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Original Study

Usefulness of 2 Questions About Age and Year of Birth in the Case-Finding of Dementia

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A B S T R A C T

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Objective: To test the hypothesis that the efficacy of 2 simple questions commonly used in clinical practice, asking the age and year of birth of individuals, will be satisfactory to rule out cases of dementia. **Design:** Population-based, longitudinal, prospective study focused on the incidence of dementia. In the baseline, a 2-phase procedure for identifying cases and noncases of dementia was implemented. **Setting:** Zaragoza, Spain.

Participants: Individuals 65 years or older without previous diagnoses of dementia (n = 3613) drawn from the population-based random sample of the ZARADEMP project.

Measurements: Standardized instruments were used, including the Geriatric Mental State (GMS) and the History and Aetiological Schedule (HAS); cases were diagnosed according to DSM-IV criteria ("reference standard"). The simple cognitive test used in this study consists of the following 2 compulsory questions: "How old are you?" and "What year were you born?"

Results: The test was well accepted by the participants and took less than 30 seconds to complete. Compared with the "reference standard," validity coefficients for incorrect answers in both questions were as follows: sensitivity 61.2%, specificity 97.8%, positive predictive value 44.4%, negative predictive value 98.9%. **Conclusions:** This ultra-short test has very good specificity and negative predictive power. Its use to rule out cases of dementia might be generalized, as it has the best efficiency reported to date.

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Alzheimer disease and other dementias rank among the leading causes of global burden of mental and neurological disorders worldwide.^{1,2} In view of the incidence and lifetime risk³ and the expected rise

The authors designed and undertook the study, had full access to the raw data, did the analyses, wrote the report, and had final responsibility for the decision to submit for publication. The funder had no role in design, data collection, analysis, interpretation or writing of the report.

The authors declare no conflicts of interest.

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in the prevalence,⁴ dementia is considered to be a public health priority, and a research priority calling for urgent action and investment.^{5,6}

Most authors conclude that systematic screening of dementia should be postponed until there is convincing evidence that it helps more than harms.^{7,8} However, enhanced detection and good case-finding has been recommended both in primary care (PC)⁹ and in geriatrics, although it should be tailored to the needs of the individual patient.¹⁰ The integration of case-finding and care packages of services into routine primary health care has been suggested,¹ but national surveys of physicians have documented that the proportion of PC physicians (PCPs) doing systematic screening for dementia is

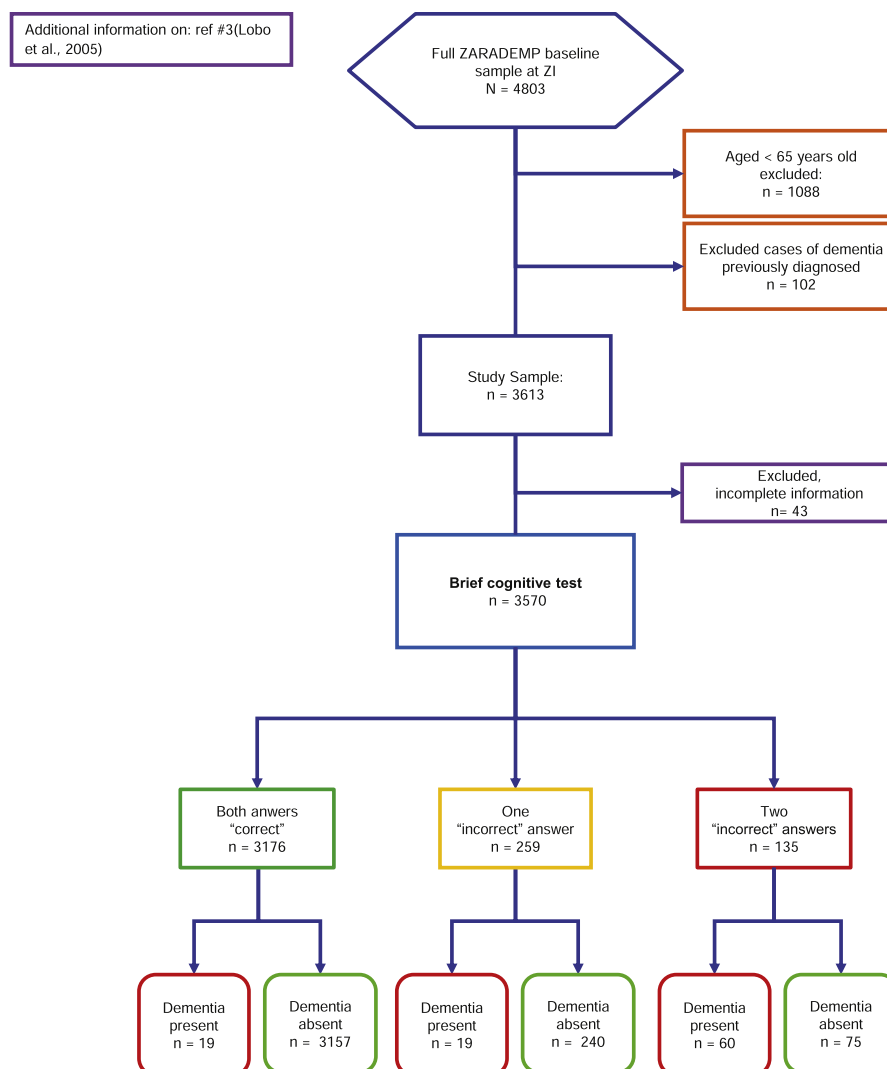


Fig. 1. Flow of participants through the study.

low.¹¹ Although the unwillingness of clinicians such as PCPs to do this systematic screen may be because of limited resources, or negative attitudes toward the value of detecting and managing these conditions,¹² there is also important evidence suggesting that they have difficulty identifying dementia.^{12,13} In the geriatric field, there is consensus that appropriate diagnosis of dementia benefits patients, but a large proportion of patients under geriatric care in both acute and rehabilitation settings remains undiagnosed.¹⁴

In relation to this, a stepped approach, sometimes called algorithm screening, has been proposed by both geriatricians¹⁰ and PCPs.¹⁵ A simple test might be used in the first step to exclude those individuals without significant cognitive impairment and then a more extensive case-finding method would be implemented by either the PCP or a specialist, such as a geriatrician, neurologist, or psychiatrist, in those who screen positive in the first step.¹¹ Thorough review of the literature has found a considerable number of robust studies that examined diagnostic validity of brief, single, or multidomain screening methods in comparison with a validated diagnostic standard of dementia. In this review, the Mini-Mental Status Examination (MMSE)¹⁶ is the test most frequently used for screening, and a recent meta-analysis supports its validity in community studies.¹⁷ However, one of the main problems with the MMSE relates to its use in busy clinical practices, as the administration time has been estimated to be 7 to 10 minutes^{13,18} and

15 minutes in patients with some cognitive problems.¹⁷ Studies in the general population and primary care settings^{18,19} have raised the need to develop screening tools shorter and easier to apply. We previously reported good validity coefficients of individual items in the MMSE²⁰ and Mitchell and Malladi,²¹ in a careful meta-analysis of simple domain tests, concluded that validity coefficients were surprisingly similar to the full MMSE, and that tests such as the Memory Impairment Test (MIS) may be an efficient first step in identifying cognitive impairment. Nevertheless, there is no evidence that the use of these tests is systematic, and no consensus on what test should be preferred.

The objective of this study was to test the following hypothesis emerging from our clinical and research experience: the efficacy of a simple cognitive test based on 2 routine questions commonly used in clinical practice and well accepted by both patients and clinicians (asking the age and year of birth of individuals) will be satisfactory to rule out cases of dementia.

Methods

Background, Design, and Sampling Technique

The data in this report come from the baseline of the ZARADEMP project, a longitudinal, prospective study focused on the incidence of

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