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COMMENTARY

Clinical considerations when using assessment tools to identify depression in older adults with mild cognitive impairment

Depression is common in older adults with cognitive impairment and is associated with higher risks of morbidity and mortality, yet it is under-recognized and under-treated. As treatment is most effective when detected early enough or when the severity is still relatively mild, having a sensitive and specific screening test which is simple enough to be either self-rated or administered by those working with older adults will be most helpful in both identifying depression and strengthening the community response to depression. Now, more than ever with the implications of the COVID-19 pandemic for the mental health of older adults and for suicide, a spotlight has been shone on the need to address key suicide risk factors such as depression (Wand *et al.*, 2020).

The manuscript "Detecting depression in persons living with mild cognitive impairment: a systematic review" by Wong *et al.* (2022) attempted to identify an assessment tool that is most appropriate for detecting depression in mild cognitive impairment (MCI). In spite of a comprehensive literature search and a detailed analysis, Wong *et al.* (2022) found only a few studies that examined the validity of depression rating scales in MCI. Their findings highlight a number of important knowledge gaps that require further clarification and investigation.

According to Wong *et al.* (2022), the objective of their systematic review was "to determine which tools for detecting depressive symptoms are most accurate and feasible among outpatients with MCI, compared with a reference standard clinical diagnosis of depression." While a score derived from a rating scale could serve as a reference for monitoring treatment response in clinical settings and facilitating communication with other mental health professionals, it is not meant to substitute for clinical assessment. Authors who designed these scales often emphasize that the scores are not meant for diagnostic purposes. Nor should decisions about prescribing antidepressants be solely based on the score of these rating scales. A comprehensive and detailed clinical assessment and a multidisciplinary biopsychosocial approach are indispensable in identifying and managing depression and the underlying cognitive impairments in older adults.

One major application of these rating tools is for screening depression in the community or primary care setting, such that timely referral and access to appropriate mental healthcare and services could be arranged for early intervention. To date, different screening tests are available and have been widely used to detect depressive symptoms in older populations. However, none of them were originally designed for identifying depression in MCI. Most of them are not even specifically designed for use in older adults (such as Patient Health Questionnaire, Centre for Epidemiological Studies Depression Scale, and Beck Depression Inventory) or in people with cognitive impairment (Geriatric Depression Scale). Based on the relatively high sensitivity and specificity found in one study by McCabe *et al.* (2006), Wong *et al.* (2022) recommended using the Cornell Scale for Depression in Dementia (CSDD) for identifying depression in MCI. However, care needs to be taken when making such conclusions because similar to the Neuropsychiatric Inventory, the CSDD is designed for detecting depressive symptoms in people with dementia, especially those with moderate to severe impairment. Based on the assumption of "unreliable report" of symptoms of depression from the person with dementia, the CSDD uses a detailed semi-structured interview of both the older adult and an informant, with a final rating score based on the rater's clinical impression rather than the response of either party. As CSDD is designed to be rated by a clinician, its validity when administered by non-clinicians or untrained staff is doubtful; this also limits its potential to serve as a screening test at the community level. Moreover, this precludes its use as a self-rating scale which may be entirely appropriate in MCI.

In McCabe *et al.*'s study (2006), participants were recruited from aged care facilities and were regarded as having MCI based on the cutoff score on the Mini Mental State Examination (MMSE),

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which, as acknowledged by McCabe *et al.*, is not ideal for diagnosing MCI or dementia; therefore, caution is required when generalizing McCabe *et al.*'s findings to the community-living older adults with a clinical diagnosis of MCI. There is clearly more to ecological and functional utility of a scale beyond favorable sensitivity and specificity figures.

One major difficulty in identifying an ideal depression screening test for this special older population is that MCI by itself is a heterogenous condition. The prevalence rate of MCI varies widely across studies (Sachdev *et al.*, 2015; Ward *et al.*, 2012), depending on the study setting, nature of cohort, and the definition used in ascertaining MCI – some studies defined MCI based on a clinical diagnosis in accordance with the Petersen criteria or the NIA-AA guideline; others used a global Clinical Dementia Rating (CDR) of 0.5 to identify MCI. Moreover, MCI has different etiologies and can be broadly classified into single- versus multi-domain and amnestic vs non-amnestic subtypes (Petersen *et al.*, 2009). A one-size-fits-all depression screening test is unlikely to be applicable to all older adults with a diagnostic label of MCI. Additional studies are needed to ascertain if the psychometric properties of a rating scale vary between community and clinical cohorts and in MCI of different definitions and subtypes.

Another important consideration when identifying and managing depression in older adults with MCI is the dynamic relationship between depression and cognitive impairment. Growing literature suggests that the diagnosis of MCI is not stable over time (Overton *et al.*, 2019; Shimada *et al.*, 2019; Wong *et al.*, 2013). Although MCI is a risk factor for dementia, accumulating longitudinal evidence shows that some can revert to normal cognition, with depression as a potential determinant (Welstead *et al.*, 2021). This highlights a critical question that we should ask for every older adult presenting with depressive symptoms and cognitive impairments simultaneously: Are the depressive symptoms a prodrome or a complication of neurocognitive disorder? Or is the cognitive impairment a symptom of the depression syndrome?

The bidirectional association between depression and dementia has long been recognized. Depression can be a clinical manifestation of a wide variety of disorders that are unique to the older populations; these include late-onset depression, late-life depression, depression executive dysfunction syndrome, vascular depression, post-stroke depression, and neuropsychiatric symptoms or changed behaviors (formerly behavioral and psychological symptoms of dementia) manifesting as depression. While these disorders resemble each other in their clinical presentation, significant differences exist in pathophysiology, management, and prognosis. According to the findings of a longitudinal study of over 16,000 community-living older adults (Lee *et al.*, 2021), late-onset depression (no depression in adulthood, but depression in late life) is likely a prodrome of dementia, whereas late-life depression (depression in adulthood, with symptoms persisted or recurred in late life) is a possible risk factor for dementia. These are in line with another study published in the recent theme-based issue of Interaction of Depression and Cognition in Older Age in *International Psychogeriatrics*, which showed that depressive symptoms predict memory decline 10 years later (Hill *et al.*, 2020). On the other hand, depression with executive dysfunction syndrome is associated with prominent fronto-striatal dysfunction and presents with psychomotor retardation, anhedonia, poor judgment and insight, and vegetative signs, whereas vascular depression is associated with poor control of cerebrovascular risk factors and presence of white matter hyperintensities (Alexopoulos, 2005). Post-stroke depression represents the neuropsychiatric sequelae of stroke, whereas depression manifesting as a changed behavior in dementia, which is one of the most common neuropsychiatric symptoms of dementia (Lyketsos *et al.*, 2002), is likely the result of a complex interaction between the dementia illness, the individual's own personality and prior experience, and the present environment, and has a much lower response to antidepressant treatment (Dudas *et al.*, 2018). Given the heterogeneity in etiologies, psychopathologies, and pathophysiological mechanisms, misclassifying the nature of depression in older adults with cognitive impairments could have serious negative implications for treatment, prognosis, and prevention of further cognitive decline.

In view of the complexity and heterogeneity of depression in older adults, not only do we need to be sensitive in identifying and quantifying the severity of depression cross-sectionally but also we should try to understand the longitudinal course of depression in relation to cognitive impairment. The latter is essential in helping us to differentiate which type of disorder the older person is primarily living with so that we can tailor the intervention according to the individual's condition. Moreover, timely response to those who are found to have depression, supported by high-quality well-integrated mental healthcare and services, is crucial. CSDD is often administered to rate depression in nursing homes (Snowdon *et al.*, 2011), yet this must be followed by appropriate after-care and regular re-assessments, not merely collected to comply with policy or funding imperatives. To assess and forget helps nobody. Furthermore, management of depression in MCI should not be limited to drug treatment, especially

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since older adults with neurocognitive disorders are less responsive to antidepressants and more prone to side effects (Banerjee *et al.*, 2011; Rosenberg *et al.*, 2010), and augmentation with cholinesterase inhibitors has no clear benefit (Reynolds *et al.*, 2011). Instead, alternative treatment modalities including psychological treatments and cognitive training, which appear to be useful even in MCI with comorbid depression (Chan *et al.*, 2020; Orgeta, *et al.*, 2015), and a collaborative, coordinated, and personalized approach are instrumental to the management and care of these older adults. Rating scales are primarily designed to provide a quick screening or serve as a reference for documenting or monitoring symptom severity. Healthcare professionals and research staff need to be mindful about the strengths and limitations of these scales so that they can be used appropriately and effectively.

Conflict of interest

None.

Description of author(s)' roles

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