ORIGINAL ARTICLE

Challenges in the Use of the Montreal Cognitive Assessment (MoCA) in Primary Health Care Settings in India

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ABSTRACT

Background: With a rapidly ageing population, dementia rates are rising globally, posing challenges to individual health and healthcare systems. Early dementia detection is crucial for effective intervention and improved patient quality of life. The Montreal Cognitive Assessment (MoCA) is a commonly used cognitive screening tool with high sensitivity and specificity. However, implementing MoCA in primary healthcare (PHC) settings in India is met with significant challenges. **Methods:** This qualitative study explored the barriers healthcare professionals face in using MoCA within PHC settings in Karnataka, India. Twelve healthcare providers, including physicians and nurses, participated in semi-structured interviews. Data were analyzed using thematic analysis, yielding insights into the experiences and perspectives of PHC professionals regarding MoCA use. **Results:** Five major themes emerged: (1) insufficient training and knowledge about administering MoCA, (2) time constraints in busy clinical environments, (3) cultural and linguistic relevance of the assessment tool, (4) limited resources and accessibility in PHC settings, and (5) lack of integration with other health services. These barriers hindered effective cognitive screening, potentially leading to delayed diagnosis and intervention for cognitive impairment. **Innovation:** This study uniquely highlights the systemic barriers to implementing MoCA in India's PHC settings and proposes culturally relevant adaptations to the tool. The findings emphasize the importance of integrating cognitive screening within existing healthcare workflows, supported by tailored training programs and resource allocation strategies. These insights provide a foundation for creating context-specific cognitive screening tools and methodologies, advancing early detection of dementia in low-resource settings. **Discussion and Conclusions:** This study underscores the need for systemic changes to improve MoCA's usability in PHC, including enhanced training, adaptation of the tool for acultural relevance, improved resources, and integrated care models. Addressing these barriers may enhance the early detection and management of cognitive disorders, fostering a more holistic approach to patient care in India's PHC settings.

KEYWORDS

Montreal Cognitive Assessment (MoCA); Cognitive Screening; Primary Health Care; Dementia Detection; Healthcare Challenges.

INTRODUCTION

The global ageing population is rising, leading to a higher prevalence of neurodegenerative disorders, particularly dementia (1). Dementia is a progressive neurological condition that affects memory and cognitive functions (2). Currently, an estimated 55 million people worldwide are living with dementia, and this number is expected to triple by 2030 (3). Beyond its impact on individuals, dementia places a significant burden on healthcare systems, making early detection crucial for timely intervention and improved quality of life.

The Montreal Cognitive Assessment (MoCA)(4) is a widely used cognitive screening tool known for its strong sensitivity and specificity in detecting dementia. It assesses multiple cognitive domains, including attention, memory, language, and executive function, and takes approximately 15–20 minutes to administer. Despite its clinical accuracy, integrating MoCA into primary healthcare (PHC) settings presents several challenges, such as time constraints, resource limitations, and training gaps, which hinder its effective use.

Aim: To examine the challenges in using the Montreal Cognitive Assessment (MoCA) in primary healthcare (PHC) settings in Karnataka, India.

Objectives

- To assess healthcare professionals' experiences and perspectives on using MoCA in PHC settings.
- To identify key barriers to MoCA implementation.

By addressing these challenges, this study aims to enhance cognitive screening practices in PHC, contributing to better dementia detection and management in PHC settings.

MATERIAL & METHODS

Study Design: This study employed a descriptive qualitative design to explore the challenges faced by healthcare providers in utilising the Montreal Cognitive Assessment (MoCA) within primary healthcare (PHC) settings. The qualitative approach was chosen to gain in-depth insights into the experiences and perceptions of healthcare professionals regarding the implementation of MoCA, allowing for a nuanced understanding of the barriers encountered.

Participants: The study targeted healthcare professionals working in PHC settings, including family physicians, nurses, and allied health staff. A total of 12 participants were recruited from PHCs in Karnataka, India, ensuring a mix of genders, ages, and professional backgrounds to enhance the diversity of perspectives. The details are given in Table 1.

Table 1: Demographics of the participants

Demographic Category	Number of Participants	Details
Total Participants	12	
Gender		
- Male	6	
- Female	6	
Age Range	28–58 years	Mean age: 42 years
Professional Role		
- Family Physicians	5	
- Nurses	4	
- Allied Health Staff	3	(e.g., medical assistants, physiotherapists)
Experience in PHC Settings		
- ≥6 months	All participants	Mean experience: 8 years

Inclusion Criteria:

- Healthcare professionals (physicians, nurses) with at least six months of experience in PHC settings.
- Willingness to participate in the study and provide informed consent.

Exclusion Criteria:

- Professionals who had not administered MoCA or had less than six months of experience in a PHC setting were excluded from the study.

Study Process

Recruitment: Participants were recruited through informational sessions conducted at the participating PHC centre. An overview of the study objectives and procedures was provided, and interested individuals were invited to participate.

Informed Consent: Upon expressing interest, participants were provided with detailed information about the study, including its purpose, procedures, potential risks, and benefits. Informed consent was obtained from all participants before data collection.

Data Collection: Data were collected through semi-structured interviews conducted between January and March 2024. Each interview lasted approximately 30-45 minutes and was conducted by the primary investigator to ensure consistency and reduce bias. The interviews were audio-recorded with the participant's consent and later transcribed verbatim.

The semi-structured interview guide included open-ended questions to explore various aspects of MoCA usage, such as:

Perceived challenges in administering MoCA.

Experiences related to training and knowledge of MoCA.

Time constraints and workflow integration.

Cultural relevance and accessibility issues.

Suggestions for improvement in the use of MoCA.

Field Notes: In addition to the audio recordings, field notes were taken during interviews to capture non-verbal cues and contextual information that may not be evident in the transcriptions.

Data Analysis

Data were analysed using thematic analysis, following the six-phase approach outlined by Braun and Clarke (5):

- **Familiarization with Data**: The corresponding author read and re-read the transcripts to become deeply familiar with the content.
- **Initial Coding**: Codes were generated from the data that reflected significant features related to the research questions. Each transcript was coded.
- **Theme Development**: Codes were grouped into potential themes that captured important patterns across the dataset. Themes were refined and defined to ensure they accurately represented the data.
- **Reviewing Themes**: Themes were reviewed against the dataset to ensure they were coherent and relevant.
- **Defining and Naming Themes**: Each theme was clearly defined and named to convey the essence of the findings effectively.
- **Reporting Findings**: The final report included rich descriptions of each theme, supported by direct quotes from participants to illustrate their experiences and perspectives.

Ethical Considerations: Participants were assured of confidentiality and anonymity, and data were stored securely, accessible only to the research team and consent forms were taken. Participants had the right to withdraw from the study at any point without any consequences.

RESULTS

The analysis revealed five key themes that represent the challenges faced by healthcare providers in using MoCA in PHC settings:

Training and Knowledge Gaps Participants expressed a lack of adequate training in administering and interpreting MoCA, leading to inconsistent application and potential misdiagnosis. Many felt that their training had not sufficiently covered cognitive assessments, impacting their confidence in using MoCA effectively.

Time Constraints Healthcare professionals reported that the time required for conducting MoCA assessments often clashed with the demands of busy clinics. Many stated that they felt pressured to prioritize other health concerns over cognitive assessments due to time limitations.

Cultural and Linguistic Relevance Participants raised concerns regarding the cultural appropriateness of MoCA for diverse patient populations. Some reported that certain test items did not resonate with local cultural contexts, which could affect the accuracy of results.

Accessibility and Resource Limitations The study highlighted significant resource

constraints in PHC settings, including limited access to trained personnel and appropriate testing materials. Many healthcare providers felt that the lack of resources hindered their ability to conduct comprehensive cognitive assessments.

Integration with Other Health Services

Healthcare professionals noted that cognitive assessments were often treated as isolated tasks rather than integrated into holistic patient care. This fragmentation could lead to missed opportunities for early detection and intervention.

DISCUSSION

The findings of this study illuminate significant challenges faced by healthcare professionals in implementing the Montreal Cognitive Assessment (MoCA) within primary healthcare (PHC) settings. Identifying these barriers is crucial for improving cognitive screening practices and ensuring that cognitive health is prioritized alongside other aspects of patient care. The following discussion synthesizes the key themes identified in our study and contextualizes them within the broader literature on cognitive assessment in primary health care.

Training and Knowledge Gaps

One of the most prominent challenges identified was the lack of adequate training among healthcare professionals regarding the administration and interpretation of MoCA. Participants reported feeling underprepared and lacking confidence in their ability to conduct cognitive assessments effectively. This finding aligns with previous studies that have indicated a need for comprehensive training programs tailored to PHC providers (6). Ensuring that healthcare professionals receive adequate training not only improves their competence in using MoCA but also enhances their ability to interpret results accurately, ultimately leading to better patient outcomes. Regular workshops and continuing education sessions focused on cognitive assessment could bridge this knowledge gap and empower healthcare providers.

Time Constraints

The issue of time constraints emerged as a significant barrier to the effective use of MoCA in PHC settings. Participants reported that the demands of busy clinics often led to cognitive assessments being deprioritized in favour of more immediate medical concerns. This is consistent with findings from other studies indicating that time pressures in primary care can impede the implementation of cognitive screening tools (7). Addressing this challenge requires systemic changes in clinic workflows and patient care protocols to allow for dedicated time for cognitive assessments. Moreover, integrating cognitive assessments into routine patient evaluations may enhance their acceptability among healthcare providers.

Cultural and Linguistic Relevance

Cultural and linguistic considerations play a crucial role in the effectiveness of cognitive assessments. Participants expressed concerns that certain items in MoCA may not resonate with patients from diverse cultural backgrounds, potentially affecting the validity of results. This finding is supported by research highlighting the need for culturally sensitive assessments that consider local norms and values (8). To address this issue, it may be beneficial to conduct further research on the cultural applicability of MoCA in various Indian populations and to adapt the tool as necessary. Involving local experts in the adaptation process can help ensure that cognitive assessments are both relevant and comprehensible to diverse patient populations.

Accessibility and Resource Limitations

Resource constraints emerged as another significant challenge in the effective use of MoCA. Many participants highlighted the lack of access to trained personnel and appropriate testing materials in PHC settings. This aligns with findings from other studies indicating that resource limitations can hinder the implementation of cognitive assessment tools in primary care (9). Addressing these limitations may require investment in training programs, as well as the development of partnerships with community organizations to facilitate access to resources. Furthermore, advocacy for increased funding for cognitive health initiatives within primary care can help

mitigate resource challenges and enhance the overall quality of patient care.

Integration with Other Health Services

Finally, the study revealed that cognitive assessments were often treated as isolated tasks, rather than integrated into comprehensive patient care. This fragmentation can lead to missed opportunities for early detection and intervention. Previous research has emphasized the importance of adopting a holistic approach to patient care, where cognitive health is considered alongside physical health (10). Integrating cognitive assessments into routine evaluations and fostering collaboration among healthcare providers can promote a more comprehensive approach to patient care, ultimately improving outcomes for individuals at risk for cognitive decline.

Innovation

This study offers an innovative perspective by addressing the challenges of implementing MoCA in PHC settings within the Indian context, a topic that has been insufficiently explored in existing literature. The innovation lies in the adaptation and application of an internationally recognized cognitive assessment tool to a culturally diverse, resource-limited healthcare environment.

The study introduces a novel approach by emphasizing the need for tailored training programs and culturally sensitive adaptations of the MoCA, ensuring its applicability in local contexts. Additionally, the research highlights the importance of integrating cognitive assessments into routine PHC workflows, bridging the gap between theoretical utility and practical implementation. These insights can guide the development of frameworks for cognitive assessment in other low- and middle-income countries with similar challenges, thereby expanding the scope of cognitive health practices globally.

Conclusion

The present study highlights the significant challenges healthcare professionals face in utilizing the Montreal Cognitive Assessment (MoCA) within primary healthcare (PHC) settings in India. By identifying barriers related to training, time constraints, cultural relevance, resource limitations, and integration with health services, this research underscores the need for systemic changes to enhance the effectiveness of cognitive assessments. Implementing comprehensive training programs, addressing time constraints, adapting assessments for cultural relevance, improving resource availability, and fostering integration with other health services are essential steps toward improving cognitive health outcomes in PHC settings. Continued research and advocacy efforts are crucial to ensure that cognitive assessments become a standard component of holistic patient care, ultimately contributing to the early detection and management of cognitive disorders in the ageing population.

Recommendation

Early detection of dementia in primary healthcare (PHC) settings is crucial for timely intervention and better patient outcomes. To achieve this, it is essential to integrate cognitive screening into routine healthcare services by training healthcare providers, allocating resources, and using culturally adapted tools. Given the linguistic and educational diversity in India, existing screening tools like MoCA may not always be suitable. Developing and validating new cognitive screening tools tailored to the Indian context—accounting for language, literacy levels, and cultural nuances—will improve accuracy and accessibility, ensuring early diagnosis and intervention.

Policymakers must recognize the urgency of addressing dementia as a public health priority by incorporating cognitive screening into national health programs. Increased funding, training initiatives, and community-based awareness campaigns can enhance early detection efforts. A standardized, context-specific screening tool can bridge healthcare gaps and make dementia screening more feasible at the PHC level, ultimately reducing the burden of dementia on India's healthcare system.

Limitation of the Study

While the qualitative design allows for in-depth exploration of participants' experiences, it may limit the generalizability of findings. The study was conducted in a specific PHC centre in Karnataka, which may not reflect the experiences of healthcare professionals in different regions or settings.

Relevance of the Study

This study highlights the challenges of implementing MoCA in primary healthcare (PHC) settings in India and underscores the need for a culturally and linguistically adapted cognitive screening tool. By evaluating the feasibility, effectiveness, and acceptance of cognitive assessments in PHC's, this research provides critical insights into the gaps in early dementia detection at the community level. The findings emphasize the importance of training healthcare providers, integrating cognitive screening into routine workflows, and allocating adequate resources to improve accessibility.

Moreover, this study contributes to the growing body of knowledge on dementia screening in low-resource settings by advocating for the development of a new, region-specific tool. A culturally relevant cognitive assessment tailored to India's diverse population can enhance diagnostic accuracy and early intervention efforts. The study also reinforces the need for policy changes and public health initiatives to incorporate dementia screening into primary care, ultimately improving cognitive health outcomes for aging populations in India.

Authors Contribution

All authors have contributed equally.

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Nil

Conflict of Interest

There are no conflicts of interest.

Declaration Of Generative AI and AI-Assisted Technologies In The Writing Process

During the preparation of this work, the first author (JGR) used Grammarly to assist in grammar checking, language refinement, and improving readability. After using this tool, the author thoroughly reviewed and edited the content as needed to ensure accuracy, coherence, and originality. The author takes full responsibility for the final content of the publication.

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