

Dementia knowledge among nursing students in Albania: A cross-sectional study

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Abstract

Background: Dementia is a growing public health challenge, and nurses require adequate knowledge to provide safe, person-centred care. Limited curricular coverage and restricted clinical exposure may leave nursing students insufficiently prepared.

Objective: To assess dementia-related knowledge among undergraduate and postgraduate nursing students at the University of Elbasan, Albania, and to examine whether knowledge differed by selected sociodemographic and educational characteristics.

Methods: A cross-sectional survey was conducted among 252 third-year Bachelor's and Master's nursing students. Knowledge was measured using the 21-item Dementia Knowledge Assessment Tool 2.0 (D-KAT2). Descriptive statistics and independent-samples t-tests were performed in IBM SPSS Statistics version 27.0.

Results: The mean D-KAT2 score was 13.94 ± 2.67 out of 21 (66.4% of the maximum). The lowest correct-response rates concerned sudden increases in confusion (25.4%), the effect of environmental changes (31.7%), and recognition of pain in advanced dementia (35.7%). Knowledge scores did not differ significantly by gender, residence, education level, or previous care experience (all $p > 0.05$).

Conclusion: Students demonstrated partial dementia knowledge, with important gaps in clinical recognition and care. Dedicated dementia modules, simulation-based learning, and structured clinical exposure should be strengthened within nursing curricula in Albania.

Keywords: Dementia; Knowledge; Nursing students; Nursing education; D-KAT2; Albania

1. Introduction

Dementia is a syndrome caused by diseases and injuries that progressively affect memory, thinking, behaviour, and the ability to perform everyday activities. In 2021, approximately 57 million people worldwide were living with dementia, and more than 60% lived in low- and middle-income countries. Nearly 10 million new cases occur each year, making dementia a major cause of disability, dependency, and mortality among older adults [1].

Population ageing is increasing the demand for competent dementia care. Albania is experiencing a rapid demographic transition, with the proportion of people aged 65 years and older projected to rise substantially in the coming decades [2]. This trend has direct implications for health and social care services. It reinforces the need for nurses who can provide appropriate support in hospital, primary care, community, and long-term care settings [3].

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Professional education is a central determinant of the quality of care. Healthcare personnel who receive inadequate preparation may lack the confidence and competence required to respond to the complex cognitive, behavioural, emotional, and physical needs of people living with dementia [4]. International evidence indicates that nursing students often complete their education with insufficient dementia knowledge because curricula provide limited dedicated content and few opportunities for specialised clinical practice [5]. Misconceptions and stigma may further weaken readiness for person-centred care, particularly where dementia is viewed as an inevitable part of ageing rather than a clinical condition requiring assessment and support [6].

Higher education institutions therefore have an important role in preparing future professionals through evidence-based teaching, experiential learning, and continuing professional development [7,8]. However, evidence on dementia knowledge among nursing students in Albania remains limited. The present study aimed to assess dementia-related knowledge among third-year Bachelor's and Master's nursing students at the University of Elbasan and to examine whether knowledge scores differed according to selected sociodemographic and educational characteristics.

2. Material and methods

2.1. Study design, setting and participants

A cross-sectional questionnaire study was conducted at the Faculty of Medical Technical Sciences, University of Elbasan "Aleksandër Xhuvani", Albania. Eligible participants were third-year Bachelor's nursing students and students enrolled in the Master's nursing programme. First- and second-year students were not included because the study focused on knowledge acquired after substantial exposure to the nursing curriculum.

A convenience sample of students who were available and willing to participate was recruited. In total, 252 students completed the questionnaire, representing approximately 63% of an estimated eligible population of 400 students. The achieved sample exceeded the minimum target of approximately 196 participants required for a 95% confidence level and a 5% margin of error.

2.2. Data collection instrument

The self-administered questionnaire consisted of sociodemographic questions and the 21-item Dementia Knowledge Assessment Tool 2.0 (D-KAT2), a true-or-false instrument used in previous nursing-student research [5]. The items addressed causes and symptoms of dementia, disease progression, communication, decision-making, care strategies, and needs in advanced stages. Each correct response earned one point, and each incorrect response earned zero points, yielding a total score ranging from 0 to 21, with higher scores indicating greater knowledge.

The questionnaire collected information on age, gender, education level, place of residence, previous experience of caring for a person with dementia, and the context of previous contact with dementia. The instrument was translated and adapted into Albanian using pre-administration linguistic and content review procedures.

2.3. Data collection procedure

Data were collected electronically through Google Forms. The introductory page explained the purpose of the study, the voluntary nature of participation, and the anonymous handling of responses. Completed responses were exported to a spreadsheet and subsequently imported into SPSS for analysis. No directly identifying personal information was collected.

2.4. Statistical analysis

Data were analysed using IBM SPSS Statistics, version 27.0 (IBM Corp., Armonk, NY, USA). Categorical variables are presented as frequencies and percentages, while continuous variables are summarised using means and standard deviations. Independent-samples t-tests were used to compare mean knowledge scores by gender, residence, education level, and previous dementia-care experience. Statistical significance was set at $p < 0.05$.

2.5. Participant consent and confidentiality

Participation was voluntary. Before beginning the online questionnaire, students received information about the purpose of the study, the anonymous handling of responses, and their right not to participate. Submission of the completed questionnaire constituted consent to participate. No directly identifying personal data were collected, and responses were analysed anonymously.

3. Results and discussion

3.1. Participant characteristics

The study included 252 participants with a mean age of 22.04 ± 5.18 years (range 18–55 years). Most participants were women (86.1%), 54.4% lived in urban areas, and 79.8% were Bachelor's students. Approximately 29.0% reported previous experience of providing care to a person with dementia (Table 1).

Table 1 Sociodemographic characteristics of participants (N = 252)

Characteristic	Category	n	%
Age, years	Mean $\pm$ SD (range)	22.04 ± 5.18	18–55
Gender	Female	217	86.1
	Male	35	13.9
Residence	Rural	115	45.6
	Urban	137	54.4
Education level	Bachelor's degree	201	79.8
	Master's degree	51	20.2
Previous dementia-care experience	Yes	73	29.0
	No / none reported	179	71.0
Context of previous contact	No answer	37	14.7
	Family	31	12.3
	Clinical practice / work	47	18.7
	Other relatives	16	6.3
	Other context	121	48.0

SD: standard deviation.

3.2. Dementia knowledge

The mean D-KAT2 score was 13.94 ± 2.67 out of 21, equivalent to 66.4% of the maximum possible score. Correct-response rates varied considerably across items (Table 2). More than 85% of participants correctly recognised that dementia is associated with changes in the brain, that these changes are often progressive, that family members can help communicate the needs of a person in advanced dementia, that visual-perceptual problems may occur, and that communication about emotions can help when a person is distressed.

The lowest correct-response rates concerned acute confusion, environmental modification, and pain assessment. Only 25.4% correctly rejected the statement that a sudden increase in confusion is characteristic of dementia, 31.7% recognised that environmental changes may affect a person with dementia, and 35.7% correctly rejected the claim that pain cannot be identified in advanced dementia. Fewer than half (47.2%) correctly rejected the statement that a confused person with dementia should always be corrected.

Table 2 Correct responses to D-KAT2 items (N = 252)

Knowledge item	Correct, n	Correct, %
1. Dementia occurs because of changes in the brain.	232	92.1
2. The brain changes that cause dementia are often progressive.	224	88.9
3. Alzheimer disease is the leading cause of dementia.	184	73.0

4. Vascular pathologies can also cause dementia.	154	61.1
5. Confusion in an older adult is almost always caused by dementia.	144	57.1
6. Only older adults develop dementia.	189	75.0
7. Identifying the possible cause of dementia can help predict its progression.	208	82.5
8. Incontinence always appears in the early stages of dementia.	135	53.6
9. Dementia is likely to shorten life expectancy.	137	54.4
10. In advanced dementia, family members can help others understand the person's needs.	215	85.3
11. People living with dementia may have problems with visual perception.	221	87.7
12. A sudden increase in confusion is characteristic of dementia.	64	25.4
13. Disturbing or uncharacteristic behaviours may occur in people with dementia.	198	78.6
14. Difficulty swallowing may occur in advanced dementia.	161	63.9
15. Mobility becomes substantially limited in advanced dementia.	173	68.7
16. Environmental changes can make a difference for a person with dementia.	80	31.7
17. When a person with dementia is distressed, discussing emotions and feelings may help.	219	86.9
18. It is important to always correct a person with dementia when the person is confused.	119	47.2
19. A person with dementia often needs support in making everyday decisions.	172	68.3
20. It is impossible to determine whether a person with advanced dementia is experiencing pain.	90	35.7
21. Physical exercise can benefit people living with dementia.	195	77.4

D-KAT2: Dementia Knowledge Assessment Tool 2.0.

3.3. Knowledge scores by participant characteristics

Mean knowledge scores did not differ significantly by gender, residence, education level, or previous dementia-care experience (Table 3). Master's students had a higher mean score than Bachelor's students (14.57 ± 2.68 versus 13.79 ± 2.66), but the difference did not reach the predefined threshold for statistical significance ($p = 0.062$).

Table 3 Dementia knowledge scores by participant characteristics

Variable	Category	Mean $\pm$ SD	t	p
Gender	Female	13.90 ± 2.75	-0.609	0.543
	Male	14.20 ± 2.17		
Residence	Rural	13.82 ± 2.52	-0.691	0.490
	Urban	14.05 ± 2.80		
Education level	Bachelor's degree	13.79 ± 2.66	-1.877	0.062
	Master's degree	14.57 ± 2.68		
Previous dementia-care experience	Yes	13.89 ± 2.63	-0.219	0.827
	No	13.97 ± 2.70		

Independent-samples t-tests; statistical significance was defined as $p < 0.05$. SD: standard deviation.

4. Discussion

This study found an overall mean D-KAT2 score of 13.94 out of 21 among nursing students in Elbasan, together with important gaps in clinically relevant areas. The results suggest that students possessed a basic understanding of

dementia but were not consistently prepared to recognise acute changes, use environmental approaches, or assess pain in advanced disease. These are important competencies for safe and person-centred nursing care.

The findings are consistent with evidence from nursing and health-professional students in China, Norway, South Korea, Malta, Vietnam, and other settings, where knowledge has often been mixed or insufficient [9–15]. Similar studies have emphasised that limited dementia-specific education can affect both knowledge and attitudes toward people living with the condition [15]. The absence of statistically significant differences by gender, residence, and previous care experience suggests that the identified gaps are not restricted to a single subgroup and may reflect broader curricular and institutional factors.

Master's students obtained somewhat higher scores than Bachelor's students, although the difference was not statistically significant. This trend may indicate an educational benefit from greater academic exposure, but the small postgraduate subgroup and cross-sectional design limit interpretation. Structured longitudinal programmes have demonstrated that sustained contact with people living with dementia can improve student learning and perceptions [16]. Arts-based and experiential approaches may also challenge stereotypes and support more humane care [17].

The particularly low score for sudden confusion is clinically relevant because an acute change in mental status should not automatically be attributed to dementia. The gaps concerning environmental modification and pain recognition similarly indicate a need to connect theoretical knowledge with practical care strategies. Education and training should therefore extend beyond definitions of disease to include communication, behavioural support, comfort assessment, ethical decision-making, and collaboration with families. Earlier work on dementia-care education has likewise highlighted the need for specialised preparation and meaningful field experience [18,19].

4.1. Strengths and limitations

A strength of this study is the inclusion of 252 undergraduate and postgraduate nursing students, providing useful baseline evidence from an Albanian university context where published data remain limited. Restricting the Bachelor's group to third-year students increased the relevance of the findings to knowledge acquired through the existing curriculum.

Several limitations should be considered. The cross-sectional design does not show how knowledge changes over time or after educational interventions. Participants were recruited from a single university via convenience sampling, which limits generalisability. Data were collected using an online true-or-false questionnaire and did not include clinical scenarios, interviews, or observational assessment of practical competence. The true-or-false format may also permit guessing and may not fully assess applied clinical reasoning. Finally, the study did not evaluate attitudes, confidence, or curriculum exposure in sufficient detail to determine the mechanisms underlying the identified knowledge gaps.

4.2. Implications for nursing education

Undergraduate and postgraduate nursing curricula should include dedicated, evidence-based dementia content covering causes, symptoms, differential recognition of acute confusion, disease progression, pain and comfort assessment, communication, ethical issues, family involvement, and person-centred care. Teaching should be reinforced through skills laboratories, virtual simulation, case-based learning, and supervised clinical exposure. The simulation laboratory already available at the Faculty of Medical Technical Sciences could be used to develop dementia-specific learning scenarios.

Continuing education, seminars, and collaboration between universities, health services, and community organisations could strengthen professional networks and support the exchange of good practice. These priorities are consistent with the international public-health emphasis on increasing dementia awareness, improving care, and developing a competent workforce [20].

5. Conclusion

Nursing students at the University of Elbasan demonstrated partial dementia knowledge, but substantial gaps were identified in acute symptom recognition, environmental care strategies, and pain assessment in advanced dementia. Knowledge did not differ significantly according to gender, residence, education level, or previous care experience. The findings support systematic strengthening of dementia education through dedicated modules, simulation-based teaching, structured clinical practice, and person-centred communication training. Improving the preparation of Albania's future nursing workforce is important for responding to the needs of people living with dementia and their families.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there is no conflict of interest.

Statement of ethical approval

The study was conducted in accordance with the principles of the Declaration of Helsinki. The study involved an anonymous, voluntary questionnaire and collected no directly identifying personal data.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study. Students received information about the purpose of the study, the voluntary nature of participation, and the anonymous handling of responses before beginning the questionnaire; submission of the completed anonymous questionnaire constituted consent to participate.

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Data availability statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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