



# ASSOCIATION BETWEEN PERCEIVED PSYCHOLOGICAL STRESS AND COGNITIVE DECLINE IN AGING: A SYSTEMATIC REVIEW PROTOCOL

Sonia Betzabeth Ticona Benavente  
Juliana Nery de Souza-Talarico  
Andréa Regiani Alves  
Flávia de Oliveira Motta Maia  
Ana Lúcia Siqueira Costa

**Introduction:** Cognitive disorders are considered the most devastating illness worldwide, affecting over 36 million individuals.<sup>1</sup> The exposure to psychological stress over one's lifespan has been proposed as a potential risk factor to dementia.<sup>2,3</sup> Moreover, the negative effects of stress are cumulative over the lifespan, and there are windows of vulnerability throughout the lifespan whereby cortisol may be prejudicial to brain functioning.<sup>4</sup> However, no systematic reviews have been conducted to determine whether psychological stress predicts cognitive decline. Identifying perceived psychological stress as a predictor of cognitive decline during aging can help to identify modifiable risk factors for cognitive disorders and preclinical signs, elucidate factors that impact negatively on successful aging and promote the development of non-pharmacological strategies for coping with the burden of stress.

**Objective:** To identify, appraise and synthesize the best available evidence on the association between perceived psychological stress and cognitive decline in aging.

**Method:** Inclusion criteria are: studies with participants above 50 years old, drawn from the community or long-term care facilities and without medical diagnosis of any type of dementia. Which evaluate individual perceptions about stress level in the last 30 days. Studies that evaluate the following outcomes: cognitive, memory, attention or executive function declines, as well as conversion to subjective cognitive impairment (SCI), mild cognitive impairment (MCI) or dementia. The cognitive performance and stress level need to have been assessed by valid and reliable instruments. This review will consider cross-sectional, case-control, cohort studies and randomized controlled trials. The databases to be searched include MEDLINE, PsycINFO, CINAHL, Scopus, Lilacs, Cochrane Central Register of Control Trials, Web of Science, ProQuest Dissertation & Theses and Google Scholar. The keywords will be: cognitive decline, memory, attention, executive function, psychological stress, aging, subjective cognitive impairment, mild cognitive impairment, dementia, and Alzheimer's disease. Studies published in English, Spanish and Portuguese with no time limit regarding the publication date. The assessment of methodological quality of studies will be done by two independent reviewers, using Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MASARI), in any disagreements, it will be resolved through discussion or via a third reviewer. For the data extraction will be used JBI-MASARI tool. Authors of primary studies will be contacted for missing information or to clarify unclear data. To analyze the data; the quantitative data will be pooled in statistical meta-analyses using JBI-SUMARI. All results will be subject to double data entry. Effect



sizes expressed as odds ratio (for categorical data), and weighted mean differences (for continuous data) and their 95% confidence intervals will be calculated for analysis. Heterogeneity will be assessed statistically using the standard Chi-square test also explored using subgroup analyses based on study designs. Where statistical pooling is not possible, the findings will be presented in narrative form including tables and figures to aid in data presentation where appropriate. Stress level will be analyzed using both the mean scores of the instruments (stress level as continuous variable) or quantiles of stress scores (stress level as categorical variable).