



شبكة المعلومات الجامعية  
التوثيق الإلكتروني والميكروفيلم

# بسم الله الرحمن الرحيم



**MONA MAGHRABY**



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التوثيق الإلكتروني والميكروفيلم



# شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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# جامعة عين شمس

## التوثيق الإلكتروني والميكروفيلم

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**MONA MAGHRABY**



# **Screening of Cognitive Impairment among Elderly in Primary Health Care Centers in Cairo, Egypt**

**Thesis**

*Submitted for Partial Fulfillment of Master Degree in  
Family Medicine*

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**2021**



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سببنا نك لا علم لنا  
إلا ما علمتنا إنك أنت  
العليم العظيم

صدق الله العظيم

سورة البقرة الآية: ٣٢

# Acknowledgment

*First and foremost, I feel always indebted to **ALLAH**,  
the Most Kind and Most Merciful.*

*I'd like to express my respectful thanks and profound gratitude to **Dr. Salma Mohamed Samir El Said**, Assistant Professor of Geriatrics and Gerontology, Faculty of Medicine – Ain Shams University for her keen guidance, kind supervision, valuable advice and continuous encouragement, which made possible the completion of this work.*

*I am also delighted to express my deepest gratitude and thanks to **Dr. Hoda Mohamed Farid Wahba**, Assistant Professor of Geriatrics and Gerontology, Faculty of Medicine – Ain Shams University, for her kind care, continuous supervision, valuable instructions, constant help and great assistance throughout this work.*

*I am deeply thankful to **Dr. Hebat Allah Mohamed Salah Gabal**, Lecturer of Community, Environmental and Occupational Medicine, Faculty of Medicine – Ain Shams University, for her great help, active participation and guidance.*

*Fatmaa Sayed*

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# *List of Abbreviations*

Abb.	Full term
6CIT.....	Six-Item Cognitive Impairment Test
ACE .....	Addenbrooke's Cognitive Examination
ACE-R.....	Addenbrooke's Cognitive Examination Revised
AD.....	Alzheimer's disease
ADL .....	Activity of Daily Living
AMT.....	Abbreviated Mental Test
APOE.....	Apo lipoprotein E gene.
A $\beta$ .....	Amyloid beta
BADL.....	Basic activities of daily living
BIN1 .....	Bridging integrator 1
BL .....	Barthel Index
CAMDEX.....	The Cambridge Mental Disorders of the Elderly Examination
CDT .....	Clock drawing test
CI.....	Cognitive impairment
CR1.....	Complement receptor 1
DHEA .....	De hydro epiandrosterone
DSM-5.....	Diagnostic and Statistical Manual of Mental Disorders
FDG-PET.....	Fluorodeoxyglucose positron emission tomography
GDS .....	Geriatric Depression Score
GPCOG.....	General Practitioner Assessment of Cognition
IADL.....	instrumental activities of daily living
IQCODE.....	Informant Questionnaire on Cognitive Decline in the Elderly
MCI.....	Mild Cognitive impairment
MEAMS .....	Middlesex Elderly Assessment Memory Score
MMSE.....	Mini-Mental State Examination
MNA-SF .....	Mini Nutritional Assessment-Short Form



## *List of Abbreviations Cont...*

Abb.	Full term
MoCA.....	Montreal Cognitive Assessment
MRI.....	magnetic resonance imaging
NOPPAIN.....	Non-Communicative Patients Pain Assessment Instrument
NPV .....	Negative predictive value
P.H.C .....	Primary health care centers
PAINAD .....	Pain Assessment in Advanced Dementia
PDD .....	Parkinson's disease dementia
PICALM .....	Phosphatidylinositol - binding clathrin assembly protein
PPV.....	Positive predictive value
P-tau181p.....	Phosphorylated tau protein at threonine at position 181
QOL .....	Quality Of Life
SLUM .....	Saint – Louis – University – Mental – Status
SLUMS.....	Saint – Louis – University – Mental – Status
SMMSE .....	Standardized Mini-Mental State Examination
SPMSQ .....	Short Portable Mental Status Questionnaire
TOMM40 .....	Translocase of outer mitochondrial membrane 40 genes
TUGT.....	Timed Up and Go Test
TYM.....	Test Your Memory
WHO .....	World Health Organization

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# INTRODUCTION

Cognitive impairment in the elderly can be associated with the normal ageing process, or may be a symptom of the onset of dementia. Symptomatic cognitive impairment is under-recognised and under-diagnosed, even though early detection in dementia care is of great significance and has many benefits, changes in behaviour and functioning, and allowing the person to be involved in future care planning (*Scanlon et al., 2016*).

Elderly are generally defined according to a range of characteristics including: chronological age, change in social role and changes in functional abilities. The United Nations (UN) agreed cutoff is 60+ years to refer to the older population. In high-resourced countries older age is generally defined in relation to retirement from paid employment and receipt of a pension, at 60 or 65 years. With increasing longevity some countries define a separate group of oldest people, those over 85 years. In low-resourced situations with shorter life-spans, older people may be defined as those over 50 years. The age of 50 years was accepted as the definition of older people for the purpose of the World Health Organization (WHO) Older Adult Health and Ageing in Africa project (*World Health Organization, 2010*).

Cognitive impairment including dementia is a growing worldwide public health problem, and its prevalence in elderly persons is between 10% and 22% (*Etgen et al., 2010*). In



Egypt, the prevalence of cognitive impairment was 20.9% among residents of the elderly homes in Cairo (*Sweed and Elawam, 2010*).

The prospect of receiving adequate interdisciplinary assessment and treatment when dementia due to neurodegenerative disease is diagnosed. In addition, having patients and caregivers' futures well-planned regarding legal matters is an important issue in this context (*Wimo et al., 2010*).

Cognitive screening represents the initial step in a process of further assessment for dementia and can help identify potential cases for assessment, thus leading to early diagnosis (*Boletsis and McCallum, 2016*). Cognitive screening tests are time-economic and efficient tools to detect cognitive symptoms and dementia (*Larner, 2012*).

Several diseases can cause cognitive impairment in the elderly such as depression, long-term alcohol abuse, lack of vitamin B12 and folic acid, diabetes, cardiovascular diseases, stress-related diseases, or a combination of different diseases (multi-morbidity). Neurodegenerative diseases such as Alzheimer's disease (AD), frontotemporal dementia, Parkinson disease, and multiple sclerosis can also cause cognitive impairment (*Fastbom et al., 2014*).

There are multiple tools for screening of cognitive impairment the most common tests used is Mini-Mental State Examination (MMSE), The Saint – Louis – University – Mental –