

Emergency Patient Transportation in South Asia-Call for a Proper Pre-Hospital Care System

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Abstract

First-Aid is one of the most essential parts of any medicinal or surgical treatment in emergency conditions. Over the past decade, emergency medical services and the tools used have evolved in ways many previously never thought were possible. However, unfortunately many parts of the world to this day, including the South-East Asia, are devoid of essential basic emergency services. Multiple factors make it very difficult for care to be provided to the patients, including the lack of proper ambulance services. Patients suffer from debilitating conditions by not getting proper assistance on the scene. World Health Organization (WHO) emphasizes on the importance of emergency medical services which are usually the first point of contact with healthcare systems for acute conditions. A comparative review of developing countries with developed ones gives a better explanation for an immediate need of a proper system for Emergency care of patients to reduce mortality ratio and provide better care in critical conditions.

Keywords: Pre-hospital management; Emergency medical services; Pre hospital care

Introduction

Over the past decade, emergency medical services and the tools we use have evolved in ways many never thought were possible. Many systems have yet to flourish medically and truly engage their personnel to make clinicians, rather than technicians. Emergency is a time sensitive during which every moment and action counts. Timing of care should properly be monitored with the best treatment for the patient in emergency.

Contributory Factors and Issues with Ambulatory Transportation in South-Asia

In developing countries of South Asia the non-availability of pre-hospital management and trauma centers is a major obstacle for provision of timely care. Patients are regularly brought to the emergency departments by relatives or bystanders in private cars, taxis or other readily available modes of transportation [1,2]. These patient transport vehicles have no trained emergency medical technicians (EMTs) or emergency equipment, and no system of communication with hospitals [2]. In a 2002 case series of 4091 patients transported by ambulances of the largest emergency service in Karachi (Pakistan), 58% victims of severe violence died before they could reach the hospital, with the availability of ambulances playing a potential role in these deaths [3].

Unawareness of the Role of Ambulances

In a pre-hospital setting, precious time is spent in arranging transportation, transporting patients to the nearest care facility, and from there transporting them to a tertiary care hospital. Large numbers of people living in these developing countries are unaware of the role of the ambulances or they deem them to be useless [4]. Other than absence of pre hospital care, poor inter hospital transportation is also responsible for many preventable deaths [5]. The current ambulance services running in the country are mostly privately owned or working on the basis of donations and charity. They are considered more as means of pre-hospital transportation, not pre-hospital care [6]. Another major drawback of the absence of emergency medical services (EMS) is that naïve attendants, unable to access the condition of critically ill patient, transport patient to small health care centers, where they do not receive the management required. Siddiqui [7]

reports that 60% of the cardiac emergency patients were taken to a local health centers.

Delay in Emergency Medical Services

This is major setback to the health system in many South Asian countries, including Pakistan, India and Bangladesh. In a study from Bangladesh, it is reported that it takes 10 minutes for pre-hospital transport to arrive and 80 minutes to reach a facility or care a provider. More than 50% use three wheeled rickshaws and less than 1% used hospital Ambulances [8]. The very low percentage using the hospital illustrates the weakness in the Bangladeshi emergency services due to factors like lack of financial facility or poor first-aid services. The average response time of an ambulance is more than 60 minutes on interurban roads in Pakistan [9]. In cities, like Karachi, where the population is reaching ten million, numerous road traffic incidents take place every day and many lose their lives due to late response of ambulance services [10]. Delay in response of emergency services is one of the reasons the people do not use an ambulance [11]. Unexpected trauma conditions and incidents such as traffic accidents or bomb blasts need an immediate proper emergency care for patients in large amount with an efficient medical staff. In such situations more than 70% use non ambulance transport [12]. A taxi cab is the most popular substitute for the ambulance (39.3%) as a result of not having an EMS system, in India [13]. There is lack of skilled nursing staff and trained paramedics in countries like India, Pakistan and Bangladesh [14]. Paramedics need proper teaching courses to upgrade their skill and acquire knowledge [14]. National road safety secretariat quantified that about two million accidents occurred in Pakistan in year 2006 and 0.418 million were of serious nature. NRSS also reported that there was a loss of 31.94 healthy life years per 1000 population in Pakistan due to injuries in 1990 [15]. The World Health Organization (WHO) estimated that, in 2007, 41 494 RTA fatalities occurred in Pakistan [16]. As per the current standards of pre hospital care in India, WHO projected that by 2020 road crashes will be a major killer in India, accounting for 546,000 deaths [17].

Comparison of Emergency Medical Services in Different Countries

A comparative review of developing countries with developed ones gives a better explanation for an immediate need of a proper system for Emergency care for the patients to reduce the mortality ratio and provide better standards of treatment for patients in critical conditions. Countries like United Kingdom, China and United States have established proper system for emergency conditions. In England, more than 60% of patients come to the facility provider via ambulance [18].

There is empirical evidence that providing emergency transport saves lives. In Sierra Leone, investment in a vehicle and an improved communication system led to a doubling of the utilization of emergency obstetric services and a 50% reduction in case fatalities [19]. In Monterrey, Mexico, an

increase in the number of sites of ambulance dispatch from two to four and the provision of basic skills training in trauma care reduced deaths among patients en route to hospital [20].

The World Health Organization (WHO) emphasizes the importance of emergency medical services (EMS) systems which are usually the first point of contact with healthcare systems for acute conditions like chest injuries, acute coronary syndromes and diabetic coma. Health care in developing countries is not satisfactorily focusing on improving emergency care services [5]. There is no mention of official government operated ambulances or Emergency health care services, in National Health Policy of Pakistan 2010-2015, therefore, the need of amendment and improvement is imminent.

Managing accident victims and critical patients with emergency conditions can be a very sensitive and challenging task. There is immediate need to establish Emergency Medical Services system in this region of the world, in order to provide the patients the best survival chances. From doctors to nursing staff all medical staff should have proper certified training. An efficient network of ambulance should be organized to provide proper services at the right time of emergency. All ambulances should be equipped with basic life support inventory. All ambulances should be free of cost for patients, and hence system would require proper financial support from the government. Proper communication infrastructure should be implemented between the ambulance and hospital. All these factors should be considered seriously to provide proper health care to patients and reduce the mortality rate in South-Asia.

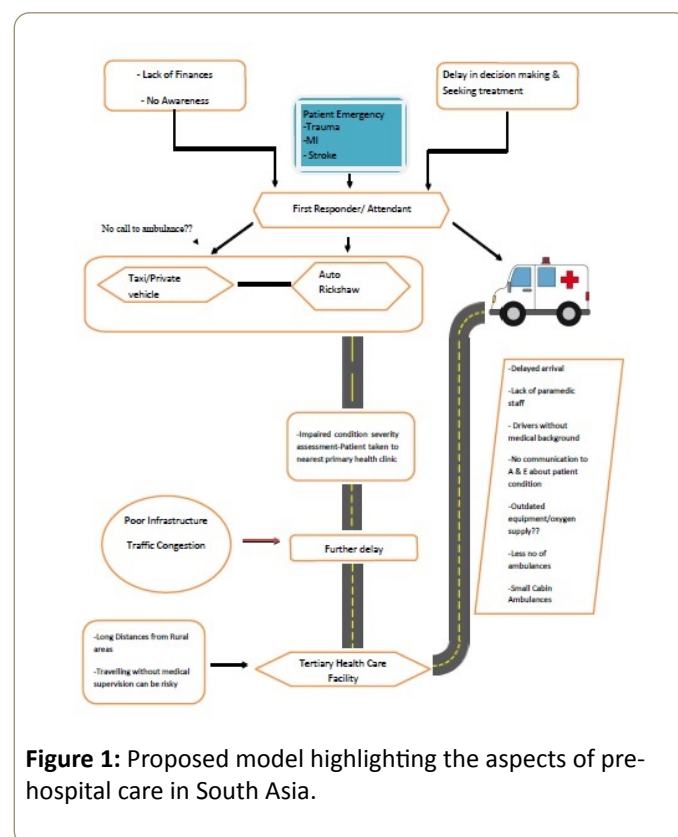


Figure 1: Proposed model highlighting the aspects of pre-hospital care in South Asia.

An accreditation system should be implemented in each country to provide proper certification on international basis

so services can meet the international standards. Many high-income countries (HICs) have well-developed pre-hospital emergency systems which employ modern patient monitoring equipment and have paramedical staff trained to provide pre-hospital care in accordance with the patient's condition. Legislation should be made for accountability of the emergency service. For a patient in critical conditions, every second wasted for acceptable pre-hospital care is critical. An efficient pre hospital care system will save a substantial amount of preventable human loss (Figure 1).

Recommendations for Proper Medical Emergency Services in South Asia

- An Accreditation system should be implemented with proper certification to meet international standards.
- Proper funding should be provided by the government of South-Asia countries at federal and provincial level.
- Well trained and qualified paramedical staff should be employed.
- All equipment's functionality should be monitored regularly.
- All ambulances should be maintained in a good condition.
- Effective network for communication should be established between hospitals and arriving Ambulances.

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