TREMORS, TRAGEDY AND HUMAN TRIUMPHS – CMH RAWALPINDI

Ahmad Nadeem, Viqar Ahmed Khan, Tauqeer Ahmed, *Irfan Ali Sheikh

Combined Military Hospital Rawalpindi and *Muzaffarabad

INTRODUCTION

Mankind has seen many disasters and the history is full of wide spread destructions resulting from floods, famines, storms, Tsunami, Hurricanes and Earthquakes of all the natural calamities, earthquakes are the most devastating physically and psychologically. There can be nothing more terrorizing for the human psyche than a disaster in the form of major earthquake giving an inventory of colossal loss of life, livelihood and property, creating ruins leaving no place of solace to console.

The earthquake of Tangshan, China in 1976 is considered the worst according to the death toll so far, which is 255, 000 but the earthquake of Oct 8th in Pakistan, God Forbid is the worst on the basis of the total area of the region affected, the degree of destruction that has taken place, the percentage of population that has been presumed dead and the number of injured people. The Oct 8th, Kashmir earthquake is also known as the Northern Pakistan earthquake or the South Asia earthquake, which was a 'major' seismological disturbance that covered an area over 20, 000 sq. km. The earthquake occurred at 08:50:38 Pakistan Standard Time on Oct 8th 2005 with the epicenter in the Pakistan Administered region of the disputed territory of Kashmir. It was registered 7.6 on the Richter (moment magnitude) scale making it one of the major earthquakes. Northern Pakistan has now become a part of the high risk level which means earthquakes can take place anytime in the near future because of which a large area of land would be left abandoned. Rehabilitation and Construction pose a greater challenge to the authorities due to its extent of destruction and the terrain of the region.

Correspondence: Brig Ahmad Nadeem, Commandant, Combined Military Hospital, Rawalpindi.

DESTRUCTION

The worst hit areas were Pakistan Administered Kashmir, Pakistan's North West Frontier Province, and Western and Southern parts of the Kashmir valley in the Indian Administered Kashmir. It also affected some parts of Pakistani province of Punjab. The worst calamity in the history of Pakistan spread devastation over nearly 30,000 square kilometer area had a tremendous tall on humaned their belongings wiping out numerous towns and villages. The official death toll in Pakistan has been 73,338 and 128, 309 reported injured. An estimated 3.3 million were left homeless in Pakistan. The UN reported that more the 4 million were directly effected, as winter snow was about to start. Many of them were at risk of dying from cold and spread of disease. It was estimated that damages increased well over 5 billion US dollars.

How was the Situation Handled?

The world had joined hands together and they did their level best in order to take control over the situation as possible. Many International organizations and non-governmental organizations (NGOs) had provided relief to the region in the form of donation as well as relief supplies including food, medical supplies, tents, blankets, etc. Rescue and relief workers were sent to the region from different parts of the world and they brought along rescue equipment, including helicopters and rescue dogs. The UN had appealed for Donations to raise at least US$272 million to help victims of the quake. Relief efforts in many remote villages remained hampered, as roads and other

ground routes were blocked. Secondly survivors buried under the earthquake wreckage, were difficult to be rescued as efforts were basically made with pickaxes and bare hands. Rescue efforts were also affected by the vulnerability of the weather and numerous aftershocks that continue to rattle the region and put rescue workers in danger as they search through the wreckage for survivors. In many areas there is no power, or adequate food or water; there is also the danger of disease spreading, including measles, pneumonia, and diarrhea, etc. Distribution relief supplies to the victims were especially urgent as the victims face the risk of exposure to cold weather due to the region's high altitude and the approaching winter. Food, medicines, shelter and blankets remained to be the essential items.

Gen Site in the City of Islamabad

A high rise building, Margla Towers in F-10 Islamabad was the first victim in which one portion of this building consisting almost 60 flats collapsed. Casualties from the rubble were being removed and evacuated to different hospitals including CMH Rawalpindi.

Situation at Hospital

Just after the mega shock, commandant Brig Ahmad Nadeem reached the hospital at about 1015 hours. Mean while Deputy Commandant also arrived. Anticipating the situation, commandant ordered his team to get ready to handle the casualties. At 1030 hours instructions were passed to Trauma Center and Medical Reception Center to get prepared to receive the casualties. At 1115 hours all the surgeons were also called. When the first casualty reached at 1025 hours, hospital staff was fully ready. In the afternoon, influx of casualties increased and kept on increasing beyond expectations. An emergency meeting of senior Surgeons was called at 1800 hours and all the modalities were deliberated.

Preparation to Meet the Challenge

Three teams of doctors were formed to work on 8 hourly bases. Each team comprised of 1 x Senior Surgeon (Brig), 2 x Classified Surgical Specialist (Lt Col) and 4 x other surgeons (Majors). The same team was looking after the trauma centre as well the operation theater. Extra splints, medical dressings were stored at trauma centre to cater for the increasing no of casualties. All the wards were made ready. Cold cases were discharged as emergency measure and extra space was created. Wards of AFIU and certain extra space in AFID building was also incorporated and converted into wards. Almost 513 beds were made available for the earthquake casualties.

Situation on First Day

Initially casualties were received through helicopters landing directly at CMH Rawalpindi. The influx of casualties was gradually increasing. Helicopters were evacuating casualties to Chaklala base also from where all of them were transferred to CMH. They were given first aid and then triage was carried out and disposed off according to priority. The number of casualties rose to 284 on the very first day. Most of the casualties were without attendants and proper documentation.

Med Dte OPs Room

GHQ Medical Dte established its camp office / Ops room at CMH to monitor all the medical cover activities in different hospitals as well as in forward areas. The ops room was working day and night. Move of different medical units was coordinated. Similarly move of medical officers was being organized by the GHQ Medical Dte Ops Room.

Activity at Operation Theater

Operations Theater was the main hub of all surgical activities. Surgery was started on patients according to priority. Operation Theaters worked round the clock. The surgical team on duty besides dealing with emergency surgeries also selected and prepared the cases in the wards, earmarked

for surgery. There was not a single moment when Operation Theater was not in use, infect the surgeons were waiting for the operating rooms to be vacant and available. All the surgeons and anaesthetists were highly enthusiastic and in full spirits to work and extend help to the earth quake victims.

Wards

Though a lot many beds were arranged i.e. 513 for earth quake victims but they all were filled on the second day. All the wards were full with the patients and the staff was busy in making the patients comfortable and providing them necessary medical care. There was frequent turn over of patients as patients were being shifted to appropriate places. Stable patients were transferred to transit camp. Already admitted cold cases were being transferred to other hospitals to make room for the incoming new patients. Extra staff was deputed to all the wards to cope with the huge extra workload. Additional beds were put in wards. Similarly additional arrangements were made in AFIU and AFID.

Work Load

The influx of patients was increasing day by day during the first week but then slowed down gradually. Details shown as under and (fig. 1-18).

First case, Brig Riaz Shahid was received on 8th October 2005 at 1125 hrs.

First Surg team comprising 1 x Surg spec 2 X MOs and 2 x nursing assistant was desp from CMH at 1100 hrs.

CMH Rawalpindi received main brunt for first 5 days.

Case received on:

08 October 2005	-	284
09 October 2005	-	382
10 October 2005	-	444
11 October 2005	-	386
12 October 2005	-	300

Total cases received from 08 October 2005 to 29 December 2005 = 3452

Brought in Dead = 182

Visit Dignitaries (In Chronological Order)

Many dignitaries visited CMH Rwp during the days after earth quake to boost the moral of injured. The detail of visits is as under: -

- Lt Gen Syed Afzal Ahmed Surgeon Gen/DGMS(IS) along with Gen Ahsan Ul Haq Chairman Joint Services Staff Committee , visited CMH on 08 Oct 2005 , First Day of Earthquake.
- Gen Ahsan Saleem Hayat VCOAS. Visited CMH on 09 Oct 2005.
- Gen Ahsan Ul Haq Chairman Joint Staff Committee Visited CMH on 10 Oct 2005.
- Gen Pervez Musharraf, COAS : President of Pakistan visited CMH on 11 Oct 2005.
- Lt Gen Salah ud Din, Comd 10 corps visited CMH on 16 Oct 2005
- Many other dignities and renowned personalities including Kashmiri leaders Ysin Malik, PTV actors and Cricket Players of national team also visited the CMH to boost the morale of earthquake victims.

Medical Stores

Medical stores of CMH Rwp was working as a central store of drugs for all the medical elements moving ahead to earth quake hit areas in addition to looking after the requirements of CMH Rwp. It remained open round the clock for about a month or so. Officers and staff worked day and night with out rest for first three days and later on 12 hourly shift basis. Collection of stores from Air Base Chaklala, CMT Chaklala and Air Port was done by the staff of medical store CMH Rwp. In addition to that medicines

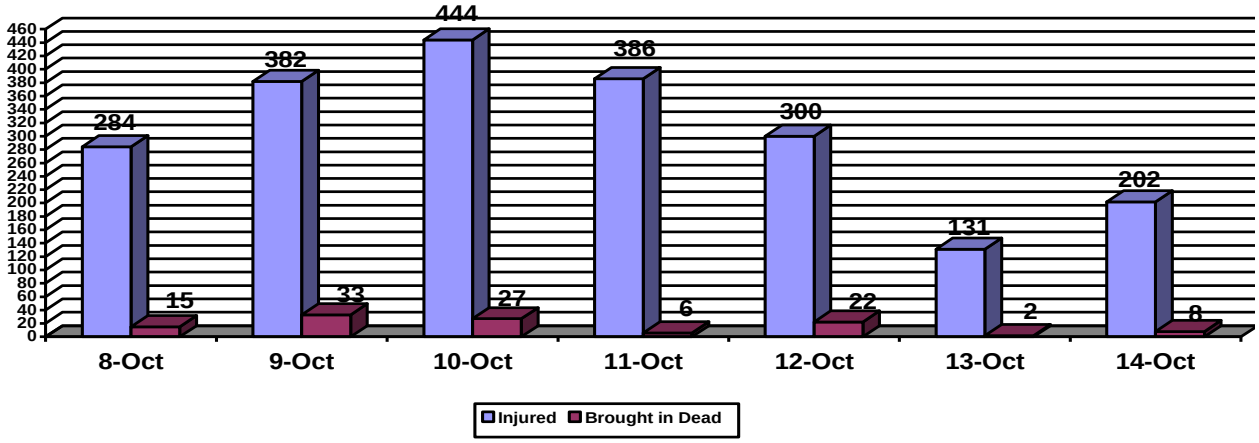

Fig. 1: Weekly state of case-1st week.

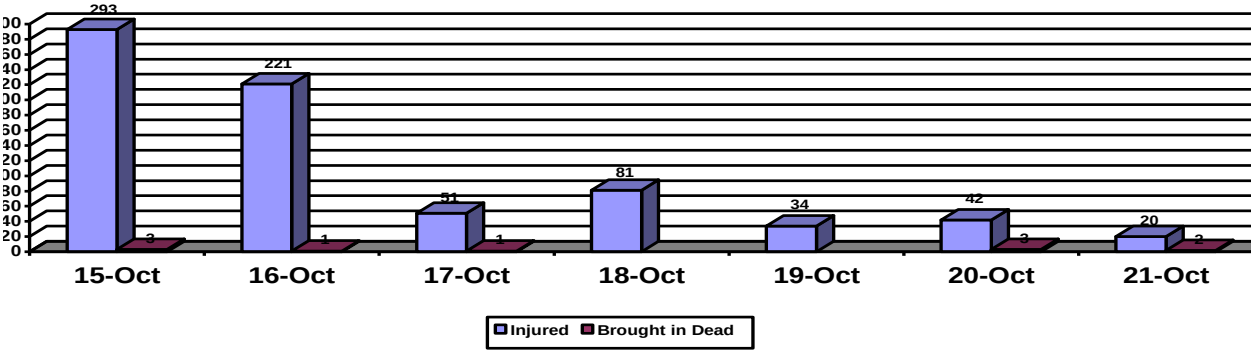

Fig. 2: Weekly state of case-2nd week.

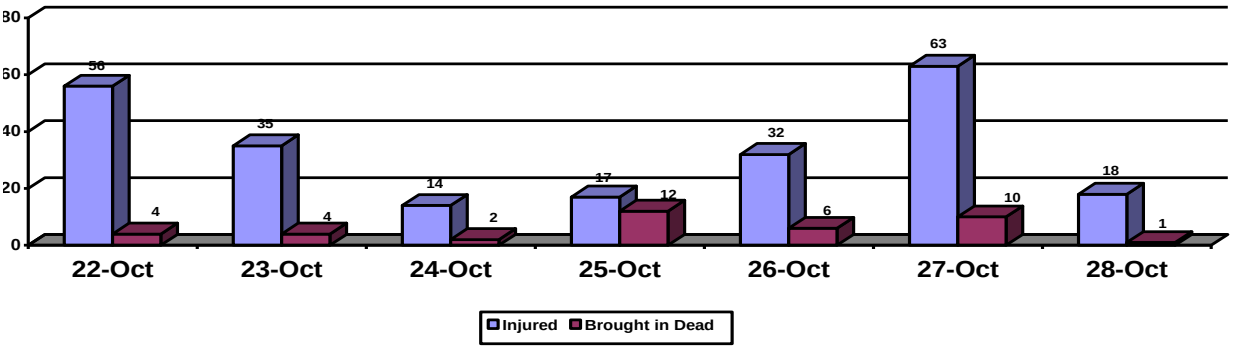

Fig. 3: Weekly state of case-3rd week.

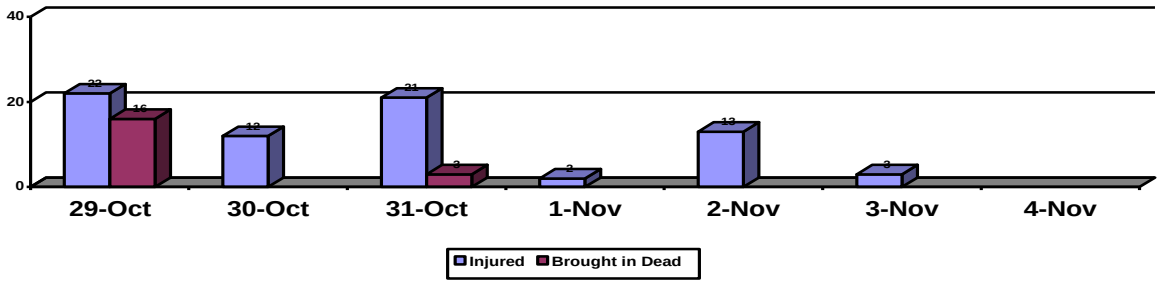

Fig. 4: Weekly state of case-4th week.

received by donation were loaded/unloaded /issued by the medical store staff. Accounting, documentation, record keeping of donations was properly carried out.

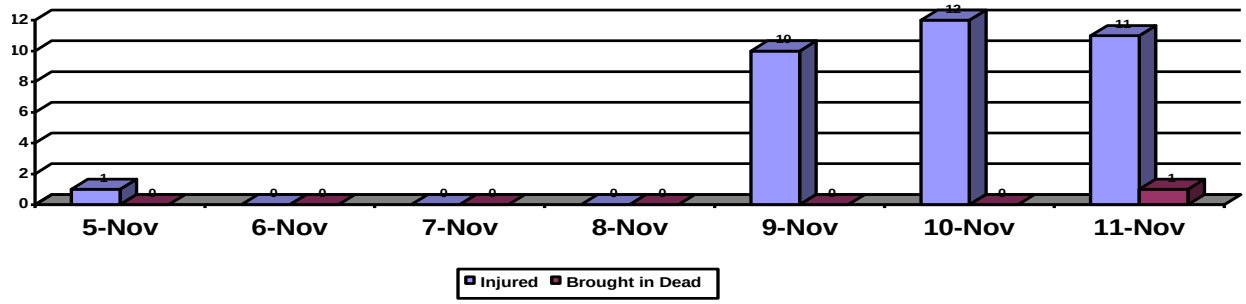

Fig. 5: Weekly state of case-5th week.

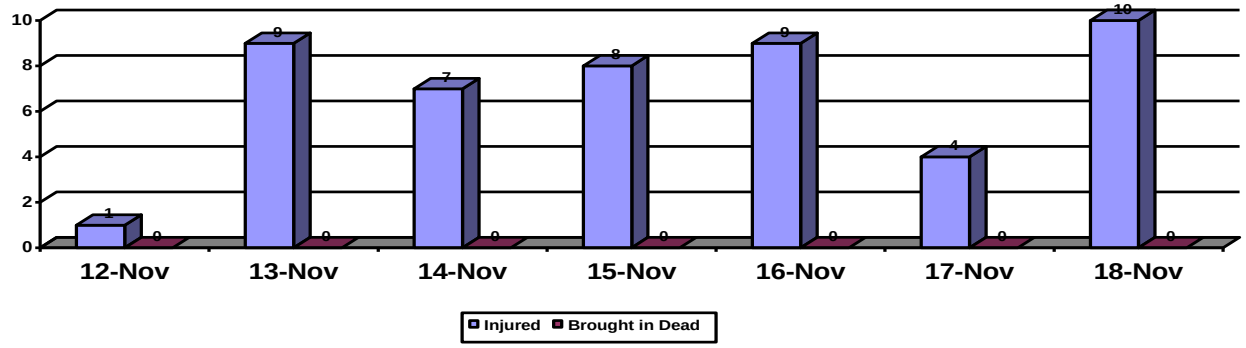

Fig. 6: Weekly state of case-6th week.

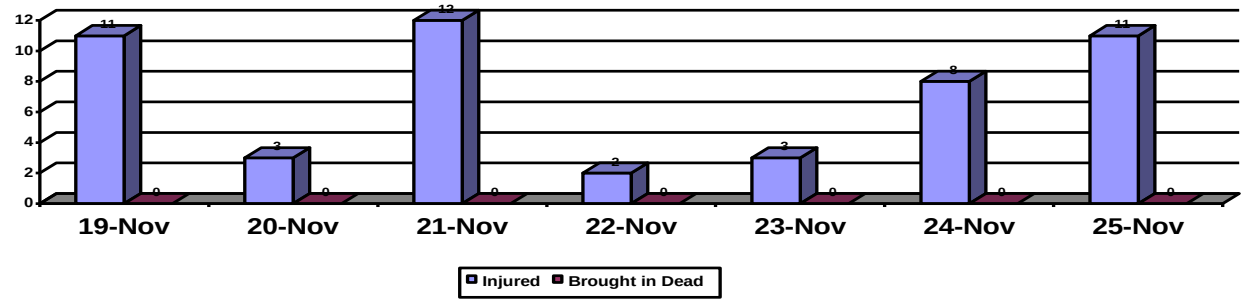

Fig. 7: Weekly state of case-7th week.

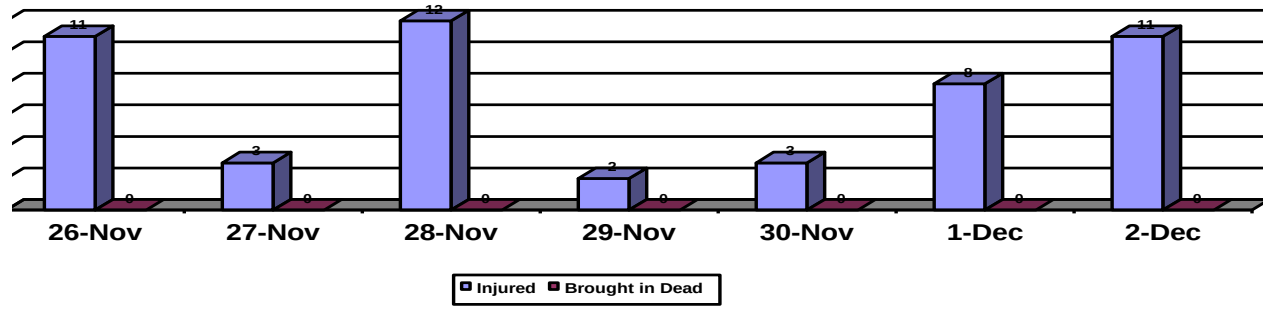

Fig. 8: Weekly state of case-8th week.

Safety/ Security being of paramount importance were ensured round the clock. Eqpt /Medicines required by CMHs of affected areas were made available by the CMH Rawalpindi, in addition to the medical supplies provided to AFIU, AFIRM, AFID, Cantt General Hospital and Railway Hospital Rawalpindi.

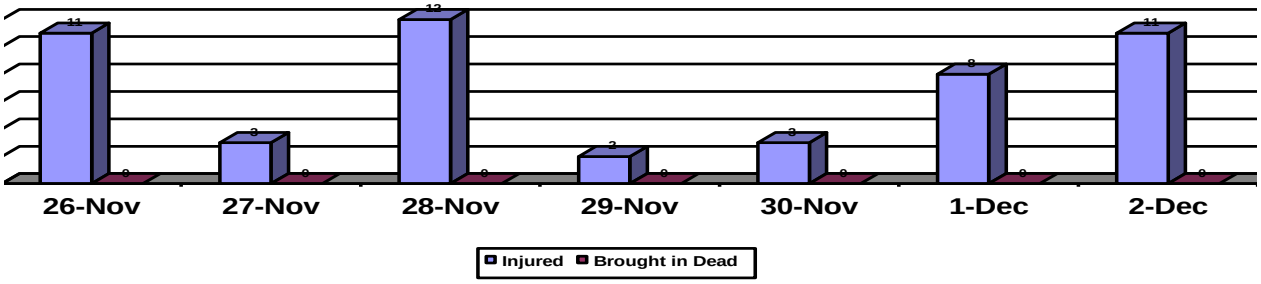

Fig. 9: Weekly state of case-9th week.

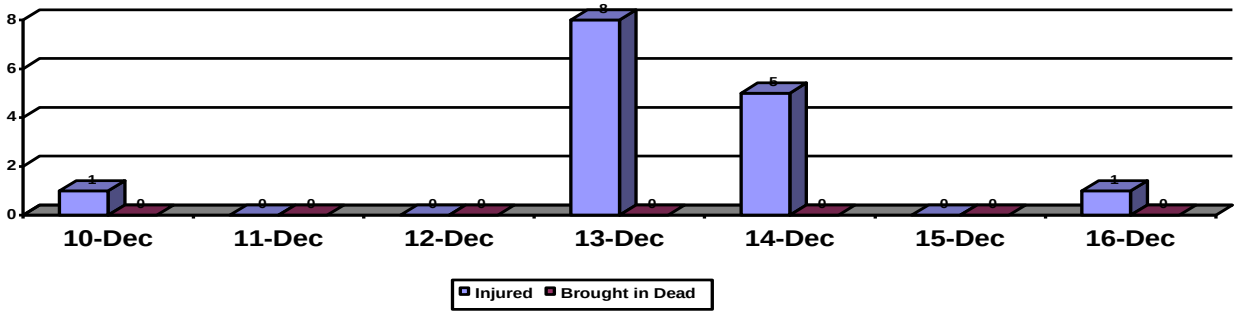

Fig. 10: Weekly state of case-10th week.

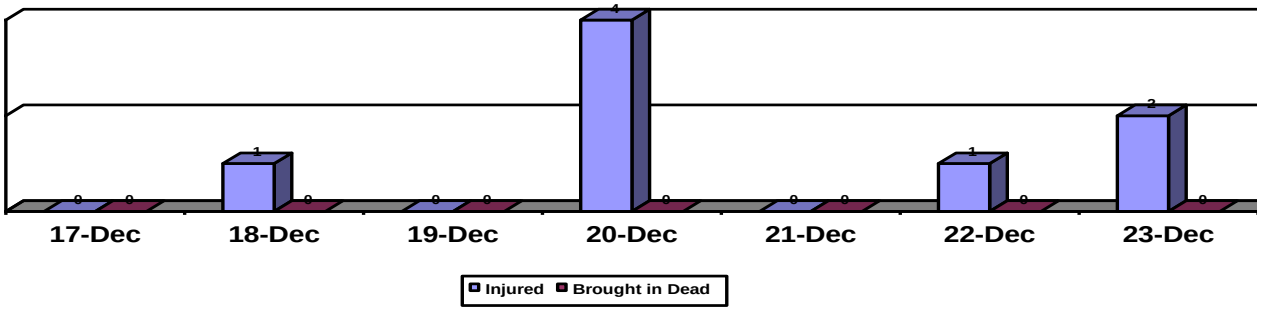

Fig. 11: Weekly state of case-11th week.

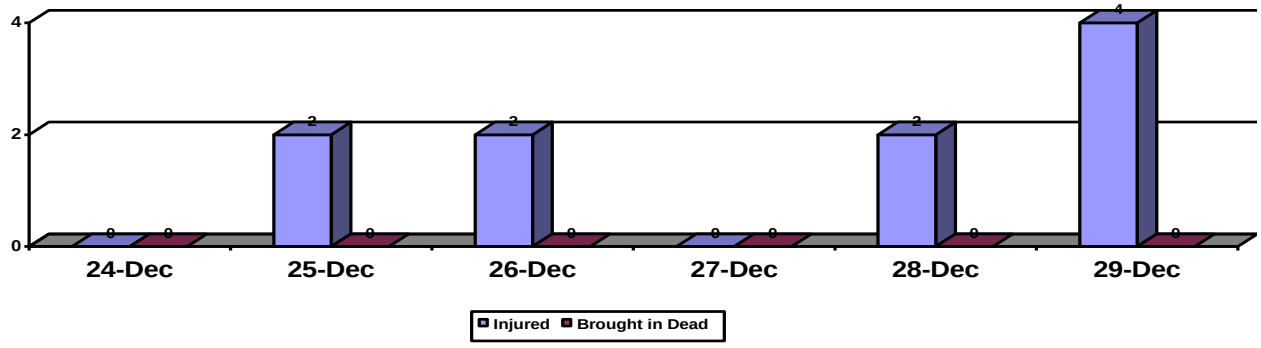

Fig. 12: Weekly state of case-12th week.

Total expenditure incurred on purchase for medical store was is as under:-

(i) PVMS : Rs. 6483303.00

(ii) Non Expandable store/ Surgical Expendable : Rs. 757918.00

(iii) BLP : Rs. 25209493.00

(iv) LP : Rs. 9700.00

(v) Expenditure on gases. : Rs. 76166.00

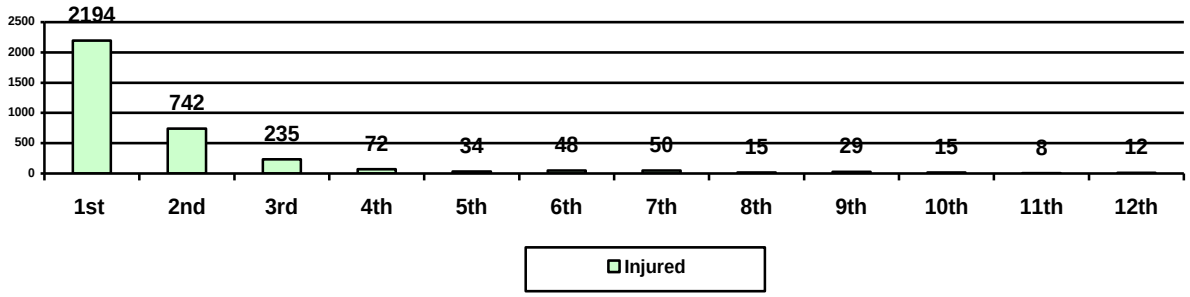

Fig. 13: Influx of weekly injured cases.

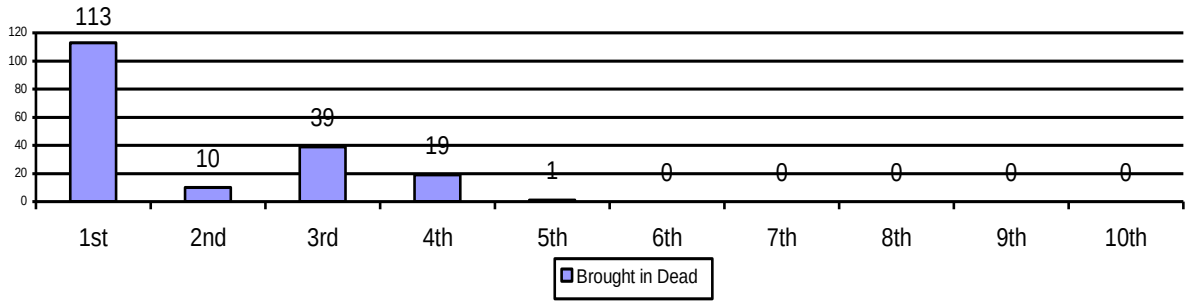

Fig. 14: Influx of weekly brought in dead cases.

Problems at Medical Stores

- Essential life saving items became scarce due to increased consumption and artificial shortage created by hoarders.
- Considering the scale of calamity managing with the available manpower was a hard task. Staff had to work continuously for three days and then on 12 hourly shifts at least for a month.
- ATG was not available throughout the country.
- Means of transportation of medical supplies to affected areas was short of requirement.
- External fixators were not available in whole of country.

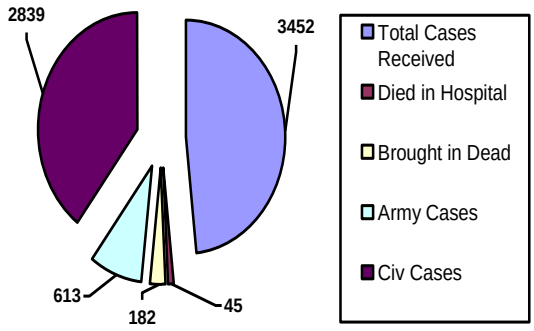

Fig. 15: Details of operations performed.

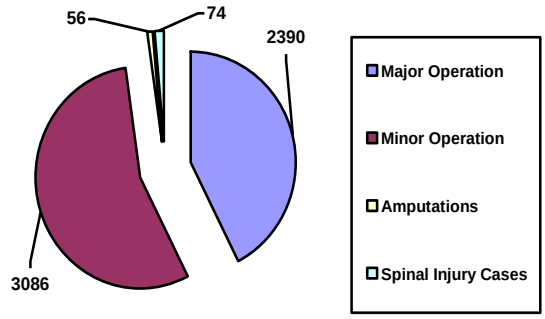

Fig. 16: Details of operation performed.

Philanthropic Activities

Pakistani society is rich of philanthropist. From the very first day, so many individuals came to the hospital to ask about any requirements of hospital. Everyone was keen to share in the moments of sorrow. Food for the victims as well as for attendants was initially arranged by Station Commander. Then so many other individuals also came in and started arranging Sehr and Iftar on regular basis. Others brought lot of eatables, milk, drinking water and fruit for the patients and their relatives. Still others came with trucks full of medicines. There was no dearth of any thing, rather every thing was avail in

plenty. Gradually CMH authorities took over and arranged accommodation and food for patients as well as for attendants as part of duty.

Use of Ambulances

Combined Military Hospital Rawalpindi is spread over an area of 27 Acres and different wards / departments are located apart. Transportation of patients within and out side the hospital was gigantic task which was accomplished by Quarter Master / MTO with limited available resources. Ambulances were running round the clock, practically all the vehicles avail in MT park were being utilized as ambulances. Vehicles were running almost 1000 Km Per Day. Drivers / EME Staff were working day and night to keep the vehicles fit for duty.

Problems Faced

Though the CMH did its best to cater for the increased number of patients of earthquake, however following problems were faced: -

- **Inadequate Space Of Trauma Centre**

  Present building of trauma centre is inadequate to handle mass casualties as experienced during the post earth quake era. It is built separated from rest of the hospitals which poses additional problems.

- **In- Efficient Co-Ordination**

  There was no co-ordination between the staff at the site of emplanement and receiving end at Chaklala Base / Qasim Base and trauma centre. No prior information regarding no. of patients being shifted to CMH was available. Better services could have been provided if such info could have been available.

- **Transportation Problem**

  Shifting of casualties from air base to CMH trauma centre was mainly on ambulances and trucks. Similarly transfer of patients to other hospitals was being carried out on trucks which were quite uncomfortable for patients.

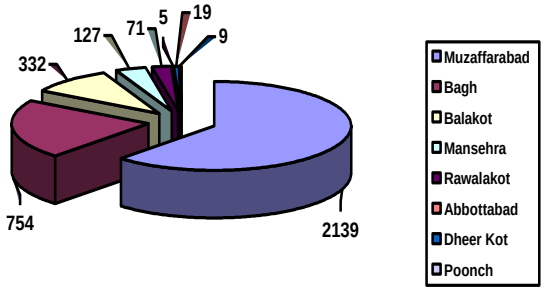

Fig. 17: Area-wise summary of cases.

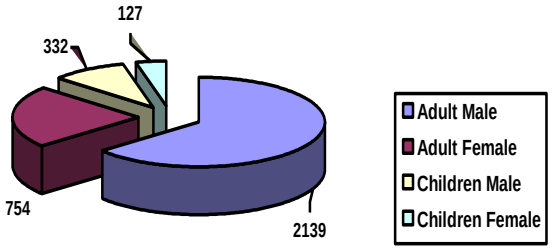

Fig. 18: Gender-wise breakdown of cases.

- **Triage**

  Neither arrangement of proper triage was available at emplanement site nor at airport. Hence segregation of patients was not properly done. Triage being done at trauma centre was also not up to the mark as no of casualties requiring first aid was far beyond the capacity of treating teams and it was because of no triage at Chaklala air base.

- **Inadequate Documentation / Identity**

  On the initial 2 days, most of the patients evac were without attendants, hence some patients could not be identified properly and inadequate documentation led to confusion at later stage. Similarly inadequate documentation of injuries at initial survey of patient led to missing of fractures and other injuries which could have been avoided.

- **Investigation**

  Both the facility of lab and X-Ray were not available in trauma centre. Patients had to move to X-Ray department, which caused loss of precious time for better care of patients.

- **Deficient Manpower**

  Deficient manpower, especially Para-medical staff led to difficulties especially during the initial days.

- **Volunteers**

  Though plenty of volunteers from AM College were available from 3rd day onward but their services were not coordinated. Better results could have been achieved with better coordination, registration and appropriate detailing of these volunteers. This problem was faced both with cadets from AM College as well as with Nursing Cadets from AFPGMI.

- **Inadequate No. Of Operation Theater**

  Inadequate no. of operating rooms was a cause of delays in surgeries. Surgeons were waiting for their turn to get operating rooms. Inadequate staff in OTs was adding to this misery.

- **Light Source**

  Adequate light was not available in trauma centre as well as in the lawn in front which was converted into temp trauma centre with tents and charpoys.

- **In-Out Circuit**

  Trauma Centre is located as such; no in-out circuit could be maintained. Patients were being received and transferred from the same place which led to experience rush in front of trauma centre all the time.

- **Training Of Para-Medical Staff**

  It was observed that most of the Para-medical staff is poorly trained. They are even unable to give a proper injection or pass a cannula. Care of injured patients while transferring them was in adequate, as Para-medical staff is totally ignorant of procedures.

- **Expansion Plan**

  The wards and OT of AFIU and AFID were utilized, although late, these should be incorporated in expansion plan of CMH in case of any disaster.

- **Post- Op Care**

  Post- OP care remained a weak area as patients transferred to Transit Camp and other hospitals were not looked after properly.

RECOMMENDATIONS

Passing thorough this night mare, which provided an ample chance for CMH to fulfill its duty to provide efficient medical care for the patients also provided a lifetime opportunity for young doctors, AFNS offrs and other para medical staff to practically handle such a situation as part of their training. This also tested the administration for its capability to manage such a mega catastrophe. Everything went well, but still there is always a space at the apex. Lot of room for improvement and better medi-care can be provided. Few recommendations are as under: -

- **Integrated Trauma Centre/MRC**

  There is a dire need to construct an integrated trauma centre/MRC, spacious enough to accommodate such large no. of casualties. This should provide integrated diagnostic services as well as out door clinics on first floor to reduce the hassle of patients running around the whole hospital.

- **Triage**

  Lessons learnt is, better triage leads to better care. A proper team of doctors should have been appointed at emplanement site as well as Chaklala Air Base for better triage and distribution of patients amongst different hospitals. This would have also helped the hospitals to manage the casualties in a better way.

- **Co-ordination**

  Better co-ordination among the teams working at different sites would fetch better results of medi-care. This will help hospital to prepare better for reception and treatment of patients.

- **Training of Para-medical Staff**

  The weakest area noticed can be improved by imparting better training facilities for para medical staff. Instead of a system of segregated classes at different hospitals, a system of proper courses at AM Centre or AFPGMI be introduced as for AFNS Offrs. This would certainly improve the expertise of para-medical staff and they will become better helping hands of MOs.

- **Use of Volunteers**

  Unorganized use of volunteers led to a situation where they were working at their own. There should be a proper system of registration and detailing of these volunteers on various jobs according to their areas of knows how.

- **Computerization / Automation**

  Problems were being faced in maintaining proper data of earthquake victims. Similarly recording of injuries and prioritization and intimation to all concerned departments like Operation Theater and ITC could be improved by adopting an integrated network/computerized transfer of data. This all will need proper implementation of hospital automation system.

- **Ambulances**

  Ambulances available with CMH are of old vintage and were unable to meet the challenge. There is a dire need to replace the old veh and augment the ambulance fleet.

  A civil tel be provided at Medical Stores for proper co-ordination with suppliers / firms for smooth provision of medical supplies