve the complicated problems caused by SCI, such as, intractable neuropathic pain, botulinum toxin injection for detrusor overactivity, surgery to correct contracted bladder, nerve or muscle transfer, complicated delivery in pregnant SCI women, or flap surgery for large pressure ulcer.

Secondary care facilities in which in-patient rehabilitation beds could be available should be equipped with adequate number of rehabilitation teams to provide intensive rehabilitation including urological care and check-up in which medical equipment such as ultrasonography or cystometry are needed. Interventions that do not require advance technology; such, as vacuum dressing, should be able to perform at this level of facility. Lastly, the primary care setting should be strengthened to care for SCI in the long term phase which should include maintenance physical therapy program, basic health check-up, and social re-integration measures.

From this view point, there is a need for rehabilitation resources reallocation with a clear service focus at each level of facility. Primary care professionals, namely family care teams, need to be trained in knowledge and skill in basic SCI care. Intensive rehabilitation is strongly needed to maximize function of people with SCI; however, the current payment method with diagnostic related group (DRG) does not motivate healthcare professionals to provide a proper rehabilitation service. There is still a need in advocating for financial incentive that considers functional dimension of health in Thai healthcare system.

In conclusion, post-acute rehabilitation service is needed for people with SCI to be in good health and maintain their quality of life. To develop such a service and to enable SCI patients to access to appropriate care, rehabilitation needs to be tailored in accordance with the mainstream healthcare system. Knowledge on general rehabilitation needs to be communicated to other healthcare professionals working at primary care level.

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