

Polytrauma in Rural India

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Polytrauma is the major killer now a days all over the world. With increase in urbanisation and industrialisation more and more patients of injuries of varied type are increasing day by day. These require not only urgent treatment, but also different attitude, dedication, planning, preparedness and the well co-ordinated as well as timely teamwork to have on effective outcome at "Golden Hour". This extensive research was done under the guidance of Dr. K. H. Sancheti at Sancheti Institute for Orthopaedic & Rehabilitation, Pune from Dec. 1996 to Dec. 2005.

The present study was conducted in the form of Survey in rural area of Maharashtra with following aims and objectives.

1. To collect baseline data of poly-trauma patients in rural India.
2. To categories types of the traumas sustained.
3. To evaluate in brief the existing health care system.
4. To formulate and suggest an ideal infrastructure for trauma patients that suits Indian conditions.

According to official statistics 80,118 persons were killed and 3,42,200 were injured in road traffic crashes in India in year 2000. However this is an underestimates, as not all injuries are reported to the police.

Every day as many as 1,40,000 people are injured on the world roads. More than 3000 die and some 15000 are disabled for life per day.

Each of those people has a network of family, friends, neighbours, colleagues or classmates who are also affected emotionally and otherwise. Families struggle with poverty when they lose a bread winner or have the added expense of caring for disabled family members. WHO has devoted a World Health Day specifically to road safety. Road Traffic injuries are major Global public health and development concern, disproportionately affecting certain vulnerable groups of roads users, their magnitude is expected to rise considerably in the years ahead. Road traffic injuries can be prevented and their consequences can be alleviated.

For this study trauma cases from Civil Hospital, Jalna as well as the private clinics who are providing services to the public of Jalna city and catchment area were studied in detail.

Trauma population is on the increase The type, nature, magnitude, variety, multiplicity and multi factor Polytrauma is all on the increase. Besides the routine road traffic and domestic accidents, Natural calamities like Earthquakes, Cyclones, Land Slides, Communal riots, Terrorism, Rail, Air accidents all are contributing to the changing scenario of trauma and its management.

Just over a period of 48 years in India number of vehicles has increased from 306 thousands to 40,939 thousands which is nearly 134 times. In which two wheelers have increased for 1,049 times, depicting and confirming two wheeler is a common vehicle as the mode of transport nearly for 69% of the total group. In Marathwada region number of

vehicles on road has shown a significant increase of 13.04% per year over a period of 16 years. (1985 - 2001).

The events and the recommendation is only possible by proper coordination between Government officials including minister of health, transport and education, representative of NGO (Non Governmental organisation), road safety professionals health care providers, representatives of Automobiles Associations, Educators, students, vehicle manufacturers, the media, the press, the victims of traffic crashes and their families and all of us.

This extensive study over Trauma patients in rural area of Maharashtra was carried out by studying the age distribution, area wise distribution of cases, sex ratio, various causes of injuries, Treatment offered to patients, types of Trauma, monthly OPD patients in Marathwada region Civil Hospitals, equipment available, motor vehicles registered, Road accident in India, number of accidents, number of persons killed, number of Doctors available, in detailed and following conclusion and suggestions could be made.

Conclusions

1. Males dominated the study significantly (80%).
2. Adults dominated the study significantly (52%).
3. Even extremes of age had polytrauma (28%).
4. Majority patients were from rural area (72%).
5. Vehicle accidents were the major chunk of study (49.6%).
6. Extremities injuries were more common (68%).
7. Significant number of patients had associated head injury (20%).
8. Nearly 45% could be treated at first medical centre (PHC).
9. Nearly 32% were compelled to get referred to higher centres.

10. Pre-hospital emergency medical service was non-existent.
11. No means of transportation or poor or delayed transportation means were available, compelling to lose the importance of the golden hour.
12. Reasonable communication system was available.
13. Wherever the ambulance was present, was nothing but white taxis.
14. Even though each and every medical care centre had casualty, and/or emergency service, but hardly could it cater a vital service to the Polytrauma patients.
15. Few only had all the specialists required to treat the Polytrauma patients.
16. Even not a single medical centre had specifically designated trauma care centre.
17. Inadequate emergency beds.
18. No preparedness for Disasters and Mass Casualties.
19. Inadequate man power, quantity as well as quality wise.
20. Pattern of road use has a significant influence on the type of road traffic crash experienced in India.
21. It indicates that road safety policies in India would have to focus on the VRUS (virulent road users) like pedestrians, bicyclist, motorized two-wheeler, three-wheelers designs of vehicle.
22. Roads are not designed properly.
23. In the cases of morbidity and / or mortality following polytrauma there's an unlimited scope for service to the injured victims for saving the lives.
24. Carrying out a survey of Jalna District approached considerable sections of Marathwada rural population, problems were identified and strategy could be suggested.

25. Such a study with rural bios, encompassing demographic environmental and clinical profiles, polytrauma (their various aspects) would stimulate others.
26. The proper use and design of safety helmets are hardly there.
27. Change is always met with resistance.
28. There was no Polytrauma review available in India.
29. Configuration of Polytrauma in younger age-group dominance,
30. At the periphery communication, accessibility, rescue team present is almost none.
31. At the casualty level no specific trainee in handling of trauma patients.
32. Road traffic accidents were the major cause of morbidity and / or mortality following polytrauma.
33. Most of the time was wasted in approaching to a proper medical aid centre. So hardly there was any use of golden hour, reflecting lack of pre-hospital triage system.

Suggestions

Proper strategies if developed can save so many lives and also help to reduce morbidity by carrying out not only prospective study of Polytrauma, but also retrospective study to have wide data for analysis and to know the existing as well as changing trends of Polytrauma outcome. To achieve the same we must have - (a) Political priorities, (b) Adequate organization (c) Sufficient budget, (d) Exchange of know how, (e) Specific solution related with road assessment, (f) Specific solution to road safety and traffic, policies, taking action for setting ideal trauma services.

1. Institutional Development :

- (a) To coordinate the activities of all agencies concerned with the prevention of accident and subsequent relief.
- (b) The relief of the accident victim should be prompt and efficient so as to reduce the mortality and morbidity.

(c) Should establish a good emergency medical services including Para-Medical.

(d) Develop a mechanism that promotes a multi disciplinary to polytrauma victims.

(e) Undertake the training of medical and paramedical personnel in the art of first aid and Resuscitation and proper treatment for the accident victims.

(f) A well done modern technique of accident study including the victim and environment,

(h) Educating the public regarding accident prevention

2. Should provide a well coordinative pre accident service for all citizens of our country. Particularly in the rural area.
3. To train the personnel to deal with such emergencies.
4. To establish a research centre in collaboration with transport communication, Law and Police authority including comprehensive insurance for personnel, prevention of accident by constant data evaluation and accident prevention
5. To constantly review the surgical, non-surgical management of these cases in order to find the most suitable treatment in our condition and circumstance.
6. To use rehabilitative technique for effective treatment in shortest possible time and also to make invalidated victims as useful citizens.
7. The following departments will be represented in trauma centre.
 1. General Surgery.
 2. Cardiothoracic Surgery.
 3. Neuro Surgery.
 4. Urology.
 5. Facio-maxillary / Plastic Surgery.
 6. Orthopaedics.
 7. Medical team (Internist and dialysis).
 8. Anaesthesiology.

9. Clinical Chemistry.
10. Microbiology.
11. Radiology and
12. Statistics System analyst.
8. Try to have best utilization of existing infra structure by restructuring it.
9. Make best possible use of available equipment and machines and try to procure additional equipment and machine in relevance with Polytrauma victims.
10. Ideal protocol to be displayed i.e. visualize, then verbalize, and vitalize by giving a proper training to the medical and paramedical staff.
11. Transportation drill to be carried out.
12. Hospital should be well organized to have disaster preparedness and management.
13. Try to make best possible utilization of Golden hour ultimately reducing number of referral to the higher centres.
14. Government should provide lot of funds specially dedicated to Establishing the trauma centres of varied sizes.
15. Systematically collect health related data of the magnitude, characteristics and consequence of road Traffic crashes.
16. Translate effectively "Placed information and practices"
17. Strengthen pre hospital care for all trauma victims.
18. Develop trauma care skills of medical personnel at the primary health centre, District and tertiary health Care levels.
19. Invest in medical research to improve not only outcome of trauma patients but also of trauma Survival.
20. At the periphery communication, accessibility, resuscitation team is almost non existent, so scenario is to be reversed completely.
21. Traumatology should become part of M.B.B.S. Course as a separate subject or at least one section.
22. All the medical officers are to be compelled to undergo a training of minimum three (3) months in traumatology.
23. Encourage the proper use and design of safety helmet which go long way towards protecting the Motorcyclist.
24. Compulsory use of seat belts for four wheelers.
25. Use of seat belts, child seats and air bag equipped cars can reduced fatality by 30%.
26. C.T. Scan facility should be made mandatory at least at the level of district health quarter.
27. Be prepared for social disturbance, terrorism in accident wards.
28. All equipment should have battery backup or generator.
29. Vehicle safety regulations should be implemented.
30. The most common driving distraction can be skipped by avoiding following common activities while driving.
 - (a) Adjusting the radio, cassette or CD player.
 - (b) Using / dialling a mobile phone.
 - (c) Eating and drinking while driving.
 - (d) Other occupants in the vehicle accidents, friends in other vehicles, vehicles stopped by police, road side advertising.
 - (e) Pre-occupation in thoughts or mind-wandering.
 - (f) Reading or writing.
 - (g) Activities of fellow drivers in the traffic stream.
 - (h) Drowsy driving and driver fatigue.
 - (i) Drinking and driving.
 - (j) Smoking while driving.

This study also has helped to get so many collateral benefits and conclusion such as to study the existing literature extensively, number and nature of injury and trauma in the city as well as peripheral area and all over the country as well as world. It has

helped to know vastness of the trauma problem concluding so many things like.

“ Though

*All injuries can’t be prevented
‘Accidents’ and Injuries are not “Acts of GOD”
And There is no difference between
injury and disease.*

SO

“LIFE saved is a FAMILY Saved”

Always Remember

***“GET THE RIGHT PATIENT
TO THE RIGHT HOSPITAL
AND IN RIGHT TIME”***

‘Injury, Trauma and Polytrauma are the diseases like any other’. Polytrauma is a major killer of the present day for modern society.

For a Trauma Victim

It is not the life

But the quality of life

It is not the Function

But the quality of function that matters.

