

**The Association between Malnutrition and
Depression in the Elderly Presenting to Kasr AlAiny
Family Medicine Clinic**

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

”قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ
الْحَكِيمُ“

صدق الله العظيم

سورة البقرة الآية (32)

Abstract

Background Malnutrition and depression are common geriatric disorders. The nutritional state of the elderly is influenced not only by somatic disorders, but also by mental disorders such as depression. Both depression and malnutrition have a negative effect on quality of life.

Objectives Assessment of the nutritional and depression status and find the possible relationship between these variables in the free-living elderly coming to Family Medicine Clinic at Kasr AlAiny Hospital.

Materials, Methods This cross-sectional study was carried out on 100 elderly people with age 65 years or older in 2015\2016. Mini Nutritional Assessment tool and Geriatric Depression Score were used to evaluate nutritional status and depression scores, respectively; demographic data, diagnoses and medications were obtained from the patients.

Results Up to 39% of subjects were subjected to malnutrition. About 8% of elderly people had severe depression and 32% had mild depression. There was a significant statistical difference between the prevalence of malnutrition in depressed and non-depressed individuals ($P < 0.001$). Multiple logistic regression analysis revealed that depression was positively associated with the risk of malnutrition OR 8.6 (95% CI 3.5-21).

Conclusions Depression and malnutrition are relatively common among elderly. In this study it was found that there is an association between depression and malnutrition, which emphasizes the importance of early identification of depression among individuals with nutritional disorders.

Keywords Depression, Malnutrition, Elderly, Geriatric depression score (GDS), Mini nutritional assessment (MNA).

List of Abbreviations

ADL	Activities of Daily Living
BADL	Basic Activities of Daily Living
BMI	Body Mass Index
CGA	Comprehensive Geriatric Assessment
CI	Confidence Interval
DALYs	Disability Adjusted Life Years
DM	Diabetes Mellitus
GDS	Depression Score
DSM5™	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
GPs	General Practitioners
HDS-R	Hasegawa's dementia Scale-R
HTN	Hypertension
IADL	Instrumental Activities of Daily Living
LLD	Late-Life Depression
MMSE	Mini-mental State Examination
MNA	Mini Nutritional Assessment
MRI	Magnetic Resonance Imaging
NICE	National Institute for Clinical Excellence
OR	Odds Ratio
PC	Primary Care
QOL	Quality of Life
SD	Standard Deviation
SPSS	Statistical Package for Social Sciences
TMIG	Tokyo Metropolitan Institute of Gerontology
UK	United Kingdom
USPSTF	United States Preventive Services Task Force
WHO	World Health Organization

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Operational definitions

Old age

Most developed world countries have accepted the chronological age of 65 years as a definition of 'elderly' or older person, "The ageing process is of course a biological reality which has its own dynamic, largely beyond human control. However, it is also subject to the constructions by which each society makes sense of old age. The age of 60 or 65, roughly equivalent to retirement ages in most developed countries, is said to be the beginning of old age (**Warren and Sergei, 2013**).

Depression

Depression is a clinical syndrome having specific diagnostic criteria. It is characterized by sadness, low mood, pessimism about the future, self-criticism and self-blames retardation or agitation, slow thinking, difficulty concentrating and appetite and sleep disturbances. In general the term depression is used in elderly people to mean depressive symptoms because they may not meet the diagnosis criteria. The depressed mood describe in the diagnostic criteria of clinical depression may differ from the depressed mood in elderly that includes several affective responses such as anxiety, irritability etc (**Zauszniewskiet al., 2005& Fulbright, 2010**).

Malnutrition

Malnutrition is a state in which a deficiency, excess or imbalance of energy, protein and other nutrients causes adverse effects on body form, function and clinical outcome (**Stratton et al., 2003**). In the older population, undernutrition rather than overnutrition is the main cause for concern, since its relation to morbidity and mortality is stronger than that of obesity (**Elia, 2003**).

Introduction

The percentage of the elderly is growing rapidly worldwide. The global number of the elderly is projected to rise from an estimated 524 million in 2010 to nearly 1500 million in 2050, with most of this increase in developing countries (**National Institutes of Health, 2011**). The factors underlying this transition are increased longevity, declining fertility, and aging of "baby boom" generations (**Bloom, 2011**).

By the year 2020, depression is projected to reach second place in the ranking of Disability Adjusted Life Years (DALYs) calculated for all ages (**Reddy, 2010**). Major depressive disorder is associated with a high degree of personal disability, multiple morbidity, suicide and lost quality of life for patients, families and carers. Patients with chronic depression may also be high service users with significant economic implications (**Quality Standards Programme NICE, 2011**).

In an aging population, depression is a serious public health issue due to its societal burden and association with various factors. Further, studies in a variety of settings have shown that depression is strongly associated with low function and poor quality of life, increase in the use of health services, late-life suicide tendency, and excess mortality (**Van der Weele et al., 2009&Nyunt et al., 2012**).

With a greater percentage of people living beyond the age of 60 in both the developed and the developing countries, the problem of depression among institutionalized elderly is an important timely issue often undiagnosed and untreated, which needs to be addressed. People with low self-esteem and a pessimistic outlook on life, seem to be particularly prone to depression (**Wijeratne et al., 2000**).

Elderly individuals are reluctant to report depressive symptoms (**Webber et al., 2005**). Therefore, depression in the elderly has often been unrecognized, and it is important to clarify the components of depression to improve the sensitivity of screening methods.

The prevalence of depression in Egypt was %6.43 according to the national survey that was done in Egypt in 2009 to detect the prevalence of mental disorders (**Ghanem et al., 2009**).

Depression makes treating diseases more difficult. For example, appetite disturbance secondary to depression is a major cause of weight loss in the elderly, and weight loss is associated with frailty and failure to thrive (**Blazer, 2003**).

Malnutrition is a further frequent problem in aged individuals. Whereas the prevalence in free-living elderly ranges between 5 and 10% (**Vellas et al., 2001**), it can reach up to 60% in institutionalized individuals (**Suominen et al., 2005**). The aetiology of malnutrition is multifactorial and the consequences are severe: a decrease in functional status (**Elia et al., 2000**).

Meanwhile, weight loss and loss of appetite are the main factors that mediate the relationship between depression and nutritional status (**Rubenstein et al., 2001**). Conversely, better diet quality is beneficial for preventing and improving depressive symptoms (**Akbaraly et al., 2009**).

Malnutrition is widespread in older adults across all settings. It is well documented that malnutrition is common amongst the ambulatory rehabilitation population, particularly older adults, and often goes unrecognized. The prevalence in rehabilitation has been reported as 30%–50% (**Watterson et al., 2009**).