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1. List of acronyms

| | |
|--------|---|
| ANOT | Association of Nepal occupational therapist |
| HR | Human resource |
| IEC | Information education and communication |
| IMC | International medical crops |
| INGO | International non- government organization |
| KUSMS | Kathmandu university of medical sciences |
| MOHP | Ministry of health and population |
| MSF | Médecins Sans Frontières |
| NEPTA | Nepal physiotherapy association |
| POS | Prosthetic and orthotic society of Nepal |
| PT | Physiotherapy/ Physiotherapist |
| SIRC | Spinal injury rehabilitation centre |
| TUTH | Tribhuvan university teaching hospital |
| UK-EMT | United kingdom emergency medical team |
| UNDP | United nation development program |
| WCPT | World confederation of physical therapist |
| WHO | World health organizations |

2. Background

Nepal physiotherapy association (NEPTA, a member organization of WCPT is an organization of Nepalese physiotherapists. Currently around 1050 physiotherapists are registered under the Nepal Health Professional Council (NHPC) which is an official governing body of health professionals. Out of 1050, 311 belongs to NEPTA

Almost 99.98 % of the total registered physiotherapists are engaged in private health facilities. With the lack of opportunities in the Government sector only 0.02% of physiotherapists are engaged in government services. This is clear evidence that physiotherapy is still not a priority service for the Government of Nepal. There is limited number of jobs or professional development opportunities for physiotherapists outside of Kathmandu, which are key reasons for the uneven distribution of the physiotherapy workforce.

Kathmandu University School of Medical Sciences (KUSMS) is the only one physiotherapy school in Nepal. However there are significant numbers of Nepali Physiotherapists who have completed their education from various institutes in India. With the number of new graduates increasing and the low availability of the job opportunities, especially in the Government sector, an unbalanced situation has been created between supply and demand. These Human Resource issues have therefore been the key priority item for NEPTA to address with the Ministry of Health and related Departments.

NEPTA has been collaborating with institutions such as KUSMS and Handicap International (HI) in order that this serious human resource issue in physiotherapy services is highlighted at top levels of the Ministry of Health.

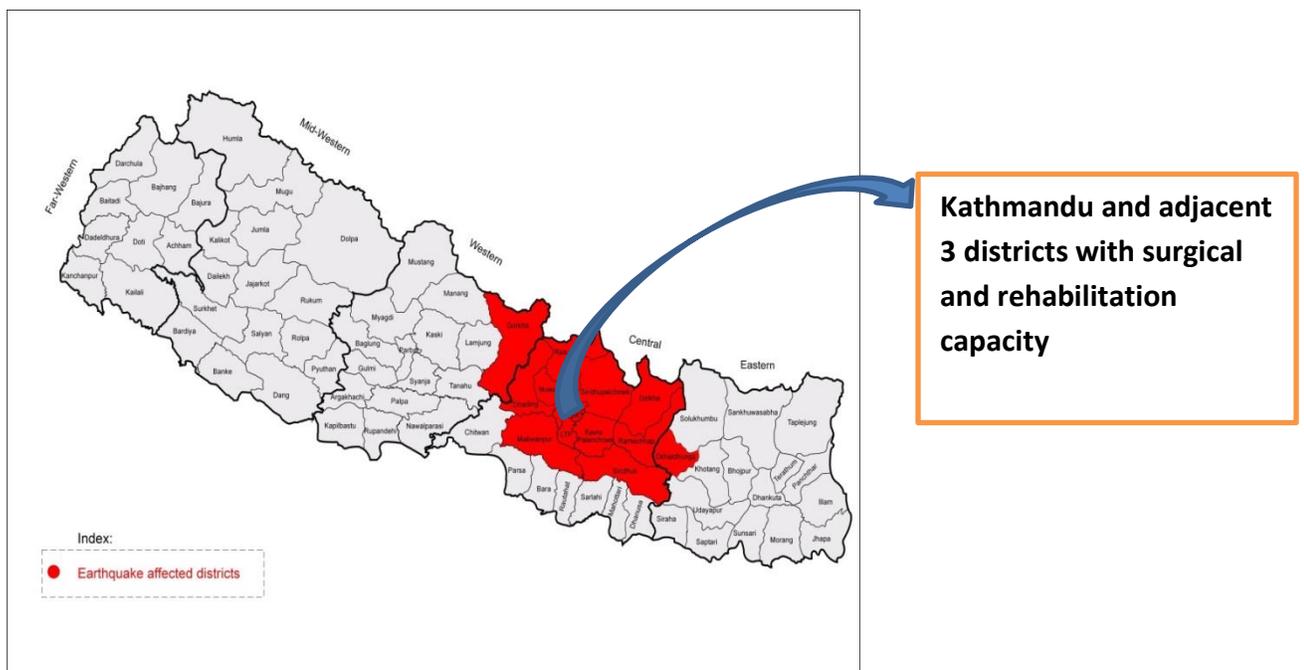
In order to ensure that their members keep up to date in their knowledge, skills and practice NEPTA promotes continuing professional development initiatives (CPD) such as conferences and short term training programs in

partnership with WCPT, other WCPT member associations, NGO's and various universities.

3. Natural Disasters

In 2004, the United Nations Development Program (UNDP), Bureau of Crisis Prevention and Recovery ranked Nepal as the 11th most vulnerable country with respect to seismic hazard out of 200 countries in world. Since this ranking was made, Nepal has faced the catastrophic earthquake in 2015 that resulted in the deaths of 8856 people and caused almost 22,309 injuries. It is also predicted that the total injured may rise as difficult geographic terrain and poor access to relief work in many remote locations have deprived injured survivors from screening and medical support.

Out of the 75 Nepali districts, 14 located in the central Nepal were the hardest hit including the Kathmandu Valley.



Except for Kathmandu and three surrounding districts, the availability of surgical and physiotherapy services in the other 10 districts are almost nil as the government health system in these districts does not have the provisions of surgical and physiotherapy facilities which are the key aspects of injury management. These ten areas are the remote districts with hilly and Himalayan terrain where the road access is very poor. There has been a very large flow of injured survivors from these 10 districts to the Kathmandu and adjacent districts.

This exceedingly high flow of people has overloaded the hospitals in Kathmandu and adjacent districts beyond their capacity. As the government hospitals were fully occupied there was also a large flow of people to the private hospitals which had surgical capacity and physiotherapy departments.

The Government predicts that one third of the health facilities were damaged and large numbers of these lie in the remote 10 districts. In Kathmandu and surrounding districts the damage to health facilities were less enabling these hospitals and facilities to start functioning soon after the earthquake.

4. Preparedness prior to the earthquake

Anticipating possible seismic hazards there had been some preparedness work done by the Government together with Humanitarian organizations over the past decades. A consortium led by the MOHP, WHO & Handicap International (HI) conducted several training programs for health professionals including the physiotherapist on injury management.

The consortium developed Trauma Protocol Guidelines and information, education and communication materials on injury management. They also formed panels of experts from the hospitals located in and around Kathmandu and also included professional association such as NEPTA. This preparedness for mass casualties management helped condition the health professionals and systems within the health facilities however there is still

scope for enhancement especially in areas such as wound management and coordinated (including the physiotherapy department) discharge planning in most facilities.

NEPTA aims to highlight the many lessons learnt during this disaster with all the agencies involved.

5. 'Opportunities for physiotherapy arising from the disaster

Until the earthquake occurred, the physiotherapy rehabilitation and provision of assistive devices was not a priority for the government health system. A high level disability workshop conducted in March 2015 among major stakeholders including the Ministry of Health, WHO, Handicap International and professional associations like NEPTA resulted in the Government's decision to establish a Disability and Rehabilitation unit within the health system.

Following the disastrous earthquake of April 25th, 2015, which resulted in huge losses of lives and physical structures, the Nepali government actioned its previous commitment by appointing a focused department for Disability and Rehabilitation services within its health care system. The leprosy control division which was already working with leprosy-affected people for many years is now the new department for Disability and Rehabilitation. This is a key breakthrough in the history of the rehabilitation sector in Nepal and the change is expected to further elevate the importance of rehabilitation, especially physiotherapy, through coordinated efforts from the government and its stakeholders.

During the preparedness phase for natural disasters there was the formation of health clusters, which were supposed to be activated immediately after a disaster to enhance the Ministry of Health's response activities. The first health cluster meeting organized after the earthquake realized the need of a separate sub-cluster on injury and rehabilitation, which was then formed in the second week after the earthquake.

6 Injury and rehabilitation sub-cluster

This sub group consists of stakeholders related directly and indirectly to injury management and rehabilitation and is led by the newly formed disability unit of MOH and co-lead by WHO. The UK-EMT was appointed as the facilitator for the first two month and the cluster is now facilitated by WHO. NEPTA is part of this cluster and will play an important role in the activities of the cluster.



i. Major activities of sub-cluster

- Regulation of injury management rehabilitation through MOHP
- Central data collection at MOHP
- Information exchange among the involved stake holders so as to avoid the duplicity
- Mobilizations of foreign medical teams related to injury management and rehabilitation
- Promotion of collaboration for comprehensive care

- Development of short, medium and long term rehabilitation action plans
- Quality assurance of the emergency rehabilitation services: NEPTA, POS and ANOT

ii. Data on injuries

The Government of Nepal has estimated 22,309 injuries however still there is no data showing the percentage wise disaggregation of injury. The Injury and Rehabilitation cluster has estimated the following:

- Up to 1,500 people with injuries will need long term care or rehabilitation
- As to date there have only been 40-60 amputations, this is significantly fewer compared to the statistics of other countries. There is the assumption that the qualified medical team and the preparedness training on proper injury management (the sensitizations was done to save the limb as fast as possible) may be one of the reasons for fewer surgical amputations.
- 200-300 people with spinal cord injuries
- 70% of injuries were fractures

7. Major engagement of the physiotherapist

i. National Hospital level

Most of hospitals in and around Kathmandu that received casualties have physiotherapy departments, which were activated on the day of earthquake.

KUSMS hospital, which was near to two major affected districts, received many patients. The existing staff and physiotherapy students were immediately mobilized.

Similarly, TUTH and Patan hospital have well-established physiotherapy units and were functional from the first day.

All these physiotherapy departments were heavily overloaded and the staff and students worked tirelessly.

ii. International organizations

HI with its existing staff of physiotherapists, occupational therapists and prothetist were deployed on the Nepal's largest tertiary hospital (TUTH) 3 hours after the incident. From the second day to until now HI is delivering physical rehabilitation services in 19 locations (usually government hospitals, step down facilities and communities) across seven districts through 24 newly recruited national PTs. Based on the demand HI is also providing the assistive device services to many health facilities. IMC deputed Nepali PTs to one hospital in a remote district and MSF is supporting an orthopedic hospital and its physiotherapist

iii. Others:

The Spinal Injury Rehabilitation Centre and the neuro foundation Nepal recruited new PTs to address the overwhelming rehabilitation need of spinal injury patients.

7. Responsibilities of physiotherapist in responses

- Triaging injuries
- Treatment of chest injuries in ICU
- Treatment of complications of injuries in ICU
- Safe transfers
- Proper positioning of patients with a variety of problems
- Early mobilization including bed activities
- Supply and users training for mobility aids
- Application of orthopedic appliances such as splints and casts
- Teaching of appropriate exercises
- Ongoing rehabilitation for all injuries
- Specific treatments for children who have been injured e.g. head injuries
- Assisting in ensuring patients can return to their homes safely
- Ensuring people can return to work post trauma

i. Glimpse of services



Physiotherapist assembling the wheelchairs to be distributed on the first night after earthquake
© Wesley Pryor / Handicap International

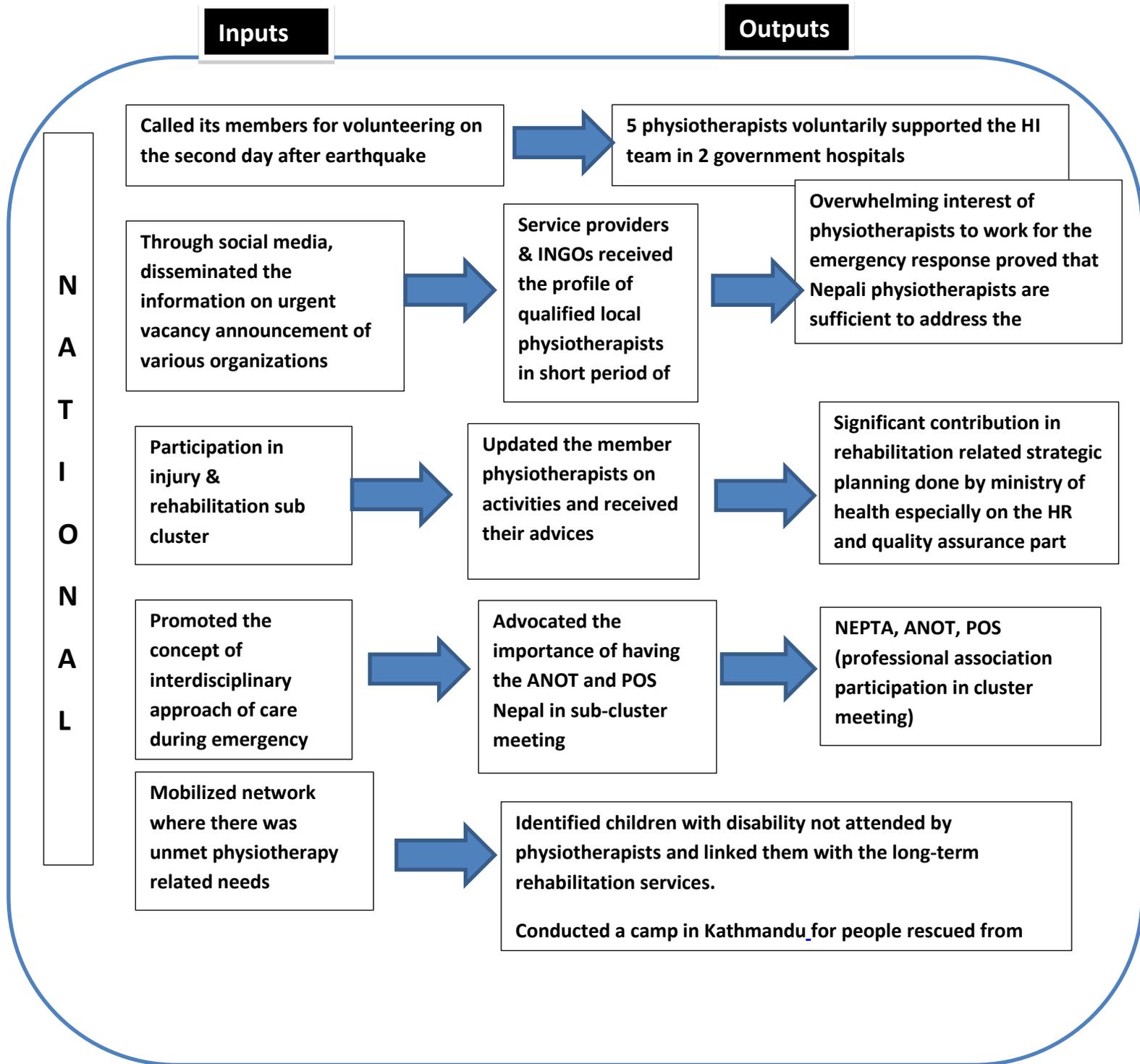


Physiotherapist supervising the balance training to one of the survivor
© Lucas Veuve / Handicap International



NEPTA executive and physiotherapist conducting the assessment of survivor.

8. Role of NEPTA in rehabilitation response:



International

1. Highlighted the need of rehabilitation in Nepal in post-earthquake scenario in WCPT conference
2. Promoted fund collection from WCPT to Handicap International for earthquake response
3. Collected the information on rehabilitation experts who are interested to contribute the response
4. Responded the other international PT experts who expressed their interest to participate in response

Challenges

International experts in rehabilitation interested to join the response but till that time already a decision to mobilize Nepali Physiotherapists was jointly agreed among the stake holders

Lots of commitment for international donations in terms of cash and kinds (equipment) to NEPTA but challenge was to ensure the proper mobilization in a short period of time due to the lack of previous experiences and full time human resources

As per previous observations, there are long-term retention issues of physiotherapists in remote districts therefore special focus should be given in remunerations, benefit and professional development opportunities.

Ministry of Health & Populations though actively involved still needs external agencies support to ensure the smooth functioning of injury rehabilitation sub- cluster/disability unit. No predefined deadline to completely uptake the process.

Most of the discharged patients do not have house now and they need to keep staying in Kathmandu for the follow up care. The steps down facilities were not properly defined during the preparedness. Now limited NGO and other organizations that are working in other health sectors (Nutrition, Women health and Geriatrics) have converted their setup into step down facilities for limited time periods but they have limited human resources for the continuous medical and rehabilitation care.

9 Lesson learned

- Professional associations in low resource setting countries such as Nepal have problems in convincing governments for the need to establish and promote physiotherapy services in a health system. Although the occurrence of a disaster is a tragic incidence it is also an opportunity for physiotherapists using NEPTA (in Nepal) to demonstrate their value and significance in providing physiotherapy services in government health systems.
- Even though the professional associations were involved during the preparedness to design training programs and trauma protocols together with ministry and other stakeholders, their involvement in preparedness in terms of HR/PT network mobilizations after disaster was not well established. From the experience of recent earthquake, it has been evident that NEPTA can link health facilities with qualified national PT volunteers until the time of formal recruitment of physiotherapy staff.

Recommendation

NEPTA to make MOPH aware of the role that NEPTA can make in coordinating physiotherapists immediately following a disaster

- Significant numbers of Nepali PTs associated with NEPTA generated funds from their own network for relief activities. Thanks to their proactive involvement in rehabilitation and other activities (distribution of food and housing items) some services could be provided in remote disaster hit zones.
- At the onset of the emergency there was little time for coordination with member PTs. NEPTA did not manage to have coordination in the first two weeks.

Recommendation

NEPTA to develop a document involving their members that would help to ensure coordination and proper record keeping in future disasters.

- The tertiary level government hospitals received large numbers of injured survivors for treatment. Most of these hospitals have well established physiotherapy units. However these units were not staffed well enough to manage the excessive caseloads in the initial weeks of the disaster. The extra PTs from other agencies who worked in close collaboration with already existing system of hospital has resulted the good team work and delivery of services

Recommendation

There should be a defined mechanism that enables a PT department to analyze the increased load and then define the need for extra physiotherapists required to fulfill the gap.

- From the information obtained from agencies that recruited new PTs for emergency response, it has been found that the clinical skills of Nepali PTs are very good. One important finding was that they may require further training on assessment, prescription, product preparation and user training for assistive devices like wheelchairs, crutches, walkers and prosthesis. Hence, NEPTA aims to seek support from the agencies and other professional association so that skill of national physiotherapists in assistive device service could be further enhanced.

Recommendation

A program needs to be collaboratively developed to improve the skills of physiotherapists in the assessment, prescription, product preparation and user training for assistive devices.

- Nepal was fortunate that the disrupted electrical supply and Internet network resumed on the day of the disaster. The social networking site (NEPTA Facebook) helped to connect NEPTA with their physiotherapists and to keep them informed throughout the emergency. NEPTA social network has almost 1000 PTs followers, so the platform was utilized to disseminate the vacancy announcement of physiotherapists in several organizations. This method served the smooth exchange of messages to members and it also promoted NEPTA and its commitments toward Nepali

PTs and the rehabilitation system. Social networking is very useful in disseminating the information and generating quick consensus/decision at time of disasters.

10. Conclusions

The earthquakes in April were the largest disaster in Nepal so far for this generation. The huge loss in term of life and properties is devastating. Right now Nepal is working hard to cope with this catastrophic damage.

Rehabilitation of the injured people has been the chief agenda of Ministry and other important Agencies and Associations. Despite having limited resources, NEPTA has been adopted a twin track approach to support the Nation for this need.

One part is contribution to make the short, medium and long-term national rehabilitation strategic plans together with other participants. The other part is supporting and strengthening the direct services linking physiotherapists with recruitment needs and mobilizing physiotherapists to areas where rehabilitation is missing.

Disasters are inevitable, however using our recent experience and lesson learnt NEPTA aims to collaborate with the Nepali government and Humanitarian agencies for the development of the preparedness documentation and activities related to injury management and rehabilitation.

Last but not the least NEPTA would like to extend its deep gratitude and thankfulness to all the national and international professionals/organizations who have supported and encouraged Nepal to cope with this tragic incident.

Approved By The President