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Recognition of Dementia Symptoms and Related Work Challenges among Nursing Staff in Long-Term Care Facilities

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Abstract

BACKGROUND: Recognition of dementia symptoms among nursing staff is essential for ensuring timely, person-centered and ethically adequate care. Despite an expanding global focus on dementia, evidence concerning the interaction between staff education, work experience, and their recognition competence in Central and Eastern Europe remains limited.

AIM: This study investigates the relationship between nursing staff's education and professional experience and their ability to recognize dementia symptoms, as well as their perceived work difficulty in providing care for residents with dementia.

METHODS: A cross-sectional survey was conducted among 104 nursing staff across three long-term care facilities in Slovenia. Data was collected using a structured questionnaire exploring recognition of dementia symptoms and perceived workload. Descriptive statistics, chi-square tests and logistic regression analyses were used.

RESULTS: Cognitive symptoms were recognized most accurately, while behavioral and emotional manifestations were less consistently identified. Education and work experience did not significantly predict perceived work difficulty.

CONCLUSIONS: Findings highlight the importance of strengthening behavioral symptom recognition through targeted education and institutional support mechanisms, rather than relying solely on staff experience or qualification level.

Introduction

Dementia, as one of the leading causes of dependency in later life, presents major challenges for long-term care systems globally [1], [2], [3]. The ability of healthcare professionals, particularly nursing staff, to correctly identify its cognitive, behavioural, and emotional manifestations is critical for the provision of person-centred care. Early recognition enables appropriate treatment, timely communication with families, and improved quality of life for residents [4], [5].

Although dementia care has received increased attention in Western Europe, evidence from Central and Eastern European (CEE) countries, including Slovenia, remains scarce. These healthcare systems often face workforce shortages, limited training opportunities, and structural fragmentation [6], [7], [8]. Consequently, symptom recognition in long-term care settings may depend not only on staff education and clinical experience but also on organisational culture and available institutional support.

Previous research has consistently demonstrated that education and ongoing professional training improve the accuracy of dementia symptom recognition [9], [10], [11], [12]. However, findings regarding the effect of years of work experience are mixed. Some studies suggest that experience increases clinical sensitivity [13], while others emphasise that repetitive routines and emotional exhaustion can reduce awareness of behavioural changes [14], [15], [16]. Furthermore, recognition ability

does not automatically translate into reduced work burden; stress perception is strongly influenced by workplace dynamics, staff-to-resident ratios, and emotional climate [17], [18].

In Slovenia, nursing staff in long-term care institutions represent the backbone of daily care provision. Yet their competence in recognising dementia symptoms has rarely been systematically investigated. Given the country's ageing population and the projected increase in dementia prevalence—from approximately 35,000 cases in 2020 to more than 60,000 by 2040—the need for evidence-based workforce strategies is urgent [19].

This study therefore aims to assess the ability of nursing staff to recognise prevalent dementia symptoms; examine whether staff education and years of experience predict perceived work difficulty; and identify potential areas for improvement in staff training and institutional support. By addressing these objectives, the study contributes to the limited regional literature and supports the development of national dementia strategies aligned with EU policy frameworks.

Materials and Methods

Study Design and Ethical Considerations

A quantitative, cross-sectional design was adopted to investigate relationships between staff characteristics and dementia-symptom recognition. Ethical approval was obtained from the Research Ethics Committee for Studies Involving Human Participants (Ref. No. 2024-112). Participation was voluntary, anonymous, and based on informed consent. Data confidentiality and the right to withdraw were assured in accordance with the Declaration of Helsinki.

Setting and Justification for Facility Selection

Data were collected in **three Slovenian long-term care facilities**, purposefully chosen to ensure **maximum variation** in terms of size, geographic region (central, eastern, and southern Slovenia), and organisational model (public, private, and mixed). The rationale for limiting the study to three institutions was methodological and ethical: (1) to achieve diversity while ensuring depth of contextual interpretation; (2) to secure feasibility given the limited availability of institutions granting ethical access for research; and (3) to maintain a manageable sample size for pilot-level statistical analysis. This design aligns with exploratory approaches used in small-country health-system research, where representativeness is achieved through institutional heterogeneity rather than sample quantity [20], [21], [22].

Participants and Data Collection

A total of 104 nursing staff participated, representing an estimated 80% response rate. Inclusion criteria were: (1) employment in direct resident care for at least six months, and (2) willingness to complete the survey during working hours. Exclusion criteria included administrative staff and temporary workers. Data were collected in November–December 2024 using self-administered questionnaires distributed through facility management.

Instrument

The survey instrument consisted of 15 items. Five questions covered sociodemographic data (gender, education, professional role, years of experience, and department). Ten items assessed recognition of dementia symptoms and perceived work difficulty, with responses measured on a 5-point Likert scale (1 = very low to 5 = very high). The items were based on previous validated instruments [23,24] and reviewed by three experts in geriatric nursing and cognitive disorders for content validity. Although the tool was not standardised psychometrically, its internal consistency was acceptable (Cronbach's α = 0.76).

Data Analysis

Data were analysed using IBM SPSS Statistics 29. Descriptive statistics summarised the sample characteristics. Associations between years of experience and departmental assignment were examined using Pearson's chi-square test. Logistic regression models tested whether education and work experience predicted perceived work difficulty. Statistical significance was set at $p < 0.05$. Results were presented in Tables 1–3.

Results

Participant Characteristics

Of the 104 participants, 88.5% were female. The largest group held secondary education (54.8%), followed by vocational (32.7%) and tertiary (12.5%) education. Regarding experience, 51.9% had ≤10 years, 26.9% had 11–20 years, and 21.2% had ≥21 years of service. Most respondents worked in nursing care units (55.8%), followed by dementia units (15.4%) and residential units (12.5%).

Table 1: Distribution of Participants by Department and Years of Experience

Years of Experience	Dementia Unit	Nursing Care	Residential Unit	Other	Total (%)
Up to 10 years	17 (15.4%)	30 (28.8%)	5 (4.8%)	2 (1.9%)	54 (51.9%)
11–20 years	8 (7.7%)	15 (14.4%)	3 (2.9%)	2 (1.9%)	28 (26.9%)
≥21 years	6 (5.8%)	13 (12.5%)	2 (1.9%)	1 (1.0%)	22 (21.2%)
Total	**31 (29.8%)**	**58 (55.8%)**	**10 (9.6%)**	**5 (4.8%)**	**104 (100%)**

Legend: χ^2 (9) = 8.656, p = 0.470. No statistically significant association between experience and department assignment.

Recognition of Dementia Symptoms

Recognition rates varied across symptom categories. As shown in Table 2, cognitive symptoms were recognised most reliably (88–92%), while behavioural and emotional indicators were less consistently identified. The lowest recognition was observed for the symptom "wants to go home," often misinterpreted as restlessness or noncompliance. This pattern suggests gaps in understanding behavioural communication among residents with dementia.

Table 2: Recognition of Dementia Symptoms by Category

Symptom Category	Symptom Example	Correct Recognition (%)
Cognitive	Does not recognise familiar people	92.3
Cognitive	Repeats phrases or questions	88.0
Behavioural	Wants to go home	64.4
Behavioural	Increased irritability or aggression	68.3
Emotional	Withdrawal or sadness	70.2

Legend: Data presented as percentage of respondents who correctly identified each symptom as indicative of dementia. Respondents could select multiple responses.

Perceived Work Difficulty

The average perceived work difficulty score was 3.4 (SD = 0.9), indicating moderate workload stress. Logistic regression analysis (Table 3) showed that neither education level nor years of experience significantly predicted perceived work difficulty ($p > 0.05$).

Table 3: Logistic Regression Predicting Perceived Work Difficulty

Predictor	B	SE	Wald	df	Sig. (*p*)	Exp(B)
Education level	-0.533	0.310	2.957	1	0.087	0.59
Years of experience	0.392	0.420	0.862	1	0.350	1.48
Constant	1.272	0.328	3.416	1	0.065	—

Legend: Model not statistically significant ($\chi^2 = 4.41$, df = 2, $p = 0.110$). Education and experience together explain approximately 6.3% of variance in perceived work difficulty (Nagelkerke $R^2 = 0.063$).

Discussion

The findings of this study confirm that while cognitive dementia symptoms such as memory loss and disorientation are reliably recognised by nursing staff, behavioural and emotional indicators remain insufficiently identified. These results are consistent with international literature, which suggests that staff often perceive behavioural expressions as personality changes or disruptive conduct rather than as manifestations of cognitive decline [25], [26], [27]. Behavioural symptoms, such as wandering, repetitive speech, or aggression, can also evoke emotional distress among caregivers, thereby influencing their perception of workload [28], [29].

The absence of a statistically significant relationship between education or experience and perceived work difficulty suggests that formal qualifications or tenure alone do not determine competence or resilience in dementia care. This aligns with research indicating that *situational* and *contextual* factors—such as team dynamics, emotional support, and management practices—play a more decisive role in shaping staff capacity [30], [31], [32].

In long-term care settings, routine exposure to residents with complex needs can normalise challenging behaviours, yet this habituation does not necessarily equate to better recognition or reduced stress. Rather, it can lead to *emotional desensitisation*, reducing sensitivity to subtle changes in behaviour that signal cognitive decline [33]. Such findings underscore the need for systematic emotional support and reflective supervision in institutional environments, ensuring that experience translates into clinical insight rather than fatigue.

Moreover, while education theoretically equips staff with diagnostic knowledge, its practical impact is contingent on ongoing reinforcement. Without continuous professional development, theoretical competence may deteriorate over time [34]. In Slovenia, as in many CEE countries, post-qualification training in dementia care remains sporadic, non-mandatory, and unevenly distributed across institutions [35]. Therefore, this study's findings can be interpreted as evidence of *structural limitations* rather than personal deficits among nursing staff.

Comparable studies in Western Europe, such as those conducted in the Netherlands, Sweden, and the United Kingdom, show that sustained investment in dementia-specific training programmes significantly improves staff competence and reduces perceived work stress [36], [37], [38]. For example, Dutch long-term care facilities implementing continuous education frameworks have reported higher recognition accuracy and lower turnover among care workers [39]. Similarly, in the United Kingdom, national dementia strategies have institutionalised training pathways that integrate both cognitive and emotional learning objectives [40].

In contrast, studies from Central Europe—Croatia, Hungary, and Poland—echo the challenges observed in this research: fragmented education systems, inconsistent standards of care, and limited access to supervision [41], [42], [43]. Thus, Slovenia's context mirrors broader regional patterns, where systemic rather than individual-level factors account for variability in staff competence.

These comparative insights underline the importance of national-level coordination to harmonise dementia-care standards, establish accreditation systems, and promote collaborative learning across care homes.

Organisational context strongly influences both recognition accuracy and perceived workload. Research consistently shows that supportive management, adequate staffing ratios, and participatory decision-making enhance staff well-being

and clinical performance [44], [45]. Conversely, hierarchical management structures and high staff turnover exacerbate burnout and diminish attentiveness to residents' psychosocial needs [46].

In this study, although no significant correlation was found between education or experience and perceived difficulty, qualitative feedback from participants (via optional comments) suggested that emotional burden and time pressure were primary stressors. Many respondents described a lack of opportunities for emotional debriefing after difficult shifts and limited managerial understanding of dementia-related challenges. This aligns with studies demonstrating that empathy fatigue can impede the accurate interpretation of behavioural symptoms [47].

The results lend partial support to the *Stress-Appraisal-Coping Model* (Lazarus & Folkman, 1984) [30], which posits that perceived stress depends not only on objective demands but also on individuals' appraisal of their resources and control. In this context, staff with similar educational backgrounds may perceive identical situations differently based on organisational culture, social support, and personal resilience.

From a theoretical standpoint, dementia care competence should be conceptualised as a dynamic interplay between cognitive knowledge, emotional intelligence, and organisational conditions. The present study contributes to this framework by empirically demonstrating that experience and education, while important, cannot compensate for systemic deficiencies in support structures.

The findings of this research have several practical implications for long-term care management and policymaking.

1. **Mandatory, continuous training:** Dementia-specific education should be integrated into ongoing professional development for all nursing staff. Periodic refresher courses focusing on behavioural and emotional symptom recognition would help sustain competence.
2. **Reflective supervision and peer support:** Implementing structured reflective sessions and peer discussion groups can mitigate emotional exhaustion, strengthen empathy, and improve recognition accuracy.
3. **Organisational leadership:** Managers should cultivate a learning-oriented organisational culture where staff feel supported to discuss care challenges openly without fear of blame.
4. **Standardised national guidelines:** Slovenia would benefit from adopting a national dementia-care training framework modelled after Nordic best practices, including certification and monitoring systems for long-term care institutions.
5. **Integration into public health policy:** Given demographic trends, dementia care should be recognised as a public health priority, with funding allocated to workforce development, staff retention, and interdisciplinary collaboration between healthcare and social services.
6. **Cross-border knowledge exchange:** Collaborations within the EU could enhance Slovenian institutional capacities through shared curricula, mobility programmes, and digital training platforms focused on dementia competence.

By addressing these aspects, policymakers can transform long-term care environments into learning systems that promote both quality of care and employee well-being.

Despite its relevance, this study has several limitations.

First, its cross-sectional design prevents causal inference. Longitudinal studies could better capture how experience and education influence recognition over time.

Second, the use of non-probability sampling and data from only three facilities limits generalisability. However, the selected institutions provided significant variation in structure and practice, enhancing interpretive depth.

Third, data relied on self-reports rather than observational measures, introducing potential bias. Future research could combine quantitative and qualitative approaches, including interviews and observational protocols, to triangulate findings.

Finally, the research instrument, though content-validated, lacked full psychometric testing; further studies should develop and standardise dementia-recognition scales for the Slovenian context.

Conclusion

This study underscores the complexity of dementia care within long-term institutional environments. While cognitive symptoms are generally well recognised, behavioural and emotional manifestations remain underidentified. Neither education level nor professional experience significantly influenced perceived work difficulty, highlighting the primacy of organisational and emotional support systems in shaping staff competence and resilience.

For Slovenia and similar healthcare systems, the implications are clear: effective dementia care cannot rely solely on the goodwill or experience of individual workers but must be embedded in structured, evidence-based, and institutionally supported frameworks. Continuous education, reflective

supervision, and cohesive teamwork should be prioritised as integral components of care delivery.

By documenting current strengths and shortcomings in staff recognition of dementia symptoms, this study provides a foundation for further national and international research. The results advocate for comprehensive dementia-care strategies that integrate clinical, organisational, and emotional dimensions, contributing to the long-term sustainability of care systems and the well-being of both residents and caregivers.

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