Prevalence of Disability in Elderly Males

Thesis

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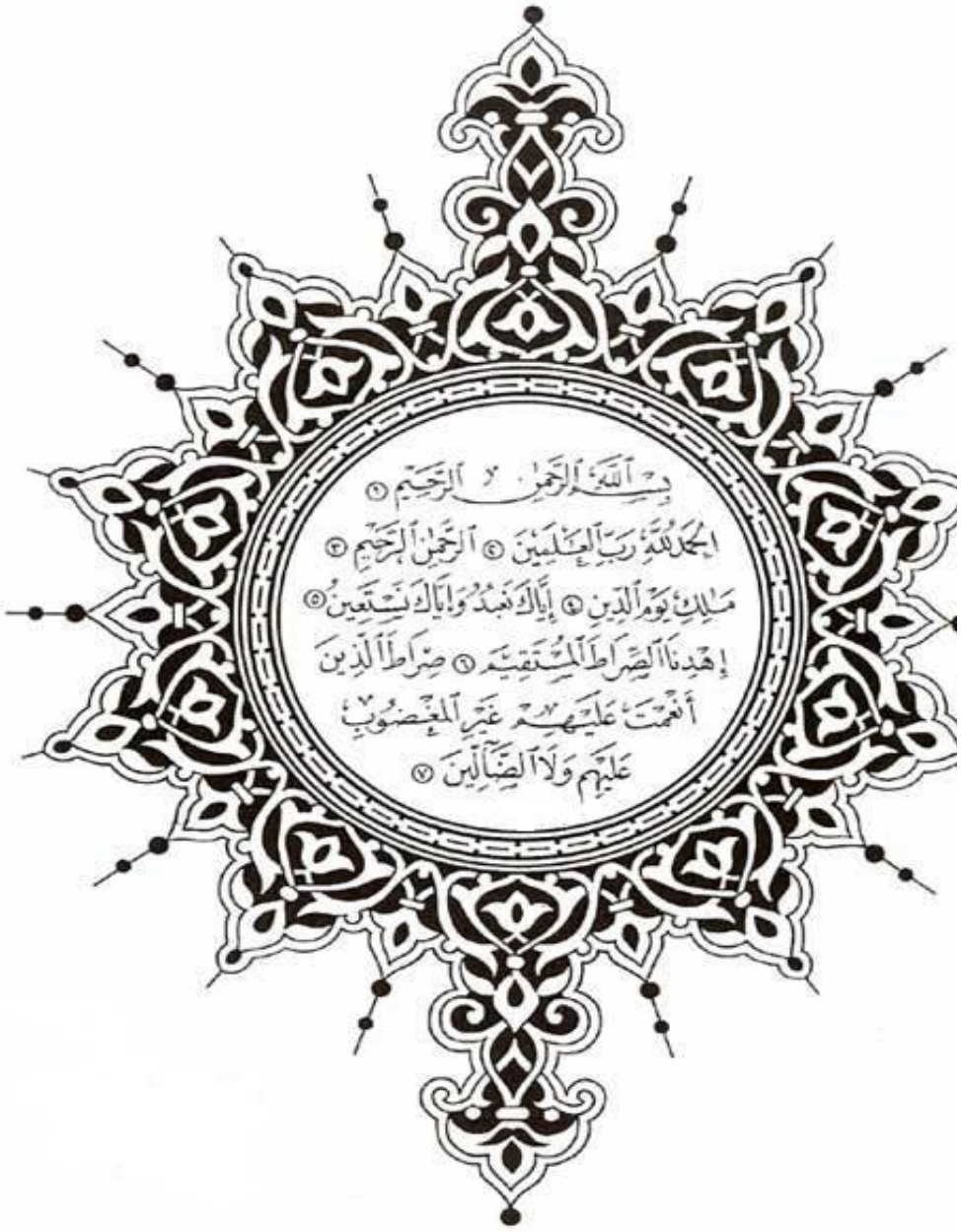
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Dedication

This work is dedicated to my family for their loving support.

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List of Abbreviations

- **ADL:** Activities of daily living
- **BBS:** Berg Balance Scale
- **BMI:** Body Mass Index
- **COPD:** Chronic Obstructive Pulmonary Disease
- **COX-2:** Cyclooxygenase 2 enzyme
- **CRP:** C-reactive protein
- **DALY:** Disability-adjusted life years
- **GDS:** Geriatric Depression Scale
- **IADL:** Instrumental activities of daily living
- **ICF:** International Classification of Functioning
- **ICIDH:** International Classification of Impairments, Disabilities, and Handicaps
- **IL-6:** Interleukin-6
- **Kcal:** Kilocalories
- **Kg:** Kilograms
- **kJ:** Kilojoules
- **LIFE-H:** Life Habits scale
- **LLFDI:** Late-Life Function and Disability Instrument
- **MMSE:** Mini-mental state examination
- **MNA:** Mini-nutritional assessment
- **MOS:** Medical Outcomes Study
- **NSAIDs:** Non-steroidal anti-inflammatory drugs
- **ROC:** Receiver operating characteristic
- **SF-36:** 36-Item Short-Form Health Survey
- **SPPB:** Short physical performance battery test
- **SRH:** Self Related Health
- **TUG:** Timed up and go test
- **WHO:** World Health Organization
- **6MW:** 6-minute walk test

Introduction

The study of disability among the elderly by **Melzer and colleagues (1998)** declared that 11% of men and 19% of women aged 65 and older suffer from some form of disability; 38% of disabled elderly were cognitively impaired and more than 80% of them needed help at least once a day. Similarly, **Minden and colleagues study (2004)** reported that disability has been a burden for elderly by decreasing their income and increasing their need for assistance with activities of daily living (ADL) as nearly 85% of the elderly need help with ADL and 40% with household activities.

Disabled people use significantly more medical resources than do non-disabled people **(Cutler, 2001)**. The rising costs of this problem will negatively affect the quality of life among the elderly people and their physical or mental functioning as well as their families. Several studies declared that there is an increased disability trend among elderly in the developing countries **(Pin et al., 2006)** compared to those recorded in developed and western countries **(Spillman, 2004)**.

Both chronic diseases and acute events such as cardiovascular conditions, stroke, hip fractures, arthritis, skeletal and mobility problems as well as hospitalization are among the most common underlying reasons for physical disability in older adults **(Fried, 1997)**. Some reports indicate

variations in sex and age contributing to the levels of disability **(Yount, 2004)**. A study done by Parahyba and colleagues in 2005 reported a significant direct relationship between age, sex, low education and low income with the level of disability. Another study done by **Wilcox and colleagues (1996)** reported that the elderly's perception of disability has more negative effects on their level of health and quality of life than their actual level of disability.

Disability can be identified accurately through responses to a wide variety of questionnaires about the ability to perform activities ranging from ADLs to household activities and more strenuous tasks like instrumental activities of daily living (IADLs). Increasingly, functional status has also been analyzed through the use of measures of physical performance, which are objective test of subjects' performance of standardized tasks **(Guralnik et al., 1995)**.

A major obstacle to prevent disability is that the causes of decline in physical functioning are multifactorial (Guralnik, 1994). Several studies have demonstrated that pharmacological and non-pharmacological interventions targeting specific risk factors may effectively prevent specific disease outcomes such as stroke or hip fracture, latter causes are the first step in the causal pathway leading to disability **(Ferruci et al., 2000)**.

In recent years there has been a growing interest in the use of physical performance measures of functioning. These are assessment tools that objectively evaluate a particular aspect

of physical functioning by asking an individual to perform a standardized task that is evaluated using objective, predetermined criteria **(Guralnik et al., 1989)**. For many of these tests, level of performance is evaluated by timing the task or counting repetitions. This approach to assessing physical functioning and disability is very appealing because it allows direct standardized assessment in an area that has traditionally relied almost entirely on self-report on proxy-report **(Guralnik, 1994)**. One measure of lower body function is the Short Physical Performance Battery test, which is comprised of a hierarchical balance task, a 4-meter walk, and five repetitive chair stands **(Guralnik et al., 1994)**.

Poor lower extremity performance in nondisabled older persons, as measured by Short Physical Performance Battery test, has been found to be associated with poor health status, physiological alterations, such as low albumin and hemoglobin level, poor muscle strength, obesity, and physical inactivity **(Ferruci et al., 2000)**. Furthermore, the short physical performance battery test had a predictive value for re-hospitalization and death when applied to patients at time of hospital discharge where patients with poor score had higher risk for both items **(Volpato et al., 2011)**.

While short physical performance battery test can assess lower extremity performance and its relation to poor health status and outcomes, low hand-grip strength has been consistently linked to premature mortality, disability and other

health complications in older people. The underlying reason why muscle strength and mortality are linked are not well-known, however, measuring hand-grip strength may not only identify older people at risk of disability but may also aid in survival of elderly being able to apply correct strategies to maintain muscle strength. A study declared that greater decline in strength over time is associated with increased all-cause mortality and hand-grip strength has a greater impact on mortality as people age **(Ling et al., 2010)**.

Aim of the work

To determine the prevalence of disability among elderly Egyptian males living in Cairo who are attending outpatient clinic at Ain Shams university hospital.

Disability in Elderly

Introduction:

Modern societies have witnessed a revolutionary life extension over the past two centuries. However, this increased the need to address the challenges of increasing longevity. The primary challenge is the burden to the person and society associated with the cognitive and physical losses of the aged **(Nusselder & Peeters, 2006).**

Understanding whether the population is healthier or not is vitally important to individuals and to society as a whole. People value longevity improvements more when the quality of life of the additional years is high. Living longer but with severe disability is nowhere near as enjoyable as living longer with good health **(Cutler, 2001).**

Functional disability is an important health indicator in the elderly, jeopardizing quality of life and causing heavy social impact with long-term institutionalization and increased use of medical care **(Rodrigues et al., 2009).**

Disabled people use significantly more medical resources than do nondisabled people **(Cutler, 2001).**

The costs associated with treating the elderly with chronic conditions are high and continuing to grow. These costs are borne by everyone: governments, families, and the elderly