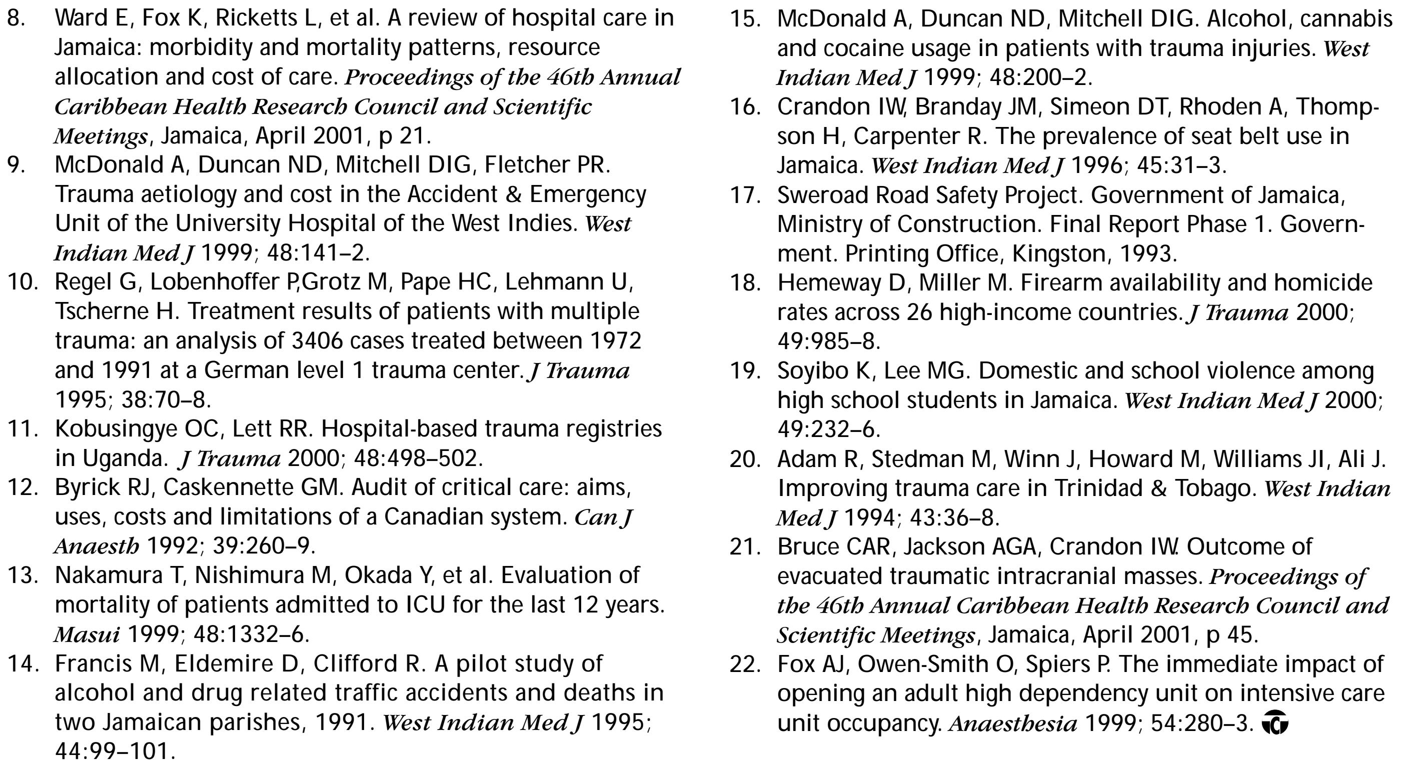

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Trauma Untamed – as yet

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The singular hair-raising and appalling attribute of trauma the world over is its propensity to rob the society of productive youthful lives by striking swiftly at unpredictable time with uncalled fury.

With dedicated focussed and consciously developed strategies and resources, the developed countries of the world have been able to reduce mortality and morbidity caused by trauma. However, the alarming increase in mortality resulting from motor vehicle crashes, crimes, war, and industrial and agricultural incidents and the high cost of long-term rehabilitation, which most patients who survive cannot afford, are still the prime concerns. The good news is that developing countries have started recognising the gravity of the problem and are trying to evolve strategies that can improve the trauma management system with a more "systemized" or organised approach.

There can be contrasting differences between various developing countries, since use of resources for trauma care has to depend on priorities as well as realistic assessment of the magnitude of the problem and its epidemiologic baseline. Differences exist in the nature of frequently encountered trauma in different developing nations.

The ITACCS journal, *TraumaCare*, is dedicated not only to disseminating scientific information to its readers but also to reporting on efforts to improve the care of trauma patients in every locale. Accordingly, a report from our colleagues in Kingston, Jamaica, is published in this issue.[1] Special emphasis has been given to the high incidence of intentional injuries caused by personal warfare in Jamaica. However, this ICU-based study reflects only the severely injured and may not represent the overall true incidence of various causes of unintentional deaths.

In India, 10.1% of total deaths in 1997 were reported to be caused by accidents and injuries, and the most common causes of trauma deaths were traffic crashes and suicides (22.6% and 23.7% respectively).[2] According to another data source,[3] one death by accident was reported every 1.9 minutes and one suicide every 5 minutes during 1999, amounting to 11.2 suicidal deaths per 100,000 population.

A separate case may be made for each developing country, given its geographic distribution of resources, locale, differing socioeconomic strata, and cultural differences. In India, the heterogeneous distribution and co-existence of industrialized and developed metropolitan cities, smaller cities and towns, and entirely rustic and rural villages makes planning and implementation of health programmes an even more arduous task.

All developing countries face a high rate of road crashes due to a multitude of problems, namely, large numbers of

pedestrians and animals sharing the roadway with slow- and fast-moving traffic, significant numbers of old and poorly maintained vehicles, two wheelers being the most commonly used traffic vehicle, low driving standards, large numbers of buses often overloaded, a widespread disregard for traffic rules, and defective roads with poor street lighting. In India,[3] while the incidence of deaths resulting from traffic incidents rose to 36.6% of the total accidental deaths in 1999, 25.6% of road crash victims were occupants of trucks and lorries. Once a roadway incident occurs, the fatality rate is many times higher than in developed nations, indicating the formidable task that lies ahead in trauma management in India. This has to be added to the fact that India has one of the highest road traffic incident rates in the world!

Although trauma is a major cause of morbidity and mortality, and hospital-based patient care is abundant, developing countries do not yet have organised trauma care systems. The development of such systems is not an overnight task; rather it is an ongoing process, with the eventual benefits being apparent after years of planning and work.

Whenever a disaster strikes, the utopian dream would be activation of preconceived, planned contingency measures. However, as India witnessed recently in the Gujrat (Bhuj) earthquake of 2001, what surfaces is the chaotic lack of organization. Most developing nations face not only scarcity of resources but also greater loss of human lives following natural disasters. In India, of 271,918 accidental deaths during 1999, a significant 10.1% were caused by natural disasters—an increase of 20.8% over the previous year.[3]

Currently, the problems a developing nation must tackle are deficiencies of prehospital as well as hospital care dedicated to trauma. Superimposed on this dearth of services is the lack of recognition of trauma care as a specialized medical field. The problems extend to health department and government policies, dedicated and trained emergency physicians and other paramedical personnel, surgical facilities and amenities, anaesthesia delivery systems, life-saving and anaesthetic drugs, availability of safe blood, and legislative policies such as highway safety acts.

The scenario for trauma care in India at present is similar to what existed in the United States in the 1960s. It must be similar in other developing countries also. Prehospital care is virtually nonexistent, and implementation of the "Golden Hour" concepts is still an underachieved goal. Though Accident and Emergency departments are widely available in larger cities, there is a considerable variation in quality and accessibility of trauma care. There are no laws regarding qualifications for ambulance personnel or the type and quality of ambulance equipment and no methodologies to determine the ability of a hospital or its personnel to care for trauma victims. Injured people are transported by volunteers or public, maybe by police in metropolitan areas, in a variety of non-medical vehicles, including bullock-carts. A Centralized Ambulance Trauma Service (CATS) does exist in Delhi. In June 2001, the city acquired 30 fully equipped prehospital care ambulances, but many more and uniformly distributed prehospital ambulance services with trained paramedics are required in the whole of India. An encouraging step envisaged is the training of police personnel in prehospital care. Poorly trained trauma care providers and poorly equipped hospitals in India need to be transformed into highly integrated and well organised systems of rational care.

A major constraint for patients going to private hospitals is finances. Since medical insurance schemes are currently an alien concept, patients pay for medical expenses. Meanwhile, government hospitals provide free care, but the quality of that care differs from one centre to another.

Trauma centres dedicated to fulfilling the goal of providing timely trauma care are now emerging in India. To cite a successful example, a dedicated trauma system in Vellore has reduced the trauma-associated mortality from 27% to 6%.[4] In a developing country, it would be worthwhile to create trauma system models suitable for the respective needs of various geographic areas rather than a single prototype to be blindly copied and implemented. The National Board of Examinations in India has taken the first step toward registering courses in "trauma care" albeit very few seats are being announced initially. Nevertheless, it is an encouraging step to recognize the significance of "multidisciplinary, nonspecialized care". The need of the hour is to synchronize the activities of multidisciplinary teams toward trauma care. Until developing countries can evolve a specific high-efficiency trauma care system with protocols, this area will always demand attention. Besides training doctors to care for trauma victims, there is a need to train nurses for the same. Paramedics need to undergo continuous teaching-learning activities to retain and upgrade their skills and acquire knowledge in designated paramedic schools. In developing countries, with their high levels of poverty, illiteracy, and ignorance, public awareness and acceptance about concepts and needs of trauma care must be inculcated.

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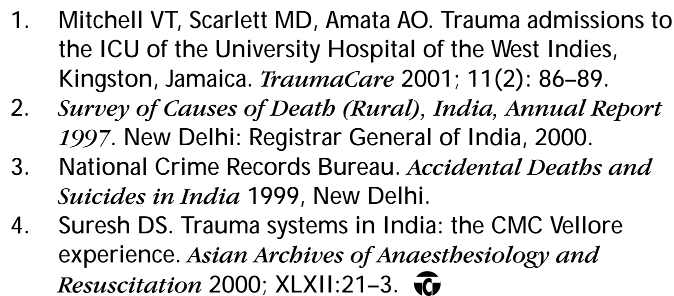

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