A Study to Assess the Prevalence, Perceived Cause, Environmental Factors and Injuries Related to fall among Elderly People in Selected Community of District Patiala, Punjab

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Abstract: _Background:_ *Ageing is the natural process. Sixty years and above age group of people is called as 'Geriatric age group'. Falls is one of the major problems in the elderly.* _Objective:_ *The main aim of the study was to assess the prevalence, perceived cause, environmental factors and injuries related to falls among elderly people. _Results:_ One third of elderly people (33%) belonged to ≥ 75 years and one fourth (25%) belonged to 60-64 years. It was found that mean score of perceived cause related to falls among elderly people was 22±10.094 falls. It was concluded that maximum of elderly people always perceived cause of falls. Conclusion There was a high prevalence of falls among elderly people. The highest perceived cause related to falls were accident (slipped), collapse episode (vehicle collision, memory loss), ambulation (walking) and the highest environmental factors related to falls were surface (wet surface, slippery surface, uneven surface) and bathroom area slippery. Majority of elderly people encountered injuries and had fracture as a injury related to falls and also underwent treatment for injuries.*

Keywords: Prevalence, Elderly people, falls, environmental factors, injuries, perceived cause

1. Introduction

Background of the study

Ageing is the natural process. Old age is the last stage in the life journey and closing period in the life span of a man with decreased capacity for adaptation. The aged are known as 'elderly' or 'old people'. Sixty years and above age group of people is called as 'Geriatric age group'.

Good health is the pre-requisite for good quality of life. "Ageing and Health" was a recent topic of World Health Day with the slogan Good health adds life to years. The focus is how good health throughout life can help older men and women to lead full and productive lives and be a resource for their families and communities.

Falls are commonly defined as "inadvertently coming to rest on the ground floor or other lower level excluding intentional change in position to furniture ,wall or other object".One – third of persons aged 65 and older experiences at least one fall annually, thereafter fall risk increases.

The incidence and prevalence of falls, and complications following a fall, increase steadily after the age of 65, and occur in 30-60 per cent of the older population annually. Falls are more common in women than men, and occur most commonly in or around the dwelling.

Accident/environmental related' reasons as the most common cause of falls in older people, responsible for between 30 to 50%. There are many risk factors associated with falls in older people and a combination of apparently trivial factors may "tip the balance" in an older person, who, as well as manifesting the effects of "normal" ageing may also be frail and/ or have a disease condition such as Parkinson's Disease, in which gait is already affected (short, shuffling steps and altered center of gravity). Also, the more risk factors the person has, the higher the risk of falling. Falls are associated with a higher mortality that is not always explainable by fall injury itself. 20% of these falls require medical attention and around 5% results in fractures and 5-10% in other injuries. For good reason today it is considered a health problem on its own and a unique geriatric syndrome. Falls are most serious and frequent home accident among older people. It is also the most common cause of nonfatal injuries and hospital admissions for trauma.

2. Need of the Study

No one knows when old age begins. The "biological age" of a person is not identical with his "chronological age". United Nations defines a country as ageing where the proportion of people aged 60 years and above reaches 7% of the total population of the country. "In youth the days are short and the years are long, in old age the years are short and the days are long." Causes result falls in elderly are gait and balance disorders, dizziness, confusion, orthostatic hypotension, visual impairments, syncope and accidental. Reasons of falls in elderly is often due to multiple factors and 30 % is accidental. Duration of hospital stay due to fall varies , still it is much longer than other injuries. Fall may also result in 'post fall syndrome' that include dependence , loss of autonomy, confusion, immobilization and depression which also leads further restrictions in activities of daily living. In a

developing country like India the risks are high in the community where the environmental hazard are more , and geriatric medical support is not well established , and a good percentage of geriatric population are not aware of falls and related injuries. Falls is a significant problem for aging communities. For this reasons, it is important that perceptions of fall and fall risk factors by caretakers of the aged persons are known to effectively engage them in falls preventive actions for their dependent. So, far this area has been sparsely researched. This made the investigator to make the modest attempt to assess the prevalence, perceived cause, environmental factors and injuries related to fall among the elderly people.

Aim and Objective

The main aim of the study was to assess the prevalence, perceived cause, environmental factors and injuries related to falls among elderly people.

3. Material and Methods

The study was conducted in selected rural community of village Manakpur District Patiala , Punjab.Descriptive survey research design was used. The 650 houses were surveyed and the target population was 308 elderly people in the age group of ≥60 years. The accessible population of 170 elderly people who had experience of falls was taken from the target population by using purposive sampling technique. It consists of 64 items which were covered under areas namely perceived cause (30), environmental factors (28)and injuries(6). Reliability of checklist for perceived cause,

environmental factors and injuries related to falls was checked by Karl Pearson Correlation coefficient followed by the application of Spearman brown prophecy was used. The 'r' was found to be 0.8 was found reliable.

Data Collection Procedure

The sample comprised of 170 elderly people who had experience of falls. Purpose of the study was explained and verbal consent was taken from the subjects. Checklist related to perceived cause, environmental factors and injuries related to falls was filled by interview technique. Number of samples covered per day was 9-10.

4. Results

Out of 170 elderly people , one third of elderly people (33%) belonged to ≥ 75 years and one fourth (25%) belonged to 60-64 years. 53.5% of elderly people were female

Table 1: Prevalence of falls among elderly people, N= 308

Prevalence	Elderly people	
	f	%
Falls	170	55.19
No falls	138	44.81

Table 1 depicts that out of 308 elderly people 170 (55.19%) encountered falls and 138 (44.81%) people did not encounter falls. Hence, it was concluded there was a high prevalence of falls among elderly people.
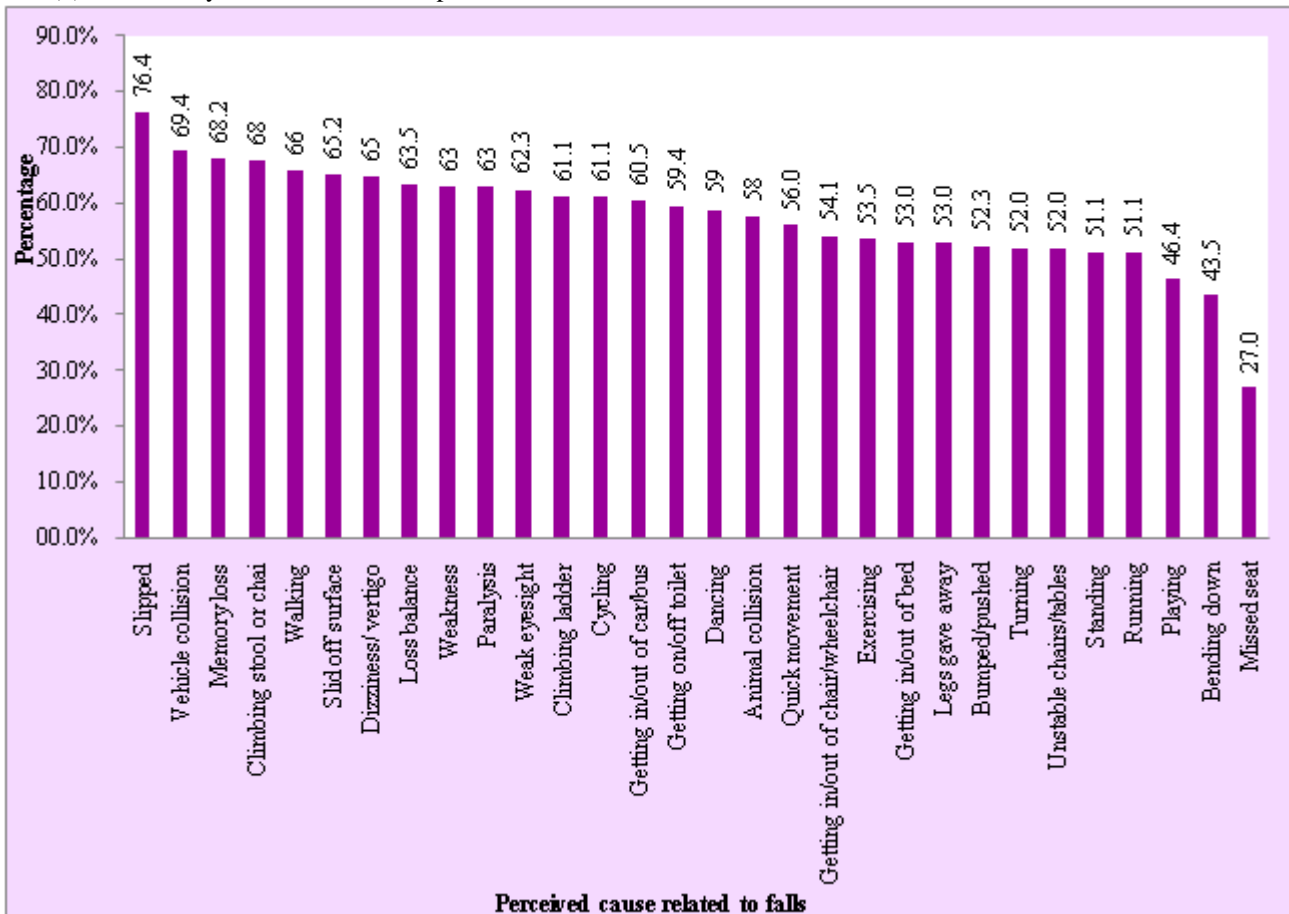
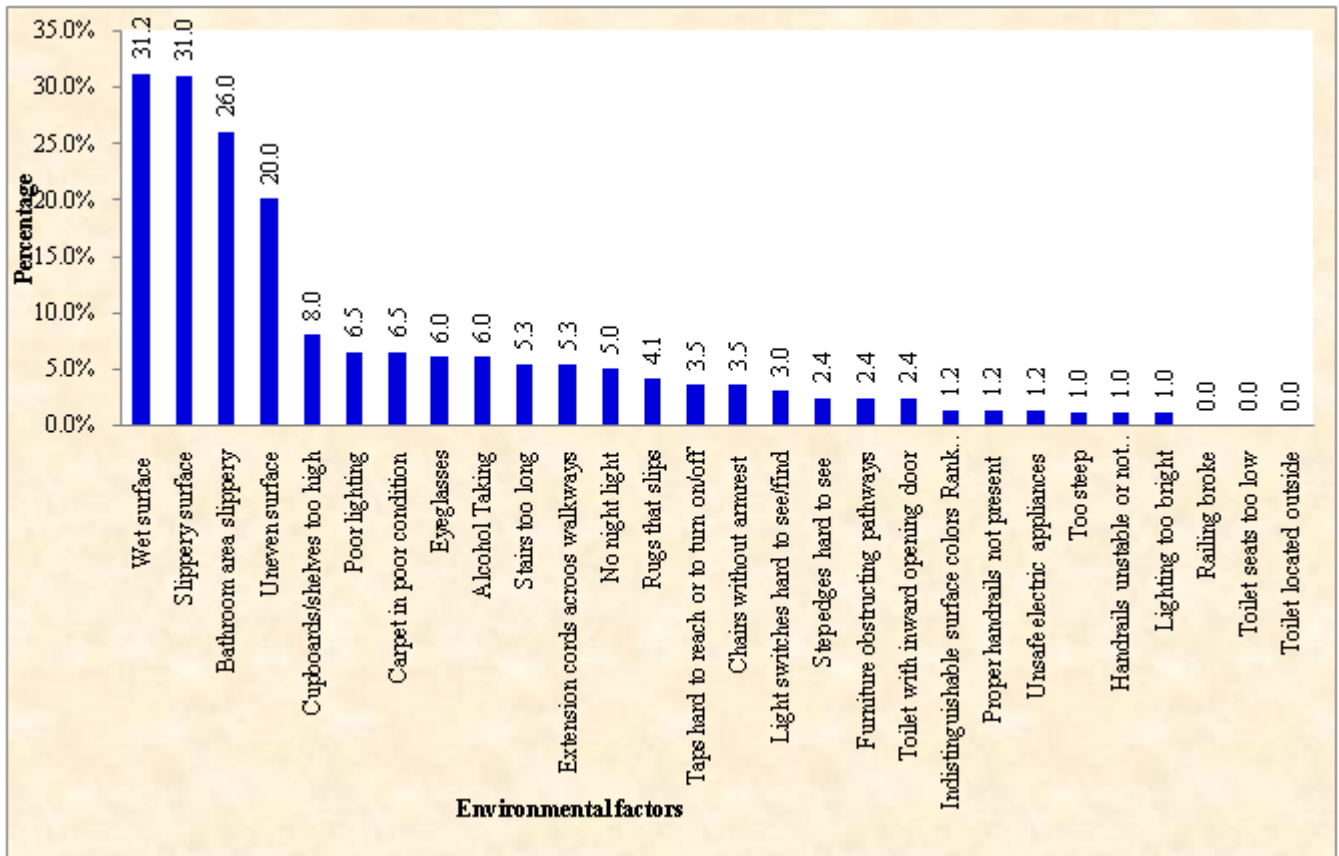**Figure 1:** depicts the perceived cause related to falls among elderly people

Figure 2: Rank wise percentage distribution of environmental factors related to falls among elderly people

Table 2: Frequency and percentage distribution of injuries related to falls among elderly people, N= 170

Injuries related to falls	Elderly people	
	f	%
Yes	128	75
No	42	25

Table 2 depicts that 128 (75%) elderly people encountered injuries related to falls and 42 (25%) did not encountered injuries. Therefore, it was concluded that majority of elderly people had injuries related to falls

Table 3: Frequency and percentage distribution of types of injuries related to falls among elderly people, N= 128

Type of injuries related to falls	Elderly people	
	f	%
Fracture	46	36
Sprain/ strain	41	32
Dislocation	6	5
Abrasion	35	27

Table 3 shows frequency and percentage distribution of types of injuries related to falls among elderly people. Less than half (36%) of elderly people had fracture and only 5% had dislocation due to falls. Hence, it was concluded that majority of elderly people had fracture.

Table 4: Frequency and percentage distribution for treatment of injuries related to falls

Treatment for injuries related to falls	Elderly people	
	f	%
Treated	115	90
Untreated	13	10

Table 4 depicts that 115 (90%) elderly people had taken treatment for injury and 13 (10%) elderly people didn't take treatment for injury related to falls. Therefore, it was concluded that majority of elderly people had underwent treatment for the injuries related to falls.

5. Discussion

Findings of the study revealed that out of 308, 170 elderly people had fall. The prevalence rate of falls was 55.19%. Corresponding to this result, findings of a similar study conducted by Kalula SZ to establish a prevalence rate for falls and the results revealed that the prevalence was 70%. The findings of the study revealed that the main environmental factors related to falls were 31.2% wet surface, 31% slippery surface and 26% bathroom area slippery and least factors were stairs too steep 0.6%. Corresponding to this result, findings of a similar study conducted by Chiu LW et al to identify the predictors of falls that mostly falls occurred in bathroom/toilet (23%), dining room (14.4%), bedroom (12.3%) and kitchen (8.6%), stairs (23.8%).

6. Conclusion

It was concluded that there was a high prevalence of falls among elderly people. The highest perceived cause related to falls were accident (slipped), collapse episode (vehicle collision, memory loss), ambulation (walking) and the highest environmental factors related to falls were surface (wet surface, slippery surface, uneven surface) and bathroom area slippery. Majority of elderly people encountered injuries and had fracture as injury related to falls and also underwent treatment for injuries. The cause related to falls was significantly associated with age and type of family among elderly people

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