بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

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The Relationship between Frailty and Depression among Hospitalized Older Adults

Thesis

Submitted for Partial Fulfillment of Master degree in Geriatric Medicine

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Mona Elkady

List of Contents

List of Tables

List of Figures

Fig. No.	Title	Page No.

List of Abbreviations

Abb.	Full term
25(OH)D	25-hydroxyvitamin D
ACEIs	Angiotensin converting enzyme inhibitors
ADL	Activities of daily living
ARBs	Angiotensin receptor blockers
BMI	Body mass index
BTRC	Beta-transducin repeat containing E3 Ligase
CAPMAS	Central Agency for Public Mobilization and Statistics
CASP8	Caspase 8
CD	Cluster of differentiation
CFS	Clinical frailty scale
CMV	Cytomegalovirus
COPD	Chronic obstructive pulmonary disease
CREBBP	CREB-binding protein
CRP	C-reactive protein
CSHA	Canadian study of health and ageing
DED	Depression-executive dysfunction
DM	Diabetes mellitus
DSM-IV	Diagnostic and Statistical Manual, Fourth Edition
ECT	Electroconvulsive therapy
EFS	Edmonton Frail Scale
FDA	Food and Drug Administration
GH	Growth Hormone
HTN	Hypertension
IADL	Instrumental activities of daily living
IGF	Insulin-like growth factor
IHD	Ischemic heart disease
IL-6	Interleukin-6

List of Abbreviations Cont...

Abb.	Full term
KAT2B	k-lysine acetyl transferase 2B
LLD	Late-life depression
MDD	Major depressive disorder
MMSE	Mini-mental status examination
MNA	Mini-nutritional assessment
MTR	Methyltetrahydrofolate-homocysteine methyltransferase
NSAIDs	Nonsteroidal anti-inflammatory drugs
PD	Parkinson disease
SNP	Single nucleotide polymorphism
SNRIs	Serotonin–norepinephrine reuptake inhibitors
TMS	Transcranial magnetic stimulation
TNF	Tumor necrosis factor
TUGT	Timed up and go test
WMH	White matter hyperintensities

INTRODUCTION

Population aging is increasing, with subsequent increases in the demand for health and social care services. Frailty affects a significant proportion of the elderly population and requires a unique approach to caregiving ***(Turner et al., 2014).***

The estimated prevalence of frailty in elderly is variable, ranges from 5% to 58% ***(Sternberg et al., 2011).***

Frailty is defined as a medical syndrome of age-associated decline in physiologic reserve and function across multiple organ systems ***(Chen et al., 2014).***

The term frailty has been previously viewed as being synonymous with comorbidity, disability, or institutionalization, but recently frailty is recognized to be a geriatric syndrome that is causally related to, but distinct from, comorbidity and disability ***(Feng et al., 2014).***

The main research group of frailty published a definition of physical frailty in elderly as "a medical syndrome with multiple causes and contributors that is characterized by diminished strength, endurance, and reduced physiologic function that increases an individual's vulnerability for developing increased dependency and/or death" ***(Morley et al., 2013).***

Frailty is conceptually defined as a clinically recognizable state of older adults with increased vulnerability, resulting from age-associated declines in physiologic reserve and function across multiple organ systems, such that the ability to cope with every day or acute stressors is compromised ***(Fried et al., 2005).***

The most widely used model to evaluate frailty is Fried et al phenotype ***(Fried et al., 2001).*** According to Fried et al., Frailty is operationalized as a syndrome meeting three or more of five phenotypic criteria: weakness as measured by low grip strength, slowness by slowed walking speed, low level of physical activity, low energy or self-reported exhaustion, and unintentional weight loss. A prefrail stage, in which one or two criteria are present, identifies a subset at high risk of progressing to frailty. Older individuals with none of the above five criteria are classified as non-frail.

The frailty process can be staged into three stages; a pre-frail state, the frailty state, and frailty complications ***(Ahmed et al., 2007).***

The pre-frail state is clinically silent and the physiological body reserves are enough to respond adequately to acute diseases, stress or generally any insult with the possibility of complete recovery. The frailty state is characterized by a slow and incomplete recovery after any new acute disease or stress. Complications of the frailty process are

directly related to physiologic vulnerability resulting from impaired homeostatic reserves and a reduced capacity of the organism to withstand stresses ***(Fried et al., 2004).***

Frailty is measured in many ways, including 'rules based' instruments, summative impairment lists, and algorithms derived from clinical judgement ***(Rockwood et al., 2005).***

Mental disorders are among the most prevalent chronic diseases of the elderly worldwide, with depression being one of the most common psychiatric disorders in this population ***(Mccall and Kintziger, 2013).***

Depression in the elderly is associated with severe adverse health outcomes including disability, mortality, and reduced quality of life. It also leads to higher care burdens for family members and caregivers ***(Zou et al., 2018).***

The diagnosis and treatment of late life depression is complicated by increased risk of comorbid disability, medical disorders, and cognitive impairment ***(Sheline et al., 2010).***

There are symptoms overlap between late life depression and frailty, with symptoms common to both depression as loss of weight and low level of physical activities ***(Mezuk et al., 2012).***

The Cardiovascular Health Study ***(Fried et al., 2001)*** reported that the rate of depressive symptoms increased

proportional to the number of frailty characteristics present. Despite these associations between frailty and depression, there has been little research focused on this high-risk clinical population ***(Brown et al., 2014).***