TITLE OF THE PROJECT: Individual and contextual proxies of cognitive reserve

HEAD OF THE TEAM: Claudine Berr, Inserm U1061 – Neuropsychiatry: epidemiological and clinical research

SUMMARY

Background

The cognitive reserve (CR) hypothesis explains why individuals with higher IQ, education, or occupational attainment have lower risks of developing dementia or cognitive impairment. Studies on CR are based on different proxies, a large number have examined the role of education. Cognitive reserve could be the result of accumulated experiences throughout the lifecourse being influenced by childhood conditions (familial factors), prolonged periods of cognitively stimulating activities either in or out of the workplace including leisure and social activity but also by other exogenous factors like contextual factors. Jobs that are challenging, involve novelty, engagement with others, etc. are likely to have a protective effect on cognition. On the other hand for occupation, adverse effect on cognition can be related to psychosocial exposures or chemical/physical exposures. Another important step when considering the place of occupation in lifecourse is the time of retirement and its potential to influence health and cognition.

Objectives

Our general objective is to examine association between multifaceted occupational and cognitive ageing first separately and subsequently simultaneously while considering interactions between the positive or negative dimensions considered.

1. To examine association between multifaceted views of work exposure and cognitive ageing
2. To assess the influence of professional retirement on cognition
3. To identify the respective contribution of proxies of cognitive reserve measured at different levels (individual, familial, contextual) in their relationships with cognitive function

Methods

Our study sample will include all subjects over 45 who accepted and completed the exploration of cognitive abilities. Different exposures will be considered (occupational exposure, Individual and familial proxies of cognitive reserve, contextual factors). Our first outcome measure will be cognitive performance at baseline
Analysis on individual exposures using multivariate linear regression model for cross sectional analysis and multivariate linear mixed regression model for longitudinal analysis. For studying contextual factors, multilevel regression modeling will be performed.

Perspectives

This project will allow appreciating the place of individual and environmental factors which can be helpful to define groups at risk of cognitive impairment or cognitive decline and dementia, in midlife or in the elderly. For some of the exposures studied (ie: chemical exposures, job strain), results could lead to preventive programs.

Note: this project is part of the research consortium ‘PRESAGE – PREparing Successful AGEing’