

SIRC PD 4: National and District Level Training Provided to Health and Rehabilitation Professionals in Coordination with Handicap International

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Acronyms

ADL	Activities for Daily Living
AFO	Ankle Foot Orthosis
ASCON	Asian Spinal Cord Network
CBR	Community Based Rehabilitation
CMA	Community Medical Assistant
CPR	Cardiopulmonary Resuscitation
DFID	Department for International Development
DHO	District Health Office
DVT	Deep Vein Thrombosis
HI	Handicap International
HRDC	Hospital and Rehabilitation Centre for Disabled Children
KAFO	Knee Ankle Foot Orthosis
MDT	Multidrug Therapy
MO	Medical Officer
MoHP	Ministry of Health and Population
NOH	Nepal Orthopaedic Hospital
PSS	psycho-social support
SIRC	Spinal Injury Rehabilitation Centre
ТВІ	Traumatic Brain Injury
ТРО	Transcultural Psychosocial Organization
TUTH	Tribhuvan University Teaching Hospital
UNCRPD	United Nations Convention on the Rights of Persons with Disabilities
UTI	urinary tract infection
WHO	World Health Organization

Overview

The Spinal Injury Rehabilitation Centre (SIRC, a project of Spinal Injury Sangh Nepal) has conducted various national and district level trainings for health professionals in coordination with MoHP, its Disability Unit, Handicap International (HI) and various other organisations. SIRC has worked closely with HI and Transpersonal Psychosocial Organisation (TPO) in the design and delivery of specific training programs. This has helped avoid duplication and encouraged project partners to deliver joint training programs.

The major objective of this assignment is the capacity development of spinal cord injury services in district hospitals. In this respect, SIRC is providing training programmes on spinal cord injury at various district hospitals in coordination with Handicap International. Prior to the earthquakes, SIRC had been liaising with the Ministry of Health and Population (MoHP) for the development of policy and guidelines related to the design, development and standardized operation of rehabilitation facilities. These guidelines are important because of the high demand and need for rehabilitation across the country. As a result, the project activities carried out in district level hospitals will help inform the future development of policy and guidelines.

Co-ordination with Handicap International (HI)

1. Design of strategy and training manual

SIRC and HI have been working closely for the design and delivery of training through the Training Working Group within MoHP/WHO's Injury and Rehabilitation sub-cluster. SIRC has been a member of the group responsible for developing the strategy and training manual on Injury and Trauma Management published by HI. In this regard, SIRC helped design the syllabus and has provided spinal cord injury related materials to HI for the development of the manual. (See Annex I).

Efficiency achieved

This coordination has resulted in the preparation of a comprehensive manual covering injury and trauma management including spinal cord injury. This manual provides trainers (health professionals) with an holistic view of the various aspects of injury and trauma and their proper management. The collaboration has resulted in the publication of an invaluable book that will help various health professionals treat their patients in a more efficient and effective manner.

2. Training of Trainers

Two of our staff have been selected as national level trainers of trainers by the Disability Unit, MoHP. They have provided training to district level trainers assigned to various districts. Prior to the training, a preparation meeting was held at SIRC in coordination with HI's technical team. The major agenda items of the meeting were the preparation of a schedule for training (See Annex II), training materials and the identification of trainees (district level trainers). Four district level trainers were selected from SIRC.

The title of this national level training conducted in coordination with HI was "Injury Management, Prevention of Complications and Referral Mechanism". The content and materials of this training were developed in coordination with HI (see Annex III).

Two days of training were conducted at the Soaltee Hotel for around 30 district level trainers on July 27th and 28th, 2015 for a total of six hours each day. The main objective of this training was the prevention of secondary complications and impairments in injured people and the maximisation of functional outcomes following injury. The national level trainers from SIRC provided training on spinal cord injury management and rehabilitation, the management of head injuries, community based rehabilitation and disability management in coordination with HI.

Efficiency achieved

The principal benefit of this training was that SIRC was able to provide in-depth knowledge to district level trainers on spinal cord and head injury management. For most of the district level trainers, the concept of spinal cord injury and its rehabilitation was completely new. Therefore, when asked for their feedback, participants responded that this topic was new and highly interesting for them. They felt it was a valuable addition to their knowledge and skill base from both medical and rehabilitation perspectives.

3. Participation in HI Trainings

One of SIRC's nursing staff worked as a trainer in the training conducted by HI in various districts. These training workshops were for paramedics, doctors, nurses, and physiotherapists.

The topics covered in this training included:

- Comprehensive management of fracture and dislocation
- Techniques for reducing dislocated joints
- Techniques for applying plaster of paris casts
- Clinical features and emergency management of compartment syndrome
- Wound management and infection prevention
- Importance of psychological support immediately after a disaster
- Head injury and its management at district level
- Prevention and management of pressure sores, bladder and bowel management, autonomic dysreflexia, Deep Vein Thrombosis (DVT), etc. after spinal cord injury
- Transfer techniques after spinal cord injury
- Importance of rehabilitation to a person with spinal cord injury
- Amputation and its rehabilitation
- General overview of the assistive device and its use
- Burn and its management
- Basic life support and techniques of providing Cardiopulmonary Resuscitation (CPR)
- Referral mechanism from the community level to higher levels

The training team consisted of officials from both SIRC and HI. The following table shows the trainers involved in the courses run in various earthquake affected districts of Nepal:

S.N	District's Name	Doctor	Nurse	Physiotherapist	Supervision by
1	Makwanpur (Bhadra 20-24)	Dr. Surya Basnet from B&B Hospital	Btattarai from SIRC	Ganga Sakya from the Hospital and Rehab Centre for Disabled Children (HRDC)	Rajan Bhattarai from MoHP
2	Rasuwa (Bhadra 26-30)	Dr. Pradip Sapkota from Anandban Hospital	Durga Prasad Btattarai from SIRC	Anu Bhatta from HI	Prakash Malla from LCD
3	Nuwakot (Aswin 12-16)	Dr. Sailesh Shrestha from Patan Hospital	Durga Prasad Btattarai from SIRC	Anu Bhatta from HI	Daya Krishna pant from LCD
4	Okhaldhunga (Poush 4-8)	Dr. Santosh Poudel from Trauma Centre	Durga Prasad Btattarai from SIRC	Suniti Amatya from HI	Nischal Shakya from DFID
5	Ramechhap (Poush 13-16)	Dr. Bandhu Ram Pangeni from Civil Service Hospital	Srijana Manandhar from SIRC	Jyanendra Jha from Trauma Centre	Basudev Pandey from LCD
6	Sindhuli (Aswin 3-5)	Dr. Rachit Sharma from Nepal Orthopedic Hospital	Srijana Manandhar from SIRC	Tahera Banu from Patan Hospital	Prakash Malla from LCD
7	Gorkha	-	Srijana Manandhar from SIRC	Bibek Ghimire from SIRC	Basudev Pandey from LCD

Efficiency achieved

This collaboration with HI helped in the formation of multi-disciplinary teams (MDTs) of experts including doctors, nurses, and physiotherapists. The topics chosen for this training covered the wider aspects of various injuries and trauma management. The trainees appreciated learning about spinal cord injury as it was a new topic from them. They were unaware of SIRC and the services provided at the centre. Accordingly, the training raised awareness of spinal cord injury.

In addition, the trainees felt that the Multidrug Therapy (MDT) teams provided comprehensive information and knowledge on Activities for Daily Living (ADL) including bladder, bowel, and skin care. They were trained to manage spinal cord injury cases through follow up at community level. However, for complicated cases, the trainees were informed of the referral routes pathways to appropriate centres in the Kathmandu valley.

Another training achievement was knowledge sharing on head injury. The trainees had considerable knowledge of traditional practices for injury management, but they were also updated and trained on recent updates in the management of head injuries so that they are better able to manage such injuries in the future. The training focused on head injury management in district level settings and referral pathways to centres in the Kathmandu valley.

Overall, the coordination of the training was seen to be very fruitful since it led to the formation of an expert team that provided training on various aspects of injuries and trauma management.

Some glimpses of the training:



4. Hands on training

SIRC conducted two hands-on training sessions in coordination with HI. As the name implies, SIRC focused on practical aspects in this training. Various materials were used including powerpoint presentations and a large amount of materials for practical exposure (see Annex VIII for hands-on training materials).

A. Hands on Training in Ramechhap District



Hands on training on Spinal Cord Injury Management for Government Health Staff of Ramechhap in coordination with HI Location: District Hospital, Ramechhap, 31st December, 2015

S.N.	Name of trainers	Profession
1	Suresh Poudel	Head of Social Department
2	Shashi Shrestha	Physiotherapist
3	Keshav Sitaula	Head of Occupational Therapist
4	Shreejana Manandhar	Staff Nurse
5	Anu Shakya	Training Co-ordinator

Number of Participant: 22 (See Annex IV) Name of Trainer and their Profession

Overview

Ramechhap is one of the worst affected earthquake districts. The second large earthquake led to further causalities and the destruction of still more houses. There were a great many spinal injury cases in this district but limited capacity at the district hospital to provide rehabilitation services.

The management of conditions such as spinal cord injury was not well understood and patients tended to be referred to Kathmandu. Locally available services are more important than ever and hands on training is essential to increase the capacity of local health professionals to save lives and prevent spinal injury cases.

SIRC has conducted various national and district level training sessions for health professionals in coordination with MoHP, its Disability Unit, HI and other organisations. In this respect, hands on training for spinal injury management was successfully organised for 22 government health staff from different hospitals of Ramechahap District at the District Health Office (DHO) in co-ordination with HI. SIRC worked closely with HI in the design and delivery of this training programme so that the joint objectives could be achieved.

Co-ordination with HI and efficiency achieved:

1. Design of the Training Programme

HI is one of SIRC's project partners. Accordingly, a detailed plan and schedule for training was prepared to provide holistic knowledge of essential care for spinal cord injury patients with HI. As noted, SIRC was part of the group that developed the strategy and training manual on Injury and Trauma Management published by HI.

HI delivered training on Injury/Trauma Management which is important to prevent secondary complications in injured people and to maximise functional outcomes following injury. This training helped to develop the theoretical knowledge of health professionals whereas SIRC delivered a training focusing on practical aspects in the delivery of training. The collaboration resulted in the delivery of a complete package of training to provide a holistic view to the trainers (health professionals) on the various aspects of injuries and trauma and their proper management.

2. Selection of Trainers

One of the staff nurses of SIRC helped HI provide the clinical component of their training. This helped provide specialised knowledge and an exchange of trainer skills.

3. Selection of Trainees

HI and SIRC co-ordinated with district hospitals for the selection of trainees. The trainees included different health professionals including nurses, Medical Officers (MOs), and Community Medical Assistants (CMAs) of different hospitals in Ramechhap.

Aim and Objectives of the Training

The major aim of the training was to share knowledge and skills to enhance the care provided by health care professionals. SIRC staff delivered training to support healthcare professionals of Ramechhap District attending patients who have sustained a spinal cord injury prior to transfer to SIRC. The practical focus of the program was intended to enable participants to acquire an clear understanding of the techniques used by a multidisciplinary team while working with SCI patients. Specific objectives of the training were to:

- Understand the implications of spinal cord injuries
- Raise awareness of the ASIA scores and method of assessment
- Discuss the importance of appropriate bladder management following a spinal cord injury and the need for intermittent catheterisation
- Describe appropriate bowel management relating to an upper and lower spinal cord injury lesion
- Raise awareness of the risks associated with spinal cord injury including venous thromboembolism, pressure ulcers, autonomic dysreflexia, respiratory infection, and urinary tract infection (UTI)
- Demonstrate positioning to enhance spinal perfusion, support the joints, reduce the risk of further spinal cord injury, development of pressure ulcers, and to reduce foot drop
- Understand the importance of early transfer to a spinal cord injury centre
- Present the anatomy and physiology of the spinal column and spinal cord, concepts of spinal stability, physiology of bone metabolism, and biomechanics of the spinal column
- Show the physiology of changes following trauma and patterns of injury related to spinal cord injury
- Discuss the prevention of secondary injury and complications
- Show the level of function expected at different levels of spinal cord injury
- Stress the importance of timely transfer to a specialist spinal injury setting and role of early rehabilitation

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Trainers	Anu/ Suresh	Keshav	Shashi/ Suresh	Keshav	Suresh Poudel	Srijana Manand har	Lunch	Shashi	Suresh	Keshav Sitaula	Suresh & Anu	-
Topics	Introd'n/ pre-test	Introd'n regarding SIRC	SCI Overview & Rehab'n	Occupat	-				-	Outcome Measure	Disability Rights. Post Test	Closing Ceremony

Training Programme

Areas of Learning

The key learning areas included:

- SCI overview and management (what is a spinal cord injury, functions of the spine, major causes of spinal cord injury in Nepal, immediate management, transporting and lifting a patient, demonstration of practical handling techniques)
- Bladder management (functions of the bladder, differences in types of bladder issues, causes, prevention and treatment of UTIs)
- ADL/assistive devices (individual assessments, types of ADL and their functions, applications of ADL for different patient needs, the role of ADL in daily activities)

- "Dos and Don'ts" from a physical therapy perspective (key activities and exercises that should be followed by spinal cord injury patients, how to do these correctly, and how to recognise when they are not being done correctly)
- Sexuality after SCI (how this is considered in the context of Nepal, cultural attitudes, effects of spinal cord injury on marriage and sexual relationships, aids that can improve sexual functioning and relationships, implications for fertility, the importance of pleasures for human beings)
- Posture and positioning (the most appropriate positioning in bed, on wheelchairs or chairs, working areas etc., pressure relief techniques, and correct and incorrect positioning)
- Psychological impact and coping skills (importance of not ignoring the psychological impact as this plays a vital role in the quality of life and degree of independence that can be achieved, coping skills, signs and symptoms of depression, and vocational and social activities and opportunities)
- Balance and gait (how to sleep in bed, how to turn and how often to turn in bed, and how to prevent pressures sores)
- Wheelchair provision (types of wheelchairs, maintaining wheelchairs, practical demonstration of wheelchair skills (basic and advanced), and the price and availability of wheelchairs)
- Disability rights (the United Nations Convention on the Rights of Persons with Disabilities [UNCRPD]) (policy in Nepal, types of disability cards and allowances, how and when tax relief applies to a person with a disability, procedures for claiming tax and entitlements, the availability of legal aid, travelling rights abroad, key and components of UNCRPD)

Evaluation

Pre- and post-evaluation tests were used to track knowledge and skills before and after the training with regard to participants' understanding of spinal cord injury management. An evaluation form was distributed to analyse the effectiveness of trainers, content and overall impact on the trainees.

The pre and post-test included questions mapped to each of the learning components of the training programme. The same multiple choice questions were used at the beginning and end of training. Responses were marked against the correct answers and a rating out of 21 was awarded to each participant.

Outcome of the Training

It is found that there was a huge knowledge gap in government health professionals. Through pretest, it is revealed that the highest scores were 14 out of 21 and lowest was three. The average scores obtained by the trainees was seven.

The training was very helpful in increasing health professionals' understanding of spinal cord injury patients, complication prevention after injury, self-care at home and at the community level, and the role of the physiotherapist and occupational therapist. However, the average score in the post-test was 60% (12) on average. The scores in the pre-test and post-test suggest a positive shift in scores that has been achieved by all the attendees. The questions in which participants gained the greatest knowledge and became more informed about aspects of spinal cord injury management were "types of disability", "ratio of ramps in Nepal', and "types of disability cards". The questions that appeared

to be the most problematic based on incorrect answers were "bladder functioning after spinal cord injury", "minimum muscle power to start gait training", "commonest causes of mortality in the community following spinal cord injury", and "full forms of ADL". This information is being considered by the SIRC training team who will take account of methods and information to improve participants' knowledge base in these areas.

Using practical demonstrations, trainees were able to observe practices that were helpful in the reinforcement of their learning. The training was more like an interactive session. With the group presentation, the training was a two way learning experience to ensure active participation in the learning.

Feedback from participants

A training evaluation form was developed (See Annex VII) and distributed to participants. Answers regarding effectiveness of training, training materials and the delivery of the training by trainees were gathered from participants. This form also helped to reflect on what they found helpful and any suggestions they would have for future training that SIRC could implement.

More than 90 % of the trainees rated this training and course of the training as good. They mentioned that they would definitely recommend this training and trainers to others. Most of them felt that the trainers were knowledgeable but that the pace of delivery was too fast. They were satisfied with the amount of materials covered in the training and amount of the interaction encouraged.

Participants highlighted the skills and capacity of trainers to deliver a large degree of content in a short period of time but in a clear, simple, and practical way. The demonstration of techniques related to spinal cord injury management, self-practice, and practical explanations were identified as very useful in the feedback.

Learning

Participants were thankful to the SIRC and HI team for the delivery of the training. However, there are lot of areas for potential improvement of the training delivery. Participants voiced a preference for training at a centre where they could see the actual patients in person.

SIRC openly requested feedback from participants to inform future training delivery both in terms of the programme's content and its delivery style. SIRC intends to make amendments where required, following reflections and discussions among the training team based on this feedback.

- The most frequently cited recommendation was the demonstration of skills with real patients. The comments pointed to the potential usefulness of observing practices in action across the multidisciplinary team at SIRC. They believed this would have strengthened the knowledge gained and reinforced the information disseminated through visual learning methods.
- Participants asked for the complete training manual with topic related pictures, abbreviations, and references.
- Participants commented that the training period was short and suggested that more time should be allocated for covering topics relating to spinal injury management.

Conclusion

Following the training at Ramechhap District, the training team achieved a positive shift in the knowledge base of participants. The close coordination with HI was instrumental in the delivery of a complete package of training to provide a holistic view to the trainers (health professionals) regarding the various aspects of injuries and trauma and their proper management. Through an evidence based approach, SIRC delivered a training programme that was seen as informative and skilful in the area of spinal cord injury management and rehabilitation by participants. Furthermore, corresponding changes have been made to the manual based on feedback provided by participants. For example, more pictures have been added and we have included abbreviations and references in it.

Pictures of the training:











B. Hands on Training in Lalitpur District

Title: Hands on Training on Spinal Cord Injury Management for Government Health Staff of Lalitpur District in Coordination with HI Date: 7th and 8th January, 2016

Location: Falchha, Kathmandu

Number of Participants: 40 (See Annex V)

Name of Trainer and their Profession

S.N.	Name of trainers	Profession
1	1 Suresh Poudel Head of Social Depar	
2	BimeshShrestha	Physiotherapist
3	ShreejanaTimilsina	Occupational Therapist
4	ShreejanaManandhar	Staff Nurse
5	AnuShakya	Training Co-ordinator

Overview

As noted, in the present context, there is limited capacity at district level hospitals for the provision of rehabilitation services. The management of conditions such as spinal cord injury is not understood and patients are generally referred on to Kathmandu.

SIRC has conducted various national and district level trainings to health professionals in coordination with the MoHP, Disability Unit, HI, and other organisations. In this regard, hands on training was successfully organised for 40 government health staff of different hospitals in Lalitpur District at SAP, Falchha, Babarmahal on the 7th and 8th January, 2016. The training was funded by Direct Relief and SIRC worked closely with HI in the design and delivery of this training programme.

Co-ordination with HI and efficiency achieved

1. The Design of the Training Programme

HI is a project partner of SIRC. A detailed plan and schedule of training was prepared and discussed with HI trainers to provide the holistic knowledge of essential care to spinal cord injury patients. SIRC was part of the group for developing the strategy and training manual on Injury and Trauma Management published by HI.

The training co-coordinator of SIRC took part in discussions on the delivery of training with HI trainers to achieve the greatest training impact. In this way, the duplication of training content was minimised. HI delivered the training on Injury/Trauma Management which is important to prevent secondary complications in injured people and to maximise possible functional outcomes after injury. This training helped participants develop the theoretical knowledge necessary for health professionals whereas SIRC delivered a training focusing on the practical aspects in the delivery of training. The collaboration resulted in the delivery of a comprehensive package of training to provide a holistic view to the trainers (health professionals) regarding the various aspects of injuries and trauma including their proper management.

2. The Selection of Trainees

HI and SIRC coordinated with district hospitals in Lalitpur District for the selection of trainees. Following a collaboration and consultation with the DHO, a list of participants was finalised.

The trainees included different health professionals including nurses, MOs, and CMAs of different hospitals in Lalitpur.

Objectives of the Training

The major aim of this training was to share knowledge and skills to enhance the care provided by health care professionals. SIRC staff delivered training to support healthcare professionals in order to provide care to patients with spinal cord injuries prior to transfer to SIRC. The practical focus of the programme was to enable participants to acquire a clear understanding of the techniques used by a multidisciplinary team working with spinal cord injury patients. The course content of this training is shown in Annex VI.

Specific objectives were as follows:

- Understand the implications of sustaining a spinal cord injury
- Raise awareness of the ASIA scoring technique
- Discuss the importance of appropriate bladder management following a spinal cord injury and the need for intermittent catheterisation
- Describe appropriate bowel management relating to an upper and lower spinal cord injury lesion
- Raise awareness of the risks associated with spinal cord injury including venous thromboembolism, pressure ulcers, autonomic dysreflexia, respiratory infection, and UTIs
- Demonstrate positioning to enhance spinal perfusion, support the joints, reduce the risk of further spinal cord injury, development of pressure ulcers, and to reduce foot drop
- Stress the importance of an early transfer to a spinal cord injury centre
- Show the anatomy and physiology of the spinal column and spinal cord, concepts of spinal stability, physiology of bone metabolism, and biomechanics of the spinal column.

- Explain the physiology of changes following trauma and patterns of injury related to spinal cord injury
- Demonstrate the prevention of secondary injury and complications
- Show the level of function expected at different levels of spinal cord injury
- Explain the importance of timely transfer to a specialist spinal injury setting and role of early rehabilitation

Areas of Learning

The key learning areas included:

- Spinal cord injury overview and management (what is a spinal cord injury?, functions of the spine, major causes of spinal cord injuries in Nepal, immediate management, transporting and lifting a patient, and a demonstration of practical handling techniques)
- Bladder management (functions of the bladder, differences in types of bladder issues, causes, and prevention and treatment of UTIs)
- ADL/assistive devices (individual assessments, types of ADL and their functions, applications of ADL for different patient needs, and the role of ADL in daily activities)
- "Dos and Don'ts" from a physical therapy perspective (key activities and exercises that should be followed by patients, how to do these correctly, and how to recognise when they are not being done correctly)
- Sexuality after a spinal cord injury (how this is considered in the context of Nepal, cultural attitudes, effects of spinal cord injury on marriage and sexual relationships, aids that can improve sexual functioning and relationships, implications for fertility, the importance of pleasures for human beings)
- Posture and positioning (the most appropriate positioning in bed, on wheelchairs or chairs, and working areas etc., pressure relief techniques, and correct and incorrect positioning)
- Psychological impact and coping skills (the importance of not ignoring the psychological impact as this plays a vital role in quality of life and degree of independence, coping skills, signs and symptoms of depression, and vocational and social activities and opportunities)
- Home modification (the importance of modifications and the role they play in the quality of life of an individual with a spinal cord injury, how modifications can be made in the kitchen, bathroom, bedroom, and outside in the yard, and what other modifications can be made to improve independence and mobility)
- Balance and gait (how to sleep in bed, how to turn and how often to turn in bed, and how to prevent pressures sores)
- Wheelchair provision (types of wheelchairs, maintaining wheelchairs, practical demonstration of wheelchair skills (basic and advanced), and the prices and availability of wheelchairs)
- Disability rights (UNCRPD) (policy in Nepal, types of disability cards and allowances, how and when tax relief applies to a person with a disability, procedures for claiming tax and

entitlements, the availability of legal aid, travelling rights abroad, and the key components of UNCRPD)

Evaluation

The same methodology was applied for all training workshops with pre and post evaluation tests used to track knowledge and skills before and after the training. The standard evaluation form was used to analyse the effectiveness of trainers, the content, and the overall impact on the trainees. This information will be reflected on and discussed within the SIRC training team to consider what changes are required to improve the learning outcomes of participants.

Outcomes of the Training

The training was assessed to be very helpful in increasing participants' understanding of spinal cord injuries, preventing complications after injury, self-care at home and in the community, and the role of the physiotherapist and occupational therapist.

The average score obtained by the trainees was 30% in the pre-test. This rose to 60% in the post test suggesting a positive shift in the knowledge and abilities of attendees. The questions on which the participants gained the greatest knowledge were "types of disability", "the ratio of ramps in Nepal", and "types of disability cards". Questions which appeared as most problematic were "bladder functioning after a spinal cord injury", "minimum muscle power to start gait training", "commonest causes of mortality in the community following a spinal cord injury", and "full forms of ADL".

This information is being considered by the SIRC training team to take account of methods and information styles that could improve participants' knowledge base in these areas. The training was however clearly helpful in increasing participants' understanding of spinal cord injury patients, preventing complications after injury, self-care at home and in the community, and understanding the role of the physiotherapist and occupational therapist. Through practical demonstrations, participants were able to observe practices that were helpful in reinforcing their learning. The training was more like an interactive session and two way learning experience and this ensured active participation throughout.

Feedback from the participants:

- Participants made a request for training to include real patients in order to strengthen the knowledge gained and reinforce information disseminated through visual learning method.
- A glossary of abbreviations and references was requested to be included in the manual.
- Participants requested that the training period should be lengthened because two days was too short a period to gain complete knowledge for the trainees.
- The pace of delivery was judged to be too fast. It was obvious that too much content needed to be covered.
- Participants were thankful to the SIRC team and HI for their delivery of the training. They were impressed by the knowledge and communication skills of the trainers and also with the team's coordination.

Conclusion

Following the two days of training at SAP Falcha for health professionals of Lalitpur District, the SIRC training team achieved a positive shift in the knowledge of participants. The ultimate goal of the training was to improve the abilities of health care professionals to provide care to spinal cord injury patients at the community level. Through an evidence-based approach, SIRC delivered a training

programme which was perceived as informative and skilful in the area of spinal cord injury management and rehabilitation. Moreover, based on feedback from participants we have made changes to the manual. More pictures have been added and we have included abbreviations and references.

Pictures of the training:













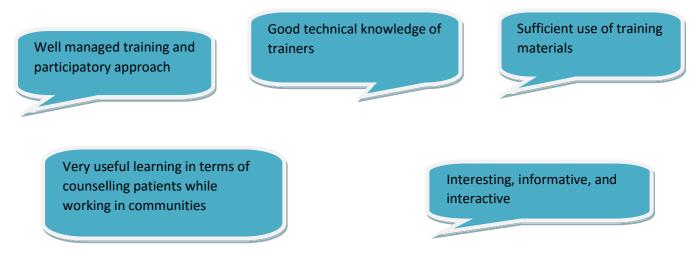




5. Additional Coordination with HI

SIRC has worked closely with HI to carry out various activities. In December 2015, SIRC hosted the 14th Asian Spinal Cord Network (ASCON) Conference. Twenty three members of HI actively participated in this conference. Similarly, during the conference, the "International Seminar on Injury and Rehabilitation Management in Disaster" was hosted. During this, HI and SIRC as well as other organisations shared their post-disaster experiences. SIRC presented on various types of help received from different organisations including HI. SIRC pledged to always explore possibilities for coordination with HI in the future.

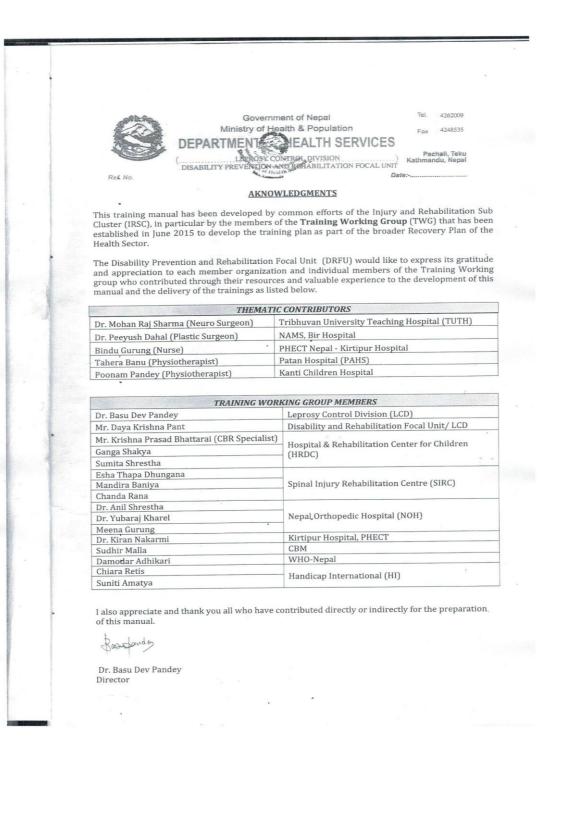
Similarly, SIRC gave a training session to 14 staff members who are working directly as community workers for HI. The name of this training was "Psychological Impact after Spinal Cord Injury and Coping Skills". The major objectives of this training were to raise awareness about spinal cord injury and psychological problems that can occur after a spinal cord injury. The trainees were trained to identify psychological problems, their symptoms, causes, and ways to manage them. They were also trained to provide psycho-social support (PSS). Materials used for this training included power point presentations, case discussions, and practical demonstrations on counselling skills with HI staff and peer counsellors from SIRC. The feedback received was as follows:



In addition, SIRC has commenced a process of reviewing its current programmes and developing a new strategic plan for the next five years. In this regard, consultations will be held with HI to identify future synergies and opportunities for partnership in the development of rehabilitation services and human resources. SIRC therefore looks forward to working together and effective coordination with HI in the future to include recommendations for continuing training, improvements and assessment of knowledge retention at one year, and lessons for future training programmes.

Annexes

Annex I: Acknowledgement of SIRC in the manual of HI



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Annex II

Planning of Training in Coordination with HI, HRDC, and the Nepal Orthopaedic Hospital (NOH)

Name of Training: Capacity Development of Health workers for Complications Management and Referral during Emergency

Total Days of Training: two days (12 hours including introduction and closing)

Course Content

S.N	Торіс	Hours	Remarks
1	Injury /Poly Trauma - Definition - Assessment · Primary survey · Secondary survey - Identification /Risk signs of trauma - Management · Shock / Hypervolemia · Shock / Hypervolemia · Splinting/ Plastering · Haemorrhage - Complication/ Compartment Syndrome - Referral/ Rehab	1.5	NOH
2	CPR	45 mins	SIRC + HI
3	Wound & Infection - Types - Care - Prevention - Referral/ Rehab	1	NOH
4	Fracture/ Dislocation - Definition - Types - Assessment · Safe transportation · Bandaging/ Splinting / Plastering - Complication/ Compartment Syndrome - Referral/ Rehab	45 mins	HI
5	 Head Injury/ Traumatic Brain Injury (TBI) Introduction Identification Management Safe transportation Prevention of complications Rehab/ Referral 	1	SIRC + HI

	- Introduction	1.5 hr	SIRC
	- Identification		
	- Transfer		
	 Prevention of secondary injury 		
	- Management		
	 B/B management 		
	 Complications (DVT, Hypostatic Pneumonia, 		
	Pressure		
	ulcer)		
	Referral /Rehab		
7	Amputation	45 mins	HI
	- Introduction		
	 Level of amputation 		
	- Management		
	Stump care		
	Early ambulation		
	Prosthesis		
	-		
8	Burn	1	HI
	- Introduction		
	- Management		
	· Acute		
	Definitive		
	- Complication		
	- Referral/ Rehab		
9	Community Based Rehabilitation (CBR) & Disability	1	HRDC
	- Health related		
	Assistive Devices		
	Physiotherapy		
	Occupational Therapy		
10	Follow up & Referral	½ hr	HRDC+ HI +SIRC
	 Identification of problems 		
	- Communication		
	 Referral mechanism and Pathways 		
	- Follow up		
L	- Documentation		
11	Psychosocial First Aid	½ hr	SIRC + HI

Annex III: Training Schedule for Two Days of National Level Training

Name of Training: Capacity Development of Health Workers for Complications Management and Referral during Emergency

General Objective of the trainings for health personnel and community workers:

• To prevent secondary complications in injured people and maximise functional outcomes after injury

Specific objectives for health personnel at the tertiary and secondary level:

After the training, health personnel will be able to:

- Integrate basic prevention measures for secondary complications after injury for inpatients at risk, in particular patients with fractures, spinal cord injuries, head injuries, amputations and burns
- Utilise safe transfer methods when mobilising patients
- Provide information and education to patients and caregivers on the impairment, hygiene measures, risk of complications, and their prevention
- Participate in the preparing a discharge plan including information on follow up and referral to rehabilitation services

Total Days of Training: two days (12 hours)

Time: 8am – 4pm

Course Content:

S.N.	Торіс	Hours (Max. 13 hours)	Time	Remarks
DAY	l (6.5 hours)			
Intr	oduction and objective of the training- to higher level government official	1hrs	8:00 – 9:00am	Needs to be finalised
TEA I	BREAK (9:00 – 9:30am)			
1	Injury/ Poly Trauma - Definition - Assessment - Primary survey - Identification/ Risk signs of trauma - Management - Shock/ Hypovolaemia - Splinting/ Plastering - Haemorrhage - Complication/ Compartment Syndrome - Rehab/ Referral	1.5 hrs	9:30 – 11:00 am	Dr. Yubaraj, Meena, Tahera

2	CPR- Techniques & Principles	45 mins	11:00 – 11:45 am	Dr. Kiran, Bindu, Poonam
BREA	K (11:45 – 12:00 noon)			
3	Psychosocial First Aid	0.5 hours	12:00 – 12:30 pm	Poonam Pandey
4	Wound care & Infection prevention - Types - Care - Prevention - Rehab/ Referral	45 mins	12:30 – 1:15 pm	Meena Gurung
LUNC	CH (1:15 – 2:00 pm)			
5	Fracture/ Dislocation - Definition - Types - Management · Safe transportation · Bandaging/ Splinting/ Plastering - Complication/ Compartment Syndrome - Rehab/ Referral	45 mins	2:00 – 2:45 pm	Dr. Yubaraj, Meena, Tahera
	Amputation - Introduction - Management · Stump care · Early ambulation · Prosthesis - Rehab/ Referral OVERVIEW (3:30 – 4:00 PM)	45 mins	2:45 – 3:30 pm	Dr. Peeyush, Bindu, Tahera
DAY	ll (5.5 hours)			
	AND COFFEE (8:30 – 9:00 am)			
7	Head Injury/ TBI - Introduction - Identification - Management - Safe transportation - Prevention of complication - Rehab/ Referral	1 hour	9:00 – 10:00 am	Dr. Mohan, Mandira, Chanda

8	Spinal Injury - Introduction - Identification - Transfer - Prevention of secondary injury - Management - B/B management - Complication (DVT, Hypostatic Pneumonia, Pressure ulcer) - Rehab/ Referral	1.5 hr	10:00 – 11:30 am	Dr. Mohan, Mandira, Chanda
BREA	K (11:30 – 11:45 am)	I		
9	Burns - Introduction	1 hr	11:45 – 12:45 pm	Peeyush, Bindu,
	 First Aid/response to burns Management Acute Definitive Complication 		(plus 15 mins)	Poonam
	- Rehab/ Referral CH (1:00 – 2:00 PM)			
	CBR & Disability · Introduction · Assistive devices · Physiotherapy · Occupational therapy	1 hr	2:00 – 3:00 pm	Mr. Bhattarai, Ganga, Chanda
11	Follow up & Referral - Identification of problems - Communication - Referral mechanism & pathway - Follow up - Documentation	½ hr	3:00 – 3:30 pm	Mr. Bhattarai, Ganga
DAY	REVIEW (3:30 – 4:00 pm)/ CLOSING			

Details of Master Trainers

S. No	Name of trainers for ToT	Organisations	Contact Number	E-mail
Doctors				
1	Dr. Mohan Sharma (Neuro Surgeon)	Tribhuvan University Teaching Hospital (TUTH)	9851068160	mohanrajsharma@gmail.com
2	Dr. Kiran Nakarmi (Burn Specialist)	Kirtipur Hospital	9851061490	kknakarmi@yahoo.com
3	Dr. Piyush Dahal (Burn Specialist)	Bir Hospital	9841350212	peeyushdahal@gmail.com

4	Mr. Krishna Prasad Bhattarai (CBR Specialist)	HRDC	9851034295	bhattarai.krishna@gmail.com
5	Dr. Yubaraj Kharel (Ortho Surgeon)	Nepal Orthopaedi Hospital (NOH)	c9851061378	yubaraj kharel@yahoo.com
Nurse	S	1		
6	Bindu Gurung	Kirtipur Hospital	9841788069	gurung.bindu@yahoo.com
7	Meena Gurung	NOH		meenagrg@hotmail.com
8	Mandira Baniya	SIRC	9801213637	mandira.nursingsirc@gmail.com
Rehab	ilitation			
9	Poonam Pandey (PT)	Kanti Hospital	9841925228	poonam_130@yahoo.co.in
10	Tahera Banu (PT)	Patan Hospital	9841210267	tahera.physio@gmail.com
11	Chanda Rana (PT)	SIRC	9818239173	rehabincharge.SIRC@gmail.com
12	Ganga Shakya	HRDC	9813427589	gangashakya_2008@hotmail.com

Outcome

- 1. Prevent complications after injury
- 2. Strengthen referral system
- 3. Capacity building of the health professionals in the national and district level
- 4. Self-care at home and the community level

Annex IV

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Participants of "Hands on Training" at Ramechhap District in coordination with HI

s N.	Name of the participant	Address	Date: Decen Organization Name	Contact No.	30 th Dec (Wednesday) (cv el	31 th Dec (Thursday)	Amount Received
1	Dr. Rajendry Bhoudesi	Diskiel Hospitu, Romethap	District Hospitel	9851170971	Medical officer	Painthe	
2	Dr. Sungi Dhaudhade	Monthali P.H.C.	Manthali P.wc.	3843158-242	Medical Officer.	85 f	1999
3	Ds- Kanchhi Bakoju	District Hospital	District hospita	9865028153	MO	age	
4	Jeny Sheestha		· ·	9841 6 92161	Stoff Nume	Tap	181) 281)
5	Kanale Strestte	PHE marthet	PHC moultals	5843 (34-77)	Sr Awim	\$2	
6	Rashni Panta	District Houpital Romechinas	pistria thospital Ramechange	9849216560	hanged officer	Rosna	
7	Singer provid yoda		Rampohhap	974405368	SV. A.H.W.	anyon	L
3	Ram Havi Subedi	PHE, Matthay		9844285571	PHO (2H)	Buig	- 100 - 200
Ð	Santost pelsingh	3h0	940 Rameontap	9842821165	Lab ASSA.	A.	201
10	Dipendra Ku Palico	ra PHC Khimst	Klimiti pric	9860934365	S. A.H.W	Joendiza	
11			to Raine Shap manth			Invals	8C
iz			D.H.O. home	and the second second second			
13	Dipendra Narzyau Shresths.	NEAST HAR	tel Dichot		Sr. AHUND .		

n			Spinal Injury Reha Hands-On Trainin Date: Decer	g at Ramechhap			H
S. N.	Name of the participant	Address	Organization Name	Contact No.	30 th Dec (Wednesday)	31 th Dec (Thursday)	Amount Received
14	Ray Kuman whimin	e Gely, phc	Gely, PHC.	9845531685	H·A	Patura	1
15	Amrita Sah	Ramechhop-040	Raimechhop Otto	984445764	S.N.	A-70	
			LCD,	98520-6545	<u></u>	B	
17	Dr. Proxosh Psa. show	DHO Remething	PHO, Ramachhap	9852052243		Aning .	
19	Boli Ram yel		D1-10	9844044		6 Cal	
20	Mira Shrestha	PHC Khint	Rameilhop	98419807	18 STANIN	on.	
21	Valinaja Thap.	Pistict. Rott	Ramechhap	2849530849		Latitus.	
	Ashinita kivengo	Distortet Kospitel	and the second state of the second state of the	989 315 82%	A = H	Olingo.	
22	Probin Konki	stistrict hospital	Ramentap	3849655007	H.A	Lef	
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24			· · · ·	 		÷	
25	-		1			- <u> </u>	
26							land and the second sec

Annex V

Participants of "Hands on Training in Lalitpur District in coordination with HI"

S.N.	Name of the participant	Address	7-8 th January, 2016 Organization Name	Contact No.	7 th January	8 th January
3.14.	Name of the participant	Hudress	organization nume	contact nor	(Signature)	(Signature)
1	Chetry pandit	Balimelika 2,	Buthel Health post	9841782947	grand f	gandif
2.1	0		our kaleshurrhealtupos	19848043042	206	and
3	Bhupendracalst		and the second second second second	98491007	40 3710	STA
4	Madinu Rangero.	1 D	Desechuer	11811 58292	5 milos	nare.
5	Riddhi Shyam R		Der e	984134003	etaldin	72 Pin
6	Locomitumanis)			8- 9841150	502 Lapan	1 Loon
7	Ram Prasad gaude	Khokana H.P.	Khikana H.p.	98511772	71 Syange	1000 21010
8	Dayendra Prasad Nepal		Tharuwanisi Healt Post		3 Dont	Some.
9	Raju K.c.	GodaDari 178	Congrado H. b. 128	1751602533	ER.	Str.
10	Naval Kishor Mahate	Samlahi Manikhel H.P.	manifold H.P.	9741057591	Naraf	Hauf
11	Manindra Rd Shroothe		Chapagaun	9841417958	an) (Schole
12	DR. VIRAJ RAZ	ANANDARAN happy	ANANDARAN hospirm	9803212425	MIL	et .
13	Charmela Mahafar	Ana Stata Hopta	Anandahan Alospitat	98414735	1 Balan	\$ (aga)
14	Maya Hamal	Imato/ Hop.	Imadot Hop	984128121	2 Afrance	Pylamal
15	chandra Kala	Denichen	Dewichen #\$P	98416853	7 -	I Me

		Hands On Traini Date	ury Rehabilitation Centre ng on SCI Management, Lalitpur :: 7-8 th January, 2016		~	
S.N.	Name of the participant	Address	Organization Name	Contact No.	7 th January (Signature)	8 th January (Signature)
16	Punyo. Arabha Subod	Saldobald Lalilpur	Badikhel H.P.	984304190		grand
17	Rathà Dangi	· · · · ·	Sunakhothis HP	98 4374343		Bargi
18	BishnuThapa	Tix that	Tikathali H.P.	9891039249	0	Bug
19	Gita Devi Dahal	Fhartlichiathi Hp Satobato -15	Tharuwarashi H.P	9842148581		e.ito
20	Rej KUMars Sapkota	Bhattochida FP-8	Bludledida-HP	98 435 16053	Ar	Are.
21	Santaman Manandhaz	Halle by Kalanne kom	Nallu MP	9841329609	St	SA
22	Arjun Paudel.	papa.	Ghusel. H.P.	980262009	4 / An?	50.2
23	Shova Shahi	M	Bishankhy Hop	24.1.1	Shove	shore
24	Hate Sharan Thats		Badefoure PHC	9860755782. 9841456529	H.C. The	- H5:8
25		Bhingin 7. Pyuman	Badegoin PMC	9849149331	Solu 1	Sale
26	Br. utten Com	B. P.H.O.	B. P. 17.0 .	98570.BS96	Q	Q
27	Hari om Jokhrel	DPHO Lalip		9841545941	Bard	
28	Purna ku Bhusel.	lokanshali Bhaksa bate pire pir	Lole Pire,	9841497316	Rus	for
29	Nani meriya Dolar	Badi level	Lal tpm	9857140138	Q	CH CH
30	10 P P	FLF	Bungmati Health		A.	2

			ng on SCI Management, Lalitpu : 7-8 th January, 2016	, ,		
S.N.	Name of the participant	Address	Organization Name	Contact No.	7 th January (Signature)	8 th January (Signature
31	Sangita Mishra	DPHO 2001itp	DPHO LP	9841864600	0	des
32	GURU POL. SHARMA	DHAPAKHEL 14	>	2841238425	Gong.	Com
33	Mohan Rijal		DPHO Lalitpur	-3852885015	ats	mt2
34	Labotharayan mandes	11 4	11 7	9849947260	Laloph	Q_lot
35	- Tulada Adhi Kani	11 2.1	1. 2.	9849818350	Subulg	delag
36	Shankar foudel	n 17	Lt II	9846105089	Souths	Dride
37	Gopel Maharjan	Haursides @	Hawyrdin H.P.	9841311389.	ar.	G
38	Shan 1 gar Mahano	Slaphopen	Sittingent18	3341395782	5	57
39	Devi Caurung	DPHO Lalitpue			/	Lest
40	Buddhi Crivi	Support Staff	Falchha	-ceui - 7025	16- 9-	8
41	kedar Parojuli .	Opro, Lalitz	2	24	-	1-2
42	Alpak Kendi	OPHO. (arithus)	oppio lalitary	98.410377744	ASSY	Faist
13	Dr. Basudeo Panday	LLD, Dotto	200	98510-65451	(BV
14	ayanadom. Sthe	HET	Handicop	9852023929		dr.

Annex VI

Course Content of Hands on Training at Lalitpur District

S.N.	Торіс	Methodology	Time
Day 1	Welcome		
	Pre-test		20 Min
1	Introduction of SIRC	Power point	5 Min
2	Spinal cord injury overview and rehabilitation	Power Point Demonstration of Transfer at Injury site	30 Min
3	Neurological Assessment	Verbal explanation and Practical demonstration	30 Min
4	Pressure Ulcer Prevention	Group discussion, Introduction of Waterlow policy	45 Min
5	Positioning (hand positioning, spasticity and pressure ulcers)	Practical demonstration	20 Min
6	Psychological Impact & coping after SCI	Power Point	30 Min
Day 2 7	Bladder management	Power Point of neurogenic bladder and video of CIC	30 Min
8	Bowel Management & Autonomic Dysreflexia	Power Point of bowel training & video of DRS	30 Min
10	Role of Physical Therapy	Power Point	10 Min
11	Bed Mobility	Practical Demonstration	20 Min
12	Role of Occupational Therapist	Power Point	20 Min
13	Transfer	Power Point, Video, Demonstration	30 Min
14	Balance and Gait Training Assistive Device	Power Point, Demonstration	45 Min
15	Accessibility	Video Presentation, Power Point	40 Min
16	Functional outcome of spinal cord injuries	Power Point, Practical	30 Min
17	Sexuality	Power Point	30 Min
18	Disability Rights	Power Point, Demonstration of Card	15 Min
	Post-Test and Closing		

Annex VII

Training Effectiveness Evaluation Form Spinal Injury Rehabilitation Centre Bhainsepati, Saanga, Kavre

1. Overall how do you rate this training and course of training? a. Excellent b. Good c. Average d. Poor e. Very Poor 2. Would you recommend this course/ training to others? Definitely b. Probably c. Not Really a. 3. Would you recommend this trainer to others? a. Definitely b. Probably c. Not Really 4. The trainers' knowledge was: a. Excellent b. Good c. Average d. Poor 5. The pacing of the trainers' delivery was: Excellent b. Too fast a. c. Too slow 6. The amount of the materials covered in the training was: Just right b. Too much c. Too little a. 7. The amount of the interaction encouraged was: a. Just right b. Too much c. Too little 8. Was your time well spent in the training? Definitely b. Sometimes c. Not Really a. 9. Was your interest held? b. Sometimes c. Not Really a. Definitely 10. What did you like the most about the training/ course? 11. What would you recommend changing about the training/ course?

12. Any other comments?

Thank You for your time and consideration!

Annex VIII

Materials used in Hands on Training

- 1. Wheelchair
- 2. Safety Belt
- 3. Sliding Board
- 4. Pillow-5
- 5. Tape
- 6. Resting Splint
- 7. Wrist cock-up
- 8. Tenodesis Grip
- 9. Tenodesis Gloves
- 10. Measurement Tape
- 11. AFO (Ankle Foot Orthosis)
- 12. KAFO (Knee Ankle Foot Orthosis)
- 13. K.T. Brace
- 14. Walker
- 15. Wheelchair Gloves
- 16. Cervical Brace

- 1. Wheelchair Tray
- 2. Commode Chair
- 3. Mattress
- 4. Bed
- 5. Long Reacher
- 6. Modified Spoon, Knife, Devices
- 7. Bed Sheet
- 8. Stick and Cane
- 9. Elbow Crutch
- 10. Viagra-100mg-10 tabs
- 11. Cialis-20 mg-20 tablets
- 12. Penile Ring-1
- 13. Disability Card Sample
- 14. Power point presentations