GOOD AFTERNOON
SELAMAT SORE

RSCM

FKUI

THE DEVELOPMENT OF CBR SYSTEM AFTER A DISASTER

Indonesian Experience

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Skala 1 : 20.500.000
FILIPINA
LAUT CINA SELATAN
LAUT SULU
SAMUDRA PASIFIK
BRUNEI DARUSSALAM
Bandar Seri Begawan
MALAYSIA BARAT
MALAYSIA TIMUR
Aceh
Medan
Kualalumpur
Singapura
SUMATRA
Pekan Baru
Batam
Jambi
Pangkal Pinang
Palembang
Bengkulu
Bandar Lampung
KALIMANTAN
Pontianak
Palangkaraya
Banjarmasin
Samarinda
SULAWESI
Palu
Kendari
Makassar
Manado
Gorontalo
Ternate
MALUKU
Ambon
Manokwari
PAPUA
Jayapura
PAPUA NUGINI
Jakarta
Bandung
Semarang
Surabaya
JAWA
Yogyakarta
Denpasar
Mataram
NUSA TENGGARA
Kupang
Dili
TIMOR LOROSAE
LAUT JAWA
LAUT SULAWESI
LAUT BANDA
LAUT FLORES
LAUT SAWU
LAUT TIMOR
LAUT ARAFURU
LAUT NATUNA
SAMUDRA HINDIA
U

Problems

- Rehabilitation is almost always at the end of the health care services
- The literature on “rehabilitation issues in short term rehabilitation in disaster situation” is limited whatmore on CBR
- Many volunteers are untrained → NOT READY !!
- The needs for many assistive and ambulation devices
- The condition of the whole family & society/ community

→ WHEN SHOULD WE START ???

- All physician's skills are invaluable during a disaster (Blood Worthwood, 2009)
- Physicians have had the feeling that rehabilitation services are not needed until 2-3 weeks after disaster hit.
- **BUT rehabilitation should be one among the first professionals on the scene** (Tan FC,2009)

THE INDONESIAN PMR ASSOCIATION (PERDOSRI)

Involved in Disaster Services 2004 – 2009:

- **Tsunami Aceh , North Sumatera,2004**
- **Poliomyelitis Outbreaks 2005**
- **Bantul, Jogjakarta Earthquake, 2006**
- **Padang, Sumatra Earthquake, 2009**

Poliomyelitis outbreak

- Location : Sukabumi, Serang, Lebak
  West Java
- Activity : August 2005 – September 2006

- Served : 140 patient, children of 3–10 y.o
  Evaluation on April – August 2009
  47 patients are permanently disabled,
  51 patients better ambulation and ADL

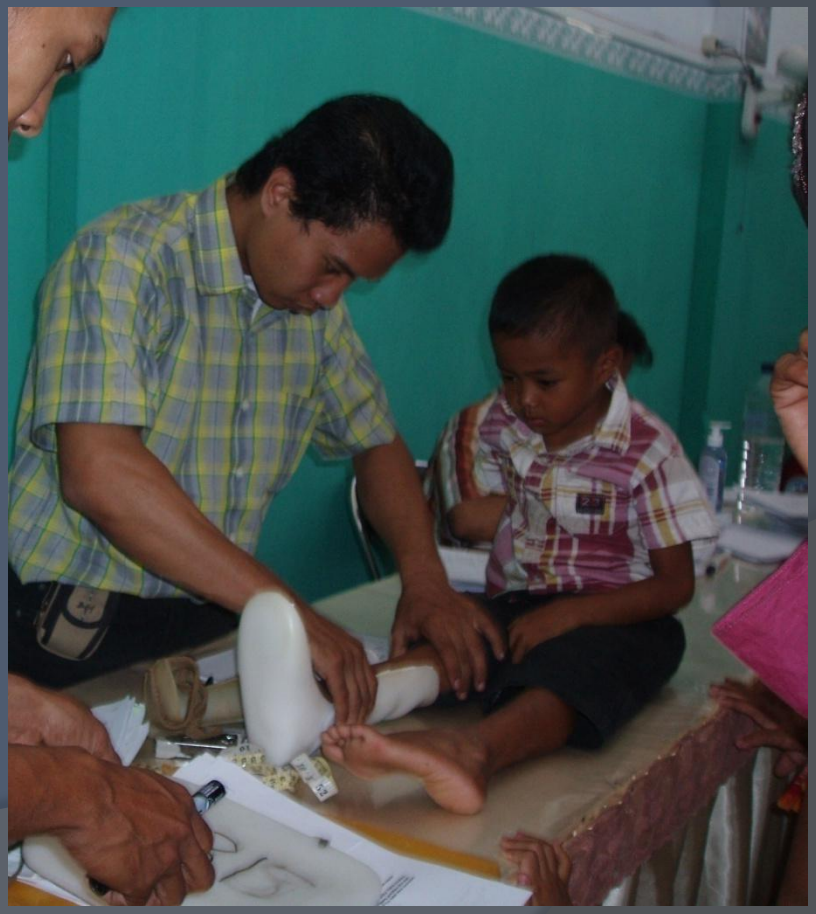
Poliomyelitis: Sukabumi, Serang, Lebak

2005

Poliomyelitis : Orthosis Fitting & Parents Education
Lebak, 2006

Distribution of orthoses and assistive devices

- AFO bilateral 22
- KAFO bilateral 18
- HFAFO bilateral 3
- Shoulder Slings 12
- Walker 10
- Wheelcahairs 17
- Crutches 2
- Hand splint 1
- KAFO unilateral 18
- HKAFO unilateral 4



TSUNAMI ACEH, 2004

- Rehabilitation Team :

  PMR specialist, Physiotherapist, P&O

  Collaboration with NGOs and International Aid

  Served : 379 Lower Limb amputation patients, all patients have got Lower Limb Prosthesis

Banda Aceh, May, 2005

BANTUL, JOGJAKARTA EARTHQUAKE, 2006

- Location : Bantul, Klaten, Jogja and Solo
- Activity : May – August 2006
- Served : 2060 patients,
  SCI : 841
  Other conditions : 1219

Rehabilitation team :

- PMR specialists Physical terapist
  Nurses and P&O s

YOGYAKARTA, JUNE 2006

DISASTER !

2060 casualties with multiple fractures;
841 Spinal Cord Injuries

Doc.Angela, June 2006

Emergency

- **Life saving**
- **Management :**
  - **medications**
  - **surgery**
  - **rehabilitation**

  :

! Prevention of complications

Doc.Angela, June 2006

Situation, Condition and Poblems in the Field

- Patients treated in various hospitals and emergency tents outspread over Yogyakarta and surrounding areas.
- Insufficient bed facilities ☛ lying position (more damage to the spine & more insult to the spinal cord.

Doc.Angela, June 2006

Situation, Condition and Poblems in the Field

- The number of medical personnels, paramedics and allied health professionals available could not meet the requirement of such huge number of patients with various problems.
- Not all patients received rehabilitation treatment on time, and patients that have been started with rehabilitation program could not be maintained continuously.
- Space limitation in the hospitals has caused very rapid turnover of patients, making rehabilitation programs unfinished.

Situation, Condition and Poblems in the Field

- **Patients were admitted in different parts of the hospital making ideal rehabilitation program for spinal cord injury difficult to be delivered.**
- **The various problems of SCI patients coupled with the minimum knowledge and skill of health personnels about care and rehabilitation of the SCI caused the provision of an optimal rehabilitation program not reached.**

BANTUL, JOGJAKARTA EARTHQUAKE, 2006

ACTIVITY :

- PMR assessment and interventions , in the hospitals and community
- Training in SCI management for Primary Health care Physicians and Nurses
- Education for family, caregivers, cadres, community workers
- Collaborate with Regional Health Care Services, International Aids, Key Persons of the community to set up a CBR program

Tim 2 (12-16 Juni 2006)

- DR. dr. Angela BM Tulaar, SpRM – K
- dr. Rosiana Pradanasari, SpRM
- dr. Peni Kusumastuti, SpRM
- dr. Zijskawati Hamzah, SpRM
- dr. M. R. Rachmawati, SpRM
- Widono, SMPh
- Setyo Budi Santoso, AMF
- Dra. Anik Raslina, AMF
- Sri Widayat Ismiati, SMPh
- Hanidar, SMPh

Early rehabilitation !

- **Acute phase :**
  - **bed positioning**
  - **airway clearance /chest therapy:**
    - **Breathing**
    - **Chest expansion**
    - **Mucus mobilization**
  - **joint motion**
  - **catheter Mx**

Doc.Angela, June 2006

- **TEAM MANAGEMENT:** Morning reports

- **PARAMEDICS:** crash program

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- **FAMILY :**
  team member

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- **PATIENT:** mass education for active exercise

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SARDJITO HOSPITAL, JOGJAKARTA

Visit to Yakkum

Training

- **Doctors and Nurses from the Rural Health Centers (PUSKESMAS):**

  - **To perform functional diagnosis and determing the proper rehabilitation program needed;**
  - **To perform simple rehabilitation;**
  - **To carry-out preventive measures and management of complications;**
  - **To recognize complications requiring referrals to Specialists in the hospitals;**

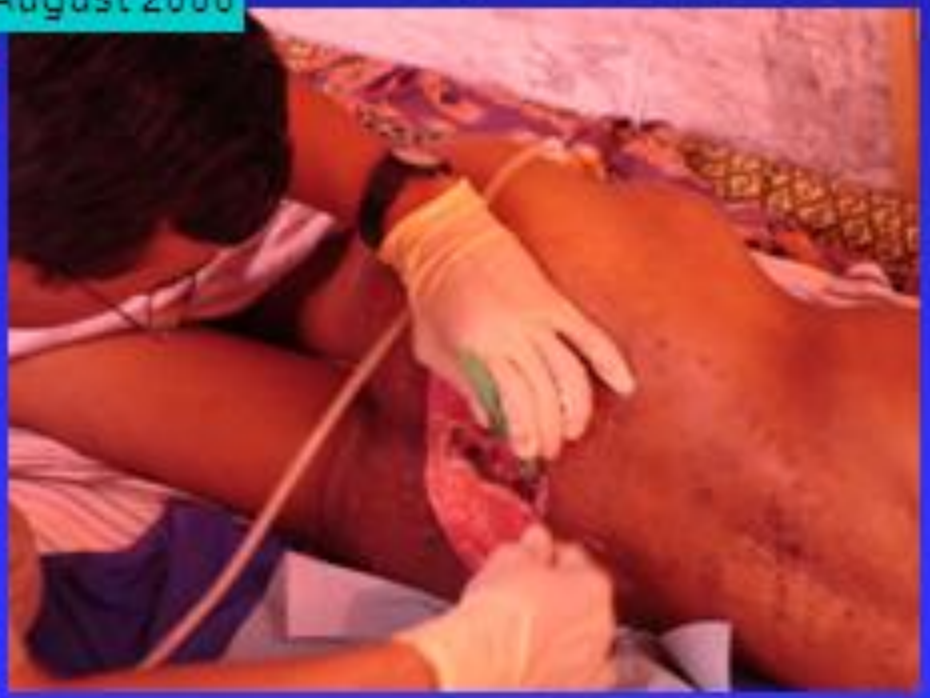
Training in SCI Management

Doc. Peni, July 2006

Training

- **Health cadres:**
- **Understand the ill effects of SCI to the body and its complications possibly developed if not handled appropriately;**
- **Give all those informations and help patient and the family, living in the village or the surroundings of said cadre;**
- **Family members who have received training in the hospital may become cadres.**

Doc. Peni, August 2006



Doc. Peni August 2006

Visitation

Physical Medicine and Rehabilitation Medical Specialist visit, alternately to all the PUSKESMAS (who have been trained)

a. patient evaluation with the PUSKESMAS Doctor and visit the location of the patients who could not come to the health center;

b. discuss the SCI patients present in the area of the PUSKESMAS, and its rehabilitation program;

c. recognize the problems in the field and discuss its solution;

d. prescribe / give mobility aids & orthosis to increase function.

Doc.Angela, August 2006

Assistive Devices Donated

DEVICE	TOTAL
Cruches	1055
Walker	350
Wheelchair	765
Pelvic	355
TLSO	440
LS	460
Cervical Collar	70
Mittela (Shoulder sling)	25
Catheter	440

Follow-up

Follow-up by the Physical Medicine and Rehabilitation Medical Specialist every 3-6 months after the initial visitation, to help the Doctors and Nurses of the PUSKESMAS, to detect any problem and possible complications in the chronic phase.

Doc.Angela, August 2006

REHABILITATION PROGRAMS

Education

	∑	%
No data	17	29.8
Not given	14	24.6
Given	26	45.6
Total	57	100.0

Wheelchair

	∑	%
No data	17	29.8
Not used	10	17.5
Used	27	47.4
Not needed	3	5.3
Total	57	100.0

Voiding

	∑	%
No data	14	24.6
Dower Cath	22	38.6
Dower Cath + Clamp	13	22.8
Intermittent Cath Progr	3	5.3
Spontaneous	5	8.8
Total	57	100.0

Defecation

	∑	%
No data	36	63.2
Stimulation	2	3.5
Manual	15	26.3
Spontaneous	4	7.0
Total	57	100.0

REHABILITATION PROGRAMS

Decubitus care

	∑	%
None	25	43.9
NaCl	21	36.8
Others	11	19.3
Total	57	100.0

Brace/Corset

	∑	%
No data	13	22.8
None	4	7.0
Needed	39	68.4
Not needed	1	1.8
Total	57	100.0

Physical Training

	∑	%
No data	33	57.9
Given	24	42.1
Total	57	100.0

ADL Training

	∑	%
No data	45	78.9
Given	12	21.1
Total	57	100.0

AIDS

Other Aids	∑	%
No data	52	91.2
Pelvic Splint	4	7.0
Others	1	1.8
Total	57	100.0

Medikamentous	∑	%
No data	52	91.2
Given	5	8.8
Total	57	100.0

Evaluation , March, 2009

- Location : Bantul and Klaten
- Served : 90 patients
- Patients at Bantul : 96 % perform good self care, including in bowel and bladder management. Most of them with ICP
- Patients at Klaten : poor self care, 50% are dependent, failure in bowel and bladder management
- Inspite of a well equiped center for Physical and Occupational Therapy built (donation)


Padang, October 2009

Padang Pariaman, West Sumatera,Earthquake, 2009

- October 2009
- Activity focus on the most affected area
  - Pariaman Hospital
  - Siti Rahma Hospital , the one of referral hospital in Padang
- Served :
  - 230 patients , age : 8 months – 85 y o
  - 90 % : long bone fractures
  - 2 % : SCI
  - 8 % : other conditions

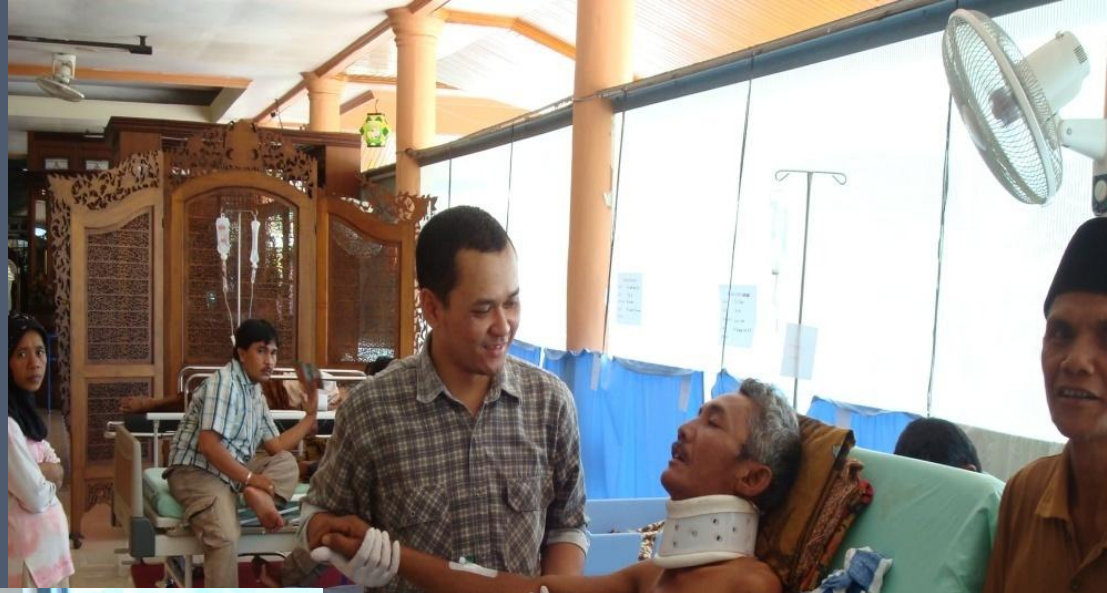
Padang, October 2009

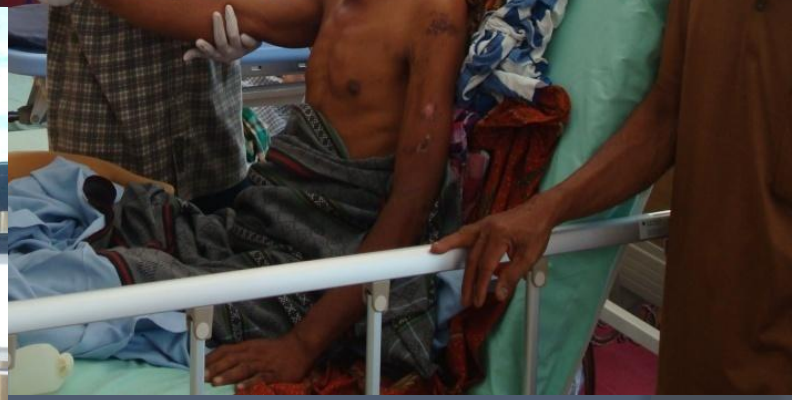
Early intervention !

- PMR interventions are needed at the very early phase of the disasters

→ TO PREVENT DISABILITY

PADANG





OCTOBER 2009

Padang, October 2009

AIDS

EARLY MOBILIZATION

PERDOSRI PLAN IN DISASTER

1. First gathering enough information
2. Send the advanced team few days after the hits
3. Set up a short- term / long-term program of Rehabilitation
4. Recruitment staff
5. List of equipment and assistive devices
6. Fund raising

PERDOSRI PLAN IN DISASTER

- **Program Activity : Start from the Hospital**

Mean while :

Make a Collaboration with other physicians and medical professionals, NGOs, Volunteers and International aids etc ,

for short-term Rehabilitation Program

- **Set Up the long-term Rehabilitation Program**

THE CHALLENGE

- The belief that Rehabilitation services is almost always at the end of a disaster
- The lack of experience and Information / literature of the Rehabilitation Management in the early phase of disaster
- The Rehabilitation is a long process especially in SCI

THE CHALLENGE

- Patients Reintegration into the community → depends on the adequacy of rehabilitation, on the patients and the support system
- Environment accessibility
- Availability of local physicians / medical health care professionals, community support
- Availability of the equipment & appropriate technology
- Attitudinal barriers and cultural beliefs

Conclusion

- **Early intervention for maximal recovery of function & to prevent complications;**
- **Close interaction in a team-work with each professional skills;**
- **Involved Patients, the Family and the community in the process;**
- **Education and training, carried out in several phases;**
- **Formation of a core group for disaster management**
- **Sustainability**

HAND IN HAND….
FOR A BETTER FUTURE


THANK YOU
TERIMA
KASIH