# Role of Sensory and Acute Significant Medical Problems Causing fall in Elderly

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**ABSTRACT**

**Background:** Geriatric is an important sub specialty of physical therapy and fall is a key health issue associated with old age.

**Objective:** To find out the role of sensory and acute medical problems causing fall in elderly population of Pakistan.

**Materials and methods:** A Cross sectional survey was conducted at Ghurki teaching trust hospital Lahore, for the period of three months from October to December 2010.Total number of people included was 100. Purposive sampling technique was used. Elders above 60 years having recent history of at least one fall were included regardless of gender. The data were entered and analyzed using SPSS 11.5.

**Results:** Out of 100 there were 83 who had vision problems, 63 % had decreased feeling and numbness or tingling in their feet, 32 % were unsure of footing and trouble on even ground or inline. There were 26% people who had flu like symptoms and 30% people had health problems that limited the activities (heart or breathing problem).

**Conclusion:** The study demonstrates that majority of elderly have sensory and significant medical conditions that can increase the risk of falling.

**Key words:** Accidental fall, Aged, sensory problems, significant health problems. (JRCRS 2014; 2(1): 32-35)

## INTRODUCTION

Fall is an unintentional loss of balance causing one to make unexpected contact with the ground or floor. Falls and fall injury are a major public health concern for the elderly. Falls are a major cause of morbidity and mortality in persons older than 65.1 They are the leading cause of death from injury, a rate that increases with advancing age. In persons older than 85, approximately two thirds of injury- ' related deaths are due to falls. It is estimated that 30% of Community-dwelling elders older than 65, 40% of those older than 80 years, and 66% of institutionalized elders fall each year2. There is a greater-than-linear increase in the rate of falls between the ages of 60 to 65 and 80 to 85.3 Because most falls do not result in injury requiring medical attention, it is likely that many falls go unreported and that fall rates are grossly underestimated.4 Each year approximately 30 percent of person over the age of 65 fall.5 24 percent of falls result in severe soft tissue injury and fractures. Mortality rate associated with falls is 6 percent. Falls are a factor in 40 percent of admissions to nursing homes.6

In old age, the fall is no less than an accident which not only give physical harm but also have its

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discouraging emotional aspect. Whatever may be the cause of fall, poor balance or physical weakness, it is completely preventable. Simple measures proves much beneficial in improving quality of life in this case such as low impact exercises or just keeping the walking area clear of obstacles.7

In United States of America, the persons over 65 years are increasing in emergency departments due to injury after fall and even the falls are going to be the primary cause of death in person with old age.8 Not only in America but all over the world, in different countries, different ethnic groups and both genders, the death rate increasing due to fall.9 Falls are becoming double ended sword by causing direct traumatic deaths and by declining functional activities due to further fear of fall.10 Decreased function leads to number of disease conditions and ultimately pushing victims of falls into well of death. From most of hip fractures in old people to other orthopedic injuries, the falls are cause in most of these.11 A major portion of community, one third of total, consists of elderly persons and in America 60 percent of residents of nursing home fall every year.12

Increasing age, increased drug use, cognitive and sensory impairments and psychological stress are emerging as risk factors of fall.13

The evaluation strategies for falls mainly focus on past history, past medical history, physical assessment and tests of function and postural control. Treatment is planned in context of the cause found by evaluation.14

The patients who have suffered with the falls should be assessed comprehensively. The relative treatment not only reduces the fall risk but also serves to restore normal function. These methods decrease disease and death rate and improve patients' quality of life altogether.15

Some risks associated with age such as poor eyesight and poor hearing capacity are also the cause of falls. Poor lightening environment at home make the situation worse. Environment related hurdles such as soft carpets or irregular objects placed around also enhance the fall risk by disturbing balance. Because poor balance and impaired muscle strength are also have to address to avoid falls.16

Medical related issues and risks of fall range from dizziness, lightheadedness, general weakness to severe illness, heart problem, anemia or pneumonia. These should be addressed by addressing relative cause.17

Medication depression, sleep and high blood pressure has also side effects and have severe impact on balance. Even some of medicine for heart diseases and diabetes disturb physical balance.18

The fall affects severely its victims. It make patient down both physically and emotionally. Physical impacts include pain, functional impairment. The emotional aspects include depression, sense of defeat, dullness and handicapped.

## MATERIAL AND METHODS:

This Cross-sectional survey was done in Ghurki teaching trust hospital Lahore. Three months from October to December 2010. Purposive sampling technique was used. A total of 100 Community dwelling Elders above 60 years having recent history of at least one fall in previous one year were included in this study regardless of their gender. Community dwelling Elders below 60 years and elderly who were Institutionalized were not included in this study. A standardized "Fall – Risk Screening: Multi-Factorial Questionnaire" designed by University of Saskatchewan was used to complete this survey. Variables in the questionnaire were based on

observations. There were two parts of questionnaire one showing the general questions about the history of fall and the other regarding the sensory problems (like eyesight issues, hearing impairment, loss of proprioception), and any other medical illness that make their activities limited.

The data was managed and analyzed using SPSS v.11.5. Categorical variable were expressed in the form of frequency table and percentages.

**RESULTS:**

Out of 100 there 83 who had vision problems, 63% had decreased feeling and numbness or tingling in their feet, 32 % were unsure of footing and trouble on even ground or inline. There were 60% people who had sore joints or arthritis and 54% people had limited activities due to pain in joint muscle or back. 84% people reported that they feel weakness in their legs or tiredness when they walk. There were 26% people who had flu like symptoms and 30% people had health problem that limited the activities (heart or breathing problem).

**DISCUSSION:**

When the study was launched and approximately one hundred and five participants were invited to respond questionnaire. Hundred patients/clients responded the questionnaire. Most of the participants reported that they had experience of near to fall and reported their previous fall to the health professionals. Most of the people reported their previous fall to the health care professionals. They had limited their activities or decreased due to fall. Majority of the people had fracture of bone and were diagnosed of osteoporosis. Most of the female participants reported that they got fracture after fall. So in most of the cases they had got fracture or severe soft tissue injury.

Participants reported that they did not do their exercise regularly and were not taking any medication, Vitamin D supplements or medication to stimulate bone strength. Most of the people had limited physical activity due to joint pain or soreness and did not use the comfortable foot wear. One of the most reported problem regarding sensory inputs was vision. Majority of people reported that they fell because they could not see the hurdles in their way. Loss of proprioception is another major cause of fall as they feel unsteady when they walk. Other people presented endurance problem that they feel weakness in their legs or tiredness when they walk. There was a majority of elderly who are having sore/painful joints due to arthritis or other reasons which also lead them towards an increased risk of falling. The participants also reported the balance problem specially during walking they become unsteady, this was mainly because of lost/reduced proprioception. The results, show a clear increase in frequency of falls with advancing age and decreasing functional disability, and, in view of the fall trends and the continued aging of the population, it is likely that the prevalence of falls will continue to increase or even worsen among the elders if no substantial continuous efforts to engage older adults in health promotion behavior and effective management of the underlying causes of falls among this population, such as chronic conditions, are made.

Physiotherapists are key providers of exercise interventions for elderly people and knowledge of beneficial program components is essential for the design of appropriate exercise programs for those considered at risk of falling. Future research should be warranted in order to explore more in depth about the physical factors involved in the fall by increasing the sample size.

**CONCLUSION:**

Our study demonstrates that sensory problems and acute medical conditions like arthritis, flu and fever had increased the risk of falling in elderly population of Pakistan.

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## Tables and Figures

### Table # I

**Frequency Distribution of Vision Problem**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| **Yes** | 83 | 83% | 83% |
| **No** | 17 | 17% | 100% |
| **Total** | 100 | 100% | |

### Table # II

**Frequency Distribution of Sore Joints or Arthritis**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| **Yes** | 60 | 60% | 60% |
| **No** | 40 | 40% | 100% |
| **Total** | 100 | 100% | |

### Table # III

**Frequency Distribution of Health Problem that limits the Activities (Heart of Breathing Problem)**

| | Frequency | Percent | Cumulative Percent |
|---|---|---|---|
| **Yes** | 30 | 30% | 30% |
| **No** | 70 | 70% | 100% |
| **Total** | 100 | 100% | |