

# PSYCHOGERIATRICS IN PRIMARY CARE---THE INVISIBLE DEMENTIA

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## SUMMARY

Cases of dementia are often overlooked in the primary care settings. This article illustrates such problem by describing a theoretical case of dementia invisible to a general practitioner and a brief screening test for cognitive dysfunction Short Portable Mental Status Questionnaire (SPMSQ) suitable for use in primary care settings. The SPMSQ has been shown to be a reliable and valid instrument in many studies although it has not been validated in the local setting. Its usefulness, limitations and applications are also discussed.

**Keywords:** SPMSQ, dementia, screening test, primary care

## THE CASE OF MRS. HOLMES\*

"I am very well, doctor," the frail elderly lady sitting before me squeezed out the sunniest grin I had seen for the whole day.

"Everything is okay, Mrs. Holmes, except that your blood pressure is a bit higher than usual today. Have you forgotten to take your blood-pressure tablets this morning?" 160/100, not too bad actually.

"Oh sorry, Doctor!" I could see her face all flushed with embarrassment. "I must have forgotten to take it. Sometimes I get a bit muddled and forget things. I'll try not to forget again, Doctor."

She again gave me such a broad smile that I didn't think I could be harsh on her.

"It's all right. But try not to forget taking the tablets again because it's important to keep your blood pressure stable. You can go now, Mrs. Holmes. Good-bye and take care, and don't forget to make an appointment for your next visit."

It was a fine Friday afternoon that I next heard about Mrs. Holmes. A doctor from the regional psychiatric hospital phoned me up and told me how Mrs. Holmes was admitted to the psychiatric hospital after the police broke into her house and rescued her not very far from a deadly disaster. Apparently the neighbors, noticing the thickening smokes from her house and unable to get Mrs. Holmes to open the door, had dialed 999 for help. The policemen and firemen found Mrs. Holmes sleeping soundly on the settee in the sitting room while some unidentifiable charcoal masses were fuming fiercely in the frying pan on the stove.

But more shocking to them was the chaos they saw inside the house. Dirty dishes and half-finished food were lying here and there. The furniture was covered with filth so thick that obviously they had not been dusted for ages. Unwashed clothing were piled up in the corners mingling with the most unimaginable collections of empty cans and bottles, old newspaper, broken furniture, shopping bags, rotten vegetables and all sorts of peculiar junks probably hoarded from the streets. For a brief moment the policemen had pondered over the possibility of burglary in the house. But soon their doubts were cleared by another discovery: stuffed inside an

unlocked cupboard in the kitchen were bundles and bundles of bank notes and bags and bags of coins! The policemen counted them and found that they summed up to \$ 27,246.80 all in cash!

I listened to all these in total confusion and disbelief. Could it be the same Mrs. Holmes who was sitting before me with a happy smile just a few weeks ago? I was literally dumbfounded and could only utter some polite noises from my throat while this young doctor went on eagerly to tell me that they had diagnosed Mrs. Holmes to be suffering from a moderate degree of dementia, probably of the multi-infarct type, which ("obviously" as he put it) had been present for some time. I put down the phone completely stricken by a most profound sense of guilt and shame.

I had been attending to Mrs. Holmes ever since I took up this clinic five years ago. She was one of my most charming patients. She never bored me with the long-winding list of complaints I so often loathed in other elderly patients. She would come for her antihypertensive drugs now and then but she never complained a thing. She was always in her sweetest smiles and would reply "I am very well, Doctor..." to any of my questions. Maybe it was just this never-complaining manner which had kept me from paying any notice to the facts that she never kept her appointment and she had never addressed me as Dr. Watson. Only looking back in hindsight did it dawn on me that the real reason why she only addressed me as Doctor was that she could not remember my name at all!

## THE INVISIBLE DEMENTIA

I looked through the literature. Although about 10% of their patients would have some degree of cognitive impairment (Roca et al, 1984), the physicians in general (not only the family practitioners!) were far from good in picking up cognitive impairments in their elderly patients, especially if it was mild (Williamson et al, 1964; Knight & Folstein, 1977). There was wide variation in the primary care physicians' knowledge of dementing disorders and the procedures used to diagnose these disorders. Mental status testing was, often than not, missed out by the primary care physicians in making the diagnosis of dementing disorders. The use of any formal mental

\* All characters in this article are fictitious and the clinical materials are derived from several cases.

status testing procedure was even rarer (Rubin et al, 1987). Certainly this is the case in Hong Kong.

To make life more difficult, many elderly people would never uttered a word about their physical and mental symptoms before others, believing that: these were "no big deal", "nobody would care", "nothing can be done about it", or "didn't want to bother people". Even among the non-dementing elderly, only one out of five persons suffering from forgetfulness would tell any health professionals about it (Brody & Kleban, 1981). So how could you expect the dementing elderly to complain to you themselves? No wonder it was remarked that "the elderly with early or less severe psychiatric disorder are *invisible* to their family doctors, and even when they are in contact for medical reasons their psychiatric illness escaped detection..." (Bergmann, 1982). They just would not complain!

Unquestionably the primary care doctors were in the best position to pick up the dementing illness among the elderly population as early as possible so that treatment could be rendered for any treatable and potentially reversible conditions. At least some mitigation of the distress and suffering for the patients and their families could be effected through arrangement of services such as home-helper, meal services, day activity centre, day hospital and respices service. Psychological support as well as self-help groups could also bring about some relief to the carers' burden. All these could avoid or postpone acute crises and support independent functioning within the home setting for as long as possible (Cooper & Bickel, 1984; Rubin et al, 1987).

All very well said. But the problem of heavy workload and insufficient time to perform a thorough cognitive examination in every elderly person seemed unsurpassable. Before screening and routine assessment of the vulnerable groups of elderly can become a feature of the public health approach at the primary care level, the general practitioners have to be provided with the proper instruments to screen out the cases with cognitive impairment. This is more important in Hong Kong as the population is aging at a great pace. Therefore a brief cognitive test which is quick and practical enough to be administered by the general practitioners to all of their elderly patients in their clinic setting is very much needed.

### THE MAGICAL TEN ----- SPMSQ

Several brief cognitive mental status examination questionnaires which can serve well as a screening test for organic brain syndromes among the elderly population have been designed and studied (Kahn et al, 1960; Isaacs & Walkey, 1964; Irving et al, 1970; Hodkinson et al. 1972; Pfeiffer, 1975; Patie & Gilleard, 1975; Katzman et al, 1983). Many of them are known as the "**magical ten**" because they only consist of about 10 simple questions or tasks. They share many

similar items and are broadly equivalent in their efficacy and can be seen as analog (Gurland, 1980).

Unfortunately none of these had been adequately validated in the Hong Kong elderly population. Fan (1992) has carried out a pilot study on a small sample of elderly patients newly-referred to a local psychiatric out-patient clinic using the Mental Status Questionnaire (MSQ). A multi-centre validation study of MSQ has also been carried out on a larger scale but the results are not yet available. Cheung (1987) had also employed the MSQ in a study of elderly inpatients in Castle Peak Hospital.

One of the most widely used of them is called the **Short Portable Mental Status Questionnaire** (SPMSQ, Pfeiffer, 1975).

It consists of 10 items:

1. What is the date today?
2. What day of the week is it?
3. What is the name of this place?
4. What is your telephone number? (ask 4a if patient does not have a telephone)
- [ 4a. What is your street address?]
5. How old are you? (allowance up to 2 years)
6. When were you born? (up to month and year)
7. Who is the Hong Kong Governor now?\*
8. Who was the Hong Kong Governor before him?\*
9. What was your mother's maiden name?
10. Subtract 3 from 20 and keep subtracting 3 from each new number all the way down. (prompt once)

For questions 5 and 9, if it is impossible to verify by other sources, you can repeat the questions after some intervening conversation. If the answers are consistent, it is taken to be correct. Another point to note is that the age registered on their identity card may not be the "true" age because many people have given an inaccurate age when they came to Hong Kong years back.

If the person gives 3 or more errors, then he is likely to be suffering from some degree of cognitive impairment. The more errors he makes, the more severe is the cognitive impairment. However since there is not yet any validation study on the SPMSQ in Hong Kong, so its usefulness may not be fully confirmed. We can only take it as a screening test and should proceed to further cognitive function testing if so indicated.

### USEFULNESS OF THE SPMSQ

It has been shown that by asking these 10 simple and straight forward questions tapping on orientation, memory, general knowledge and subtraction, then counting the number of correct and incorrect answers, you can have a rough measure of the person's cognitive functioning. Of course, a few words of explanation to the patients of what it is all about before

\* modified by the author

administration is very important so that they will not feel humiliated or ridiculed by the test (Comfort, 1978). This questionnaire has been shown to be useful for discerning the presence and severity of organic brain syndrome among the elderly in the psychiatric hospitals and out-patient clinics; in the medical or surgical wards of general hospitals; in the primary medical services, nursing homes, aged homes as well as community settings (Pfeiffer, 1975; Haglund & Schuckit, 1976; Smyner et al, 1979; Fillenbaum, 1980; Wolber et al, 1984; Erkinjuntti et al, 1987; Forman, 1987; Davis et al, 1990). Normative data has also been established by Pfeiffer in the US elderly population (1975). However such local data is missing.

The SPMSQ has proven itself to be a reliable and valid instrument. It is a reliable test probably due to its simple administration and scoring (Pfeiffer, 1975; Fillenbaum & Smyner, 1981; Cairl et al, 1983). It also has good internal consistency (Foreman, 1987). Its validity has been proven by its high level of agreement with clinical diagnosis made by experienced psychiatrists with various diagnostic criteria and investigation procedures. It also agrees well with other similar brief cognitive mental status questionnaires, neuropsychological tests and more comprehensive multidimensional dementia rating scales designed specifically for use in the elderly population (Haglund & Schuckit, 1976; Smyner et al, 1979; Fillenbaum, 1980; Wolber et al, 1984; Foreman, 1987; Davis et al, 1990). It may also give reasonable prediction about the outcome of the patients and the level of residential care required later (Sloane, 1980).

Its advantages clearly lie in its simplicity and rapidity to administer, its acceptability to patients and its repeatability. Little training is required so it can be used by professionals as well as laymen. No equipment is required and it can be easily carried out in any settings. Furthermore, it gives a standardized and quantified score convenient for later reference and comparison, monitoring of change and communication between professionals. The administration of the SPMSQ can also serve to indicate the doctor's concern about the mental aspect of the patients' health and allow them to put forward any such problems.

#### LIMITATIONS AND APPLICATIONS

It is very important to recognize the limitations of the instrument when you are trying to apply it in your clinical work. Although the SPMSQ is a relatively sensitive screening instrument for detecting moderate and severe dementia in the hospital and community geriatric population, it is less satisfactory in its efficacy in discriminating out cases of mild dementia from the normal population since it was not originally designed for that (Pfeiffer, 1975; Smyner et al, 1979; Nelson et al, 1986; Erkinjuntti et al, 1987). Therefore it has been shown

to have false negative rates ranging from 18% to 28% (Nelson et al, 1986) and in one study as high as 45% (Fillenbaum, 1980). That means some of the mildly demented patients may score within the normal range and will not be picked up by the SPMSQ. This lack of sensitivity for mild dementia will be of importance if SPMSQ is employed as the only screening instrument. This problem can be partially solved by lowering the cut-off point to 2 or 3 errors to enhance the sensitivity and reduce the false negative rate (Erkinjuntti et al, 1987). It is of course better to err on the side of having more false alarms than to miss out the mild cases in the screening procedure.

There is also some false positive cases, that is, some non-demented subjects will be wrongly classified as having cognitive impairment by their SPMSQ scores. Low educational level, different innate cognitive ability, adverse socio-economic or cultural factors may all yield unduly low scores. Other factors like the presence of depression, deafness, poor concentration or unco-operation may all interfere with the interpretation of the result. Usually repeated testing may give some cues to these confusing factors. Pfeiffer (1975) has actually derived a correction scale for educational level and race in his US population. Similarly, probably due to the high prevalence of illiteracy among the elderly population in Hong Kong, Fan (1992) found that the cut-off score for MSQ should be adjusted to 5 instead of 7 for Hong Kong Chinese elderly. Lowering the cut-off by 2 points may be considered if the patient is illiterate.

It must be emphasized that the SPMSQ should be seen as a **screening test** rather than a diagnostic instrument. Exclusion of dementia is not a function of the test. It serves best as a screening and a guide, but it cannot replace careful historic and physical examinations that also assess specific functional performance. As a screening instrument, the SPMSQ will alert one to any suspicious hint of cognitive impairment even when nobody is putting forward any complaints. It can indicate the need for more extensive formal psychometric evaluation but it cannot substitute for comprehensive assessment. The physician's work does not end in just picking up the patients with positive or suspicious findings. Behaviours identified through testing must be corroborated by family or caregiver interviews, and mental status abnormalities and diagnostic impressions must be evaluated by laboratory and psychometric testing. The total diagnostic approach must depend on many sources of information but never the test score of a single trial (Comfort, 1978; Cooper & Bickel, 1984; Kallman & May, 1989). Finally, it can never replace a high index of suspicion and good clinical sense for the vulnerable groups, especially those elderly patients who never complain a thing.

By making the SPMSQ part of the routine medical assessment for the elderly in the primary care, repeating it with the annual medical check-up or whenever necessary, I hope that I shall never see another case of Mrs. Holmes the "Invisible Dementia".

## ACKNOWLEDGEMENT

I would like to thank Professor R. Levy and Dr. K. Bergmann for their stimulating teachings at the Felix Post Unit; Professor B. Pitt and the Public Education Committee of the Royal College for their effort in publishing this paper.

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