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شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم





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# ASSOCIATION BETWEEN SARCOPENIA AND RISK OF FALL IN ELDERLY PATIENTS IN OUTPATIENTS CLINICS

#### Thesis

Submitted for Partial Fulfillment of Master Degree
In Geriatrics

**By Fatima Haroon Saeed Haroon**(M.B.,B.Ch.)

#### Supervised by

#### Prof. Dr. Manar Mostafa Adel Maamoun

Professor of Geriatrics and Gerontology Faculty of Medicine - Ain Shams University

#### Dr. Maram Mohamed Maher Monier

Lecturer of Geriatrics and Gerontology Faculty of Medicine - Ain shams University

#### Dr. Heba Mohamed Hamed Shaltoot

Lecturer of Geriatrics and Gerontology Faculty of Medicine - Ain shams University

Faculty of Medicine
Ain Shams University
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#### **List of Contents**

Ti	itle Page
•	List of Abbreviations
•	List of Tables
•	List of Figures IV
•	Introduction
•	Aim of the Work3
•	Review of Literature
	- <b>Chapter (1):</b> Sarcopenia
	- <b>Chapter (2):</b> Falls
	- <b>Chapter (3):</b> Association between Sarcopenia and falls
•	Subjects and Methods34
•	<b>Results</b>
•	<b>Discussion</b>
•	<b>Summary</b> 63
•	Conclusion
•	Recommendations
•	References67
•	<b>Appendix</b>
•	Arabic Summary

#### **List of Abbreviations**

Abbreviation	Full term		
ACEI	Angiotensin-converting enzyme inhibitors		
<b>ADL</b>	Activities of daily living		
<b>AF</b>	Atrial fibrillation		
BIA	Bio impedance analysis		
ВМІ	Body mass index		
<b>CAM</b>	Confusion assessment method		
<b>CDC</b>	Center for disease control		
<b>CGA</b>	Comprehensive geriatric assessment		
COPD	Chronic obstructive pulmonary disease		
CRP	C-reactive protein		
CT	Computed tomography		
CVA	Cerebrovascular accident		
DEXA	Dual energy X-ray absorptiometry		
DHEA	De-hydro-epi-androsterone		
DM	Diabetes mellitus		
EWGSOP	European working group on sarcopenia in older people		
FDA	Food and drug administration of USA		
Fig	Figure		
FRAT	Falls risk assessment tool		
GDF-15	Growth differentiating factor-15		
GH	Growth hormone		
GHS	Ghrelinis an endogenous growth hormone secretagogue		
IADL	Instrumental daily living		
IGF-1	Insulin like growth factor-I		

#### List of Abbreviations (continued)

**Abbreviation** Full term IL-6.....Interleukin-6 MCI.....Mild cognitive impairment MFS......Morse fall scale **MMSE**.....Mini mental status examination MRI ......Magnetic resonant imaging **MSQ**.....Mental status questionnaire **OH** ......Orthostatic hypotension **OTC** ......Over the counter **PD**.....Parkinson disease **POMA** ......Performance oriented mobility assessment SARMs.....Selective androgen receptor modulators **SD**.....Standard deviation **SMMI**.....Skeletal muscle mas **SPPB**.....Short physical performance battery SSCWD ......Society of Sarcopenia, cachexia and wasting disorders **TNF-** $\alpha$  ......Tumour necrosis factor-alpha **TUGT** ......Timed up and go test **WHO** ......World health organization

#### **List of Tables**

Table No.	Title Page
Table (1):	Demographics and Baseline characteristics of studied population 40
Table (2):	Comparison of TUGT, hand grip and muscle mass index between sarcopenic and non-sarcopenic cases in studied population
Table (3):	Prevalence of increased risk of falls assessed by (MFS) among studied population
Table (4):	Association between risk of fall assessed by MFS and baseline data of studied population
Table (5):	Comparison between TUGT, Hand grip and skeletal muscle mass index and increased risk of falls assessed by (MFS)
Table (6):	Association between sarcopenic/ non-sarcopenic cases and increased risk of falls assessed by MFS
Table (7):	Logistic regression between variables and risk of fall (MFS)

#### **List of Figures**

Figure No.	Title	Page
Fig. (1):	The prevalence of sarcopenic and non-sarcopenic cases among studied population	1
Fig. (2):	Comparison between Sarcopenic and Non-Sarcopenic cases regarding increased risk of fall assessed by MFS	g y

#### **Abstract**

**Background:** Older people are more susceptible for fall. Fall is one of the most common geriatric syndromes that affects the quality of life of the elderly persons. It is the leading cause of severe injuries, as hip fractures in older population. Such injuries can result in "disability, chronic pain, loss of independence, poor quality of life, and in severe cases, death. Falls dresult from mix of biological, medical, behavioral or environmental risk factors.

This study aimed to assess risk of falls in older people at outpatient clinics.

**Methods:** A cross sectional study, 120 older adults were collected from outpatient clinics of Ain Shams Hospital. Geriatrics assessment was accomplished and fall risk assessment was completed using Morse fall scale (MFS) and timed up and go test (TUGT).

**Results:** The risk of falls was 41.67% and assessed by Morse Fall Scale among patients visiting geriatrics outpatient clinics. Older age, cognitive decline, functional dependency, and use of antipsychotic were significant predictors of increased fall risk among elderly attending outpatient clinics.

**Conclusion:** We concluded that increased risk of falls in older adults attended outpatient clinics is multifactorial. **Keywords:** Falls, Risk, Morse Fall Scale, Timed-up and go test.

#### INTRODUCTION

Sarcopenia is "a syndrome characterized by progressive and generalized decrease of skeletal muscle mass and strength with a risk of adverse outcomes such as physical impairment, decline in quality of life and death (*Tanimoto et al.*, 2013).

Muscle is 60% of the human body's protein stores. After the age of 50, about 1–2% of muscle mass lost every year and between the ages of 20- and 80-years muscle mass is decreased up to 50% (*Wang & Bai, 2012*).

The key element in sarcopenia is loss of muscle strength rather than a loss of muscle mass. Thus, definition of sarcopenia includes muscle strength and function (*Clark & Manini*, 2008).

Fall is one of the most common geriatric syndromes that affects the quality of life of the elderly persons. It is the leading cause of severe injuries, as hip fractures in older population (*Edwards et al.*, 2013). Such injuries can lead to functional impairment, chronic pain, dependence, poor quality of life, and even death (*Scott et al.*, 2010).

Also, the post-fall anxiety syndrome, fear of falling; is another consequence of falls, this in turn lead to disability, weakness and gait problems and may eventually increase risk of falls (*Tanimoto et al.*, 2014).

Falls result from mix of biological or medical, behavioral and environmental risk factors. Loss of muscle strength, gait with balance problems were found to be the most risk factors for falls among community dwelling elderly (*Tinetti & Kumar*, 2010).

Sarcopenia is associated with loss of muscle mass and decrease physical performance which leads to physical inactivity, slow gait velocity and protective reflexes, decreased mobility and eventually increased risk of falls (*Fried et al.*, 2001).

#### **AIM OF THE WORK**

The aim of this study was to assess the association between sarcopenia and risk of falls in elderly patients at outpatient clinics in Ain Shams Hospital.