



Evolution of Emergency and Trauma Research: Priorities, Challenges, Perspectives and Necessities

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In current era, the trauma and emergency medical conditions have replaced infectious diseases as the leading cause of mortality and morbidity in a given population. This is usually referred to epidemiologic transition which has been described in 20th century in industrialized countries while it is now being observed in developing world [1]. Previously these were referred to “neglected diseases of modern societies” [2], but now, they have attracted the attention of public health authorities and policy makers. Road traffic injuries and trauma are considered a major global public health problem. Annually, approximately 1.2 million individuals (nearly 3500 people every day) lose their life in traffic accidents while 20 to 50 million protract injuries leading to disability [3]. This high disease burden eventually causes decreased productivity because most of the victims of trauma are the younger population [1]. Trauma is currently the third most frequent cause of death among middle-aged people (30-44 years) and the second most frequent cause of death among young people (5-29 years) [3]. It is estimated that by 2030, road traffic accidents become the fifth cause of mortality and third cause of disability [3]. The burden of road traffic accidents is higher in developing countries. It has

been reported that developing countries contributed 85% of all road traffic accidents mortality and 90% of all related disability-adjusted life years [3]. In Iran, 30,721 of the deaths recorded in 2005 were caused by road traffic accidents [4-6]. According to a report issued by the Iranian Ministry of Health and Medical Education, the road traffic accidents-related mortality rate was 44 per 100,000 people in 2002, the highest rate among all countries compared [7]. Research in the field of trauma and emergency medicine is of important value while the results could change the clinical practice and save the lives of more victims. Although most of trauma centres and societies have now launched their research curriculum and started addressing important issues of trauma and emergency medicine practice, but most of these are not well equipped to fulfil their opportunities. Trauma research groups and societies are currently working in isolation resulting in publication of single-centre and low-power articles as well as uncoordinated approaches and clinical protocols [8]. We note several limitations to the trauma and emergency medicine researches that limit the results of these types of studies: in emergency and trauma practice, the patients present unpredictably and thus the researchers cannot

program the researches; in addition patients usually require life-saving and emergency interventions which come first before the research needs. In the same way, the multiple injury-multiple treatment nature of emergency practice, limits the controlled studies with just one variable varying between study groups. In other words, trauma and emergency patients cannot easily be assigned to research projects. It has been clearly indicated that successful trauma and emergency research need robust data capture from injury to rehabilitation, a practical and ethical system for timely recruitment of patients to clinical studies, expertise in outcomes assessment, and investment in research infrastructure that operates alongside clinical services with separate personnel, free from clinical commitments [9].

Along with research project design and establishment, *Trauma Research Center (TRC) of Shiraz University of Medical Sciences (SUMS)* with cooperation of *Hungarian Trauma Society*, *Lusitanian Association for Trauma and Emergency Surgery (ALTEC/LATES)* and *Serbian Trauma Association* has decided to launch an international, peer-reviewed, quarterly journal coping with original research contributing to the field of emergency medicine and trauma. This would help these research centres and societies to cooperate with each other to boost the quality of research in these fields in order to increase the clinical practice and research expertise. **BEAT: Bulletin of Emergency And Trauma** would be a publication of international repute that serves as a medium for dissemination and exchange of scientific knowledge in the emergency medicine

and trauma. The aim of BEAT is to publish original research focusing on practicing and training of emergency medicine and trauma to publish peer-reviewed articles of current international interest. The collaboration of several societies and highly reputable international experts in the field of emergency and trauma with BEAT would definitely increase its international repute and thus it could move toward its main goals of promoting trauma and emergency medicine research and science.

The journal would serve as an international research network between all trauma and emergency research centres and societies with the aim of obtaining harmony about the most important collaborative research priorities. This would also help the collaborators to unify the trauma research protocols which would result in researches that could be resourced, implemented, and translated to improve outcomes for injured patients.

This important fact should be kept in mind that disability, mortality and expenses could be reduced through enhanced trauma and emergency care which would become possible through effective research. The research priorities should be precisely defined. These include new treatments strategies, pre-hospital care, improve clinical care, trauma and emergency systems, cardiac markers, health care delivery for pediatrics, wound healing, international healthcare delivery and clinical decision rules. The injured patients would definitely benefit from the results of these focused and uniform trauma and emergency researches.

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