Nutritional Assessment in Elderly Homes in Cairo

Thesis

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In Geriatrics and Gerontology

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Moataz Abdulmoneim Sayed

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List of Abbreviations

Abb.	Full term
AD	*Alzheimer's disease*
ADL	*Activities of daily living*
ALB	*Albumin*
BAPEN	*British Association for Parenteral and Enteral Nutrition*
BMI	*Body mass index*
CSDD	*Cornell scale for Depression in Dementia*
CT	*Computed Tomographic scan*
DM	*Diabetes mellitus*
FFQ	*Food Frequency Questionnaire*
GDS	*Geriatric Depression Scale*
GIT	*Gastro Intestinal Tract*
LBM	*Lean body mass*
MMSE	*Mini Mental Status Examination*
MNA	*Mini Nutritional Assessment*
MUAC	*Mid Upper Arm circumference*
MUAMC	*Mid Upper Arm Muscle circumference*
MUST	*Malnutrition universal screening tool*
PAB	*Pre-albumin*
PEM	*Protein energy malnutrition*
PU	*Pressure ulcer*
RBP	*Retinol Binding protein*
ROC	*Receiver Operating Characteristic curve*
SSRI	*Selective serotonin reuptake inhibitor*
TC	*Total cholesterol*
TLC	*Total leucocytic count*
TNF-α	*Tumor necrosis factor - alpha*
TSF	*Triceps skin fold thickness*
WHO	*World Health Organization*

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Abstract

Elderly home play an important role in achieving better nutritional status among the residents through many actions such as, providing comfortable environment for them, encouraging eating in dining room, putting refrigerators inside residents' rooms, and ensuring food varieties per week. Higher nursing staffing levels were associated with decreased likelihood of malnutrition.

Anthropometric measures was an effective tool to assess nutritional status of elderly homes' residents, and this current study gave a good idea about effectiveness of these anthropometric measures in screening and diagnosing malnutrition in elderly homes' residents in Cairo.

It can be concluded that (BMI ≤19.5 , TSF≤10.5 , MAC ≤24.5 , MAMC ≤22.5) had high diagnostic performance in detecting malnouritrition in Egyptian elderly homes' residents.

Elderly homes care professionals may use this study to inform quality improvement efforts to targeting individuals at high risk for poor nutrition in their facilities.

Keywords: *Mini Nutritional Assessment- Lean body mass- Gastro Intestinal Tract- Geriatric Depression Scale- Body mass index- malnutrition – elderly Egypt*

INTRODUCTION

The United Nations estimates that there are 606 million people in the world over the age of 60, roughly 10% of the population, with the number expected to more than double to 1.6 billion by 2050, reaching 19% of the world's future population. Of this elderly population, already 62% live in developing countries, but by 2050, 80% of the world's elderly will be living in developing countries ***(United Nations, 2013).***

The proportion of elderly hit about 7.1 percent of Egypt's total population, bringing the total number of elderly to 5.9 million in 2012, and this rate is expected to increase to hit about 11.5 percent in 2031 ***(CAPMAS, 2013).***

Undernutrition is an important public health issue which is frequently undetected and untreated. Diseases are the major causes of undernutrition, and older people are a particularly vulnerable group (***Todorovic, 2001).***

The world health organization (WHO) defines malnutrition as "the cellular imbalance between the supply of nutrients and energy and the body demand for them to ensure growth, maintenance, and specific function" ***(WHO, 2003).***

Nutritional inadequacy in the elderly can be the result of one or more factors, physiological, pathological, social, and psychological. A physiologic decline in food intake has been

seen in people as they age regardless of chronic illness and disease ***(Morley, 2002).***

Underlying pathology and medical treatment can directly cause anorexia and malnutrition. Disorders of the gastrointestinal system are related to poor intake and malabsorption of nutrients. Many diseases (e.g. thyroid, cardiovascular, and pulmonary disease) often lead to unintentional weight loss. Chronic illnesses such as diabetes mellitus, hypertension, congestive heart failure, and coronary artery disease are treated with dietary restrictions and with medication that affects food intake ***(Bouras et al., 2001).***

While there are many physical and clinical factors that lead to malnutrition, many elderly experience social, family and economic changes. Social isolation, loneliness, depression, lack of cooking and shopping skills and economic concerns can place older people at moderate to high nutritional risk ***(Australian Family Physician, 2004).***

Studies using a variety of measurements performed on different nursing home subgroups have shown that from 35 percent to 85 percent of nursing home residents are malnourished ***(Burger et al., 2000).***

Malnutrition in older people is not only common, but frequently overlooked. Malnutrition can often go undetected and when left untreated, it can have serious consequences on

health, such as increased risk to infections; Delayed wound healing, and others. This can result in multiple medical complications, hospitalization and even death ***(Visvanathan et al., 2004).***

The consequences of malnutrition and dehydration for elderly nursing homes residents are potentially serious, and that when hospitalized for an acute illness, malnourished or dehydrated residents suffer increased morbidity, and require longer lengths of stay. Compared with well- nourished hospitalized nursing home residents, they have a five-fold increase in mortality in the hospital ***(Burger et al., 2000).***

Several investigations regarding nutritional status in nursing homes have demonstrated that malnutrition is a serious problem in nursing homes, demanding special attention. As population ageing is expected to be experienced in our country, therefore it is important to consider and address the needs and concerns of this group, which might have direct impacts on their well-being and quality of life ***(Saletti et al., 1999).***

Aim of the Work

To assess the nutritional status among male residents of elderly homes in Cairo.

Chapter 1

NUTRITION AND AGING

Increased longevity in adults is now increasingly common in the developed and developing world. These demographic changes have resulted in increasing numbers and hence proportions of the adult population aged over 60. The time when older people will outnumber younger people is rapidly approaching, it is estimated that by the year 2025 the number of people worldwide aged 60 and over will exceed 1.2 billion ***(United Nations, 2013).***

Diet and lifestyle, coupled with maintenance of a healthy body weight are important in the maintenance of health for all age groups but are crucial for healthy aging. Maintaining a good nutritional status has significant implications for health and wellbeing, delaying and reducing the risk of developing disease, maintaining functional independence and thus promoting continued independent living ***(Prince et al., 2015).***

Health maintenance and aging without disabilities are goals for everybody. Aging is associated with progressive changes in body composition that have an important impact on health. After the age of 65 to 70 years, body fat content tends to decrease, even in healthy individuals, and unexplained weight loss leading to protein-energy malnutrition becomes increasingly common ***(Moriguti et al., 2001).***

Changes in total body weight vary for men and women. Men often gain weight until about age of 55, and then begin to lose weight later in life. This may be related to a drop in the male sex hormone testosterone. Women usually gain weight until age of 65, and then begin to lose weight ***(Shah et al., 2017).***

Although no clear agreement exists, the best accepted definition for clinically important weight loss is about 5% over 6 to 12 months. Therefore, all weight loss of 5% over 6 months should be investigated ***(Moriguti et al., 2001).***

In one study of mortality among men and women, the average age of the participants at enrollment was 57 years. it was found that a BMI of less than 22 kg per m^2 in women and less than 23.5 men is associated with increased mortality. In another study it was found that the optimal BMI in the elderly is 24 to 29 kg per m^2 ***(Huffman et al., 2002).***

Anorexia of aging and consequent weight loss are very common problems among the elderly, especially in nursing home residents and in hospitalized older patients. Anorexia is a true geriatric syndrome because it is a multifactorial condition associated with multiple negative health outcomes ***(Donini et al., 2011).***

Hormonal Changes play an important role in the anorexia of aging. Increased levels and effectiveness of cholecystokinin