

# Assessment of Risk of Fall in Depressed Elderly Individuals

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## Abstract

**Background:** Aged as the word is used in society may or may not correlate with the general condition of the individual but more often refers to the individual's loss of capacity to maintain independence. Falling is a ubiquitous event experienced by all throughout life. Most falls in children and young adults are of minor consequences and readily forgotten and have no impact on subsequent function.

**Objective:** To assess risk of fall in depressed elderly individuals.

**Study design:** Observational study design

**Method:** 60 subjects were included in the study according to the inclusion and exclusion criteria. Subjects having depression were included in the study. Risk of fall was assessed in depressed elderly individuals.

**Results:** The result shows that there is moderate to high risk of fall in depressed elderly individuals..

**Conclusion:** The study concluded that there is moderate to high risk of fall in depressed elderly individuals which is statistically significant.

**Keywords:** *Elderly individuals, Depression, Balance.*

## Introduction

The term aging refers to a number of developmental changes occurring in the older age group. These changes decrease the person's ability to function, maintain survival and have a high quality of life.<sup>(8)</sup>

For maintaining a position, remaining stable after changing the position and moving freely balance is required. And the ability to balance can be compromised by following- medications, disease and the process of aging.<sup>(11)</sup>

Aged as the word is used in society may or may not correlate with the general condition of the individual but more often refers to the individual's loss of capacity to maintain independence.

Depression is the most common psychological problem in elderly . The causes of depression are – loss of health, stress of physical illness, physical disability, pain and lifestyle changes, can result in psychological response of depression. The characteristics of depressed older person are as follows- feelings of sadness,

hopelessness and loss of interest and pleasure in previously pleasurable activity. The other characteristics are as follows- difficulty concentrating, memory complaints, slowed thinking, indecisiveness and perceived lack of competence and control.

The depressed person has difficulties with interpersonal interactions, including withdrawal from family and friends. Depression includes somatic symptoms such as problems with appetite, sleep and psychomotor functions. Numerous authors have speculated about the causes of depression and various models have emerged- cognitive model, the learned-helplessness model, the interpersonal model, the neurobiological model and the social resources model.<sup>(8)</sup>

Everybody falls, regardless of age. Falling is a ubiquitous event experienced by all throughout life. Most falls in children and young adults are of minor consequences and readily forgotten and have no impact on subsequent function.<sup>(8)</sup>

Falls in elderly are a major cause of morbidity and mortality – the consequences often extend far

beyond minor injury to significant loss of functional independence and even death.<sup>(8)</sup>

Too much fear may compromise physical and mental well-being, although some level of fear of falling is reasonable and can promote effective fall prevention coping skills.

Diagnostic process designed to identify medical, psychosocial, functional capabilities and problems are a part of multi-dimensional geriatric assessment.

Depression which is one of the main factors for falls in old individuals can be assessed by using Geriatric Depression Scale. The GDS has 30 questions which must be answered in ‘yes’ or ‘no’. Each question is scored as 0 or 1. The more the score more the individual is depressed.

The Berg Balance Scale is a widely used tool to assess an individual’s static and dynamic balance which contains 14 balance related tasks. A total score of 56, higher the score less the risk of fall.<sup>(10)</sup>

### Materials and Method

#### A. Study Design:

- **Type of study:** Observational study.
- **Duration of study:** 1 year.
- **Place of study:** Metropolitan city.

#### B. Sample Design:

- **Sample size:** 60.
- **Sample population:** 65-75 years of individuals.
- **Sampling:** Convenience Sampling.

#### C. Materials Used:

1. Consent form.
2. Geriatric Depression Scale.
3. Berg Balance Scale.

#### Selection Criteria:

#### D. Inclusion Criteria:

1. Subjects who are willing to participate.
2. Age group of 65- 75 years (young old).
3. Elderly individuals able to walk without support.

#### E. Exclusion Criteria:

1. Cardiovascular disorder.

2. Respiratory disorder.
3. Neurological disorder.
4. H/O fracture of lower limb.
5. Neuropathy of lower limb.
6. Any deformity of lower limb.
7. Visual impairments.
8. Hearing impairments.
9. Psychiatric patients.

**Procedure:** Screening of the subjects is done according to the Inclusion and Exclusion criteria.

Then a written consent form was taken from the subjects in the language best understood by them.

Assessment of Depression was done using Geriatric Depression Scale.

Elderly having depression were selected for the study.

The selected individuals were then assessed for the risk of fall using Berg Balance Scale.

Then risk of fall was noted in depressed geriatric individuals.

The data was collected and then statistically analysed.

**Statistical Analysis:** 60 Subjects were taken according to the inclusion and exclusion criteria, assessment of depression was done using Geriatric Depression Scale. Elderly having depression were selected for the study. The selected individuals were then assessed the risk of fall using the Berg Balance Scale. Risk of fall was noted in depressed elderly individuals, Data was analysed using the student T test.

**Table 1: Shows the risk of fall and depression**

	Mean	SD	P-value	Significance
BBS score	27.57	6.54	<0.001	Significant
GDS score	20.97	3.93		

### Result

This study was conducted on assessment of risk of fall in depressed elderly individuals using geriatric depression scale and berg balance scale .Our study has shown that there is moderate to high risk of fall in depressed elderly individuals.

The mean of geriatric depression scale and berg balance scale is -6.60.

$$t = 6.7063$$

$$df = 118$$

Therefore the standard error of difference = 0.984.

The 2 tailed p-value is less than 0.0001. By conventional criteria, this difference is considered to be extremely statistically significant.

### Discussion

The term aging refers to a number of developmental changes occurring in the older age group. These changes decrease the persons ability to function, maintain survival and have a quality of life. Depression is the most common psychological problem in elderly.

.Depression which is one of the main factors for falls in old individuals can be assessed using Geriatric Depression Scale. Berg Balance Scale is used to assess individuals static and dynamic balance.

This study was conducted on assessment of risk of fall in depressed elderly individuals using geriatric depression scale and berg balance scale .Our study has shown that there is moderate to high risk of fall in depressed elderly individuals.

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A Biderman et al, depression leads to reduced functioning and reduced quality of life which leads to reduced confidence and is associated with falls among elderly. Due to reduced functioning and loss of confidence there are frequent episodes of fall.

Jacqueline Close et al, falls in elderly are a major cause of morbidity and mortality and the consequences often extend far beyond minor injury with significant loss of independent and even death.

### Conclusion

The study was to assess risk of fall in depressed elderly individuals.

The study included 60 subjects. Depression was assessed using the geriatric depression scale. In depressed elderly individuals risk of fall was assed using berg balance scale.

Hence the present study suggests that there is moderate to high risk of fall in depressed elderly individuals.

**Ethical Clearance:** Ethical Clearance was taken from the subjects

**Conflict of Interest:** Nil

**Source of Funding:** Self

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