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EDITORIAL

Subjective cognitive complaints: what do they predict?

Serious and chronic mental illnesses are less common among older adults than in younger adults. The one critical exception is neurocognitive disorders – both major (dementias) and minor. Obviously, their diagnosis depends on the presence and worsening of neurocognitive functioning. The question that usually comes up is: how do we determine if there is a cognitive impairment? An older adult her/himself may complain of increasing difficulties with recent memory. However, such subjective cognitive complaints (SCC) are not always consistent. An alternative is asking the person's family members or close friends if they have observed such a cognitive decline. In a way, this too is a subjective assessment although it comes not from the patients themselves but from their associates.

Objective neurocognitive assessments with commonly used screening instruments such as Mini-Mental State Examination or Montreal Cognitive Assessment are standardized and shown to be reliable and valid. There are also a number of detailed assessments of specific neurocognitive functions like the Category Test or the Wisconsin Card Sorting Test for cognitive flexibility. There is a strong evidence base to support the reliability and validity of these tests. One possible issue though is that of the individual's physical and emotional status at the time of such testing. An exhausted, jet-lagged, sleep-deprived, stressed-out, or overly anxious older adult is not likely to perform at their optimum level and will get lower scores that suggest inflated cognitive deficits.

This issue of the International Psychogeriatrics includes three regular research reports on SCC in older adults. Truong *et al.* (this issue) assessed dynamic and enduring patterns of cognitive complaints reported by patients (SCC) and by other informants over a 10-year period in 232 community-dwelling Australians aged 70 years and older, and 232 associated informants, a majority of whom were female. The Memory Complaint Questionnaire and the Informant Questionnaire on Cognitive Decline in the Elderly were used to evaluate cognitive functioning reported by self and by informants, respectively. Outcome measures included meeting criteria for a dementia diagnosis in a consensus meeting of clinicians. Additionally, objective cognitive performance was evaluated with a battery of 10 tests. Informant reports significantly predicted future cognitive test scores and dementia incidence, while self-reported scores had marginally acceptable association with objectively assessed cognitive abilities and clinical diagnosis at the baseline and follow-up evaluations. The reliability and predictive accuracy of informant reports showed that corroboration from knowledgeable informants was clinically more useful than patients' SCC in predicting cognitive decline.

Going beyond self-reports, informant reports, and neurocognitive tests, the diagnostic accuracy for neurocognitive disorders can be further enhanced by employing neural biomarkers that may serve as reliable proxies for cognitive (primarily memory) function, irrespective of other individual or situational factors. Sheffler *et al.* (this issue) investigated one such biomarker: the P300. The P300 amplitude is an event-related potential (ERP) component obtained from an electroencephalogram (EEG). A sample of 79 community-dwelling adults aged 60–75 years completed online surveys and in-person cognitive tests and EEG. The investigators examined the associations between P300 amplitude, objective verbal memory performance on a list-learning task, SCC (mainly subjective memory complaints), and neurocognitive disorder diagnostic severity ratings (i.e., possible/probable normal, mild, or major neurocognitive disorder). SCC were less consistently associated with objective measures of cognitive impairment or diagnostic ratings, but were significantly associated with higher perceived stress, anxiety, and depression symptoms and lower psychological well-being. P300 amplitude was significantly associated with long-delay verbal memory recall and diagnosis ratings. Thus, identifying biomarkers that are reliably associated with cognitive/memory function and are culturally unbiased and also pragmatic will be of considerable value for both clinical and research purposes.

While SCC are not reliably predictive of objective measure of cognition, they are associated with worse subjective well-being – an important outcome related to overall health. In a diverse sample of 595 older adults, Pfund *et al.* (this issue) found that a greater sense of purpose was associated with fewer SCC as measured by the AD8, a

screening tool for dementia. A sense of purpose or meaning in life is the feeling that one's life is goal-oriented and has a desirable and worthwhile direction. As Viktor Frankl, the highly respected Austrian psychiatrist and holocaust survivor, wrote in "Man's Search for Meaning" (Frankl, 2006), one of the most influential books of all times, "Those who have a 'why' to live, can bear with almost any 'how'." There are strong empirical data supporting the role of purpose in life in determining health and well-being. In a cross-sectional investigation, purpose in life was associated with better physical, mental, and cognitive functioning in 1,042 community-dwelling adults across the lifespan (Aftab *et al.*, 2019). A prospective study of 13,770 older adults from the Health and Retirement Study showed that people in the top quartile of purpose in life had significantly lower likelihood of becoming physically inactive, developing sleep problems, and developing unhealthy body mass index (BMI) than those in the lowest quartile, even after adjusting for socioeconomic variables (Kim *et al.*, 2020).

Thus, a sense of purpose in life, a modifiable factor, plays an important role in maintaining physical and psychosocial function, especially in later life. Purpose is also a promising protective factor to promotes better cognitive outcomes across the spectrum of dementia risk, from the preclinical phase to the end of life (Sutin *et al.*, this issue). In the Pfund *et al.* study (Truong *et al.*, this issue), higher purpose was reported to ameliorate the association between loneliness (but not depression) and cognitive complaints. Such findings are consistent with the literature that indicates potential utility of purpose in life as a target of interventions to promote healthier cognitive aging (Sutin *et al.*, this issue). The benefits of such interventions should be examined in older populations at risk for neurocognitive disorders. There is also a need to identify the psychosocial as well as biological mechanisms through which purpose may influence cognitive outcomes. This type of mechanism-oriented approach using both longitudinal and experimental designs and incorporating relevant neural and other biomarkers is warranted (Sutin *et al.*, this issue).

George and Whitehouse (this issue) suggest that despair is antithetical to purpose. They correctly point to the increasing prevalence of despair-driven conditions including loneliness, opioid abuse, and suicidality during recent decades as indicating that our current array of societal structures, institutions, and processes is serving to worsen social anomie, social fragmentation, and a loss of hope and of meaningful social roles, instead of enabling human thriving and flourishing. The Covid-19 pandemic and the necessary social distancing have exacerbated this trend. There is a clear need to identify levers of structural change that will break this vicious cycle of loss of purpose, loneliness, and an overwhelming sense of despair. It is critical to focus on cultural and ecological factors that will promote a positive sense of purpose in life both at individual and societal level.

The articles in this issue highlight the critical role of both self-reported and objective cognitive impairment in older adults. Developing and testing the usefulness of different psycho-bio-social strategies to prevent cognitive decline and promote cognitive health is essential for our society.

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