

## The role of the neuropsychological profile in distinguishing between subjective memory complaint and early indicators of pathological ageing

دور الملمح النفس-عصبي في التمييز بين الشكوى الذاكرية الذاتية والمؤشرات الأولية للشيخوخة المرضية.

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### ABSTRACT:

This study aimed to highlight the role of the neuropsychological profile in distinguishing between subjective memory complaint and early indicators of pathological ageing, taking cognitive reserve into account. The study adopted a clinical approach, examining two cases referred for neuropsychological assessment who presented with subjective memory complaint. A battery of neuropsychological tests was used in the assessment. The results revealed differences in the neuropsychological profiles of the two cases.

The findings were interpreted in the light of available neuroimaging data and cognitive reserve. The study concluded that the neuropsychological profile helps distinguish subjective memory complaint from early indicators of pathological ageing.

**Keywords:** Neuropsychological profile, Subjective memory complaint, Pathological ageing, Cognitive reserve.

### الملخص:

هدفت هذه الدراسة إلى إبراز دور الملمح النفس-عصبي في التمييز بين الشكوى الذاكرية الذاتية والمؤشرات المبكرة للشيخوخة المرضية. مع الأخذ بعين الاعتبار الاحتياطي المعرفي. اعتمدت الدراسة على المنهج العيادي، بدراسة حالتين موجهتين إلى الفحص النفس-عصبي لديهما شكوى ذاكرية ذاتية. واستخدمت بطارية من الاختبارات النفس-عصبية في التقييم. وأظهرت النتائج اختلاف الملمح النفس-عصبي للحالتين. وتم تفسير النتائج على ضوء معطيات التصوير العصبي والاحتياطي المعرفي. خلصت الدراسة إلى أن للملمح النفس-عصبي دور في التمييز بين الشكوى الذاكرية الذاتية والمؤشرات الأولية للشيخوخة المرضية.

كلمات مفتاحية: الملمح النفس-عصبي، الشكوى الذاكرية الذاتية، الشيخوخة المرضية، الاحتياطي المعرفي.

### 1- Introduction:

The World Health Organization (WHO) indicates that by 2050, the number of people aged 60 and over could reach 2.1 billion (WHO, 2024). Algeria, for its part, is also seeing an increase in the proportion of older people due to improved health and rising life expectancy. Data from the National Statistics Office indicate that the number of people aged 60 and over stands at approximately 4.867 million, of whom more than 2.1 million are aged 70 and over, and around 707,000 are aged 80 and over (ONS, 2024), confirming the accelerating pace of population ageing in Algeria in recent years. This demographic shift is likely to be accompanied by a rise in the prevalence of neurocognitive disorders and a consequent increase in demand for neuropsychological assessment and diagnostic services.

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Growing public awareness of brain health, brain disorders, and their impact on cognitive function has led to an increase in the number of people who, whilst showing no objective cognitive impairment, perceive a decline in their cognitive abilities, prompting them to seek specialist help. The term ‘Subjective Cognitive Decline’ (SCD) was proposed in 2014 to describe this condition. (Jessen et al., 2020)

The elderly are among the groups most likely to seek specialist help, whether on their own initiative, at the urging of family members, or on the advice of their treating doctor or general practitioner; memory complaint are one of the most common reasons for neuropsychological assessment in this group.

From this perspective, neuropsychological assessment enables us to distinguish between two fundamental outcomes of memory complaint. Firstly, the complaint is consistent with the patient’s objective performance, as the test results confirm this and reveal the presence of actual disorders. Secondly, the complaint is inconsistent when the patient expresses anxiety and forgetfulness without this being accompanied by any tangible objective impairment as revealed by neuropsychological memory tests; in this case, it is classified as a purely subjective complaint. It is the examination of this overlap between the subjective and the objective that gives the neuropsychological profile its value in identifying indicators of pathological ageing. (Tandetnik, 2015).

Having reviewed the scientific literature, it is evident that a growing number of recent studies are investigating the relationship between subjective cognitive decline (SCD) and the risk of developing mild cognitive impairment (MCI) and severe neurocognitive disorder, as well as exploring its association with the very early stages of Alzheimer’s disease and other neurodegenerative disorders.

Epidemiological data suggest that the risk of developing mild cognitive impairment and major neurocognitive disorder is elevated in individuals with SCD; however, the majority of people with SCD will not go on to experience progressive cognitive decline over time (Jessen et al., 2020).

From the above, it is clear how important it is to base clinical practice on an individualised assessment to identify or rule out medical conditions among people with SCD seeking medical help. This is where the importance of neuropsychological assessment comes to the fore in determining the validity of memory complaint and establishing the patient’s neuropsychological profile; this process begins with a quantitative assessment of the nature of the complaint and its presence in daily life, using self-report questionnaires (self-assessment) such as the McNair questionnaire, followed by an assessment of general cognitive functioning using tools such as the Mini-Mental State Examination (MMSE) or the Montreal Cognitive Assessment (MoCA). Whilst the overall results of these tools do not provide a neuropsychological profile, they do aid in the initial identification of issues. They therefore cannot assist in making an accurate diagnosis or guiding the course of care. This highlights the need to assess the various cognitive functions, treating each as a separate entity, using specialised and qualitative batteries of tests and assessments.

Individual differences play a decisive role in shaping and directing this neuropsychological profile through two complementary dimensions: brain reserve and cognitive reserve. The former refers to structural and anatomical differences in the brain, such as its volume or synaptic density,

which may increase an individual's ability to withstand pathological damage. The second refers to individual differences in information-processing efficiency and task-performance strategies, which make some people better able to adapt, compensate, and maintain cognitive performance despite the presence of brain changes or degenerative processes. Epidemiological studies suggest that experiences accumulated throughout life, including educational attainment, occupational achievement, and engagement in cognitive, social, and leisure activities, contribute to strengthening this reserve. For example, the risk of developing Alzheimer's disease is lower among individuals with a high level of education or occupational status (Stern, 2009). The results of the PAQUID study, a longitudinal study, found that people with a high level of education go through two successive stages: a resilience phase, characterised by mild and limited impairments thanks to cognitive reserve mechanisms that delay the onset of symptoms for years; this is followed by a phase of collapse and cognitive decline, which is comprehensive and rapid once the disease burden exceeds the compensation threshold. (Amieva et al., 2014).

From this perspective, it is important to understand and analyse memory complaint through neuropsychological assessment to identify the underlying features, in light of factors such as a high level of education and cultural background which enable compensatory functioning thanks to a large cognitive reserve and factors relating to pathological ageing (Alzheimer's disease) in both typical and atypical forms, where genuine cognitive impairment may not be apparent behind memory complaint and cognitive compensation. Based on the above, we pose the following question:

What is the role of neuropsychological features in distinguishing between subjective memory complaint and the early indicators of pathological ageing?

## **2- Aims of the study:**

The present study aims to achieve the following objectives:

- To investigate the degree of objectivity of subjective memory complaint and to determine whether they correlate with or deviate from actual performance on neuropsychological tests.
- To investigate the role of educational and cultural background in providing cognitive reserve and functional compensation mechanisms.
- To highlight the role of neuropsychological profile in identifying early indicators of pathological ageing.

## **3- Significance of the study:**

The present study derives its scientific and practical significance from the following:

- The fact that memory complaint is among the symptoms that may be the first indication leading to the detection and diagnosis of pathological ageing.
- The topic of pathological ageing aligns with current interests in the field of neuropsychology and is consistent with the policies of the relevant authorities in Algeria regarding care for the elderly.
- The practical importance of the neuropsychological profile and its crucial role in guiding diagnosis and care.

#### **4- Study terminology:**

##### **4-1- Neuropsychological profile:**

This refers to an individual's performance in cognitive functions (memory, language, executive functions, attention, visuospatial abilities, etc.), as assessed through neuropsychological tests, which enable the identification of impaired and preserved functions. (Weintraub et al., 2012)

Procedurally: These are the results obtained by the patient in the neuropsychological tests we administered, compared with their age and educational and cultural background, to identify impaired and preserved functions. They include tests of general cognitive functioning and tests specific to cognitive functions. (MMSE, DCT, McNair, FAB, DMS48, TMT, ISAAC, DO80, TNI)

##### **4-2- Subjective memory complaint:**

This is the most prominent form of subjective cognitive decline (SCD); it refers to an individual's personal perception of their memory abilities and the expression of distress or anxiety regarding their memory performance. This memory complaint, and the associated sense of difficulty or distress, may prompt a request for a neuropsychological assessment (Dubois, 1996).

Procedurally: This refers to a complaint made by the patient and their family regarding frequent forgetfulness and difficulties in daily life, as assessed using the McNair Self-Report Questionnaire. The validity of these complaint is verified by comparing them with actual performance on neuropsychological tests.

##### **4-3- Pathological ageing:**

Pathological ageing refers to a condition in which advancing age is accompanied by diseases or disorders that go beyond the normal changes associated with ageing, and which result from a progressive neurodegenerative process leading to marked deterioration, cognitive and functional decline, which negatively affects the individual's independence and quality of life, as is the case with neurodegenerative diseases such as Alzheimer's disease. (Tison, 2023)

Procedurally: this refers to the score on the Mini-Mental State Examination (MMSE), the neuropsychological profile derived from the results of neuropsychological tests, and the impact on the patient's independence as assessed by the Instrumental Activities of Daily Living (IADL) scale, as well as neuroimaging data and the neurologist's report.

#### **5- Study methodology and procedures:**

Study methodology and procedures:

##### **5-1- Method:**

In this study, we adopted the clinical method based on the case study approach. This is defined as a comprehensive approach aimed at understanding an individual case within its specific context by combining data obtained from interviews, tests, and medical history. It is not limited to description or diagnosis, but extends to the interpretation and understanding of the case, thereby allowing a transition from observable data to clinical meaning. (Fernandez, 2006) We adopted this approach as it is the most suitable for assessing the neuropsychological profile of the case.

## **5-2- Study group:**

This comprised two cases who were referred by a neurologist for a neuropsychological assessment due to a memory complaint, in order to determine the nature of the complaint and identify the presence or absence of objective cognitive impairment.

### **5-2-1- Presentation of the first case (B.A):**

The patient is a 55-year-old male with a secondary school education (third year of secondary school). He has no medical history.

### **5-2-2- Presentation of the second case (A.J.):**

The patient is a 73-year-old male holding a baccalaureate qualification. He has a medical history of hypertension.

**Table 1. Characteristics of the two study cases**

|                       | Case 1 (B.A)                                                                                             | Case 2 (F.M)                      |
|-----------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------|
| Sex                   | Male                                                                                                     | Male                              |
| Age                   | 55 years                                                                                                 | 73 years                          |
| Educational level     | Secondary (third year)                                                                                   | Baccalaureate                     |
| Occupation            | Manager of a private factory                                                                             | Retired (administrative employee) |
| Medical history       | None                                                                                                     | Arterial hypertension             |
| Onset of symptoms     | Approximately one year ago                                                                               | Approximately two years ago       |
| Neuroimaging findings | Cortical-subcortical atrophy (more pronounced in the frontal regions) and bilateral hippocampal atrophy. | No neuroimaging data available    |

## **5-3- Research Tools:**

### **5-3-1- The Mini-Mental State Examination (MMSE):**

This test is used to assess an individual's global cognitive functioning in a quick and effective manner. It was developed by Folstein et al. in 1975. It comprises items assessing various cognitive domains, including temporal and spatial orientation, learning, attention and calculation, memory, language, and constructional praxis.

### **5-3-2- McNair Questionnaire:**

This is a self-report measure of memory complaint designed to evaluate changes in daily life across various cognitive domains such as language, concentration, attention, performance, delayed recall, prospective memory, and temporal orientation. Each item is rated on a 4 point Likert scale (never = 0, rarely = 1, sometimes = 2, most of the time = 3) (Hugonot-Diener, 2007).

### **5-3-3-The Instrumental Activities of Daily Living (IADL) Scale:**

This scale is used to assess the patient's level of independence and indirectly evaluate cognitive functions through a range of activities of daily living, such as shopping, using public transport, cooking, cleaning, doing laundry, using the telephone, taking medication, and managing finances (Dagneaux, 2009).

#### **5-3-4-The Frontal Assessment Battery (FAB):**

This battery consists of six subtests that assess the following domains: abstraction, mental flexibility, motor programming, sensitivity to interference, inhibitory control, and environmental autonomy. It is characterised by its ability to distinguish between normal performance and frontal lobe dysfunction (Dubois et al., 2000).

#### **4-3-5- Delayed Matching to Sample (DMS-48):**

This is a test of visual recognition memory designed to monitor changes in memory performance that occur in the early stages of Alzheimer's disease (Barbeau et al., 2004).

#### **5-3-6- Nine Images Test (TNI-93: Test des 9 Images):**

This is an episodic memory test based on the learning and recall of nine images. It is designed to minimise the influence of educational level, linguistic, and cultural factors. It does not require reading or writing and is characterised by simple instructions and rapid administration (Maillet et al., 2016).

#### **5-3-7- Verbal Fluency Test (Isaacs Set Test):**

This test assesses semantic verbal fluency through the production of as many words as possible belonging to specific semantic categories within a limited time. It allows the evaluation of semantic memory, lexical retrieval speed, and certain executive functions. It is also used to detect cognitive disorders in older adults (Isaacs & Kennie, 1973).

#### **5-3-8- Trail Making Test (TMT):**

This is one of the most widely used neuropsychological tests and is included in many assessment batteries. It provides information on visual search and scanning, information processing speed, and executive functions, including mental flexibility (Reitan & Wolfson, 1995).

#### **5-3-9- Oral picture naming test (DO80: Dénomination Orale de 80 images):**

Developed by Deloche and Hannequin in 1997, is one of the most widely used tests for assessing difficulties with word retrieval and naming, regardless of their causes. The test consists of 80 items (names) in the form of black-and-white drawings (Deloche & Hannequin, 1997).

#### **5-3-10-Clock Drawing Test:**

One of the rapid screening tools for cognitive disorders, used to assess executive functions, visuospatial abilities, attention, and planning. It involves asking the participant to draw a clock, label the numbers, and set the hands to a specific time (Shulman, 2000).

#### **5-3-11- Study procedures:**

We admitted the two patients after a neurologist referred them due to a complaint of memory problem. We conducted the neuropsychological assessment on 21 May 2026 as an individual interview for each patient, under suitable conditions of quietness, lighting, and examination duration, in the neuropsychological assessment office. We conducted the interview to become acquainted with

the patients and gather information about them, including the nature and progression of the memory complaint, as well as to review the medical records and neuroimaging findings. Neuropsychological assessment tools were then administered individually, in accordance with the administration and scoring instructions specific to each test, whilst taking into account the examinee's health status and their ability to respond and maintain attention throughout the assessment session. The tests were scored and the results analysed in accordance with the criteria for each test; the neuropsychological data were then compared with clinical findings and neuroimaging results, with the aim of determining the nature of the memory complaint, identifying the presence or absence of objective cognitive impairment, and assessing the neuropsychological profile.

## **6- Presentation of the results for the two cases:**

Having assessed the two cases, we present the results for all the tests we carried out on them in the table below:

**Table 2. Results of the Two Cases on the Neuropsychological Tests**

| Neuropsychological Tests | Case 1 (B.A)                            | Case 2 (F.M)                            |
|--------------------------|-----------------------------------------|-----------------------------------------|
| McNair                   | 23                                      | 18                                      |
| MMSE                     | 30/30                                   | 21/30                                   |
| DMS-48                   | Set 1: 98%, Set 2: 98%                  | Set 1: 98%, Set 2: 96%                  |
| Isaacs                   | 37/40                                   | 18/40                                   |
| CDT                      | 7/7                                     | 2/7                                     |
| FAB                      | 13/18                                   | 11/18                                   |
| TNI-93                   | Immediate recall: 9/9, Free recall: 9/9 | Immediate recall: 9/9, Free recall: 9/9 |
| TMT                      | Part A: 33 s, Part B: 113 s             | Part A: 86 s, Part B: 260 s             |
| DO80                     | 77/80                                   | 49/80                                   |
| IADL                     | 8/8                                     | 6/8                                     |

## **7- Analysis of the results of the two case studies:**

### **7-1- Analysis of the results of the first case (B.A.):**

Our observations of the patient (B.A) during the neuropsychological assessment revealed his interest in the assessment; he participated actively in the proposed tests and remained aware of the assessment situation throughout the testing period.

The patient scored 23 points on the McNair Memory Complaint Questionnaire, which is higher than 15 points and indicates the presence of a subjective memory complaint warranting further assessment. On the Mini-Mental State Examination (MMSE), he achieved a perfect score of 30/30, a result indicating that his general cognitive functioning is good and consistent with his age and educational level.

In the Clock Drawing Test, he scored 7/7, a result indicating the absence of cognitive impairment and that executive functions, visuospatial abilities, attention, and planning are preserved. However, we must bear in mind that this test and the MMSE are screening tests, and we cannot rely on them alone for a neuropsychological profile and diagnosis.

In the FAB battery, which is known for its sensitivity in detecting impairments in executive functions and frontal lobe functions, the patient scored 13 out of 18. Taking into account the patient's age and educational level, this score indicates mild executive dysfunction, despite intact visuospatial abilities and general cognitive performance.

In the TMT test, Part A (33 seconds), the completion time was within the expected range for the patient's age and educational level. Part B (113 seconds), a time exceeding the reference standards, indicates a mild deficit in mental processing, flexibility, and the ability to switch and alternate between tasks; this result is consistent with the mild executive dysfunction demonstrated by the Frontal Assessment Battery.

In the DMS48 test, the patient scored 98% in both the first and second sets, indicating excellent abilities in visual recognition memory and implicit visual episodic memory.

In the TNI-93 test, the patient scored 9/9 in naming, 9/9 in immediate recall, 3/5 in arithmetic, 9/9 in free recall, 9/9 in total recall, and 0 interference. The patient's verbal episodic memory is intact, with complete free recall and global recall and no interference.

In the Isaacs Set Test, the patient achieved a score of 37/40, which is consistent with his age and educational level, reflecting good abilities in lexical retrieval and verbal fluency.

On the DO80 test, the patient scored 77/80; consequently, his naming abilities are good and fall within the range expected for his age and educational level.

On the IADL scale, he scored 8/8, indicating that the patient's functional independence is preserved.

Summary of Case 1 (B.A.): Analysis of the results reveals that the patient's neuropsychological profile is characterised by intact general cognitive functioning and preserved memory abilities, both visual and verbal, as well as preserved linguistic abilities. However, mild executive dysfunction is observed, indicating executive deficits affecting the patient's abilities, such as mental flexibility, inhibition, and planning; this has no impact on the patient's functional independence in activities of daily living

#### **7-2- Analysis of the results of the second case (F.M):**

During the neuropsychological assessment, we observed that the patient (F.M.) was cooperative and aware of the assessment situation; he also showed interest in his cognitive functions and the results of our assessment. However, he experienced linguistic difficulties characterised by word-finding difficulties, which led to prolonged response times.

The patient scored 18 points on the McNair Memory Complaint Questionnaire, which is higher than 15 points and indicates the presence of a subjective memory complaint warranting further investigation.

On the Mini-Mental State Examination (MMSE), he scored 21/30, a result indicating general cognitive decline. Given the patient's educational level, this score is consistent with a major neurocognitive disorder with mild-to-moderate severity, as the result is lower than expected given his educational level (he holds a Baccalaureate). It should be noted that the items in which the patient

performed poorly were those relating to temporal orientation (3/5), calculation (0/5), learning (2/3), and recall (2/3).

In the Clock Drawing Test, he scored 1/7, due to the absence of clock hands, as well as writing the numbers 1 to 17 with the number 13 repeated twice inside the circle and very far from its edge. This performance reveals severe impairment in attention, executive functions, planning, and visuospatial organisation; however, we must bear in mind that this test and the MMSE are rapid screening tests, and we cannot rely on them alone for a neuropsychological profile and diagnosis.

In the FAB battery, the patient scored 11/18, an unexpected result given his educational level (Baccalaureate); consequently, this result indicates the presence of significant executive difficulties affecting planning, organisation, and mental flexibility.

In the TMT test, the patient's time for Part A was 86 seconds; when compared with standards for his age and educational level, this time exceeds the reference standards, indicating weakness in visual and motor processing speed, as well as in attention and visual scanning. The time taken to complete the Part B trail-making task was 260 seconds, which is well above the reference standards and exceeds the time limit of three minutes (180 seconds). The result indicates severe executive dysfunction and a marked impairment in mental flexibility and divided attention. This result supports our findings in the FAB battery.

In the DMS 48 test, the patient's scores were 98% in the first set and 96% in the second set, indicating preserved abilities in visual recognition memory and implicit visual episodic memory.

In the TNI-93 test, the patient scored 9/9 on naming, 8/9 on immediate recall, 3/5 on arithmetic, 7/9 on free recall, 2 cued recall with semantic cues, 9/9 on total recall, and 0 interference. The patient recalled 7 out of 9 items in free recall; however, he used cues to recall the two items he had not recalled during free recall. These results indicate that verbal episodic memory is preserved.

In the Isaacs Set Test, the patient scored 18/40, which is significantly lower than expected given his age and educational level; furthermore, a score below 25 indicates a clear decline in verbal fluency and lexical retrieval.

In the DO80 test, the patient scored 49/80; this score is significantly lower than expected given the patient's age and educational level, as the criteria for the category to which the patient belongs indicate that the minimum score is 73. This score indicates clearly pathological performance, reflecting significant difficulties with naming and accessing the verbal lexicon, manifested in the phenomenon of word-finding difficulty. This was observed at the start of the interview with the patient.

On the IADL scale, the patient scored 6/8, indicating that he experiences difficulties in carrying out certain activities of daily living, without his functional independence being completely compromised, as language disorders (word-finding difficulties and impaired verbal fluency) and executive function disorders had an impact on certain performance based activities of daily living.

Summary of the second case (F.M): Analysis of the results reveals that the neuropsychological profile of the patient is characterised by general cognitive decline, which is consistent with a major neurocognitive disorder of mild to moderate severity, with preserved memory abilities, both

episodic visual and episodic verbal, and impaired linguistic abilities clearly manifested as word finding difficulties. In addition, executive dysfunction and frontal executive impairment are present, manifested by reduced mental flexibility, inhibition, and planning, with a slight impact on the patient's functional independence in activities of daily living. We note that the patient will undergo a neuropsychological reassessment in six to 12 months to monitor progression and to evaluate language functions in greater depth, or earlier should symptoms worsen or new symptoms emerge.

#### **8- Discussion of the results:**

The results indicate that the neuropsychological profile of the first patient differs from that of the second patient, despite the presence of subjective memory complaint reported by both cases, both took a non-amnesic form. The first patient neuropsychological profile is characterised by moderate executive dysfunction, with no impairment in episodic visual or verbal episodic memory, nor in linguistic abilities. From an anatomical perspective, neuroimaging findings indicate the presence of cortical-subcortical atrophy, most pronounced in the frontal regions, which is consistent with the executive dysfunction observed in the first patient, neuroimaging findings also indicates bilateral hippocampal atrophy, though the effects of this are not evident in the neuropsychological assessment, as we found that episodic visual memory was preserved, despite using a test known for its sensitivity in detecting hippocampal origin memory disorders, given that the hippocampus is typically affected early in the classic course of Alzheimer's disease. We note that the patient retains independence in daily living and functional activities. This may be explained by the patient utilising cognitive compensatory mechanisms to offset certain deficient cognitive functions; it may also be explained by the fact that structural changes have not yet been clearly reflected in cognitive performance. In this case, it can be hypothesised that the patient's subjective memory complaint may represent a possible pre-clinical stage, as the patient retains good cognitive and memory performance, whilst neuroimaging data indicate the presence of features typically observed at a more advanced age than that of the patient.

As for the second patient, the neuropsychological profile is characterised by preserved episodic visual and episodic verbal memory, significant executive dysfunction, and linguistic disturbances manifested as a marked word-finding deficit. In the absence of neuroimaging data, the preserved episodic memory observed in the neuropsychological assessment could be interpreted as indicating the absence of a hippocampal syndrome, whilst the executive dysfunction could be explained by atrophy of the frontal lobe. As for the word finding deficit, these may lead us to consider an atypical form of Alzheimer's disease known as the logopenic form, though this cannot be confirmed with certainty, given the lack of neuroimaging data, as well as the need to assess other aspects of the patient's language and to gather further information on the nature of the initial symptoms and their progression. From a neuroimaging perspective, the presence of predominant atrophy in the parietal region or the left posterior perisylvian area, as detected by magnetic resonance imaging (MRI), is considered one of the key signs for confirming the diagnosis. Furthermore, the disturbances had only a slight impact on the patient's autonomy, which can be explained by compensatory abilities stemming from the patient's cognitive reserve.

In light of the above, it can be said that the neuropsychological profile plays a role in distinguishing between subjective memory complaints and early indicators of pathological ageing, as subjective memory complaints may mask other forms of cognitive impairment (executive, linguistic, etc.) of varying severity, which can only be detected through neuropsychological assessment, drawing on neuroimaging data; these are crucial in interpreting the results of neuropsychological assessment, which can also reveal the role of educational and cultural background in providing cognitive reserve and functional compensation mechanisms, by monitoring the impact of impaired and preserved functions on independence. Taking into account the impact of cognitive decline on the patient's functional independence, the patient's neuropsychological profile may be consistent with a pattern of pathological ageing, manifested as a major neurocognitive disorder of mild to moderate severity. However, further neuroimaging investigations and neuropsychological follow-up remain necessary to confirm the diagnosis.

## **9- Conclusion:**

In light of the findings from the two patients, the study recommends that individuals presenting with subjective memory complaint undergo a comprehensive neuropsychological assessment and that this assessment should not be limited to memory functions alone. The study emphasises the importance of incorporating neuroimaging data, as well as ensuring neurological and neuropsychological follow-up. It also highlights the need for reassessment when new symptoms emerge or existing symptoms worsen, in addition to maintaining daily activities and providing family support in order to preserve functional independence.

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