



A DESCRIPTIVE STUDY TO ASSESS THE INCIDENCE OF FALL RISK AMONG THE ELDERLY PEOPLE IN THE SELECTED AREA OF DISTRICT FATEHGARH SAHIB, PUNJAB

Ms Navneet Kaur¹ Ms Deeksha² Dr. Suraj Mathew³

Associate Professor¹ Associate Professor² Principal³

School of Health Sciences

RIMT University, Mandi Gobindgarh, Punjab, India

ABSTRACT

Background: More than 1/3rd of older adults fall each year and 10-20% of falls cause serious injuries. Vast majority of these falls (>99.9%) are unintentional. This research is focused to identify prevalence of the risk of fall among elderly and associated factors were assessed in the present study. We are going to assess the risk of falls and associated factors among elderly.

Methods: A descriptive study conducted in community area by Department of Nursing School of Health Sciences, RIMT University among people of age >60 years during August 2023. A sample size of 100 is obtained by standardized fall risk assessment tool in community setup for assessing incidence of fall risk among elderly people.

Results: The majority of elderly people i.e. 41.0% had moderate concern, 33% had low concern and 26.0% had high concern of fall risk among elderly people. The result showed that 32% of the elderly people were in the age group of 60- 65 years, 30% were in the age group of 66-71 years, 24% were in the age group of 72-77 years and 14 % were in the age of above 78 years. Majority i.e. 59 % were males and 41% were the female. Maximum i.e. 45% were 10th passed, 33% were 5th passed, 12% were the 8th passed and rest of 10% were the graduated or above. 36% were working part time job, 27% were the full time job, 34% were not working and 3% were on the temporary job. Majority of elderly people 47% lived in nuclear family, 35% lived in the joint family, 15% lived single and least of elderly people i.e. 3% living with care taker.

Conclusions: From the findings, present study concluded that 41.0% elderly people had moderate concern of fall risk out of 100. There was no significant association of fall risk with gender, educational status, type of family. Moreover, there was a significant association of fall risk with age and work status at $p\text{-value} < 0.05$.

Keywords: Elderly people, Risk of fall, Fall risk assessment

INTRODUCTION

Falls are events that lead to a person coming to rest inadvertently at a lower level. Falls commonly occur in adults aged 60 years or more. India is the second most populated country, and the number of older adults is estimated to be 137 million in 2021. The number of falls among older adults is increasing with the transition in demographics over time. The pooled prevalence of falls among older adults in India is estimated to be 31%.¹

With rapid aging of the global population, falls in older ages have become a major public health problem. Such falls among older adults are highly susceptible to injury due to high prevalence of diseases and age-related physiological changes later in life. Fall-related injuries cause discomfort and disability for older adults as well as stress for caregivers. Independent of other morbidity conditions, falls are associated with restricted mobility, decline in the ability to carry out day-to-day activities and an increased risk of admission in a nursing home.²

A growing body of literature shows that falling limits an individual's physical activity, social performance and increases the fear of falling and risk of repeated falling that ultimately leads to depression and reduction in quality of life. Walking problems and having poor body balance were found as strong predictors of falls. Besides, inadequate use of materials, stumbling or slipping, and gait disturbances were also found as the common

causes of falls in later ages. Further, a review suggests that most falls occur due to multiple factors, including disorders of gait, balance, strength, and vision. Since vision makes an important contribution to balance, impaired vision resulting from eye disease is a significant independent risk factor for falls and fractures in older people.³

Aging is an irreversible normal phenomenon that takes place at a molecular level, reflecting not only physically but also functionally and psychosocially. Although "geriatric giants" is not uncommon in older adults, falls are regarded as one of the common problems faced by them and also as a significant cause for the increases mortality and morbidity rate among them.⁴

Falls are a leading cause of injury and accidental death among older adults. This is especially true for high-risk populations such as those who experience intellectual and developmental disabilities, multiple sclerosis, Parkinson's disease, cerebrovascular accidents, Alzheimer's disease, and related dementias. We outline general concerns related to falls for those who belong to these populations. This is followed with a description of general fall risk screening instruments and an introduction to fall risk tests and measures. We provide a brief overview of their applicability to high-risk populations. We conclude with guidance on how practitioners can use existing tools to conduct appropriate fall risk prevention screening and assessment activities that lead to the appropriate selection of evidence-based fall prevention programs for older adult high-fall-risk populations.⁵

A global study conducted in 2010 showed that fall due to unintentional injuries (other than road traffic accidents) accounted for 77% and 85% of years lived with disability (YLDs) in the age group of 50-69 and those above this age group respectively. This burden of YLDs due to fall was only 34% in developed countries whereas it was 66% in developing countries. It has been

documented that developing countries lack the required epidemiological data which are needed to develop falls prevention programme that can be incorporated into their national health policy framework. Many

low-cost interventions on fall prevention have been identified and implemented in the high-income developed countries which can be applied to the developing countries. Hence, epidemiological research is urgently needed especially in the low and middle income countries to identify the determinants and conditions contributing to fall-related injury. The primary objective of our study was to find the burden of fall and its distribution in time, place and person among elders. Secondary objective was to identify certain risk factors associated with fall among elders.⁷

A community based cross sectional study was conducted in the field practice area of Rural Health Training Centre (RHTC) Vedapatti under the Department of Community Medicine of PSG Institute of Medical Sciences and Research, Coimbatore. Prevalence of fall in a previous multi-centric community study involving 10 Indian states among the elders was found to be 14%.¹² With an allowable error of 20% and expecting a non-response rate of 20% the sample size was calculated to be

736.⁸

In India, the number of persons above the age of 60 years is fast growing, 76.6 million people in India at over the age of 60, constituting above 7.7% of total population and is expected to reach 8.9% in 2016. Health concerns among the elderly are multiple and complex which includes medical and psychosocial problems. Falls are one of the major problems in the elderly and are considered to be one of the "geriatric giants" (falls, confusion, incontinence, impaired homeostasis, iatrogenic disorders) leading to a significant proportion of morbidity. Falls are commonly defined as "inadvertently coming to rest on the ground, floor or other lower level excluding intentional change in position to rest in furniture, wall or other objects." Falls lead to 20-30% of mild to severe injuries and are underlying cause of 10-15% of all emergency department visits. Most often causes of fall are multifactorial. There is a limited research on healthy ageing in developing countries like India. This would provide important information on epidemiology of falls as well as designing effective preventive strategies for comprehensive management. Hence, the present study was undertaken to know the prevalence rate of falls and to identify factors influencing the falls among the elderly.⁹

Objectives:

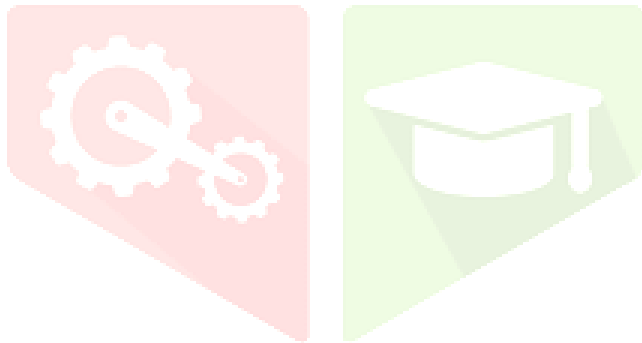
1. To assess the incidence of fall risk among the elderly people at the selected area of district Fatehgarh Sahib, Punjab.
2. To find out the association between research findings and selected socio-demographic variables.

METHODS

A descriptive study conducted in community area by Department of Nursing School of Health Sciences, RIMT University among people of age >60 years during August 2023. A sample size of 100 is obtained by standardized fall risk assessment tool in community setup for assessing incidence of fall risk among elderly people

Section A: Socio-Demographic Variables

This section consisted of 5 selected socio-demographic variables which give baseline information such as age (in years), gender, educational status, work status, type of family.

**Section B: Standardized questionnaire to Assess Incidence of fall risk**

This section consists of 7 items to assess Incidence of fall risk.

1. Getting dressed or undressed.
2. Taking a bath or shower.
3. Getting in or out of a chair.
4. Going up or down stairs.
5. Reaching for something above your head or on the ground.
6. Walking up or down a slope.
7. Going out to a social event (for example, religious service, family gathering or club meeting).

Maximum total fall risk score is 28

Inference of fall risk status score: low risk: 7-8, moderate risk: 9-13, high risk: 14-28.

Inclusion criteria

- Participants with age >60 years were the study population.
- available at the time of data collection.
- willing to participate in the study and gave written informed consent.

Exclusion Criteria

The study excludes the adults who:

- were not willing to participate in the study.

Permission and Approval

A formal written permission was obtained from the sarpanch of Chanarthal Kalan in district Fatehgarh Sahib, Punjab of after discussing the purpose and objectives of the study with them. Written informed consent was obtained from the elderly people for data collection after explaining purpose of the study.

Permission was taken from the Principal of the Nursing Department School of Health Sciences, RIMT University, Punjab. Data Entry was done using MS Excel and analysis was done using SPSS Software.

RESULTS

The mean age of the individuals was 69.4 years ±7.4 years

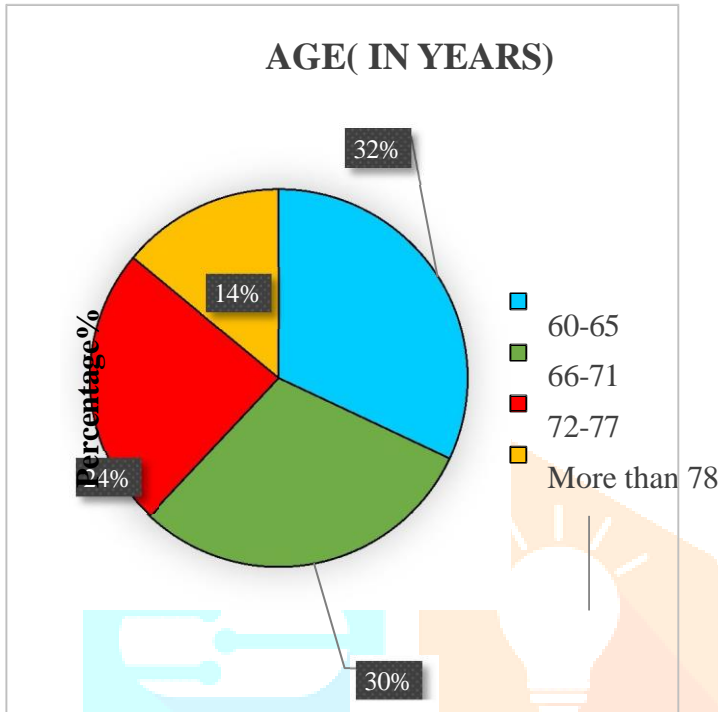


Figure2: conical diagram showing percentage distribution according to the gender of Elderly people. Male are more in number among study population

Figure 1: Pie diagram showing percentage distribution according to the age of Elderly people.

Majority of study population are in range of 60-75 years.

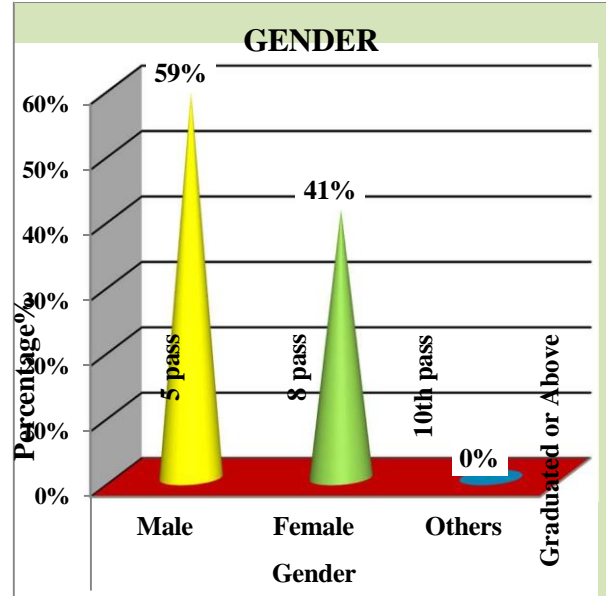
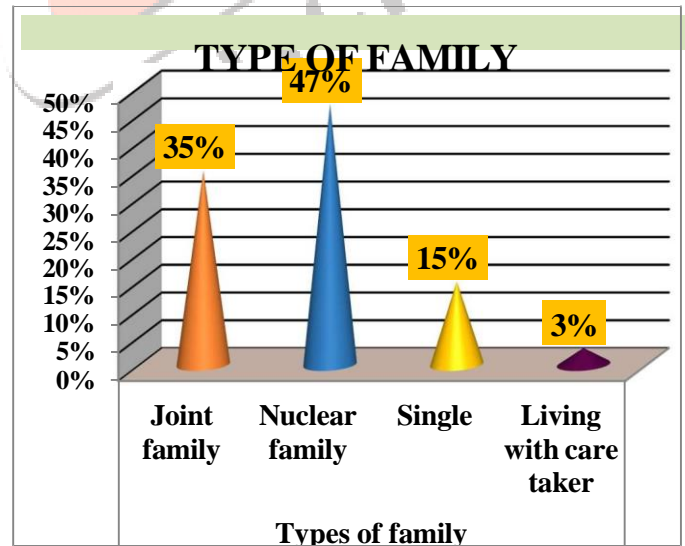


Figure4 : conical diagram showing percentage distribution according to the educational status of Elderly people.



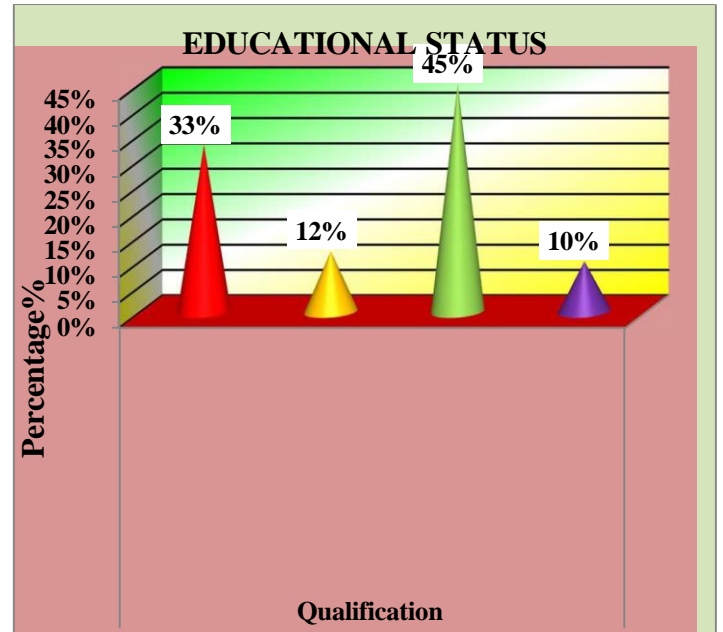
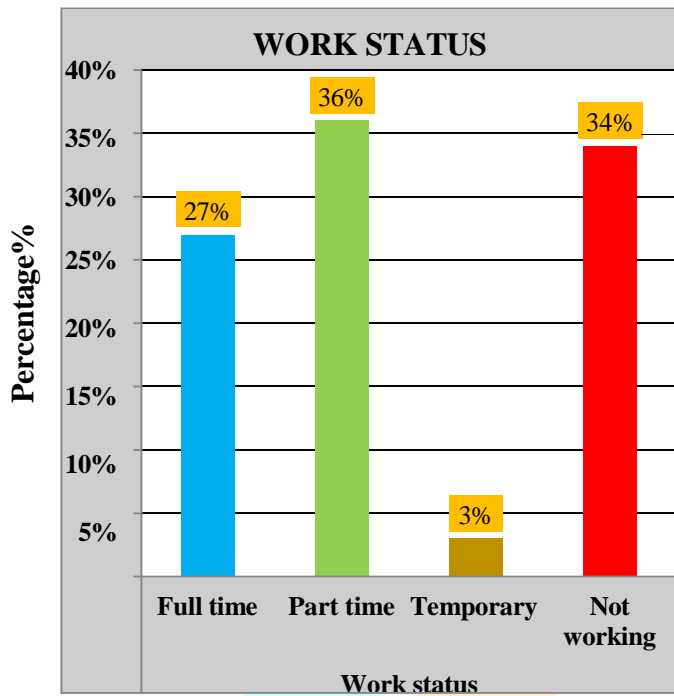


Figure 3: bar diagram showing percentage distribution according to the work status of Elderly people

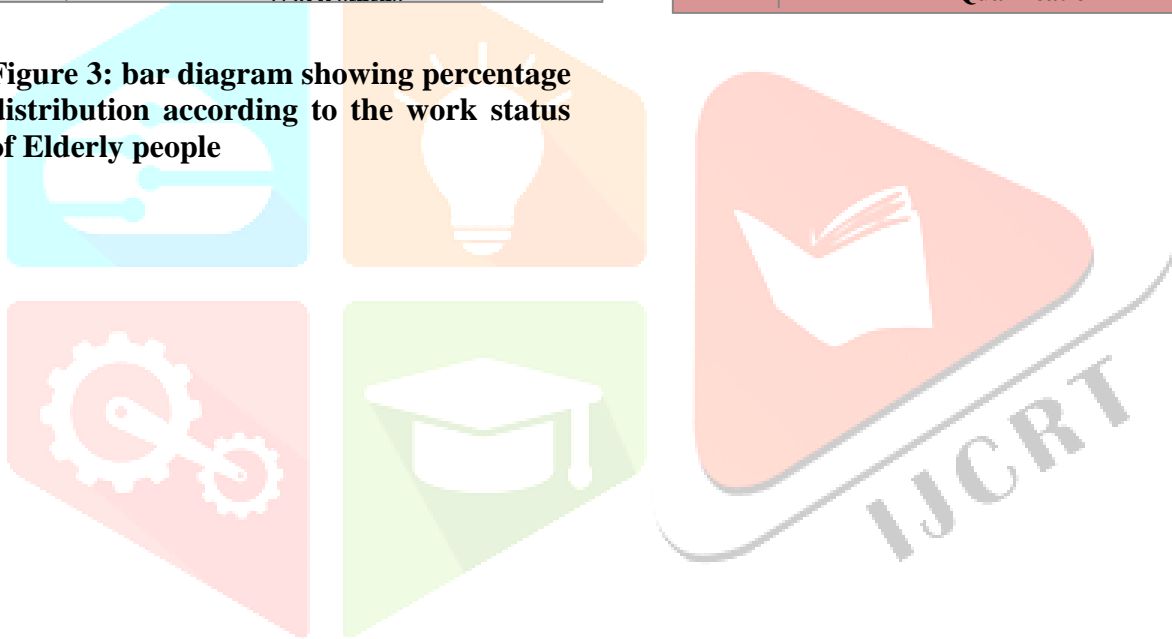


Table 3: Association between fall risks with selected socio-demographic variables**Findings related to the association between fall risk with selected socio-demographic**

S.NO.	Socio- demographic variables	Level of Knowledge			z ² , df, p-value
		High Concern	Moderate Concern	Low Concern	
1.	Age (in years)				48.557, 6, 0.00*
	60-65 years	0	11	21	
	66-71 years	5	15	10	
	72-77 years	10	12	2	
	78 years or Above	11	3	0	
2.	Gender				4.084, 2, 0.130 ^{NS}
	Male	11	27	21	
	Female	15	14	12	
	Transgender	0	0	0	
3.	Educational Status				14.697, 6, 0.023 ^{NS}
	5 th pass	12	14	7	
	8 th pass	5	6	1	
	10 th pass	9	18	18	
	Graduated or Above	0	3	7	
	If any other, specify	12	14	7	
4.	Work Status				5.621, 6, 0.000*
	Full time	0	7	20	
	Part time	3	24	9	
	Temporary	0	2	1	
	Not working	23	8	3	
	Full time	0	7	20	
5.	Type of family				9.351, 6, 0.155 ^{NS}
	Joint family	13	11	11	
	Nuclear family	10	22	15	
	Single	1	7	7	
	Living with care taker	2	1	0	

NS-Not Significant

*- Significant at p<0.05

DISCUSSION

The study showed that among 100 elderly population elderly population, The majority of elderly people i.e. 41.0% had moderate concern, 33% had low concern and 26.0% had high concern

of fall risk among elderly people. In a study of fall among elderly person in community area of Punjab

The problem statement of the study is “**A descriptive study to assess the incidence of fall risk among the elderly people at the selected area of community district Fatehgarh Sahib, Punjab.**”

In order to achieve objectives of the study descriptive design was adopted and 100 subjects who fulfills inclusion criteria were selected by using non- probability convenient sampling technique. Socio- demographic variables was selected and they were assessed by using standardized questionnaire.

Objective 1: To assess the incidence of fall risk among the elderly people at the selected area of community district Fatehgarh Sahib, Punjab.

In present study it was found that, 41% had moderate concern of fall risk. Similar study conducted by **Sasidharan K Divyamol, Raj Manu 2020** showed that there was incidence of fall risk among elderly people is 31%.²³ **Ann Mariya P.R, Delna Mary George, et.al. (2021)**, showed that the majority 73.33% of elderly person are at low risk for fall and 26.66% are at high risk for fall in questionnaire and 81.67% of elderly are low risk for fall, 18.33% are risk and there is no elderly person high risk for fall in checklist.

The overall fall risk is high among elderly individual alone in home and low in elderly in nuclear families.¹⁹

Objective 2: To find out the association between research findings and selected socio-demographic variables.

In present study significant association was found between age and work status. Similar study conducted by **Shobhit Srivastava & T. Muhammad 2022** showed that significant association between age and educational status.¹⁷ **Monachan, Dayana, Vargese, Saritha Susan, et.al. (2020)**, showed that the risk of fall prevalence was high and significantly related to cognitive impairment, advanced age, female gender, and occupational status, with more than half of those currently not working having a higher risk.²⁴

CONCLUSION

According to present study the findings, concluded that 41.0% elderly people had moderate concern of fall risk out of 100. There was no significant association of fall risk with gender, educational status, type of family. Moreover, there was a significant association of fall risk with age and work status at p-value<0.05.

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