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Sentence writing in the cognitive assessment of the elderly

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The study

Testing the ability to write a simple sentence has long formed part of the clinical assessment of the cognitive state in the elderly, and has even been incorporated into standard brief cognitive tests (Folstein *et al*, 1975). Writing a sentence tests a number of faculties including language skills and praxis. As part of a comparative study of four tests of cognitive function—the Felix Post Unit (Institute of Psychiatry, 1987), Mini Mental State Examination (Folstein *et al*, 1975), Abbreviated Mental Test (Qureshi & Hodkinson, 1974) and Medical Research Council (MRC, 1987) – sentences written by 158 elderly newly admitted psychiatric patients, as requested in the Mini Mental State, were collected. Our aims were to assess the value of sentence-writing in discriminating between dementia and depression, and to compare the style and content of what was written. Would the material chosen by the patients for their sentences be associated with their diagnoses? In particular, would depressives write miserable sentences and the demented be more likely to write nonsense?

The consultant discharge diagnosis for each patient was recorded and the patients divided into those with an organic disorder and those with a functional illness (e.g. depression or late paraphrenia). The sentences were examined by a single rater (RH) for completeness, length and content.

Findings

Some of the patients were unable to write anything at all, or could only manage a single word. Such an effort was classed as "No sentence". A number of nonsense sentences were produced, for example, "War makes us chang ven to", while other patients wrote only their names or addresses. Of the organic group, 33% produced no sentence at all compared with 15% of the functional patients. A correct sentence was written by 54% of the organic and 75% of the functional patients. Nonsense sentences or names and addresses were written by 13% of the organic group and 10% of the functional group.

The length of sentence, whether nonsense or correct, was recorded in terms of the number of words involved; 26% of the organic and 34% of the functional patients wrote four or fewer words. Sentences containing between five and seven words were produced by 56% of the organic group and 53% of the functional group. Longer sentences, containing eight or more words, were written by 18% of the organic and 13% of the functional patients.

Finally, the content of those sentences that made some sort of sense was assessed. The completed sentences fell into five main groups. Some took the form of a post-card type message, for example, "Dear Lil, just a line home to you" (10% of organic and 13% of functional patients). A second group were self-referential, for example, "I wish I was not here" or "I am happy" (33% of organic and 36% of functional patients). The third group had a religious or proverbial content, for example, "God be merciful" or "She who does does well" (21% of organic and 6% of functional cases). A fourth group took the form of a writing exercise such as "The cat sat on the mat" (19% of organic and 39% of functional cases). The final group were all examiner-related, for example, "You are a nice doctor" or "You are visiting me this afternoon" (16% or organic and 6% of functional cases).

Comment

Earlier workers examining factors affecting errors made during the "Write a sentence" component of the Mini-Mental State Examination have reported low educational status (Escobar *et al*, 1986, O'Connor *et al*, 1989) and lower social class (O'Connor *et al*, 1989) to be significantly associated with impaired ability on this item. From this descriptive study it is apparent that a request to write a complete sentence, if made of an elderly person undergoing cognitive assessment, results in the production of a wide range of efforts in terms of their quality, length and content. Do the differences in sentence construction help to differentiate between patients with dementia and those with a functional illness such as depression? The answer to this question seems to be yes. Patients who failed to produce a correct sentence were more likely to be demented ($\chi^2 = 7.92$; $P < 0.05$)) than depressed. In the differentiation

of cases of dementia from those of depression, production of a complete sentence had a sensitivity of 0.75 and a specificity of 0.47. If a patient fails to produce a correct sentence, there is thus a high likelihood of dementia. Such a failure, however, is not useful for screening purposes, since the majority of dementia patients may still be able to produce a sentence.

There were no differences in the length of sentences produced by the two groups of patients.

As to the chosen content of the sentences, demented patients were more likely to write about the examining doctor, or use a religious or proverbial theme. Perhaps surprisingly, patients with functional illness predominated in the use of copy-book type writing exercises, even though the demented patients might have been expected to favour such early-learnt and more concrete material.

We conclude that, while an error on the "Write a sentence" component of the Mini Mental State Examination is highly suggestive of a diagnosis of dementia, such a mistake is not a good screen for dementia in a mixed psychogeriatric population. Similarly, written sentence length and content are not indicators of diagnosis.

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Erratum

Relocation of long-stay general psychiatric inpatients. By L.S. Chong and P.M. Abbott (*Psychiatric Bulletin*, January 1992, **16**, 22). The fifth paragraph reads: "The rehab. scores showed a statistically global improvement (*P* values from 0.25 to 0.001)". The latter phrase should read *P* values from 0.025 to 0.001.

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