

Predicting Cognitive, Functional, and Diagnostic Change over 4 Years Using Baseline Subjective Cognitive Complaints in the Sydney Memory and Ageing Study

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Objective: *There is limited understanding of the usefulness of subjective cognitive complaint(s) (SCC) in predicting longitudinal outcome because most studies focus solely on memory (as opposed to nonmemory cognitive) complaints, do not collect data from both participants and informants, do not control for relevant covariates, and have limited outcome measures. Therefore the authors investigate the usefulness of participant and informant SCCs in predicting change in cognition, functional abilities, and diagnostic classification of mild cognitive impairment or dementia in a community-dwelling sample over 4 years. **Methods:** Nondemented participants (N = 620) in the Sydney Memory and Ageing Study aged between 70 and 90 years completed 15 memory and 9 nonmemory SCC questions. An informant completed a baseline questionnaire that included 15 memory and 4 nonmemory SCC questions relating to the participant. Neuropsychological, functional, and diagnostic assessments were carried out at baseline and again at 4-year follow-up. Cross-sectional and longitudinal analyses were carried out to determine the association between SCC indices and neuropsychological, functional, and diagnostic data while controlling for psychological measures. **Results:** Once participant characteristics were controlled for, participant complaints were generally not predictive of cognitive or functional decline, although participant memory-specific complaints were predictive of diagnostic conversion. Informant-related memory questions were associated with global cognitive and functional decline and with diagnostic conversion over 4 years.*

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Conclusion: Informant memory complaint questions were better than participant complaints in predicting cognitive and functional decline as well as diagnoses over 4 years. (Am J Geriatr Psychiatry 2014; ■:■—■)

Key Words: Complaints, cognition, mild cognitive impairment, dementia

INTRODUCTION

Mild cognitive impairment (MCI) is an intermediate stage between normal aging and dementia. It is estimated that the annual conversion rate from MCI to dementia is about 2%–4% in the general population^{1,2} and 10%–15% in high-risk clinical samples.³ The construct of MCI has raised a great deal of controversy,^{4,5} especially with regard to its clinical heterogeneity and its diagnostic criteria, which have not been operationally defined.⁶ One criterion in particular, a subjective cognitive complaint (SCC), has received considerable attention.

SCCs would be most useful if they validly and reliably predicted cognitive decline and diagnostic conversion to assist clinicians and families with planning and management. However, investigation of the associations between SCCs and objective cognitive performance,^{7–13} MCI,^{9,11,14} and future dementia^{9,15} in cross-sectional and longitudinal studies has yielded mixed results.¹⁶ Strong associations have consistently been reported between SCCs and depression,^{8,10,16,17} anxiety,^{10,16,17} and personality traits,¹⁸ including neuroticism, openness, and conscientiousness.¹⁶

Differences between studies might be explained by definitional and methodologic issues. Neither the Petersen et al.¹⁹ criteria nor the Winblad et al.⁴ consensus report on MCI offer an operational definition of a subjective memory or cognitive complaint, which undoubtedly creates heterogeneity in methods across studies.²⁰ In addition, variability in the assessment of SCCs may reflect sampling procedures (e.g., memory clinics versus epidemiologic procedures), variability in the duration of follow-up periods,⁹ and differences in the methods of elicitation and assessment, which creates further heterogeneity.

A particular limitation of the existing literature is that most studies focus solely on subjective *memory* complaints as opposed to subjective *nonmemory* cognitive complaints. This has added importance

since the introduction of nonamnesic forms of MCI. Further, in contrast to the mixed findings with respect to subjective *memory* complaints, a number of longitudinal studies provide support for the validity of subjective *nonmemory* cognitive complaints as a predictor of future decline, yet these studies are limited in that informants are not used to corroborate the complaint, there is very little or no control for psychological variables, detailed measures of objective cognitive performance are not used, and few studies use diagnostic classifications.^{7,8,21,22} Furthermore, the functional relevance of complaints in terms of their relationship with activities of daily living has received little research attention, although an association between subjective complaints and lower scores on measures of functional ability has been suggested.^{23,24}

In light of these limitations, we investigated memory and nonmemory complaints from both the participant (SCCPartMem and SCCPartNonMem) and an informant (SCCInfoMem and SCCInfoNonMem) to explore their relationship with objective cognitive outcomes and their specificity with memory versus nonmemory cognitive domains. Further, we investigated the relationships between SCCs and functional and diagnostic outcomes (i.e., MCI or dementia status) 4 years later. Measures of depressive and anxiety symptoms and neuroticism, openness, and conscientiousness were also considered. The primary hypothesis was that after the influences of demographic, psychological, and personality factors had been controlled for, greater SCCs at baseline would predict lower levels of general cognitive and functional ability, and diagnostic conversion 4 years later.

METHODS

This study was conducted as part of the Sydney Memory and Ageing Study described previously.²⁵ Baseline data (collected from 2005 to 2007) and

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