شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

Cognitive Dysfunction in patients with idiopathic Parkinson's disease

Thesis

Submitted for Partial Fulfillment of Master Degree **in Neuropsychiatry**

By

Youssef Medhat Azmy
MB, BCh Ain Shams University

Supervised by

Prof. Dr. Mahmoud Haroun Ibrahim Elbalkimy
Professor of Neurology
Faculty of Medicine - Ain Shams University

Prof. Dr. Ali Soliman Ali Shalash
Professor of Neurology
Faculty of Medicine - Ain shams University

Dr. Eman Hamed AbdEldayem
Lecturer of Neurology
Faculty of Medicine - Ain shams University

Faculty of Medicine
Ain Shams University
2021

بسم الله الرحمن الرحيم

قالوا

سبحانك لا علم لنا إلا ما علمتنا إنك أنت العليم الحكيم

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 ***Prof. Dr. Mahmoud Haroun Ibrahim Elbalkimy****, Professor of Neurology - Faculty of Medicine- Ain Shams University for his 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 ***Prof. Dr. Ali Soliman Ali Shalash,*** *Professor of Neurology, Faculty of Medicine, Ain Shams University, for his kind care, continuous supervision, valuable instructions, constant help and great assistance throughout this work.*

I am deeply thankful to ***Dr. Eman Hamed AbdEldayem,*** *Lecturer of Neurology, Faculty of Medicine, Ain Shams University, for her great help, active participation and guidance.*

I would like to express my hearty thanks to all my family for their support till this work was completed.

Last but not least my sincere thanks and appreciation to all patients participated in this study.

Youssef Medhat Azmy

List of Contents

Title	Page No
List of Abbreviations	i
List of Tables	iv
List of Figures	vii
Introduction	1
Aim of the Work	5
Review of Literature	
Parkinson's disease; Etiology and Clinical Picture	6
Cognitive dysfunction of Parkinson disease and its correlates	24
Management of Cognitive Dysfunction of Parkinson disease	39
Patients and Methods	54
Results	73
Discussion	130
Conclusion	141
Limitations and Recommendations	142
Summary	144
References	147
Appendices	187
Arabic Summary	

List of Abbreviations

Abb.	Full term
ACE	*Addenbrooke's Cognitive Examination*
AD	*Alzheimer's disease*
ADL	*Activities of daily living*
AR	*Autosomal recessive*
AOI	*Age of onset*
BDI	*Beck depression inventory*
BVMT-R	*Brief Visuospatial Memory Test–Revised*
CRS	*Cognitive Rating Scale*
CSF	*Cerebrospinal Fluid*
CST	*Card Sorting Test*
CTr	*Cognitive training*
DA	*Dopaminergic*
DBS	*Deep brain stimulation*
DLPFC	*Dorsolateral pre-frontal cortex*
DTI	*Diffusion tensor imaging*
DOI	*Duration of illness*
FAB	*Frontal assessment battery*
FOG	*Freezing of Gait*
FR	*Freezer*
GBA	*Glucocerebrosidase known as*
HC	*Healthy controls*
LBs	*Lewy bodies*
LEDD	*Levodopa daily equivalent dose*
LRRK2	*Leucine-rich repeat kinase 2*
MCI	*Mild cognitive impairment*
MDRS	*Mattis Dementia Rating Scale*
MDS	*Movement disorder society*
M-EDL	*Motor Aspects of Experiences of Daily Living*

List of Abbreviations (Cont...)

Abb.	Full term
MMSE	*Mini Mental state examination*
MoCA	*Montreal Cognitive Assessment*
NBM	*Nucleus basalis of Meynert*
NFR	*Non-freezer*
NMDA	*N-methyl-d-aspartate*
nM-EDL	*Non-Motor Aspects of Experiences of Daily Living*
NMSS	*Non-motor symptoms scale*
PD	*Parkinson's disease*
PDD	*PD dementia*
PDNC	*PD with normal cognition*
PDMCI	*PD mild cognitive impairment*
PDCI	*PD cognitive impairment*
PDQ-39	*PD Questionnaire 39*
PET	*Positron emission tomography*
PIGD	*Postural instability gait disorder*
QOL	*Quality of life*
REM-BD	*Rapid eye movement behavior disorder*
rTMS	*Repetitive transcranial magnetic stimulation*
SCD	*Subjective cognitive decline*
SCOPA-COG	*Scales for Outcomes in Parkinson's disease Cognition*
SD	*Sexual dysfunction*
SNCA	*α-synuclein gene*
SNpc	*Substantia Nigra pars compacta*
SNRI	*Selective noradrenaline reuptake inhibitor*
SPSS	*Statistical Package for Social Science*
SSRIs	*Serotonin selective reuptake inhibitors*
tDCS	*Transcranial direct current stimulation*

List of Abbreviations (Cont...)

Abb.	Full term
TES	*Transcranial electrical stimulation*
UPDRS	*Unified Parkinson´s Disease Rating Scale*
UPS	*Ubiquitin-proteasome system*
WCST	*Wisconsin Card Sorting Task*
WMS	*Wechsler memory scale*