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Exploring Healthcare Providers' Views on Cognitive Assessment in Geriatric Care

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Abstract

Dementia presents a pressing health issue worldwide, especially in low- and middle-income countries (LMICs). Bosnia and Herzegovina (BiH), a post-conflict LMIC with a fragmented healthcare system, currently lacks standardized national policies, prevalence data, and coordinated dementia services. This study examines how healthcare providers perceive and approach dementia care, identifying challenges and feasible improvements tailored to BiH's healthcare environment. A qualitative cross-sectional design was applied in primary care settings across BiH. 25 professionals participated, including family physicians (n = 10), nurses (n = 10), and psychologists (n = 5). Interviews were analyzed using thematic analysis, structured by the Consolidated Framework for Implementation Research (CFIR). Dementia management in BiH is largely reactive and mainly initiated after family concerns. The use of cognitive assessment tools (e.g., MoCA, MMSE) was inconsistent and often hindered by a lack of formal training, institutional variability, and the absence of national protocols. Many participants expressed limited confidence in addressing dementia-related issues. Additionally, societal stigma and misconceptions about dementia being a normal aspect of aging contributed to delayed diagnoses and underutilization of available services. Gaps in epidemiological data and uncoordinated care structures further complicate these issues. There is an urgent need to strengthen dementia care in BiH through context-specific, realistic interventions. Suggested priorities include developing locally relevant clinical guidelines, improving early detection through culturally sensitive tools, reestablishing community care models, enhancing provider education, and promoting public awareness. Multi-sector collaboration is key to creating a more responsive and sustainable dementia care system.

Keywords: Dementia, Health system challenges, Primary care, Bosnia and Herzegovina, Qualitative healthcare research, LMICs

Introduction

Dementia is a growing global health issue, currently impacting around 50 million people worldwide. This number is expected to increase significantly, reaching approximately 152 million by 2050. A substantial proportion of this rise is projected to occur in low- and middle-income countries (LMICs), where healthcare systems often face significant resource and infrastructure limitations [1]. Dementia involves a gradual deterioration of cognitive abilities, which hinders individuals' capacity to manage everyday tasks and imposes considerable emotional, financial, and caregiving demands on families and healthcare providers alike [2].

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Despite growing international emphasis on the early detection and prevention of cognitive decline, most research and healthcare interventions continue to be centered in high-income countries, leaving LMICs underrepresented in policy and service development [3, 4]. In LMICs, systemic barriers—such as a shortage of trained healthcare professionals, limited access to diagnostic tools, low public awareness, and prevalent beliefs that cognitive decline is a regular part of aging—significantly hinder effective dementia care [5, 6]. Families often serve as the primary providers of support, while formal healthcare systems typically intervene only in the later stages of the disease. Reviews consistently show that the economic burden in LMICs falls heavily on informal care and out-of-pocket expenditures, with diagnostic services remaining scarce and inconsistently distributed [7].

The Western Balkans, including Bosnia and Herzegovina (BiH), mirror many of these challenges. Although BiH is classified as a middle-income country, its healthcare system is highly fragmented, comprising 13 separate health insurance funds and 14 ministries of health. This decentralization hampers efforts to create cohesive national policies, particularly in areas like geriatric and dementia care [8].

Geographic disparities also affect healthcare access. For instance, research conducted in the Zenica-Doboj Canton reveals that rural residents are significantly more likely to face longer travel times to healthcare facilities and are more dependent on out-of-pocket payments for medications compared to urban populations [9].

The legacy of the 1990s war continues to influence the healthcare system in BiH. Widespread destruction of medical infrastructure and the loss of healthcare workers due to displacement or death severely weakened the system. Moreover, the conflict has left deep psychological scars—especially among the elderly and displaced populations—with high rates of PTSD and depression further straining healthcare services [10].

Similar trends are evident in neighboring countries. Croatia, despite EU membership and universal healthcare coverage, faces challenges associated with an aging population and insufficient specialized services for cognitive disorders [11, 12]. Montenegro, though transitioning to a tax-funded health model, continues to rely heavily on informal family caregiving, with limited geriatric infrastructure [13]. Serbia’s centralized system provides broad coverage but struggles with unequal access and care quality, particularly between urban and rural settings [14]. Across the region, dementia is seldom detected early, as primary care systems rarely integrate routine cognitive screening [15].

The situation is particularly critical in LMICs where health systems are already strained. Without early detection and timely intervention, opportunities to manage the progression of dementia are lost, increasing the burden on patients and their families [16]. However, systemic gaps—including insufficient training for primary care practitioners, the absence of national dementia strategies, and widespread social stigma—frequently delay diagnosis and limit treatment options [17]. Bosnia and Herzegovina exemplifies these challenges. Deep-rooted cultural beliefs and limited public awareness often lead people to regard cognitive decline as a natural aging process rather than a medical condition requiring attention. As a result, symptoms go unrecognized, and necessary care is postponed or missed entirely [18].

In this multifaceted environment, the perspectives and attitudes of healthcare professionals are pivotal to advancing dementia care. Evidence suggests that negative perceptions and limited understanding of dementia among healthcare workers can contribute to delayed identification, insufficient treatment, and a diminished quality of life for both patients and caregivers [19, 20]. Since primary care professionals typically serve as the first point of contact for individuals seeking medical assistance, their awareness and knowledge of dementia are essential for timely recognition and effective intervention [20].

The purpose of this study is to contribute to the development of targeted strategies for strengthening dementia care services in Bosnia and Herzegovina by identifying key challenges and areas for improvement. The insights gained may also be transferable to other low- and middle-income countries (LMICs) that face similar cultural and systemic barriers.

Materials and Methods

This research employed a qualitative, cross-sectional design to explore the experiences, perceptions, and challenges faced by healthcare professionals involved in dementia care within Bosnia and Herzegovina. The study was conducted between September 2023 and March 2024, offering a snapshot of professional attitudes during this timeframe. Data collection was carried out through semi-structured interviews, structured using the Consolidated Framework for Implementation Research (CFIR). This framework enabled the identification of both enabling and constraining factors related to the adoption of systematic dementia care practices. CFIR comprises five domains: intervention characteristics, inner setting, outer setting, individual characteristics, and implementation process, providing a comprehensive lens for analyzing the implementation of complex health interventions [21].

Study setting

Research was conducted in primary healthcare centers located in both urban and semi-rural regions of Bosnia and Herzegovina. Urban healthcare facilities were included to reflect environments with comparatively better infrastructure and resource availability. In contrast, semi-rural settings were selected to capture the challenges encountered in under-resourced contexts. This dual-setting approach enabled a more comprehensive understanding of the diverse systemic and environmental factors influencing dementia care nationwide.

Study population and sampling

Participants were recruited through purposive sampling, selecting individuals with direct experience in dementia care. The final sample consisted of 25 healthcare professionals: 10 family medicine doctors, 10 nurses, and 5 psychologists. Following the initial purposive phase, theoretical saturation sampling was employed to ensure that no new themes or insights emerged. A sample size of 25 was deemed sufficient to achieve data saturation and represent a broad range of viewpoints. Participants were drawn from a variety of urban and semi-rural primary care settings to ensure geographic and professional diversity. Eligible participants were required to have a minimum of one year of experience with cognitive assessment or dementia-related care. A summary of participant demographics is provided in **Table 1**.

Table 1. Demographic data of participants

Demographic variable	**N (%)**
Gender	
Male	4 (16%)
Female	21 (84%)
Profession	
Nurse	10 (40%)
Family Medicine Doctor	10 (40%)
Psychologist	5 (20%)
Years of experience	
1–5 years	6 (24%)
6–10 years	7 (28%)
> 10 years	12 (48%)
Healthcare setting	
Urban	14 (56%)
Semi-rural	11 (44%)

Development of the interview guide and data collection

The interview guide was constructed using the Consolidated Framework for Implementation Research (CFIR) as a foundational structure. Each question was intentionally mapped to one or more of CFIR's five key domains. For instance, questions regarding the tools currently used for cognitive assessment were tied to the *intervention characteristics* domain. Inquiries about staff perceptions of dementia were associated with both the *characteristics of individuals* and the *inner setting*. Questions focused on collaboration with other healthcare institutions or the influence of national guidelines aligned with the *outer setting and implementation process* domains.

A total of 12 interview questions were finalized through collaborative discussions within the research team, with contributions from public health specialists to ensure theoretical alignment with CFIR and practical applicability in the Bosnian primary care context.

To ensure cultural relevance and participant comfort, all interviews were conducted in the participant's native language, Serbian. Each interview was audio-recorded, transcribed verbatim, and subsequently translated into English following the World Health Organization's standardized translation procedures [22].

The core interview themes are outlined in **Table 2**. These themes were developed through a combination of CFIR's theoretical domains and the practical insights of the research team. Although the thematic structure was grounded in CFIR, it was refined through team discussions and expert feedback to ensure alignment with the study's objectives and the local healthcare context.

Table 2. Key themes explored during interviews

Thematic focus	**Discussion points**
Existing approaches to dementia management	Views on the importance of early detection, application of cognitive assessment tools (e.g., MMSE, MoCA), and observed variations in care delivery.
Responsibilities of healthcare professionals	Examination of the specific roles played by general practitioners, nurses, and psychologists in dementia-related care.
Obstacles in providing dementia care	Identification of structural and operational barriers, including workforce limitations, inadequate training, stigma, and cultural beliefs about aging.

Enabling factors in dementia support	Discussion of potential drivers for improvement, such as professional education, collaborative care practices, and community outreach.
Strategic proposals for advancing care	Recommendations for implementing national protocols, establishing training frameworks, and promoting initiatives to reduce stigma.

Data analysis

Thematic analysis was conducted following Braun and Clarke's six-phase approach [23], with an emphasis on aligning emerging themes with the domains outlined in the Consolidated Framework for Implementation Research (CFIR). This dual lens allowed for both inductive insight generation and theoretically grounded interpretation. The analytical process comprised the following stages:

1. *Data familiarization:* All interview transcripts were read thoroughly and repeatedly by members of the research team to build a comprehensive understanding of the content, tone, and context.
2. *Initial (open) coding:* Two researchers independently coded a sample of transcripts using Atlas.ti (version 23). Rather than applying predefined categories, coding was guided by the meanings inherent in participants' responses, allowing new and unexpected codes to emerge organically.
3. *Code refinement and definition:* Following initial coding, the researchers convened to review, consolidate, and clearly define the code list. Illustrative quotes were linked to each code to support clarity. This step also involved iterative refinement to align coding more closely with CFIR constructs.
4. *Theme and subtheme development***:** Codes with similar meanings were grouped into subthemes, which were further clustered into overarching themes based on observed semantic patterns and repetition.
5. *Mapping themes to CFIR domains:* Each finalized theme and subtheme was categorized within the corresponding CFIR domain (e.g., intervention characteristics, inner setting), providing a structured framework for interpreting the results from an implementation science perspective.
6. *Synthesis and interpretation*: The research team examined the interconnections among themes, analyzing how specific contextual elements influenced the perceptions and practices of healthcare professionals regarding dementia care.

To enhance the reliability of the analysis, coder triangulation and consensus-building among team members were employed. Disagreements in coding or interpretation were addressed through iterative dialogue until complete agreement was reached.

The thematic structure underwent multiple revisions to improve coherence and eliminate redundancy. For instance, the initial codes "stigmatization," "misconceptions," and "normalization of symptoms" were consolidated into a single subtheme labeled cultural stigma, reflecting widespread beliefs that dementia is a natural aspect of aging. This misconception often delays formal diagnosis.

The final thematic framework captures the nuanced and layered barriers, as well as potential facilitators, influencing dementia care practices in the study context. A detailed presentation of themes, subthemes, representative quotes, and their alignment with CFIR domains is provided in **Table 3**.

Table 3. Framework of themes for barriers and facilitators in dementia care

Theme	Subtheme	Example quote	Coding process	CFIR domain
Theme 1: Approaches to dementia care	Responsive care practices	"We only evaluate dementia when families bring it up."	Codes: responsive care, family-initiated assessment	Inner setting
	Variable tool application	"Some staff use MMSE, but there's no standard protocol."	Codes: inconsistent tools, absence of standards	Inner setting
Theme 2: Obstacles in dementia care	Absence of national protocols	"Without national standards, each facility operates differently."	Codes: no policy framework, procedural variability	Outer setting

	Limited staff training	"We lack sufficient training on managing dementia."	Codes: training deficiencies	Characteristics of individuals
	Societal misconceptions	"Families often see dementia as a normal part of aging, which delays diagnosis."	Codes: cultural stigma, misunderstandings	Outer setting
Theme 3: Enablers for dementia care	Professional development	"Better training could lead to earlier dementia detection."	Codes: need for training, knowledge gaps	Characteristics of individuals
	Collaborative teamwork	"Working with diverse professionals improves care quality."	Codes: interdisciplinary work, team synergy	Inner setting
Theme 4: System-wide enhancements	Community education initiatives	"Campaigns could raise awareness about early dementia symptoms."	Codes: public awareness, community education	Outer setting
	Standardized national protocols	"National guidelines would ensure uniform dementia care practices."	Codes: need for protocols, care consistency	Process of implementation
	Integrated care teams	"A team-based approach would better meet dementia's complex needs."	Codes: multidisciplinary care, enhanced care delivery	Intervention characteristics

Ethical considerations

The study received formal approval from the Ethics Committee of the Faculty of Medicine at the University of East Sarajevo (Reference No: 01-2-31). Before participation, each individual gave written informed consent, ensuring voluntary and informed involvement. The research was conducted in full compliance with the principles outlined in the 2013 revision of the Declaration of Helsinki, particularly regarding the protection of participant anonymity and the ethical and responsible management of data [24].

Results and Discussion

A total of 25 participants took part in the study, encompassing a diverse mix of healthcare professionals working in various regions of Bosnia and Herzegovina. Women constituted the majority of the sample (64%, n = 21). The professional breakdown included family doctors (40%, n = 10), nurses (40%, n = 10), and psychologists (20%, n = 5), providing a well-rounded view of dementia care across disciplines. Nearly half of the respondents (48%, n = 12) had over ten years of professional experience, while about a quarter (24%, n = 6) had worked in the field for between one and five years. Geographically, participants were relatively evenly distributed, with 56% (n = 14) working in urban areas and 44% (n = 11) based in semi-rural locations. This distribution ensured a varied perspective reflective of different healthcare environments and resource levels.

The analysis focused on exploring the attitudes, perceived challenges, and potential solutions related to dementia care from the perspective of frontline providers. Using a thematic framework grounded in the frequency, relevance, and depth of participant responses, four central themes and corresponding subthemes were identified. Below is an overview of the first two themes.

Theme 1: patterns in dementia care delivery

Subtheme 1.1: delayed, complaint-driven assessments

Dementia is typically not identified through proactive screening in Bosnia and Herzegovina. Instead, healthcare providers generally respond only after a patient's family voices concerns or when symptoms become unmanageable. This late-stage approach often limits timely intervention.

"Dementia screening isn't a routine part of our checkups. Usually, it's the family that notices something is off. By the time they come in, the decline is already advanced." (Family physician, participant 5).

This reactive model is primarily attributed to practical barriers, such as insufficient time, inadequate staffing, and the absence of established procedures.

Subtheme 1.2: irregular application of cognitive screening tools

While some providers occasionally use cognitive assessments, such as the MMSE or MoCA, their use is inconsistent and heavily reliant on individual discretion. Many professionals lack training or institutional support to apply these tools consistently.

"I sometimes use the MMSE, but there's no formal guidance. It depends on the situation and the patient. Without training or protocols, practices vary a lot." (Nurse, participant 7).

The lack of standardized practices across facilities has led to inconsistent diagnostic processes and care outcomes. Respondents emphasized the need for uniform, national-level guidelines.

Theme 2: system-level obstacles

Subtheme 2.1: absence of coordinated national guidelines

A recurring concern among participants was the lack of official, countrywide dementia care protocols. Without centralized guidance, approaches to diagnosis and treatment are inconsistent, with professionals relying on personal judgment or informal practices.

"There's no standard approach in our clinic. Each doctor does things differently, and that creates confusion. Clear national policies would help us provide more consistent and reliable care." (Psychologist, participant 10).

This fragmentation contributes to disparities in patient experience and creates uncertainty among both providers and families seeking help.

The lack of formal guidelines complicates efforts to secure necessary resources or organize training initiatives, as there is no established standard to benchmark care quality.

Subtheme 2.*2: inadequate training*

Insufficient dementia-focused training was identified as a significant obstacle to effective care. Healthcare professionals, especially those working in rural regions, reported feeling ill-equipped to assess and manage dementia cases properly. Most had to learn through practical experience, which they deemed inadequate for dealing with the complexity of dementia.

"We receive very little formal training on dementia care. Much of what I know comes from trial and error on the job. Sometimes, I'm uncertain whether my decisions are correct, particularly when symptoms first appear. Proper training programs would boost our confidence and ability to provide quality care." (Nurse, participant 7).

This training gap was notably more severe in semi-rural and rural settings, where opportunities for professional development and access to educational materials are limited.

Subtheme 2.3: cultural stigma and misunderstandings

Cultural stigma around dementia repeatedly emerged as a significant barrier to timely diagnosis and intervention. Many families perceive cognitive decline as an inevitable part of aging, leading to delayed medical consultation. Participants explained that this belief often causes patients to present only when symptoms have become severe.

"In our community, dementia isn't seen as a medical condition; it's just considered part of getting older, like gray hair or wrinkles. Families usually only come to us when the patient is wandering or forgetting close relatives. By then, it's often too late for effective treatment." (Family medicine doctor, participant 8).

To combat these attitudes, the participants recommended public education campaigns that could promote earlier engagement in healthcare.

Theme 3: facilitators for dementia care

Subtheme 3.1: education and training

There was a strong consensus that expanding access to dementia-specific education and training programs would significantly improve care quality. Participants highlighted the need for formal instruction on cognitive screening tools, early symptom recognition, and management techniques.

"Structured educational programs could make a huge difference. Learning how to identify dementia earlier and manage it better would help us support patients more effectively. Most of us rely on basic medical school knowledge, which isn't sufficient for a complex condition like dementia." (Nurse, participant 12).

They also suggested regular refresher courses to ensure healthcare workers stay current with advances in dementia care.

Subtheme 3.2: interdisciplinary collaboration

Collaboration across healthcare disciplines was identified as a key enabler for enhancing dementia care. Participants noted that combining the skills of family doctors, nurses, psychologists, and social workers into coordinated teams would improve patient outcomes.

"Dementia affects many aspects of a person's life and family, so that no one professional can manage it alone. Doctors address medical needs, nurses provide daily care, psychologists address mental health issues, and social workers assist families. Working as a team would greatly improve care quality." (Psychologist, participant 9).

They emphasized that such teamwork would foster holistic, patient-centered care tailored to individual circumstances.

Theme 4: suggestions for systemic enhancement

Subtheme 4.1: public awareness initiatives

Participants viewed public education campaigns as vital tools for reducing stigma and encouraging families to seek care sooner. They recommended focusing campaign messages on early symptom recognition, dementia as a medical condition, and the advantages of timely intervention.

"People need to understand that dementia can be treated, especially if caught early. If families realized this, they wouldn't delay coming for help. Awareness campaigns could shift public perceptions and motivate earlier action." (Family medicine doctor, participant 6).

Subtheme 4.2: national guidelines

All participants strongly advocated for the introduction of national guidelines. They believed that having clear, standardized protocols would promote uniformity and improve the overall quality of dementia care throughout different healthcare facilities.

"Having national guidelines would provide us with a clear structure to follow. Currently, it feels like we are operating without a clear plan. A standardized framework would make care delivery more consistent and effective." (Family medicine doctor, participant 15).

Subtheme 4.3: multidisciplinary teams

The formation of multidisciplinary teams is recommended as a strategy to meet better the diverse and complex needs of people living with dementia. Participants emphasized that such teams would offer comprehensive care by combining medical, psychological, and social support services.

"Dementia patients require more than just medical attention. They benefit from a coordinated team including a psychologist, social worker, and nurse to address all facets of their condition. This approach would ensure more balanced and effective care." (Nurse, participant 14).

Subtheme 4.4: ongoing education for healthcare professionals

Participants also highlighted the importance of continuous education and professional development. Regular training sessions would help healthcare workers stay updated on new knowledge and best practices in dementia care.

"Healthcare is always advancing, and dementia care is no exception. Ongoing training would help us stay informed and equip us with the necessary skills to offer the best care possible." (Psychologist, participant 10).

Figure 1 illustrates the distribution of participants from various professional groups (nurses, physicians, psychologists) and their references to specific themes during the analysis. Nurses most frequently mentioned lack of training (n = 8) and cultural stigma (n = 9), while physicians often referred to reactive care (n = 6) and the absence of national guidelines (n = 5). Psychologists emphasized the inconsistent use of assessment tools (n = 4) and the value of interdisciplinary collaboration (n = 4). These patterns illustrate how different professions prioritize various aspects of dementia care.

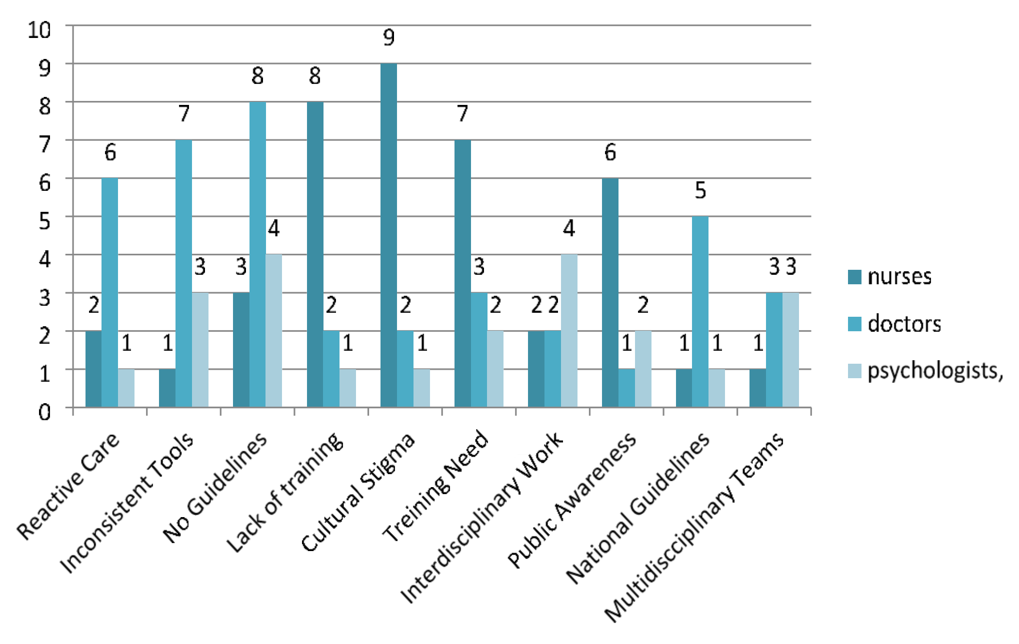

Figure 1. Distribution of thematic categories by professional group

Conclusion

Although dementia presents a serious healthcare challenge, no prior studies have systematically explored the obstacles and difficulties surrounding its early detection in Bosnia and Herzegovina (BiH). This research marks the first effort to uncover key barriers and potential improvements from the viewpoint of healthcare professionals within the country's unique context.

While low- and middle-income countries (LMICs) commonly struggle with issues like scarce resources, insufficient healthcare provider training, and stigma related to dementia [17, 18, 25], BiH stands apart due to its post-conflict environment and a highly fragmented healthcare system. Unlike most LMICs, which generally have centralized health ministries, BiH's healthcare is governed separately by two autonomous entities, the Brčko District and ten cantons, each maintaining its health authority. This administrative division hinders the establishment of a cohesive national dementia strategy [8].

When compared to more developed countries such as Austria, BiH faces numerous structural and organizational hurdles in dementia care. Austria benefits from a centralized healthcare system with clear hierarchical management, a robust primary care network, and a national dementia strategy that has been implemented since 2015. This strategy includes early detection protocols, a multidisciplinary care model, and ongoing professional education for providers [26].

Conversely, BiH lacks standardized dementia care guidelines and has limited integration among primary, specialized, and social care services, which complicates timely diagnosis and management. Furthermore, public awareness about dementia is substantially higher in Austria, primarily driven by extensive awareness campaigns conducted by organizations such as Alzheimer Austria. In contrast, many in BiH still perceive dementia as an inevitable part of aging, a misconception that further delays early diagnosis [26, 27].

Current practices in dementia care

Findings reveal that the fragmented healthcare system in BiH contributes to inconsistent dementia assessment practices, with screening typically initiated only in response to family concerns rather than through proactive, system-led efforts. Healthcare providers often wait for families to raise specific issues before conducting evaluations, which can result in missed opportunities for early diagnosis. This pattern mirrors experiences in other resource-limited settings, where dementia care is primarily family-driven rather than health system–initiated [28, 29]. Such a reactive model not only postpones interventions but also places a heavy burden on families, many of whom may lack the knowledge or means to recognize early dementia signs.

The irregular application of cognitive screening instruments, such as the Mini-Mental State Examination (MMSE) and Montreal Cognitive Assessment (MoCA), further delays diagnosis. Estimates suggest that fewer than 3% of dementia cases are officially recognized in BiH [30]. The problem is exacerbated by the significant workload faced by family medicine teams, which manage large patient volumes with limited time and administrative responsibilities [19].

To address these challenges sustainably, a dual approach could be an effective solution. First, reinstating community follow-up services would enhance the presence of healthcare workers, particularly in rural regions, supporting the earlier detection of cognitive impairments and improving family education. Neighboring countries, such as Slovenia and Croatia, have sustained and developed community-based services where nurses play a vital role in identifying early cognitive decline and providing family support [31, 32]. Second, the development and adoption of a culturally and linguistically tailored cognitive screening tool—suitable for BiH's diverse population and education levels—would promote more consistent and accessible early detection. Implementation of such tools by community nurses or primary care staff could increase acceptance and coverage. Similar initiatives in countries such as Brazil and India have demonstrated that culturally adapted cognitive assessments can significantly improve early dementia diagnosis [33, 34].

In the absence of formal guidelines or standardized training, healthcare professionals in Bosnia and Herzegovina currently depend on their judgment or the practices preferred by their institutions, resulting in considerable inconsistency in dementia care. Research from other low- and middle-income countries (LMICs) similarly highlights that the lack of uniform assessment tools and protocols compromises both the quality and fairness of care [18, 35]. Our study highlights the urgent need to establish clear national standards and provide targeted training to transition from the current reactive and fragmented approach to a proactive and standardized model of dementia care.

Barriers to dementia care

A major systemic obstacle identified is the lack of national guidelines for dementia care. Without clear directives, healthcare providers across BiH implement varying practices, leaving patients exposed to disparities in care quality. This challenge is echoed in countries such as Kenya and India, where the introduction of national dementia guidelines has led to more consistent care and improved patient outcomes [36]. Developing similar protocols would offer a critical framework for BiH to promote equitable and standardized dementia care.

Insufficient training is another key barrier. Healthcare workers in BiH voiced frustration over their limited preparation, with many relying primarily on experiential learning to handle complex dementia cases. This deficiency is especially acute in rural areas where training opportunities are limited. Comparable issues have been reported in South Africa and Nigeria, where inadequate training has left providers feeling unprepared to diagnose or treat dementia [29, 36] effectively. Tailored, structured training programs adapted to local needs could help fill this gap and enable healthcare workers to deliver higher-quality care.

Cultural stigma around dementia presents an additional challenge. Many families interpret dementia as a natural consequence of aging rather than a medical condition that can be managed, leading to delays in seeking diagnosis and treatment. This stigma, deeply embedded in social attitudes, has been widely documented in LMICs such as Ethiopia and Nigeria, where misconceptions discourage timely care-seeking [37, 38]. Public health initiatives designed to reshape these beliefs and emphasize dementia as a treatable condition could substantially increase early intervention rates.

Facilitators for dementia care

Despite these difficulties, the study identified several positive factors that could support improvements. Education and training programs emerged as vital tools to equip healthcare professionals with the skills needed for accurate diagnosis and effective management of dementia. In other settings, formal training has significantly boosted provider confidence and proficiency with cognitive assessment tools, as well as overall dementia care [36]. Implementing similar programs in BiH could help standardize clinical practices and enhance diagnostic precision.

The importance of interdisciplinary collaboration was also highlighted. Participants advocated for the formation of multidisciplinary teams, comprising doctors, nurses, psychologists, and social workers, to comprehensively address the diverse needs of patients with dementia. This approach aligns with evidence from LMICs, where such teamwork has led to improved patient outcomes and more coordinated care within fragmented health systems [35]. Establishing these teams in BiH would foster a holistic care model, ensuring patients receive integrated and personalized support.

Systemic improvement recommendations

Currently, Bosnia and Herzegovina lacks official data on dementia prevalence, which poses a significant obstacle to effective health planning and policy formulation [39]. Addressing this issue is fundamental; creating a dementia registry or integrating dementia statistics into national health reports would greatly aid in guiding resource allocation and policy decisions.

Enhancing public understanding of dementia is crucial for reducing stigma and promoting early diagnosis. Public education campaigns have been successfully implemented in countries such as Brazil and Nigeria, where they have helped correct false beliefs about dementia and encouraged earlier help-seeking behavior [6, 37]. Launching similar awareness efforts in Bosnia and Herzegovina could better inform the population, enabling families to recognize early symptoms and access care sooner.

The establishment of national dementia care guidelines is essential for improving care quality. Lessons from Kenya and Nigeria demonstrate that clear, standardized protocols contribute to consistent care delivery and better patient outcomes [36, 40]. Furthermore, forming multidisciplinary teams that include various healthcare professionals would enable comprehensive care addressing the medical, psychological, and social aspects of dementia.

Differing views across professional groups

As **Figure 1** shows, different healthcare roles emphasize distinct issues. Nurses frequently raised concerns about insufficient training and cultural stigma, likely because of their direct involvement in patient care and family communication. Physicians tended to focus on systemic barriers such as the lack of national guidelines and the reactive approach to dementia care, consistent with their clinical and referral duties. Psychologists highlighted the importance of standardized assessment tools and collaborative, team-based care, reflecting their role in cognitive evaluations. These variations suggest that interventions should be customized to address the specific challenges and priorities of each professional group.

Summary and future directions

This research underscores the urgent need to revamp dementia care in Bosnia and Herzegovina through context-specific, realistic measures suited to the existing healthcare environment. Imported, generic solutions are unlikely to be effective. Instead, priorities should include developing national guidelines informed by local practices, implementing culturally and linguistically appropriate cognitive screening tools, reviving community nursing services, expanding training opportunities for healthcare workers, and adopting pragmatic prevention strategies that are mindful of resource limitations. Public awareness campaigns and the creation of multidisciplinary teams are also key to establishing sustainable, patient-centered care.

Moving forward, coordinated efforts among government bodies, healthcare providers, and community organizations will be critical to pilot these initiatives, evaluate their effectiveness, and scale successful models. The findings may also offer valuable guidance to other low- and middle-income countries with similar fragmented and post-conflict health systems. By embracing feasible, evidence-based approaches, Bosnia and Herzegovina, along with comparable nations, can bridge the dementia care gap and enhance the well-being of individuals affected by dementia and their families.

Implementation plan

To put these findings into practice, we recommend a seven-step plan that targets the structural, educational, and cultural challenges identified:

1. Develop practical national guidelines

Design standardized dementia diagnosis and management protocols that reflect the realities of Bosnia and Herzegovina's fragmented healthcare system. These guidelines should be created collaboratively with input from frontline healthcare workers to ensure they are relevant across all cantons and entities. Once finalized, they should be distributed widely through official channels and training programs to provide healthcare professionals with a clear, unified framework.

2. Introduce a culturally and linguistically appropriate screening tool

Create and validate a dementia screening instrument tailored to the local language, culture, and educational background. The tool should be simple, resource-efficient, and specifically tested for use within BiH's population. Nationwide deployment of this tool, coupled with training on its application, will enhance early detection and promote consistent assessments.

3. Reinstate community nursing services

Revive community health nursing programs to extend care beyond clinics by offering in-home visits, family education, and early dementia detection. Community nurses can monitor vulnerable individuals, provide ongoing support, and serve as a link between patients and healthcare facilities. Restoring these previously available services will ease the workload on family doctors and better support patients in rural and homebound settings.

4. Expand practical and accessible training for healthcare workers

Incorporate dementia care modules into ongoing professional development initiatives. Provide diverse training formats such as brief workshops, team-based on-site sessions, online courses, and user-friendly manuals focusing on practical skills like cognitive testing, delivering diagnoses, and managing behavioral symptoms. Ensure these trainings reach healthcare providers in both urban and rural areas to boost confidence and proficiency, particularly among nurses and primary care physicians.

5. Adopt a realistic approach to prevention

Recognize the importance of dementia prevention through promoting cardiovascular health and healthy lifestyles while acknowledging resource limitations. Integrate basic prevention advice into routine primary care visits, focusing on middle-aged patients (e.g., exercise encouragement, blood pressure management) without diverting resources from urgent care needs. Simultaneously, prioritize interventions that improve quality of life for those living with dementia, such as fall prevention and management of coexisting conditions. This balanced strategy combines ideal prevention goals with practical constraints.

6. Implement locally focused awareness campaigns

Launch community-based campaigns to raise awareness about dementia and reduce the stigma associated with it. Collaborate with local media, faith and community leaders, schools, and primary health centers to spread key messages like, “Dementia is a medical condition, not just aging—early help makes a difference.” Promote the establishment of local support groups for people affected by dementia. Additionally, leverage digital resources such as the WHO’s iSupport program to provide accessible training and education for caregivers and families. These grassroots efforts will help transform public attitudes and gradually empower communities.

Formation of multidisciplinary teams

Launch pilot initiatives to establish interdisciplinary dementia care teams in selected regions. Each team should include, at a minimum, a family physician, a nurse, a psychologist, and a social worker, with neurologists or psychiatrists involved as necessary. These teams would meet regularly to discuss patient cases and coordinate individualized care plans. By showcasing positive outcomes—such as increased patient satisfaction and reduced hospital admissions—this collaborative care model can be gradually expanded across healthcare facilities. Multidisciplinary teams will help overcome the current fragmented system and provide more coordinated, patient-centered care. Implementing these measures in a practical and integrated manner will enable Bosnia and Herzegovina to improve dementia care, even within existing resource constraints, significantly. The focus is on realistic, locally tailored actions rather than idealized approaches, aiming to ensure that people with dementia receive earlier diagnoses, better support, and greater opportunities for a good quality of life.

Limitations and strengths

Limitations

1. The study’s sample size of 25 participants may not fully capture the perspectives of all healthcare workers in Bosnia and Herzegovina.
2. A majority of participants were from urban areas, which may have limited the insights from rural healthcare providers.
3. The data, based on self-reported interviews, may be subject to biases such as social desirability.
4. Findings are specific to the Bosnian context and might not be generalizable to other settings.
5. The cross-sectional nature of the study provides only a single time-point snapshot, without tracking changes over time.

Strengths

1. The in-depth, qualitative interviews yielded rich and detailed insights into the experiences of healthcare workers.

2. Using the CFIR framework allowed for a thorough and systematic analysis of barriers and facilitators in dementia care.

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References

1. Ferri CP, Prince M, Brayne C, Brodaty H, Fratiglioni L, Ganguli M, et al. Global prevalence of dementia: a Delphi consensus study. Lancet. 2005;366(9503):2112–7.
2. Alzheimer's Disease International. World Alzheimer Report 2023: From plan to impact III. London: Alzheimer's Disease International; 2023. Available from: ht tps://www.alzint.org/resource/world-alzheimer-report-2023/. Cited 2025 May 14.
3. Prince M, Daisy A, Emiliano A, Raul A, FC P, Mariella G, et al. Ageing and dementia in low and middle income countries–Using research to engage with public and policy makers. Int Rev Psychiatry. 2008;20(4):332–43.
4. Jeraldo RIE, Chandra A, Anjum R, Bothongo PLK, Waters S, Uchegbu I, et al. Dementia prevention strategies in low and middle income countries: a systematic review. Alzheimer's Dement. 2023;19(S23):e074229.
5. Ellajosyula R, Narayanan J, Hegde S, Kamath V, Murgod U, Easwaran V et al. Delay in the diagnosis of dementia in urban India: role of dementia subtype and age at onset. Int J Geriatr Psychiatry. 2022;37(12):1–8.
6. Ferri CP, Jacob KS. Dementia in low-income and middle-income countries: different realities mandate tailored solutions. PLoS Med. 2017;14(3):e1002271.
7. Siti Maisarah M, Devi M, Andrea Mary M, Pascale A, Blossom CMS, Daniel DR, et al. The economic burden of dementia in low- and middle-income countries (LMICs): a systematic review. BMJ Global Health. 2022;7(4):e007409.
8. World Health Organization. Health systems in action: Bosnia and Herzegovina– 2022 edition. Copenhagen: WHO Regional Office for Europe; 2022. Available from: https://eurohealthobservatory.who.int/publications/i/health-s ystems-in-action-bosnia-and-herzegovina-2022. Cited 2025 May 14.
9. Spasojevic N, Vasilj I, Hrabac B, Celik D. Rural-urban differences in health care quality assessment. Mater Sociomed. 2015;27(6):409–11.
10. Tokalić R, Viđak M, Kaknjo MM, Marušić A. Antifragility of healthcare systems in Croatia and Bosnia and Herzegovina: learning from man-made and natural crises. Lancet Reg Health Eur. 2021;9:100216.
11. Ministarstvo Zdravstva Republike Hrvatske. Strategijski okvir razvoja men- talnog zdravlja do 2030 [Strategic Framework for Mental Health Develop- ment until 2030]. Zagreb: Ministry of Health of Croatia; 2022. Available from: https://zdravlje.gov.hr. Cited 2025 May 14. (in Croatian).
12. Mihaljević S, Jukić V, Rebernjak B. Stigma i diskriminacija Osoba s mentalnim poremećajima– što O Tome misle Građani Hrvatske? Socijalna Psihijatrija. 2021;49(4):289–96. (Croatian).
13. World Health Organization. Health systems in action: Montenegro – 2022 edition. Copenhagen: WHO Regional Office for Europe; 2022. Available from: Cited 2025 May 14. https://eurohealthobservatory.who.int/publications/i/hea lth-systems-in-action-montenegro-2022
14. Bjegovic-Mikanovic V, Vasic M, Vukovic D, Jankovic J, Jovic-Vranes A, Santric- Milicevic M, et al. Serbia: Health Syst Rev Health Syst Transit. 2019;21(3):1–211.
15. Organisation for Economic Co-operation and Development (OECD), European Union. Health at a Glance: Europe 2024– State of Health in the EU Cycle. Paris: OECD Publishing. 2024. Available from: https://doi.org/10.1787/b3704e 14-en. Cited 2025 May 14.
16. Livingston G, Sommerlad A, Orgeta V, Costafreda SG, Huntley J, Ames D, et al. Dementia prevention, intervention, and care. Lancet. 2017;390(10113):2673–734.
17. Babulal GM, Zha W, Trani J-F, Guerra JL, Tee BL, Zhu Y, et al. Identifying gaps and barriers in Alzheimer's disease and related dementia research

and management in Low- and Middle-Income countries: a survey of health professionals and researchers. J Alzheimer's Disease. 2024;101(4):1307–20.
18. Bernstein Sideman A, Al-Rousan T, Tsoy E, Piña Escudero SD, Pintado-Caipa M, Kanjanapong S, et al. Facilitators and barriers to dementia assessment and diagnosis: perspectives from dementia experts within a global health context. Front Neurol. 2022;13:2022.
19. Hodgetts G, Brown G, Batić-Mujanović O, Gavran L, Jatić Z, Račić M, et al. Twenty-five years on: revisiting Bosnia and Herzegovina after implementation of a family medicine development program. BMC Fam Pract. 2020;21(1):7.
20. Koch T, Iliffe S, the E-EDp. Rapid appraisal of barriers to the diagnosis and management of patients with dementia in primary care: a systematic review. BMC Fam Pract. 2010;11(1):52.
21. Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. Implement Sci. 2009;4(1):50.
22. Castro S, Leite C. Translation and cross-cultural adaptation of the world health organization disability assessment Schedule - WHODAS 2.0. Fisioterapia E Pesquisa. 2017;24:385–91.
23. Braun V. Using thematic analysis in psychology. Qualitative Res Psychol. 2006;3(2):77–101.
24. Association WM. World medical association declaration of Helsinki: ethical principles for medical research involving human subjects. JAMA. 2013;310(20):2191–4.
25. Fam J, Mahendran R, Kua EH. Dementia care in low and middle-income countries. Curr Opin Psychiatry. 2019;32(5):461–4.
26. Federal Ministry of Social Affairs, Health, Care and Consumer Protection (Austria). Dementia Strategy Austria: Living well with dementia. Vienna: BMSGPK; 202. Available from: https://www.demenzstrategie.at/fxdata/demenzstrat egi e/prod/media/Demenzstrategie_Neu_englisch.pdf. Cited 2025 May 14.
27. Alzheimer Selbsthilfe Österreich (Alzheimer Self-Help Austria) [Internet]. Vienna: Alzheimer Selbsthilfe Österreich. 2025 [cited 2025 May 14]. Available from: https://www.alzheimer-selbsthilfe.at/
28. Mahomed A, Pretorius C. Giving voice to the voiceless: Understanding the perceived needs of dementia family carers in Soweto, a South African Town- ship. Dementia. 2024;23(4):622–42.
29. Jacobs R, Schneider M, Farina N, du Toit P, Docrat S, Comas-Herrera A, et al. Dementia in South Africa: a situational analysis. Dementia. 2023;23(3):452–75.
30. Alzheimer Europe. Bosnian Alzheimer's Association vows to increase diagno- sis percentage of dementia. 2024. Available from: https://www.alzheimer-eur ope.org/news/bosnian-alzheimers-association-vows-increase-diagnosis-perc entage-dementia. Cited 2025 May 14.
31. Zupanić M, Vrabec B. Medicinska Sestra U Patronažnoj Djelatnosti U Skrbi Za Oboljele Od Alzheimerove Bolesti i drugih Demencija [Community nursing in the care of patients with Alzheimer's disease and other dementias]. Zagreb: Medicinska naklada; 2017. p. 140–6. (Croatian).
32. Milavec Kapun M, Meglič N, Hajdarevic S. Comparison of community health nurses' preventive home visits to older adults in Sweden and Slovenia: a literature review. Slovenian Nurs Rev. 2022;56:209–21.
33. Nitrini R, Caramelli P, Herrera Júnior E, Porto CS, Charchat-Fichman H, Carthery MT, et al. Performance of illiterate and literate nondemented elderly subjects in two tests of long-term memory. J Int Neuropsychol Soc. 2004;10(4):634–8.
34. Alladi S, Varghese FA, Paplikar A, Sharma M, Consortium INTB. Neurocognitive testing in a diverse linguistic setting: measurement invariance of ICMR-Neurocognitive tool box across five languages. Alzheimer's Dement. 2020;16(S6):e046222.
35. Prince M, Wimo A, Guerchet M, Ali GC, Wu YT, Prina M. World Alzheimer Report 2016: improving healthcare for people living with dementia—cover-age, quality and costs now and in the future. London: Alzheimer's Disease International; 2016. Available from: https://www.alzint.org/resource/world-alz heimer-report-2016/. Cited 2025 May 14.
36. Livingston G, Huntley J, Liu KY, Costafreda SG, Selbæk G, Alladi S, et al. Dementia prevention, intervention, and care: 2024 report of the Lancet

standing commission. Lancet. 2024;404(10452):572–628.

37. Adebiyi AO, Fagbola MA, Olakehinde O, Ogunniyi A. Enacted and implied stigma for dementia in a community in south-west Nigeria. Psychogeriatrics. 2016;16(4):268–73.
38. Gebrekidan Abbay A, Tibebe Mulatu A, Azadi H. Community knowledge, perceived beliefs and associated factors of mental distress: a case study from Northern Ethiopia. Int J Environ Res Public Health. 2018;15(11):2423.
39. Mehrabian S, Schwarzkopf L, Auer S, Holmerova I, Kramberger MG, Boban M, et al. Dementia care in the Danube region. A multi-national expert survey. Neuropsychiatr Dis Treat. 2019;15:2503–11.
40. World Health Organization. iSupport for dementia: training and support manual for carers of people with dementia. Geneva: WHO; 2019. Available from: https://apps.who.int/iris/handle/10665/311887. Cited 2025 May 14.