ACCIDENT PREVENTION AND
TRAUMA CARE MANAGEMENT
(Working Paper submitted by the Government of India)
Industrialization, urbanisation, mechanisation of agriculture along with modern lifestyles have not only led to immense improvements in the lifestyles of the people, but at the same time have brought about new hazards and risks. Accidents – at home and work place as well as on the way – have cast their shadow of pain, disability and death over millions of humans.

This is one area which knows no boundaries and increasingly in the developed as well as the developing countries, accidents now rank as the leading cause of morbidity and mortality. An estimated 3.5 million die every year throughout the world through accidents and violence. Out of these, about 2.5 million deaths are unintentional deaths, occurring from accidents on the road, at home, in the work place, due to fire, drowning, poisoning, fall and other natural disasters. In developed countries, vehicular accidents account for about 210,000 deaths annually and in developing countries, this figure is 515,000.

In the SEA Region, accidental injuries are among the first five highest cause of mortality. However among young adults all over the world, injuries are by far the leading cause of death. What is even more revealing is the fact that injuries are responsible for a greater number of years lost than almost any other disease.

And yet, compared to other public health problems, there has been little research in the field of trauma care or injuries. This is particularly true of the developing countries, beset as they are with immense problems of trying to reach basic health care to their vast populations and combating both communicable and non-communicable diseases.

Accidents or injuries can broadly be classified in three major categories:

- Transport injuries
- Domestic injuries
- Occupational injuries

1. ACCIDENT PREVENTION

WHO has targeted that by 1995, at least 60 percent of the countries of the world should assess the magnitude and determinants of domestic and traffic accidents in their populations on the basis of epidemiological studies and 50 percent of the countries would develop national policies and programmes for accident prevention.

It is of utmost importance to increase community awareness of the consequences of accidents and to create intersectoral mechanisms and formulate national trauma care management policies. It is with this in view that discussions have to be focused on the growing need to having National Policies on Accident Prevention and Trauma Care.

2. TRANSPORT INJURIES

Vehicle characteristics and pattern of vehicular traffic in developing countries are very different from the fast moving and car dominated vehicular traffic of the developed countries. In fact, car occupants are
a very small percentage of fatalities in South East Asia as compared to Europe. Most fatalities are of pedestrians, bicyclists and motorised two wheel riders. It is the poor who are most affected. Therefore the accident prevention programmes too have to differ and be more region specific.

Until recently it was felt that most accidents on the road are due to human error. But more and more professionals have now realized that it is not so simple. It is not easy to pin point this error on any one human alone. But the reasons for increase in traffic accidents can be attributed to increased urbanisation, traffic congestion, poor road conditions, speed and poor enforcement of traffic rules.

The following are some of the strategies which need to be pursued so as to reduce accidents on roads:

- emphasising the use of mass transportation systems
- ensuring medical fitness of the drivers of motorised transport
- having a well structured driver training programme
- having a proper licensing procedure
- ensuring the safety and road worthiness of vehicles
- planning, development and maintenance of roads
- having separate roads for two wheeler traffic
- traffic engineering and management
- public education
- insurance and compensation
- development of an accident information system

It is of utmost importance that while pursuing prevention strategies, facilities for acute care and comprehensive trauma care need to be developed. Imparting of knowledge of first aid and provision of a centralised ambulance service, a coordinated communication system, identification of treatment centres and orientation of doctors in the treatment of trauma patients are all essential parts of acute care. Large metropolitan cities especially need to be divided into zones for the purposes of mass casualty management.

3. DOMESTIC ACCIDENTS

With the increasing use of electricity, chemicals and medicines at home, the pattern of injuries is fast changing. Incidence of mortality and morbidity among children and females due to domestic accidents, specially burns accounts for most of the domestic accidents and injuries. Domestic accidents occur in all sorts of ways, including chemical, mechanical, electrical and thermal, and hence it is very difficult to have one common code of safety measures. One major area of special concern is injuries caused by burns due to use of unsafe cooking stoves.

Some common ways in which domestic injuries can be prevented are:

- improving quality of consumer goods
- proper earthing and insulation for electrical goods
- safer toys with no sharp edges
- non lead based paints
- pressure cookers and stoves with proper safety valves
- proper housing design
- safe terraces, staircases, etc.
- medicines and other chemicals, safe from children
- careful handling of fire
- safe cooking practises for the slums
- safe handling and storage of inflamable material.

4. OCCUPATIONAL ACCIDENTS

It is often felt that occupational injuries are more of a problem in highly industrialised developed countries. However this is not the case. Several studies reveal that occupational injuries are a serious problem in developing countries also. Very often, under transfer of technology agreements, the safety aspects are given the go by. Injuries are also common in activities related to agricultural, mining and small scale industry. The situation is further complicated by the fact that developing countries are industrialising at a very fast pace and injury prevention and control measures are not developed along with the introduction of the new technology. With the mechanisation of agriculture, injuries relating to the use of threshers and other such machines has increased greatly in the rural areas. In the agricultural economies of the developing world these are a major problem.

Some ways in which such injuries can be reduced are:

- safer machine designs
- safer working conditions
- adequate rest periods
- proper maintenance of machines.

The pace of modernisation will not and indeed need not slow down. What is needed is that awareness should be created amongst the community to help them recognise that potential hazards can lead to accidents, which can be prevented by them through simple and low cost safety measures at work place and the home.

India is soon going to launch a major Trauma Care Programme with an apex Trauma Care Centre at New Delhi, with a network of similar centres throughout the country.

For prevention and control of injuries to become part of strategy for 'Health For All' by the year 2000 A.D., the following action points are suggested:

- It has to be recognised that there is scientifically no distinction between burns, injuries and diseases; they lead to bleeding, fever, disability and death.

- Injuries, including burns, are a major health problem in developing countries and inter-disciplinary safety councils need to be established, which should include representatives from the health sector.

- Health Information Services should collect data on accidents and injuries.

- National Trauma Management and Care Programmes should be launched, so that curative aspects of accidents and injuries can be handled more effectively.

- Community awareness programmes through Information Education and Communication programmes for ensuring safe practises so as to minimise accidents need to be developed.