The importance of attentive primary care in the early identification of mild cognitive impairment: case series

Waseem Jerjes[1,2]^

[1]Research and Development Unit, Hammersmith and Fulham Partnership, London, UK; [2]North End Medical Centre, London, UK
Correspondence to: Waseem Jerjes, PhD. North End Medical Centre, 160 North End Road, London, W14 9PR, UK. Email: waseem.jerjes@nhs.net.

Background: Mild cognitive impairment (MCI) is a condition often preceding Alzheimer's disease and other dementias, characterized by subtle changes in cognitive function. While the importance of early detection is recognised, MCI is frequently underdiagnosed, especially when patients consult primary care physicians for non-cognitive health concerns. The case series aims to investigate the incidental identification of MCI in older patients who visit primary care settings for reasons unrelated to memory issues.

Case Description: This is a retrospective case series comprising eight patients, ranging in age from 67 to 77 years, who initially presented in primary care settings for diverse non-memory-related concerns such as headaches, urinary tract infection (UTI) symptoms, and knee pain. Despite the lack of memory-related complaints, incidental findings suggestive of MCI were observed during clinical evaluations. The study explores the distinctions in clinical presentations and diagnostic pathways through thorough history taking and cognitive assessments, including the Montreal Cognitive Assessment (MoCA) and brain magnetic resonance imaging (MRI).

Conclusions: The study highlights the critical role that primary care settings can play in the early detection of MCI, even when patients present with non-cognitive complaints. It emphasizes the importance of comprehensive history taking as a tool for incidental identification of cognitive impairment. Although limited by sample size, the study calls for increased vigilance in primary care settings and suggests the need for future research aimed at optimizing early detection and management strategies for MCI in a primary care context.

Keywords: Frailty; primary care; cognitive impairment; case series

Introduction

The discovery of mild cognitive impairment (MCI) in patients who consult primary care physicians for unrelated health concerns is a noteworthy clinical phenomenon with important implications for healthcare (1). MCI, a condition characterized by subtle but measurable changes in cognitive function, has long been identified as a potential precursor to Alzheimer's disease and other forms of dementia. However, MCI often goes undiagnosed, particularly when its symptoms manifest in non-memory-related cognitive domains such as language, attention, and executive function.

While primary care settings are generally the first point of contact for patients with health-related concerns, the busy nature of these environments, combined with the routine focus on immediate presenting problems, can sometimes overshadow subtler signs of underlying cognitive issues (2). It is not uncommon for patients to seek medical advice for a variety of non-cognitive complaints like fatigue, pain, or gastrointestinal issues, among others. Amidst the rush to address these immediate concerns, the more

---

^ ORCID: 0000-0002-6914-7401.

nuanced signs of MCI might easily be overlooked.

Yet, it is precisely within the scope of primary care that the incidental identification of MCI may hold the most promise. Primary care physicians are in a unique position to recognise cognitive decline, given their ongoing relationship with patients and comprehensive understanding of their medical histories (3). Through attentive history taking and careful observation, physicians can pick up on subtle cognitive changes, even when these are not the primary complaints for which a patient seeks medical care. These early incidental findings can be invaluable in facilitating timely interventions and enabling a proactive approach to managing the condition, thus potentially slowing its progression.

The significance of these incidental findings is multi-fold. From a clinical perspective, early detection can lead to more effective management strategies, which may include lifestyle adjustments, cognitive therapies, and pharmacological interventions. Moreover, identifying MCI early on can help prepare patients and their families for the possible journey ahead, enabling them to make informed decisions regarding future healthcare and life planning (4).

As the understanding of MCI continues to evolve, the role of primary care physicians in its early identification becomes ever more crucial (5). Through this lens, each encounter with a patient becomes an opportunity—not just to address immediate health concerns but also to unobtrusively assess cognitive well-being. Recognising the

broader range of cognitive domains affected by MCI will not only facilitate more comprehensive diagnoses but also contribute to the ever-growing body of knowledge aimed at unravelling the complexities of cognitive impairment and its progression into more debilitating forms of dementia.

The current retrospective case series aims to investigate the incidental identification of MCI in patients who initially attend primary care for non-memory-related complaints. I present this case series in accordance with the AME Case Series reporting checklist (available at https://acr.amegroups.com/article/view/10.21037/acr-23-162/rc).

Case presentation

Ethical considerations

It is important to clarify the ethical framework under which this study was conducted. Given the nature of the research, no ethical approval was required for this study. This is a retrospective study, which solely involved the analysis of existing medical records and did not involve any clinical contact with patients or alterations to patient care. The data was collected in a manner that ensured complete anonymity and confidentiality.

However, each patient has been contacted and permission has been sought for their anonymised data to be included in this retrospective case series. Each patient was asked to sign a consent form to that effect.

Each patient's case was de-identified before analysis to prevent the exposure of personal information. All identifiers that could link the data to an individual patient were removed, thus ensuring privacy and compliance with data protection regulations. Only one qualified medical doctor was responsible for accessing and analysing these anonymised data. No external parties were involved in the data collection, data analysis, or interpretation of the results.

All procedures performed in this study were in accordance with the ethical standards of the institute and in line with the Helsinki Declaration (as revised in 2013). Written informed consents were obtained from the patients for the publication of the case series. A copy of the written consent is available for review by the editorial office of this journal.

Study design and results

This is a retrospective case series study aimed at evaluating the clinical presentations and diagnostic pathways in a

---

Highlight box

Key findings
- This study highlights the multifaceted nature of mild cognitive impairment, bringing attention to non-traditional presentations and the risk that cognitive impairment can be overlooked.
- This study emphasises the role of comprehensive history taking as an indispensable tool for early detection.

What is known and what is new?
- The early identification of cognitive decline remains a clinical imperative that can profoundly influence the course of patient care, the burden on healthcare systems, and the quality of life for individuals and their families.
- This study underscores the importance of a multi-domain approach in cognitive assessment for achieving an accurate and timely diagnosis.

What is the implication, and what should change now?
- Primary care physicians must be equipped with the knowledge and tools to identify potential cognitive decline in its early stages.

diverse set of older patients diagnosed with MCI.

This case series study was conducted by reviewing electronic medical records at North End Medical Centre, London over a period of two years (Apr 2021–Apr 2023). We used a two-step search algorithm. The first step involved querying the electronic medical records for patients above the age of 65 who presented for non-memory related complaints. The second step was to look for notes indicating cognitive assessments or references to cognitive symptoms by primary care physicians during the review.

Our search identified eight patients (*Table 1*), four males and four females, ranging in age from 67 to 77 years. Patients presented for various complaints including headaches, urinary tract infection (UTI) symptoms, knee pain, medication discussion, letter for council support, shoulder pain, flu-like symptoms, and changes in bowel habits.

In these cases, and during history taking, the primary care physician was able to identify a number of cognitive symptoms including forgetfulness, lapses in attention, difficulty multitasking, difficulty managing finances, losing track of time and dates, and misplacing items. Consultations documentation showed that specific questions were asked to try and identify deficiencies in memory and recall, orientation and time awareness, attention and concentration, language and communication, executive functioning and problem solving, visuospatial abilities, behavioural and mood changes, functional abilities and lifestyle and social engagement (*Table 2*).

All patients were independent with activities of daily living (ADLs) and had varying social support systems ranging from living alone to strong familial or social circles. These patients were all retired from various professions, including accounting, homemaking, customer services, cleaning, teaching, bus driving, nursing, and car mechanics. Smoking and drinking habits also varied, with a mix of ex-smokers, social drinkers, non-smokers, and non-drinkers.

Varying comorbidities were present among the study cohort, such as hypertension, hypercholesterolemia, diabetes, pre-diabetes, chronic obstructive pulmonary disease (COPD), osteoarthritis, transient ischemic attacks, angina, lumbar and knee osteoarthritis, deep venous thrombosis (DVT), and histories of cancer.

One of the patients had a family history of Alzheimer's dementia, and only some had past mental health histories including anxiety and depression. None of the patients has history of psychosis. It was believed by the reviewing primary care physicians, that none of the underlying mental health issues has significant impact on the patients' cognitions.

All patients underwent the Montreal Cognitive Assessment (MoCA) with scores ranging from 21 to 25. Magnetic resonance imaging (MRI) of the brain was also performed, revealing findings ranging from normal aging changes (small vessel disease) to mild hippocampal atrophy and white matter changes, but no significant pathological findings were identified in any. There has been no loss to follow-up with any patient. There have been no adverse events or unanticipated events.

All patients underwent blood test (full blood count; renal, liver, bone and thyroid profiles; levels check of vitamins folic acid, B12 and D; and C-reactive protein) as well as urine test (urine dipstick test and sample sent to the laboratory for microbiology, culture and sensitivity) to rule out inflammation/infection and other causes of cognitive impairment.

The criteria for identifying MCI included: (I) reports of altered cognitive abilities from the patient, a well-informed observer, or a clinician based on their observations; (II) demonstrable cognitive deficits in areas such as memory, executive function, attention, language, or visuospatial abilities, as evidenced by cognitive testing; (III) maintenance of autonomy in daily functional activities, despite potential decreases in efficiency or accuracy in performing daily or instrumental activities; and (IV) absence of considerable disruption in social or work life, distinguishing the condition from dementia (6). This criteria was satisfied in all patients in our cohort (*Table 3*).

All patients were referred to the memory clinic diagnosed with MCI and the management strategies included cognitive behavioural therapy (CBT), lifestyle modification strategies, acetylcholinesterase inhibitors, and referrals to social services or occupational therapy as needed (*Table 3*).

Discussion

This case series is significant for several reasons. Firstly, this study highlights the multifaceted nature of MCI, bringing attention to non-traditional presentations and the risk that cognitive impairment can be overlooked. Secondly, it emphasises the role of comprehensive history taking as an indispensable tool for early detection. Finally, it underscores the importance of a multi-domain approach in cognitive assessment for achieving an accurate and timely diagnosis.

By focusing on these non-traditional presentations of MCI, this case series contributes to the evolving

Table 1 The clinical characteristics for the mild cognitive impairment cohort

Patient No.	Age (years)	Gender	Presentation	Identified symptoms	Duration of identified symptoms (months)	Social aspects	Years of education post-secondary school	Occupation	ADLs	Relevant past medical history	Past mental health history	Family history	Smoking/drinking/drug use
1	67	Male	Constant, dull pain that feels like a tight band around the forehead or at the back of the head and neck—no red flag symptoms	Forgetfulness, misplacing household items, and occasional difficulty with word retrieval	4	Lives with wife, good circle of support	3	Retired accountant	Independent	Hypertension, pre-diabetes, hypercholesterolaemia, history of transient ischemic attack	None	None	Ex-smoker, social drinker
2	77	Female	Dysuria, frequent urination, and cloudy/strong-smelling urine—no red flag symptoms	Frequent lapses in attention, difficulty in following conversations	24	Lives alone, daughter checks on her monthly	0	Retired housemaker	Independent	Hypercholesterolaemia, lumbar and right knee osteoarthritis	None	None	None
3	68	Female	Knee pain, intermittent swelling, stiffness and difficulty straightening the knee—no red flag symptoms	Difficulty in multitasking and navigation, especially while driving	9	Lives alone, social isolation	3	Active, working in customer services	Independent	Type II diabetes, history of DVT	Anxiety, depression	None	Heavy smoker
4	74	Male	Asking for medication review. Frequent urination, hesitancy, weak urine stream and feeling of incomplete bladder emptying—no red flag symptoms	Difficulty in managing finances, forgets paying bills	20	Lives alone, grandchildren visit frequently	0	Retired cleaner	Has carer twice daily, mainly to help with cooking and cleaning	Cervical radiculopathy, hypercholesterolaemia, history of angina	None	Alzheimer's dementia	None
5	76	Female	Asking for support letter to the local council for rehousing. Ongoing problems with neighbours	Losing track of time and dates, confused about seasons	12	Lives with husband who has dementia, good circle of support	3	Retired teacher	Independent Husband has carer four times a day	Hypertension, hypercholesterolaemia, history of ovarian cancer	Anxiety	None	None
6	74	Male	Dull shoulder ache, sharp pain when moving the arm—no red flag symptoms	Misplacing items frequently, sometimes putting things in inappropriate places	8	Lives alone, ex-partner visits regularly	2	Retired bus driver	Independent	COPD, hypercholesterolaemia	None	None	Ex-smoker, ex-drinker
7	74	Female	High fever, persistent cough, body aches, fatigue, and sore throat—no red flag symptoms	Trouble remembering names and recent conversations	10	Lives with husband, good circle of support	4	Retired nurse	Independent	None	None	None	None
8	77	Male	Altered stool frequency, consistency and appearance. Also experiences abdominal discomfort—red flag symptoms identified and acted on	Difficulty following detailed instructions, especially for new devices and appliances	15	Lives alone, partner passed away 12 months before, daughter visits frequently	3	Retired car mechanic	Independent	Hypertension, hypercholesterolaemia, asthma/COPD, lumbago with sciatica	Anxiety, depression	None	Ex-smoker, ex-cannabis user

ADLs, activity of daily livings; DVT, deep venous thrombosis; COPD, chronic obstructive pulmonary disease.

Table 2 Summary of questions asked by primary care physicians to screen for cognitive impairment

Area	Questions
Memory and recall	Do you have trouble remembering recent events or conversations?
	Have you experienced any changes in your ability to remember appointments or take medications on time?
Orientation and time awareness	What is today's date? Can you tell me the day, month, and year?
	Are you aware of where you are right now? Can you tell me the name of this place?
Attention and concentration	Can you count backward from 20 to 1?
	Are you able to focus on specific tasks, or do you find your mind wandering?
Language and communication	Do you have trouble finding the right words during conversations?
	Can you name common objects when I point to them?
Executive functioning and problem solving	How do you handle paying your bills or managing your finances?
	Can you explain how you would plan a trip or an event?
Visuospatial abilities	Do you have difficulty recognizing faces or finding your way in familiar places?
	Have you had trouble judging distance or space when driving or walking?
Behavioural and mood changes	Have you noticed any changes in your mood, such as feeling more depressed or anxious?
	Has anyone close to you commented on changes in your personality or behaviour?
Functional abilities	Are you able to manage your daily activities like cooking, shopping, and taking care of personal hygiene independently?
	Have you noticed any decrease in your ability to perform complex tasks at home or work?
Lifestyle and social engagement	How often do you engage in social activities or hobbies?
	Have you noticed any change in your interest in socialising or participating in activities you used to enjoy?

understanding of this complex condition. The findings may aid primary care physicians in recognising the broader scope of MCI symptoms, thereby improving early detection rates and, potentially, patient outcomes.

One of the most immediate challenges of this study is the limited sample size. With only eight patients included, the findings may not be generalisable to a broader population. While the sample is diverse in terms of age, gender, and occupation, the limited number of cases can affect the study's external validity.

Furthermore, the wide range of symptoms with which patients initially presented, coupled with varying comorbid conditions, can complicate the interpretation of results. Although the diversity provides a rich set of data, it also poses challenges for identifying common diagnostic pathways and treatment strategies for MCI.

As a retrospective case series, this research lacks longitudinal data that could shed light on the progression of MCI over time. Without follow-up information, it's challenging to make any assertions about the efficacy of the management strategies employed or the natural course of the disease. Furthermore, the lack of a control group comprising patients of similar age and health status but without MCI, it is challenging to establish causative relationships or evaluate the specificity and sensitivity of diagnostic methods and treatment interventions. Furthermore, because the study relies on existing medical records, there may be an element of selection bias.

The MoCA is widely used but is not without its limitations, including possible cultural and educational biases. Additionally, the range of MoCA scores [21–25] is quite narrow, limiting the study's ability to discern finer gradations in cognitive function. While MRI findings ranged from normal aging changes to mild hippocampal atrophy, the clinical significance of these observations is uncertain, especially in the absence of more overt

Table 3 The assessments and outcomes for the mild cognitive impairment cohort

Patient No.	Age (years)	Gender	MoCA	Items commonly missing of MoCA score	MRI results	Criteria used to confirm MCI	Referral to memory clinic outcome
1	67	Male	23	Visuospatial/executive and delayed recall	Normal aging changes, no significant pathologies	The patient's self-reported symptoms of forgetfulness, misplacing items, and difficulty with word retrieval, along with concerns noted during clinical observation, fulfilled the criterion of a change in cognition. His performance on the MoCA with a score of 23 provided objective evidence of cognitive impairment. Despite these cognitive challenges, he maintained independence in functional abilities and his active life with a supportive social circle, aligning with the preservation of independence criterion. Furthermore, the absence of significant impairment in social or occupational functioning was evident and there was no indication of disrupted social interactions	Diagnosed with MCI, referred for CBT due to anxiety, lifestyle modification strategies
2	77	Female	22	Attention (subtraction) and delayed recall	Mild hippocampal atrophy, suggestive of early cognitive decline	The diagnosis was based on her self-reported cognitive changes and confirmed by objective evidence from a MoCA score of 22 and an MRI showing mild hippocampal atrophy, indicative of early cognitive decline. Despite these cognitive challenges, she maintained independence in daily activities and social functioning	Diagnosed with MCI, lifestyle modification strategies, referred to social services for further support
3	68	Female	24	Delayed recall	No abnormal findings	Concerns about changes in her cognitive abilities were identified during history taking, where she reported difficulties in multitasking and navigation, particularly while driving. Despite living alone in social isolation, she maintained independence in daily living activities and continued working in customer services. Objective evidence of cognitive impairment was confirmed with a MoCA score of 24	Diagnosed with MCI, started on acetylcholinesterase inhibitor
4	74	Male	21	Language (fluency) and delayed recall	Normal aging changes, no significant pathologies	The diagnosis was based on the patient's self-reported cognitive changes and objective evidence from a MoCA score of 21, indicating impairment in cognitive domains. Despite these challenges, he maintained independence in daily activities, with assistance from a carer for cooking and cleaning	Diagnosed with MCI, lifestyle modification strategies, power of attorney re finances, referred to social services for further support

Table 3 (*continued*)

Table 3 (*continued*)

Patient No.	Age (years)	Gender	MoCA	Items commonly missing of MoCA score	MRI results	Criteria used to confirm MCI	Referral to memory clinic outcome
5	76	Female	23	Visuospatial/executive and delayed recall	Mild age-related changes, no signs of focal lesions	The diagnosis was made based on her subjective concerns about losing track of time and confusion about seasons, which was confirmed during history taking. Objective evidence came from a MoCA score of 23. Despite these cognitive challenges, she maintained independence in her daily activities and had no significant impairment in social or occupational functioning	Diagnosed with MCI, referred to social services for further support
6	74	Male	23	Visuospatial/executive and delayed recall	Mild atrophy in the temporal lobe	Key to the diagnosis was the patient's history of frequently misplacing items and putting them in inappropriate places for about 8 months. Although living alone, he maintained independence in daily activities and had regular visits from his ex-partner. Cognitive decline was objectively evidenced by a MoCA score of 23 and MRI findings of mild temporal lobe atrophy	Diagnosed with MCI, referred to social services for further support, Lifestyle modification strategies
7	74	Female	22	Attention (subtraction) and delayed recall	Mild age-related white matter changes	The diagnosis was based on her self-reported difficulty in remembering names and recent conversations, which indicated a change in cognition. Objective evidence of cognitive decline was confirmed with a MoCA score of 22. Despite these cognitive challenges, she remained independent in daily living activities and had no significant impairment in social or occupational functioning, as evidenced by her ability to live with her husband and maintain a good support circle	Diagnosed with MCI, referred to social services for further support
8	77	Male	25	Visuospatial/executive and delayed recall	No abnormal findings	During history taking, it was noted that he had issues with new devices and appliances for over a year. He lived alone, following the passing of his partner. A retired car mechanic, he managed activities of daily living independently. His cognitive impairment was objectively evidenced by a MoCA score of 25. Despite his cognitive challenges, his functional abilities remained preserved, with no significant impairment in social or occupational functioning	Diagnosed with MCI, referred to social services for further support, referred for occupational therapy assessment

MoCA, Montreal Cognitive Assessment; MRI, magnetic resonance imaging; MCI, mild cognitive impairment; CBT, cognitive behavioural therapy.

pathological signs.

Although some patients had histories of anxiety and depression, and others had various smoking and drinking habits, the study does not explore the potential influence of these factors on MCI diagnosis or progression. Addressing these challenges can strengthen future research on this topic, ultimately contributing to a more thorough and nuanced understanding of MCI, its diverse presentations, and management options. At least one patient in this cohort (patient 1) had to be referred for CBT for anxiety symptoms that he developed following the diagnosis. Psychological problems can be associated with MCI and can also arise during the assessment or following the diagnosis, highlighting the need for multi-discipline approach to this condition (1).

The early identification of cognitive decline remains a clinical imperative that can profoundly influence the course of patient care, the burden on healthcare systems, and the quality of life for individuals and their families (1). Primary care physicians serve at the front line for detecting early changes in cognitive function, which are often subtle and easily dismissed as normal age-related changes. However, timely recognition of these early signs is critical for initiating interventions that may slow progression and improve patient outcomes, as well as for planning appropriate care that considers the unique needs of these individuals.

While specialised memory clinics and neurology services are indispensable for diagnostic confirmation and advanced care planning, the initial flagging of concerns frequently occurs in primary care settings (2). Hence, primary care physicians must be equipped with the knowledge and tools to identify potential cognitive decline in its early stages. This is of particular importance given the rising global prevalence of conditions such as Alzheimer's Disease and other forms of dementia, which are increasingly straining healthcare resources.

Patients frequently consult primary care physicians for a broad range of health concerns, from common colds to chronic diseases. During these visits, doctors have the opportunity to observe changes in a patient's cognitive function over time, which can be subtle and often easily overlooked (3). Hence, a primary care physician's role is crucial not just in symptom identification but also in ongoing monitoring.

Patient and family interviews are invaluable during the diagnostic process (5). They can highlight issues such as memory lapses, disorientation, and mood changes that might otherwise remain unreported. The observation of certain red flags, like asking the same questions repeatedly, forgetting common words, or getting lost in familiar places, can be indicative of an underlying issue.

Screening tools like the Mini-Mental State Examination (MMSE), the MoCA or the Rowland Universal Dementia Assessment Scale (RUDAS) can be administered in a primary care setting to provide a snapshot of a patient's cognitive abilities (4). While not diagnostic, these tests can serve as valuable baselines for future assessments. If cognitive decline is suspected, further investigations can follow including blood test, urine test and MRI brain with a subsequent referral to the memory clinic for specialist review, if indicated.

Primary care settings should also integrate comprehensive care models that include social workers, psychologists, and other healthcare providers (6). These multi-disciplinary teams can assist in managing complex cases and providing holistic care. Moreover, involving family and carers in discussions can provide additional perspective on daily functioning and can help in identifying early behavioural changes that might indicate cognitive decline.

The role of lifestyle factors in cognitive health should not be underestimated (7). Physicians can encourage patients to adopt brain-healthy lifestyles that include regular exercise, balanced nutrition, and mental stimulation. These factors not only enhance overall well-being but can also delay the onset or progression of cognitive decline.

Challenges exist, however. Time constraints during appointments, the absence of clearly defined guidelines for the screening of cognitive decline, and a lack of resources for comprehensive follow-up care are some of the limitations faced in a primary care setting (8). Yet, the stakes are too high to be ignored. Timely intervention can make a world of difference in the quality of life for patients and their families.

Conclusions

The early identification of cognitive decline is not merely a diagnostic challenge but also a preventive opportunity. By leveraging their unique position as the first point of healthcare contact, primary care physicians can play an instrumental role in the early detection and management of cognitive issues, thereby significantly impacting patient outcomes.

Acknowledgments

Footnote

Reporting Checklist: The author has completed the AME Case Series reporting checklist. Available at https://acr.amegroups.com/article/view/10.21037/acr-23-162/rc

Peer Review File: Available at https://acr.amegroups.com/article/view/10.21037/acr-23-162/prf

Conflicts of Interest: The author has completed the ICMJE uniform disclosure form (available at https://acr.amegroups.com/article/view/10.21037/acr-23-162/coif). The author has no conflicts of interest to declare.

Ethical Statement: The author is accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. All procedures performed in this study were in accordance with the ethical standards of the institute and in line with the Helsinki Declaration (as revised in 2013). Written informed consents were obtained from the patients for the publication of the case series. A copy of the written consent is available for review by the editorial office of this journal.

References

1. Galvin JE. Editorial: Screening for Mild Cognitive Impairment: There Is the Will but Is There a Way? J Prev Alzheimers Dis 2020;7:144-5.
2. Bernstein A, Rogers KM, Possin KL, et al. Primary Care Provider Attitudes and Practices Evaluating and Managing Patients with Neurocognitive Disorders. J Gen Intern Med 2019;34:1691-2.
3. Olazarán J, Torrero P, Cruz I, et al. Mild cognitive impairment and dementia in primary care: the value of medical history. Fam Pract 2011;28:385-92.
4. Pinto TCC, Machado L, Bulgacov TM, et al. Is the Montreal Cognitive Assessment (MoCA) screening superior to the Mini-Mental State Examination (MMSE) in the detection of mild cognitive impairment (MCI) and Alzheimer's Disease (AD) in the elderly? Int Psychogeriatr 2019;31:491-504.
5. Sabbagh MN, Boada M, Borson S, et al. Early Detection of Mild Cognitive Impairment (MCI) in Primary Care. J Prev Alzheimers Dis 2020;7:165-70.
6. Albert MS, DeKosky ST, Dickson D, et al. The diagnosis of mild cognitive impairment due to Alzheimer's disease: recommendations from the National Institute on Aging-Alzheimer's Association workgroups on diagnostic guidelines for Alzheimer's disease. Alzheimers Dement 2011;7:270-9.
7. Chmiela T, Dobrakowski P, Łabuz-Roszak B, et al. Diagnosis of cognitive disorders in primary health care in Poland. Psychiatr Pol 2023;57:65-77.
8. Fouladvand S, Noshad M, Goldstein MK, et al. Mild Cognitive Impairment: Data-Driven Prediction, Risk Factors, and Workup. AMIA Jt Summits Transl Sci Proc 2023;2023:167-75.