

**Correlation between Frailty Status and
Quality of Life in elderly people recruited
from outpatient geriatric clinic at Al
Mansoura General Hospital.**

*Thesis Submitted for Partial Fulfillment
Of Master Degree in Geriatric Medicine
By*

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List of Abbreviations

ACOVE..... Assessment and Care of Vulnerable Elderly

AD..... Alzheimer disease

ADL Activities of daily life

BMI..... Body Mass Index

BP.....Bodily pain

CNSCentral nervous system

CRP..... C-reactive protein

CVD Cardiovascular disease

DM.....Diabetes mellitus

E/F.....Energy/fatigue

EWB..... Emotional Well-Being

EXIT-25.....Executive Interview test

FCAThe Federal Council on Aging

GDS Geriatric Depression Scale

GH..... General Health

HRQOL..... health related quality of life

HTN.....Hypertension

IGF-1.....Insulin-like growth factor-1

IADL.....	Instrumental activities of daily living
IL-2	Interleukin 2
IL-6	Interleukin 6
MCI.....	Mild cognitive impairment
MH.....	Mental health
MMSE.....	Mini-mental state examination
MoCA	Montreal Cognitive Assessment
OA	Osteoarthritis
OPQOL.....	old people quality of life
PF	Physical functioning
RP.....	Role limitation to physical function
RE.....	Role limitation –emotional
SF.....	Social functioning
SF-36 HRQOL	Short form–36 health related quality of life
SOF.....	Study of osteoporotic fracture
TNF	Tumor necrosis factor
WHO	World Health Organization
WHOQOL.....	World Health Organization Quality of Life

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Introduction

Aging involves progressive decline in the functional reserve of multiple organs and systems due to limitation in functional reserve, damage from environmental agents, increased prevalence of chronic diseases and the emergence of a number of conditions termed geriatric syndromes. **(Kinney, 2004)**

Frailty is a geriatric syndrome of decreased reserve and resistance to stressors, resulting from cumulative declines across multiple physiologic systems, causing vulnerability to adverse health outcomes including falls, hospitalization, institutionalization and mortality. **(Bauer et al., 2008)**

Most definitions of frailty describe a syndrome of loss of muscle mass and strength, energy and exercise tolerance, and decreased physiologic reserve with increased vulnerability to physiologic stressors, as acute illness, hospitalization. **(Studenski et al., 2004)**

Frailty is highly prevalent in older people, up to 40% of older people can be considered as frail and an increasing trend can be expected (Slaets, 2006) next to its high prevalence,

frailty is characterized by its seriousness as it is related to an increased risk of adverse health outcomes such as disability. **(Pel Little et al., 2009).**

frailty is a well-known risk factor for adverse events such as functional decline, hospitalization and death **(Rockwood and Mitnitski., 2007)**, it has recently been shown to represent the main cause of death among community dwelling older people, also frailty has been associated with a significant impairment in the quality of life (QOL). **(Gill et al., 2010)**

QOL has been defined as an individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns. It is a multidimensional variable and its correlates may be different according to the specific contexts. **(Netuveli and Blane, 2008).**

Only very few randomised controlled trials targeting frail older people have considered QOL among outcomes **(Eklund and Wilhelmson, 2009)**

Masel and colleagues recently reported that in older ~~Mexican Americans being pre-frail or frail was associated with~~

worse scores on all physical and mental health-related quality of life scales than being non-frail. (**Masel et al.,2009**)

A recent study showed a negative trend of QOL with frailty status ,it found that almost all dimensions of QOL (health, independence, home and neighbourhood, psychological and emotional well-being, and leisure, activities and religion) except for social relationships and participation and financial circumstances are impaired by frailty. (**Bilotta et al., 2010**)

Aim of the study.

To assess frailty status and its correlation to quality of life dimensions in elderly people recruited from out outpatient geriatric clinic at Al Mansoura General Hospital

Review of Literature

Aging and frailty

Definition of Aging:

Aging has been defined as a loss of “entropy and fractality”, loss of entropy implies a progressive reduction in an individual’s functional reserve, whereas loss of fractality implies a progressive reduction in the ability to coordinate different activity and negotiate the environment, the increased incidence of falls, in the absence of specific neurological or muscular deficits, is an example of loss of fractality with aging. **(Lipsitz, 2004)**

Aging is a multi-factorial process, but the various pathways that lead to aging merge at a common crossroad a consistent finding in older individuals is a chronic and progressive inflammation that correlates with functional decline and death as well as a number of geriatric syndromes. **(Ferrucci et al., 2004)**

These individuals with geriatric syndromes may be identified by a number of signs, including reduction of sight

and hearing, polypharmacy, uncertain gait, episodes of memory loss and of delirium, falls, etc. (**Rockwood, 2006**)

Definition of frailty:

In 1978 the Federal Council on Aging (FCA) in the United States introduced the term “frail elderly” to describe a specific segment of the older population , They defined the frail elderly as “persons, usually but not always, over the age of 75, who because of an accumulation of various continuing problems often require one or several supportive services in order to cope with daily life. (**Hogan et al., 2003**)

Winograd et al (1991) defined frailty as “the presence of one of the following criteria; cerebro-vascular accident, chronic and disabling illness, confusion, dependence in ADL’s , depression, falls, impaired mobility, incontinence, malnutrition, polypharmacy , pressure sore, prolonged bed rest, restraints, sensory impairments ,socio-economic or family problems.

Speechley and Tinetti (1991) defined frailty as present when older adults had at least four of the following characteristics: age >80 years, being depressed, balance and gait problems, rarely or never walk for exercise.

Frailty has been defined simply as: ‘A decreased ability to withstand illness without loss of function. **(Rockwood et al., 1994).**Campbell define frailty in a more complex manner: ‘A condition or syndrome which results from a multi-system reduction in reserve capacity to the extent that a number of physiological systems are close to, or past the threshold of symptomatic failure. As a result the frail person is at risk of disability or death from minor external stresses. **(Campbell, 1997)**

Despite a dramatic increase in the use of the term 'Frailty' among health professionals, there is still a lack of consensus in the literature on its meaning, and there are no widely accepted conceptual guidelines for identifying older adults as frail, however, instead of being an unavoidable consequence of advancing chronological age, frailty has been well recognized as an independent geriatric syndrome. **(Morley et al., 2006)**

Frailty is currently interpreted as “a geriatric syndrome of decreased reserve and resistance to stressors, resulting from cumulative declines across multiple physiologic systems, causing vulnerability to adverse health outcomes including falls, hospitalization, institutionalization and mortality. (**Bauer and Sieber, 2008**)

The general concept of frailty, however, goes beyond physical factors to encompass psychological and social dimensions as well, including cognitive status, social support and other environmental factors . **(Bauer and Sieber, 2008)**

Recently, an integral conceptual model of frailty was presented that reflects current thinking on frailty and is based on the following definition of frailty: ‘Frailty is a dynamic state affecting an individual who experiences losses in one or more domains of human functioning (physical, psychological and social), which is caused by the influence of a range of variables and which increases the risk of adverse outcomes. **(Gobbens et al., 2010)**

Whether frailty be considered a state variable resulting from the accumulation of deficits **(Rockwood and Mitnitski, 2007)** , or a specific clinical phenotype, separate but partly overlapping with the concepts of chronic disease and disability, frailty is a well-known risk factor for adverse events such as functional decline, hospitalization and death. **(Fried et al., 2001)**

Prevalence of frailty:

A study by **Fried et al (2001)** in which frailty was defined as the presence of three out of five criteria; shrinking/weight loss, weakness, poor endurance and energy, slowness and low physical activity, found a prevalence of 7% in men and women aged 65 years and older using data from the Cardiovascular Health Study ,in this study, frailty was more prevalent among women than men, frailty was also associated with lower socioeconomic status.

Frailty is characterized by its seriousness as it is related to an increased risk of adverse health outcomes such as disability (**Pel Little et al., 2009**). It has recently been shown to represent the main cause of death among community dwelling older people. (**Gill et al., 2010**)

In a study of 2032 people aged 70 years and over, increasing frailty in men was observed with non-white collar occupations, inadequate expenses, no or little exercise, abstinence from alcohol, few relatives or neighbors and no/or infrequent participation in helping others. For women, little contact with relatives and the absence of participation in community/religious activities were additional social determinants of frailty. (**Woo et al., 2005**)
