

**CYPRUS UNIVERSITY OF TECHNOLOGY**

**DEPARTMENT OF HEALTH SCIENCES**



**THESIS PRESENTATION FOR THE  
POST-GRADUATE PROGRAM IN COGNITIVE NEURO-  
REHABILITATION**

Limassol, Cyprus, February 2021

**CYPRUS UNIVERSITY OF TECHNOLOGY**

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**POST GRADUATE PROGRAM/ MSc IN COGNITIVE  
NEUROREHABILITATION**

**THESIS TITLE:** “Investigation of depression co-morbidity in stroke population and determination of impact to longitudinal stroke rehabilitation outcomes according to measures of disability, ADL (Activities of daily living), FIM (Functional independence), and QoL (Quality of life)” –

A scoping review

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Master Thesis submitted to the Department of Health Sciences of the Cyprus University of Technology in partial fulfilment of the requirements for the degree of Master of Arts in Cognitive Neuro-rehabilitation

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# **APPROVAL PAGE**

I hereby declare that the thesis dissertation entitled as: :“Investigation of depression comorbidity in stroke population and determination of impact to longitudinal stroke rehabilitation outcomes according to measures of disability, ADL (Activities of daily living), FIM (Functional independence), and QoL (Quality of life)” is a scoping review of available research on post- stroke rehabilitation performed in Pubmed and reviewed by me in order to fulfil the masters requirements , under the guidance of the Pr. Costas Christophi.

Eirini Aristeidou

# AKNOWLEDGMENT

I would like to express my genuine gratitude to my family and my husband for supporting me through the process of thesis writing. It is truly important to have understanding people next to you. Being a mother of 3 children, I do my best to instill to them the importance of acquiring knowledge and education, to set goals and thrive for excellence. I am more than happy that the Masters' program requirements in cognitive rehabilitation are fulfilled with this Thesis as I am going to be able to spend more quality time with my family.

With deep sense of gratitude I have acknowledged the encouragement and guidance received by Pr. Costas Christophi..

I would also want to thank out department professors for creating a family environment where each one of us was inspired to reach the optimal level of knowledge in rehabilitation, clinical neurology, statistics, and brain imaging. The corona-virus appearance forced us to change our plans, to adjust with the new status quo and to find alternative ideas for our thesis that did not require physical contact for data collection (questionnaire administration) and analysis. The scoping review methodology seem to be convenient process for my thesis writing so in agreement with my closest professors Nikos Konstantinou and my advisor Costas Christophi, I used it as a framework for my assignment.

Eirini Aristeidou

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# ABSTRACT

**Background/ Rationale:** It is scientifically accepted that the risk of developing depression is far more greater in stroke populations than in healthy population, implying association between them. Post - stroke depression is hypothesised to compromise optimal stroke rehabilitation and to prevent the recovery of lost functions. In this way the physical/functional disability is prolonging, causing worsening and further impairment of the quality of life of stroke survivor. Post stroke survivors with depression co-morbidity, are anticipated to have withdrawal symptoms and less motivation to participate in rehabilitation therapies and therefore poorer rehabilitation outcomes are expected for this group of patients. This scoping review wants to determine whether depression issues interfere with rehabilitation goals and outcomes and negatively impact rehabilitation participation, function restoration, everyday activities (ADLs) and quality of life. Lastly rehabilitation outcomes are synthesised according to screening time-points to determine the most optimal stage for their evaluation.

**Objectives:** A scoping review approach was chosen to provide an overview of type, extent and quantity of available research on the association between post stroke depressive symptoms and stroke rehabilitation outcomes. This scoping review examines whether post- stroke depression which is prevalent to stroke population, can act as predictor for poor rehabilitation outcomes. Aim of this study is to investigate the possible correlation between PSD and rehabilitation outcomes.

**Methods:** The PRISMA Checklist reporting for scoping reviews and PICOS criteria was followed. A scoping review of literature among Pubmed and Scopus was performed, searching for articles published from 2010 to 2020, with filter to identify only human studies written in English, and comparative studies examining the impact post stroke depression upon post- stroke patients' recovery and rehabilitation outcomes.

**Results:** The findings support the assumption that depression is associated with increased disability in stroke patients, as patients with depression, compared to those without post- stroke depression had significantly more severe functional disability on follow ups. The findings confirm the hypothesis that there is association between depression and functional disability in stroke patients. (RabiŽikić., et al.,2014; Astuti

et al.,2020). There is also evidence that people with depression after stroke, experience greater impairment, including more substantial reductions in activities of daily living (Schmid et al., 2011; Shi et al., 2016 ; Willey et al., 2010 ) social participation (Silva.S., et al, 2019)and increased mortality( Ellis,2010; Naess.,et al 2010)compared with non-depressed stroke patients.

**Conclusions:** Available research literature exhibits large heterogeneous nature of studies and assessment tools used on this subject, therefore scoping review approach is used to group evidence of association between post stroke depression and neurological rehabilitation outcomes. The evidence shows clearly that early identification during acute and subacute phase of stroke enables more effective addressing of neuropsychiatric disturbances and is associated with more positive rehabilitation outcomes (Kang, et al., 2018; Kapoor, et al., 2019; Unsworth,et al.,2019 ) and also that under-estimation of neuropsychiatric complications due to the evidence- practice gap, is associated with poor rehabilitation outcomes( West, et al., 2010; Naess, et al., 2010; Ellis, et al., 2010; Žikić, et al., 2014 ;Kang, et al., 2018; Paolucci, et al., 2019;).

**Keywords:**

stroke complication; neuro-psychological complication; post-stroke depression; withdrawal symptoms; quality of life; functional status; **ADL**; Activities of daily living; disability; **FIM**; Functional independence measures; **FAM**; Functional assessment measures, **QoL**; Quality of life