



Review Article

The Consequences of Falling Among Older Adults

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Abstract

The population of the world and subsequently number of the elders that do need medical services are growingly increased. Fall is one of the common reasons for attendance of the elders at emergency wards. The information gathered from Pubmed central and Google scholar. If an elder falls, not only does he suffers from severe pains, but also a huge economic costs are charged on his part. Thus, the trauma affecting the elders upon their fall is of great value. This study has been conducted in order to study the consequences arising from fall among the Older Adults.

Keywords: Falling; Aging; Trauma; Older adults

Introduction

Concerning the fact that upon increase of age, different mishaps and diseases affect the individuals and that it is growingly increased, the necessity for duly enactment of strategies for prevention, treatment and precise management of the same for preventing the consequences of trauma is felt more than ever. According to what is revealed by reports, fall stands on top of the factors creating trauma, hospitalization and mortality among the elders. This may be a mortal factor charging too much economic costs on the part of the society. Thus, prevention is both cost-effective and a humanitarian measure. Enactment of policies for control of this problem may also increase number of active and success elders and decrease of extra load charged by the elders. Thus, preventing occurrence of fall among the elders must be taken into consideration by the entire society and public. Introduction: According to the definition presented by the WHO, the individuals above the age of 60 are called "Elders". The elder population of the world and subsequently number of the elders who need medical services is growingly increased. Lack of health and outbreak of chronic diseases shall limit individual activities of the elders upon increase of their age. Being successful in providing health services, decrease of fertility all over the world and increase of hope to life have noticeably increased the population of the elders in the recent century. Developing countries such as Iran shall seriously encounter with the increase of the population of the elders compared to the developed nations. The former should be ready for management of a wave of ageing in the future decay. Generally, the elders are the most important users of emergency system of hospitals and healthcare system [1-4]. Meanwhile, emergency medical services of is a major party in care

chain of patients. The more these services are correct, precise and quick, the more the mortality and handicaps arising from diseases will be decreased and the more trust of people on this system will be promoted [4-12]. Since the elders have less activity, they are less affected by damages. However, when they are affected by damages, their disability and mortality are higher than those of the youth due to dysfunction of the physiological system and functions of body systems as we as medical problems [13]. In other words, the consequence among the individuals of this group is worse and disability and hospitalization at hospitals and medical costs are higher. It can be said that although treatment procedure of both groups is the same, the elders probably benefit from more invasive procedures, early CPR and correctness of cardiovascular condition [14]. Presently, trauma is the fifth cause of death among the elders [15] from among which fall is the most common cause of death caused by trauma among the elders above the age of 75 [1]. Fall is one of the most common reasons of attendance of the elders at emergency ward. Over 1/3rd of the elders experiences fall during their life. Unfortunately, upon increase of age, the number of such elders is increased [16]. According to existing statistics in Iran, it is revealed that 20-28% of the Iranian elders experience fall although difference in outbreak of this mishap has been reported differently depending on age [17-18]. The death of the elders due to fall is higher than that of the youth because of corresponding damages (19). The consequences of fall among the elders change from complete recovery to death. Fall results in appearance of trauma by 20-30% from slight to severe level (simple fatigue and irreparable damagers), including 10-15% of referrals to the emergency wards. Thus, half of traumas leading to hospitalization of the elders are because of fall [20-21]. The most important of hospitalization of the elders is fracture of femora, concussion and damage incurred by upper extremities [22]. Although in more limited cases, it includes fracture of head and face bones, vertebra, pelvic and lower extremities as well. The fracture of lower extremities and femora and permanent hospitalization and subsequently fatal complications such as thrombosis of the deep vein and emboli shall be created accordingly [23]. Duration of hospitalization of the elders at hospitals due to fall differs from each other. Although generally speaking, compared to other kinds of trauma, it enjoys higher rank [22]. In such cases as the elders are hospitalized due to fracture of femora, the said period may reach 20 days [24]. Considering the older aged people with more disability, it is likely that the said elders may be hospitalized for the rest of their life. Moreover, the reports reveal that annually 20% of the elders die due to fracture of femora [25]. On the whole, fall results in 40% of cause of death among the elders due to trauma [26]. Moreover, fall may bring about after-fall syndrome as well. Such problems as disability and dependency on others for carrying out their daily activities, dependence and need for such aids as stick for movement, vertigo, inactivity and depression leads to more limitation among the elders in doing their daily activities and create great problems of the elders [22-28]. Thus, being concerned about this problem is of great importance. Fall is a mishap that overshadows different dimensions of the life of the elders. Following fall, not only do the elders suffer from severe pains, but also too much economic costs are charged on their part. Treatment of fatal and non-fatal falls for the elders amounts to over 20,000,000 Dollars annually in the USA [29]. These figures are higher in the nations of the third world. Under any condition, absolutely mortality and morbidity caused by fall among the elders especially among those are older (above the age of 75) is higher compared to the rest of the members of the society [30-32]. Being

aware about the consequences and determination of trauma affecting the elders after their fall is very valuable for the medical staff in term of precise management. As it has been stated before, the trauma caused by fall has great effects on financial and human resources. Thus, study and research in this field is regarded as an applied need [33]. For precise evaluation of the elders after fall, it is necessary to codify preventive programs, promote the quality and evaluate the results of performance of emergency wards as well as quantitative evaluation of severity of trauma [34].

In order to determine the severity of trauma in the victimized patients, different scores are used. These scores apply the anatomical and physiological criteria or sometimes a combination of both to determine the severity of injury. One of the effective evaluation methods that is commonly used is for the patients affected by trauma is Injury Severity Score or ISS [33]. This score is calculated based on severity of trauma affecting face, head, organs, chest and abdomen. If the said scale is > than or equals to 16, the patient is considered a Multiple Trauma [35,36]. For qualitative assessment of trauma, Trauma-Injury Severity) or TRISS that is a specific grading system for predicting the results in the patients at emergency phase is used. In this system, a combination of ISS (Injury Severity Score) and RTS (Revised Trauma Score) is used [37]. Presently, TRISS is used to determine the precaution of multiple patients of trauma caused by accidents on routine basis.

Materials and Methods

The information gathered from PubMed central and Google scholar. All data collected from 1974 to 2014, were summarized.

Discussion and Conclusion

The elders are one of the most vulnerable groups of society who are affected by social, physical and environmental damages more than others and there is a more possibility of mishaps for this group of people. Nowadays, number of the elders in the world is growingly increased. The ratio of this part of population is increased compared to the total population. Our nation is not an exception regarding these changes [38-42]. Upon increase of hope to life in the world, number of mishaps and diseases that affect the elders is growingly increased. Thus, it necessitates the enactment of strategies for prevention, control and duly treatment. Statistics reveal that on average 28-35% of the elders above the age are affected by fall [7-43]. The elders who are above the age of 70, this reaches to 32-42% [22-32]. Half of the said elders are affected by fall severally. This emphasizes on the necessity for enactment of the preventive measures and hire of strategies for preventing reoccurrence of this mishap among the elders. Considering the study conducted in 2004 by Schoenfelder et al. [23] women are affected by fall more than men do (82.1% against 17.9%). Swanen burg et al. [30] conducted a study in 2010 and reported the number of the said mishap among women more than men (83% against 17%). They considered the main risk factor of fall among the elders is simultaneous consumption of over 4 medicines or narcotic drugs (48%), fear from walking (unreliable) (33%) [30]. According to another study that was managed in 2009 by Corsinovi et al. [35] on 620 Older Adults who underwent treatment after fall [35], no relationship was found between age and occurrence of fall among the elders. Moreover, 75% of the elders did not need specific treatment after fall, 12.8% was affected by rupture, 2.9% was affected by femora fracture, 2.9% was affected by humors fracture, 1.4% was affected by vertebrate fracture and 1.4% was affected by subdural hematoma.

Studies have revealed that fall occurs following a complicated involvement of dangerous factors that directly or indirectly affect the health conditions of the elders. These factors are divided into four groups: biological, behavioral, environmental and socioeconomic factors [22]. According to the study conducted in Iran by Ghodsi et al on 675 cases of fall among the elders, they reported mortality in elders free from the effect of gender [44].

Presently, TRISS is not commonly used to determine the precaution and predict the consequences among the elders affected by fall. However, it seems that it is a proper method for this purpose. The value of this scale has been studied in evaluation of the trauma patients in many studies. In 2009, Hariharan et al. [45] evaluated the clinical value of TRISS on 326 trauma patients. The average of survival obtained for adults in this study was reported as 95.8% (SD=1/0). It reveals that 1.5% of mortality occurs for these patients. However, in practice, these researchers observed 5% of mortality among the patients subject of study. The said researchers came up with this conclusion that TRISS does precisely act in predicting the precaution of trauma patients. However, they introduced TRISS as the most reliable method for scoring regarding their trauma patients [45]. Moreover, in 2004, Murlidhar et al. [44] conducted another study to evaluate the TRISS. The results obtained from the trauma patients, they reported that the mortality predicted for the patients by this index as 10.89%. These figures for RTS and ISS were given as 61.6% and 16.6% respectively. However, the real mortality was given as 21.26%. These researchers reported that the cause of such exorbitant difference as the higher age of patients compared to others [46]. Considering the study conducted by Michel et al in Canada of which results have been released in 2007, it was reported that scoring systems including TRISS are greatly able to predict the precaution of the trauma patients [47].

According to another study conducted by Andres et al in Germany of which results were released in 2007, they reported that precaution of fall of the elders depends on their fear from the fall. The elders with higher degree of fear from fall; they are affected by more damages [48]. Dos et al managed a study in India and came up with this conclusion that using the scoring system of TRISS for predicting morbidity and mortality after fall among the elders may play a prominent role in their medical procedures [49]. Moreover, Kohler et al conducted a study in the USA and confirmed that using the scoring systems may play a great role in predicting the precaution of the elders who are affected by fall from height [50].

Conclusion

Concerning the fact that upon increase of age, number of mishaps and diseases affecting the individuals, is being increased, the necessity for enactment of duly strategies for prediction and, treatment and precise management for prevention of the consequences of trauma is felt more. As it has been stated in the introduction, for precise evaluation of the elders after fall, it is necessary to codify certain programs for prevention, promotion of quality and evaluation of the results of the emergency ward and quantitative evaluation of trauma [34].

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