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Bridging Neuroscience and Education: Palliative Care Training for Dementia in Romania versus International Trends

Gheorghe Mihail Banariu*
Transilvania University of Brașov, Faculty of Medicine; Management and Strategies of Palliative Care (student); Faculty of Medicine, "Ovidius" University from Constanta, 900470 Constanta, Romania; Romanian Forensic Scientist Association, Romania.
banariu.gheorghe@gmail.com
http://orcid.org/0000-0001-6841-3205

George Neagoe
Hyperion University, Calea Călărași 169, București, Romania. neagoe_george8@yahoo.com

Mihaela Rus
Faculty of Law and Administrative Sciences, "Ovidius" University from Constanta, 900470 Constanta, Romania; The Institute of Philosophy and Psychology "Constantin Radulescu Motru", Romanian Academy, psiholog_m@yahoo.com

Cristian Delcea*
Department of Forensic Medicine, "Iuliu Hatieganu" University of Medicine and Pharmacy, 400012 Cluj-Napoca, Romania;
cristian.delcea.cj@gmail.com

Adriana Campeanu
Faculty of Medicine, "Ovidius" University from Constanta, 900470 Constanta, Romania; General Directorate of Social Assistance and Child Protection, Constanta. adrianacampeanu2003@yahoo.com

Silvia Onuc
Obstetrics & Gynaecology Department, Faculty of Medicine, "Ovidius" University from Constanta, 900470 Constanta, Romania; "Sf. Apostle Andrei" University Emergency County Hospital Constanta, 900591 Constanta, Romania.
silviaizvoranu@yahoo.com

Abstract: ***Background:*** *Palliative care education (PCE) is increasingly recognized as a public health priority, particularly in the context of dementia and other neurocognitive disorders that place significant burdens on patients, families, and healthcare systems. While international programmes highlight key educational needs and interventions, local adaptations remain scarce in Romania.* ***Objective:*** *This research aimed to (1) synthesise global evidence on palliative care education needs and implemented programmes published in 2024, and (2) assess the emerging educational requirements and psychosocial well-being of healthcare providers and caregivers in multiple Romanian regional centres in 2025.* ***Methods:*** *A scoping review was conducted using PubMed to identify studies published in 2024, including qualitative, quantitative, and umbrella reviews. Fifty-six studies from 33 countries were analysed. Based on identified gaps, a structured questionnaire was designed and applied to 200 participants (physicians, nurses, physiotherapists, psychologists, priests, and primary home caregivers) across Romanian counties such as Călărași , Prahova, Constanta, Iasi, and Brasov. Alongside, participants were evaluated using the Beck Depression Inventory, Hamilton Anxiety Rating Scale, and Rosenberg Self-Esteem Scale.* ***Results:*** *The scoping review identified recurrent needs in symptom management, dementia care, communication, caregiver support, ethical decision-making, digital learning, and provider resilience. Programmes showed improvements in knowledge, confidence, and satisfaction but varied widely in scope and implementation. Romanian participants reported high interest in dementia-focused training and communication skills, aligning with global priorities. However, unique challenges emerged, including limited interdisciplinary collaboration and a lack of structured support for home-based caregivers. Screening revealed elevated levels of anxiety and depression among staff, particularly those with frequent contact with dementia patients.* ***Conclusions:*** *Combining international and local perspectives demonstrates that dementia education, caregiver support, and provider resilience are central needs in palliative care education. Tailored, interdisciplinary programmes are urgently required in Romania, both to align with global best practices and to address local gaps, ensuring improved outcomes for patients, families, and healthcare providers.*

Keywords: *palliative care education; dementia care; neurocognitive disorders; healthcare professionals; interdisciplinary collaboration; communication skills; caregiver support; psychological resilience; depression and anxiety; digital learning, e-learning; artificial intelligence in education; Romania; international trends.*

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Mirela Manea*
Department of Psychiatry and Psychology, 'Carol Davila' University of Medicine and Pharmacy, 020021 Bucharest, Romania; Department of Psychiatry, 'Prof. Dr. Alexandru Obregia' Clinical Hospital of Psychiatry, 041914 Bucharest, Romania.
mirelamanea2003@yahoo.com

Vlad Tica
Obstetrics and Gynecology Department, Faculty of Medicine, "Ovidius" University from Constanta, 900470 Constanta, Romania; "Sf. Apostle Andrei" University Emergency County Hospital Constanta, 900591 Constanta, Romania; Romanian Academy of Scientists, 50044 Bucharest, Romania. vtica@eeirh.org

**Corresponding authors*

1. Introduction

Palliative care is an approach aimed at improving the quality of life for patients with chronic progressive illnesses and their families by preventing and alleviating suffering through early identification, comprehensive assessment, and appropriate treatment of pain and related physical, psychosocial, and spiritual challenges. According to the World Health Organization (WHO, 2019), palliative care enhances the quality of life for patients and their families facing life-threatening illnesses by addressing suffering through early identification, accurate assessment, and effective management of pain and other physical, psychosocial, and spiritual issues. Public health initiatives in palliative care now include integrating health promotion, community development, and death education into a field that traditionally focused primarily on clinical care (Kellehear, 2013). Despite the proven benefits of palliative care in enhancing the quality of life for patients and their families, it remains underutilised (Kozlov et al., 2018). Research highlights numerous barriers to accessing palliative care services, such as reluctance among patients and families, fear, misconceptions, ignorance, and a lack of awareness about available resources (Grossman and Kaestner, 1997). Increasing knowledge about palliative care can help address these barriers by reducing fear and misconceptions, ultimately improving service utilisation through a better understanding of its benefits (Grossman and Kaestner, 1997). To enhance public awareness and understanding of palliative care, Palliative Care Education (PCE) plays a critical role (Huo et al., 2019). This aligns with the WHO Public Health Model of Palliative Care, which underscores the importance of educating policymakers, healthcare professionals, and the general public (WHO, 2019). Furthermore, extensive research from various countries underscores that PCE is fundamental in promoting broader utilisation of palliative care services (Abu-Saad Huijer, Dimassi, & Abboud, 2009; Aldridge et al., 2016; Chao, 2009; Cui et al., 2011; Daher et al., 2008; Enguidanos, Yonashiro-Cho, & Cote, 2013; Granero-Moya et al., 2016; Hickman, 2002; Kaasalainen et al., 2017; Llamas et al., 2001; Moir et al., 2015).

2. Materials and Methods

The integration of artificial intelligence (AI) as a complementary component in needs assessment has been increasingly documented in the scientific literature, where AI is employed both for rapid data processing and for enhancing the objectivity of evaluations. AI was used as a complementary triage tool applied during the literature review process.

This scoping review applied the following inclusion criteria: qualitative and quantitative studies specifically focusing on palliative care education (PCE) programmes, published in peer-reviewed journals in the English language, and not necessarily containing the search keywords in the title or abstract. Additionally, studies had to be published in 2024, freely accessible in full-text format via the PubMed database. The exclusion criteria included studies that did not meet the aforementioned requirements, articles without full-text access, and studies requiring payment for access. To provide a comprehensive understanding of palliative care education needs in 2024, data from existing databases, such as scoping reviews, secondary analyses, and umbrella reviews, were also included. The initial search yielded 3,545 studies. A CSV dataset of palliative care-related studies was generated on December 25, 2024.

Regarding the second part of the research, namely the national-level component, a structured questionnaire was employed to assess the educational needs of professionals involved in the care of individuals with dementia. The first section of the questionnaire addressed key educational domains identified in the international literature, covering nine thematic areas: Symptom and Pain Management, Dementia Care, Communication and Empathy, Caregiver Support, Cultural and Ethical Aspects, Staff Resilience, Digital Tools and E-learning, Integration into the Healthcare System, and an additional open-ended category for other suggestions. For each domain, participants were asked to review the global examples provided, indicate whether the need was present in their country, and rate its perceived importance using a 1–5 Likert scale.

The second section explored the participants' exposure to patients with dementia. Respondents were asked to estimate the number of patients they had cared for or advised over the past month, using the following predefined categories: no exposure, under 3 patients, 3–5 patients, 5–7 patients, and more than 7 patients.

In addition to the custom questionnaire, standardised assessment instruments for depression (Beck), anxiety (Hamilton), and self-esteem (Rosemberg) were administered. A total of 200 respondents participated in the study, representing twelve distinct professional subgroups: physicians, medical residents, nurses, psychologists, social workers, spiritual care providers (chaplains), physiotherapists, nutritionists/dietitians, physical therapists, primary caregivers (family members or close contacts), specialised palliative care volunteers, pharmacists involved in therapeutic counselling, and psychoeducators/occupational therapists.

Hypothesis 1 – Correlation between training needs and psychological variables

H1: The perceived need for training in dementia patient management is expected to be significantly correlated with levels of depression, anxiety, and self-esteem. Professionals reporting higher depressive and anxiety symptoms and lower self-esteem are expected to express a greater need for specialised training in this field.

Hypothesis 2 – Correlation between training needs and professional exposure

H2: The perceived need for training in dementia patient management is expected to be significantly correlated with the level of professional exposure to dementia cases. Professionals who care for or advise a higher number of patients with dementia are expected to report a greater need for targeted educational interventions.

2.1. Search Strategy

The literature search was conducted on December 25, 2024. Articles published in 2024 were retrieved from the PubMed electronic database. The search utilised a combination of Medical Subject Headings (MeSH) terms and free-text keywords related to palliative care and education. The search terms encompassed various aspects of palliative care, including its integration into clinical and community settings, as well as its educational dimensions. The following MeSH terms and keywords were used: Palliative care related terms: "palliative care," "end-of-life care," "cancer care," "terminal illness care," "ageing," "dying," "death," "dying with dignity," "life-limiting diseases," "chronic progressive diseases," "life-prolonging treatment," "dementia," "pain management," "compassion," and "compassionate." Family and community terms: "family," "family caregiver," "family carer," "community," "hospice," "grief," "bereavement," "empathy," and "sympathy." Educational terms: "palliative care education," "education," "induction," "educational programmes," "programmes," "seminars," "classes," "teaching," and "teach."

2.2. Data Synthesis

A narrative synthesis was employed to analyse the data, exploring similarities and differences among the findings of the included studies and identifying patterns within the data. This approach facilitated the examination of various aspects of palliative care education (PCE), including its necessity and feasibility, information needs, best practice guidelines, policies, educational modules (encompassing both direct and complementary education), pilot curricula, and updates to existing curricula. The findings were categorised into two primary domains: (I) needs assessment and feasibility studies (n=21), and (II) intervention studies (n=35) based on identified needs. These interventions encompassed information dissemination, pilot programmes, and curriculum updates. To conduct the synthesis, the following steps were followed: developing a theory of how PCE works, why it is effective, and for whom; generating a preliminary synthesis of findings from the included studies; exploring relationships within the data; and assessing the robustness of the synthesis (Popay et al., 2006). Educational resources predominantly consisted of self-developed

teaching materials, with some programmes incorporating eLearning tools and on-the-job training (OJT). The PCE programmes aimed to enhance participants' knowledge, attitudes, confidence, and overall satisfaction with their learning experience. In this study, AI was used as a complementary triage tool applied during the literature review, in order to verify the consistency and coherence of the interpretations formulated by the two human experts involved in the analysis. In cases where the experts did not reach consensus, the AI system generated balanced arguments for and against each interpretative direction, thereby supporting deliberation and decision-making. This approach provided the two-member expert team with an additional layer of validation, reduced individual bias, and contributed to a more robust and well-substantiated needs assessment.

3. Results

Figure 1 presents a PRISMA flow diagram that details the process of article inclusion and exclusion for this review. The initial literature search identified 3,545 titles. After the title screening, 123 articles remained, and 69 were retained following the abstract screening. Subsequent full-text assessments resulted in 56 studies being deemed eligible for data extraction and inclusion in the narrative synthesis.

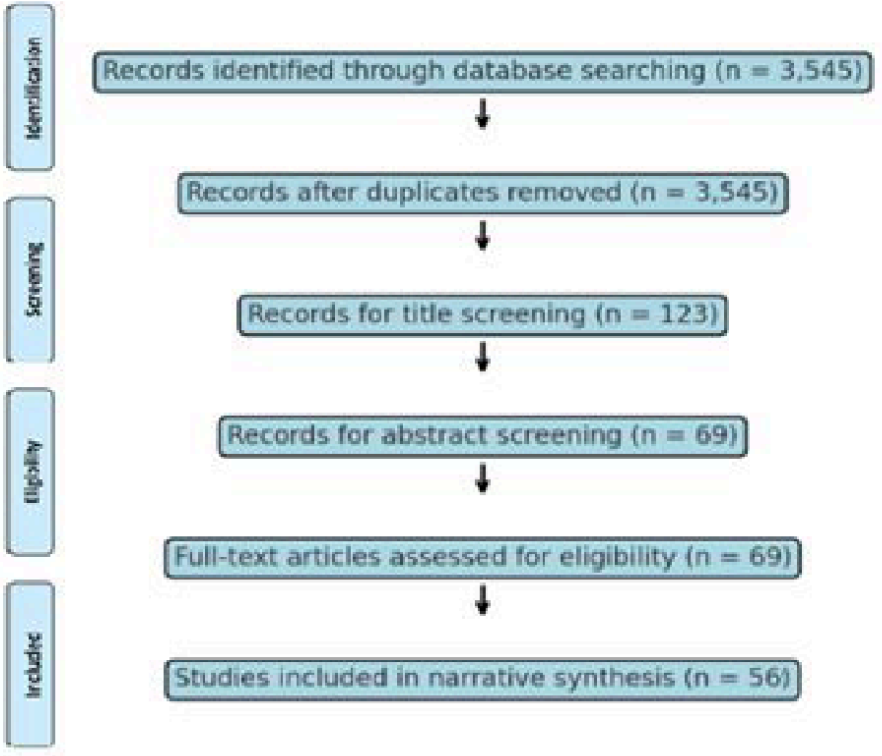

Figure 1. PRISMA flow diagram

Table 1 in Annex 1 provides an overview of the included studies.

3.1. Geographical Distribution

The geographical distribution of the studies covered a diverse range of countries, highlighting the global interest and variation in approaches to palliative care education (PCE). These studies were conducted across 33 countries, including but not limited to: Asia: China [Study no. 18, 25, 41, 47, 49], Taiwan [Study no. 20, 30], Kazakhstan [Study no. 33], Singapore [Study no. 30], India [Study no. 54], Indonesia [Study no. 44, 65], Saudi Arabia [Study no. 64,70], Jordan [Study no. 37], and the United Arab Emirates [Study no. 31] Europe: Norway [Study no. 19, 59],

Scotland - United Kingdom [Study no. 20, 31], Poland [Study no. 21], Portugal [Study no. 22], Spain [Study no. 37, 59], the Netherlands [Study no. 42, 59], Slovenia [Study no. 42, 59], Italy [Study no. 42, 68], the Czech Republic [Study no. 42], and the Republic of Ireland [Study no. 45, 73] North America: USA [Study no. 28, 29, 51, 52, 53, 55, 57, 61, 62, 63, 72], Canada [Study no. 26, 32, 46, 56, 69], Puerto Rico [Study no. 43] Africa: Ghana [Study no. 27], Egypt [Study no. 39], Uganda [Study no. 67] Oceania: Australia [Study no. 36, 60]. Studies with Multiple Locations were conducted across several countries, including combinations such as the Netherlands, Slovenia, Norway, Spain, the UK, and Ireland [Study no. 24, 26, 42]. Table 1 provides a detailed overview of these studies, summarising their methodologies, target populations, and key findings.

3.2. International Relevance

This scoping review synthesises data from 56 studies conducted in 33 countries, highlighting the global scope and variation in palliative care education (PCE) programmes. By including high-, middle-, and low-income countries, the study reflects diverse healthcare systems and educational infrastructures. Terms such as "hospice" and "palliative care" were considered within each study's local context, recognising that these terms carry different meanings and models internationally. The findings support global knowledge transfer by identifying common educational needs, barriers to access, and effective interventions applicable across geographical, economic, and cultural boundaries. This work contributes to international efforts to integrate PCE into both clinical training and public health strategies.

3.3. Introduction / Synthesis of Palliative Care Education Programmes

Palliative care education (PCE) programmes are vital for enhancing the knowledge and skills of healthcare professionals and caregivers. These programmes address critical gaps in managing chronic illnesses, improving communication, and supporting patients at the end of life. This review synthesises the key themes, content, target audiences, and educational methodologies employed in PCE programmes worldwide, based on an analysis of 56 studies.

3.4. Target Audience of Palliative Care Education Programs

PCE programmes target a diverse range of participants to address the multifaceted nature of palliative care. Commonly identified audiences include: Healthcare Professionals [Study no. 4, 7, 9, 10, 12, 14, 16, 21, 22, 29, 34, 36, 37, 41, 42, 43, 45, 46, 47, 48, 49, 50, 54, 55]: Primary care physicians, nurses, and interdisciplinary teams are a major focus, with programmes designed to enhance their ability to manage pain, provide emotional support, and address end-of-life care challenges. Family Caregivers [Study no. 2, 3, 5, 8, 11, 13, 18, 26, 27, 31, 40, 51, 52]: Programmes for caregivers aim to equip them with practical tools for supporting loved ones, particularly in managing symptoms and making care decisions. Students and Trainees [Study no. 15, 17, 20, 23, 24, 25, 30, 32, 33, 38, 39, 44, 53]: Undergraduate and graduate medical and nursing students often participate in simulation-based or experiential learning modules. Patients and Care Recipients [Study no. 5, 8, 13, 18, 26, 28, 40, 51, 52]: Some initiatives provide self-management education for individuals with chronic conditions such as dementia and cancer. These groups highlight the necessity of tailoring PCE to meet the specific needs and experiences of different stakeholders in palliative care.

3.5. Content Covered in PCE Programmes

PCE programmes address a broad range of topics that reflect the complexities of palliative care delivery. Commonly covered themes include:

Symptom and Pain Management [Study no. 4, 5, 10, 11, 19, 22, 27, 36, 41, 45, 46]: These programmes focus on education regarding opioid therapies and non-pharmacological interventions.

They also explore strategies for overcoming barriers to effective pain management, including cultural and institutional constraints.

Communication Skills [Study no. 3, 7, 29, 34, 39, 49, 55]: Training modules emphasise empathy, compassion, and end-of-life discussions. Additionally, they help develop structured communication frameworks for engaging with patients and families during critical care transitions.

Dementia Care [Study no. 3, 6, 8, 13, 18, 26, 31, 51, 52]: Programmes provide tailored interventions for dementia caregivers, focusing on psychoeducation and stress management. Virtual reality-based modules are increasingly used to enhance understanding of dementia-related challenges.

Cultural and Ethical Considerations [Study no. 2, 20, 22, 23, 38, 42, 47]: These courses emphasise respect for cultural diversity and religious values in care planning. They also address ethical dilemmas in end-of-life care, such as decisions regarding life-sustaining treatments.

Integration of Palliative Care into Broader Healthcare Settings [Study no. 12, 21, 26, 29, 30, 36, 40, 46]: Programmes focus on embedding palliative care within oncology and primary care practices. Some pilot initiatives explore interprofessional education models for managing chronic pain and mental health conditions.

3.6. Themes Common to Target Audiences

Across target groups, several themes emerge consistently:

Need for Preparedness [Study no. 1, 2, 6, 10, 13, 17, 18, 20, 21, 23, 26, 36, 39, 46]: Both caregivers and healthcare providers express a need for better preparation in handling end-of-life scenarios. Training programmes aim to build confidence and competence in symptom management and decision-making.

Support Systems [Study no. 3, 5, 8, 11, 18, 26, 27, 28, 40, 49, 51]: The importance of collaboration between families and healthcare teams is frequently highlighted. Programmes emphasise teamwork and shared decision-making to ensure holistic care.

Resource Accessibility [Study no. 10, 16, 22, 28, 32, 41, 48, 50, 56]: Limited access to palliative care resources, particularly in rural or resource-constrained settings, remains a challenge. To address these gaps, online education modules and virtual communities of practice are increasingly implemented.

Regarding the second part of the research, respectively the national component, the subgroups were distributed as follows. Based on professional background, the distribution of the 200 participants was as follows: 29 physicians (14.5%); 16 medical residents (8%); 70 nurses (35%), representing the majority of the sample; 14 psychologists (7%); 10 social workers (5%); 9 spiritual care providers/priests (4.5%); 11 physiokinetotherapists (5.5%); 7 nutritionists (3.5%); 11 physiotherapists (5.5%); 7 primary caregivers (3.5%); 9 specialised palliative care volunteers (4.5%); 4 pharmacists (2%); and 3 psychoeducators (1.5%).

The study employed a structured questionnaire designed to evaluate educational needs related to dementia care, professional exposure to patients with dementia, and several psychosocial variables (depression, anxiety, and self-esteem).

The first section assessed nine educational domains widely described in the international literature: Symptom and Pain Management, Dementia Care, Communication and Empathy,

Caregiver Support, Cultural and Ethical Aspects, Staff Resilience, Digital Tools and E-learning, Integration into the Healthcare System, and an additional open category for further suggestions.

For each domain, participants reviewed global examples, indicated whether the need was present in their country, and rated its importance on a 1–5 Likert scale.

Table 2.

	Educational Domain	Global Examples	Is this need present in your country?	Importance Level 1-5
1)	Symptom and Pain Management	Opioids, non-pharmacological therapies, agitation, chronic pain	Yes / No	Likert score (1–5)
2)	Dementia Care	Education for family caregivers, psychosocial support, adapted communication	Yes / No	Likert score (1–5)
3)	Communication and Empathy	End-of-life discussions, empathy, compassion	Yes / No	Likert score (1–5)
4)	Caregiver Support	Training for families, decision-making support	Yes / No	Likert score (1–5)
5)	Cultural and Ethical Aspects	Respect for religious values, ethical dilemmas	Yes / No	Likert score (1–5)
6)	Staff Resilience	Burnout prevention, psychological support	Yes / No	Likert score (1–5)
7)	Digital Tools and E-learning	Online platforms, VR, telemedicine	Yes / No	Likert score (1–5)
8)	Integration into the Healthcare System	Oncology, geriatrics, interdisciplinary models	Yes / No	Likert score (1–5)
9)	Other (free suggestions)		Yes / No	Likert score (1–5)

The second section included an item regarding professional exposure to patients with dementia. Participants were asked to estimate the number of patients with dementia they had cared for or advised during the previous month, using the following categories: no exposure, under 3 patients, 3–5 patients, 5–7 patients, and more than 7 patients.

Part 2 – Exposure to Patients with Dementia

Please estimate how many patients with dementia you had cared for/advised in the past month: No exposure; Under 3 patients; 3–5 patients; 5–7 patients; More than 7 patients.

Additionally, standardised instruments measuring depression, anxiety, and self-esteem were administered (Beck, Hamilton, Rosenberg).

3.7. Descriptive Findings

The mean age of the participants was 41 years, with a minimum age of 22 and a maximum of 60 years. With respect to gender, 38% (n = 76) identified as male and 62% (n = 124) as female. A total of 154 participants (77%) reported living in urban areas, while 46 (23%) originated from rural settings.

Exposure to dementia was measured on a five-point scale, reflecting the number of patients with dementia cared for or counselled in the past month: 1 = no exposure or fewer than 3 patients, 2 = 3–5 patients, 3 = 5–7 patients, 4 = more than 7 patients, and 5 = highest exposure. As shown in Table 3, no participants fell in category 1, and most respondents reported moderate to high levels of recent exposure (categories 2–5), with a mean of 3.43.

Regarding exposure to dementia, 169 participants (84.5%) reported having contact with individuals with dementia at some point in their professional or personal life. However, when considering recent exposure (within the past month), 31 participants (15.5%) reported no exposure. According to Table 3, the majority of respondents reported moderate to high levels of exposure (categories 3–5), with exposure levels ranging from category 2 to 5 (mean = 3.43).

Table 3. Frequency distribution of exposure levels

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	33	16.5	16.5	16.5
	3	84	42.0	42.0	58.5
	4	47	23.5	23.5	82.0
	5	36	18.0	18.0	100.0
	Total	200	100.0	100.0	

From a frequency perspective, the highest number of participants fell within exposure category 3 (n = 84, 42.0%). This was followed by category 4 (n = 47, 23.5%), category 5 (n = 36, 18%), and category 2 (n = 33, 16.5%).

Table 4. Psychosocial measures

		Depression	Anxiety	Self-esteem
N	Valid	200	200	200
	Missing	0	0	0
Mean		17.17	9.82	32.81
Minimum		4	2	15
Maximum		48	28	40

The standardised scales yielded the following results: Depression: mean = 17.17, minimum = 4, maximum = 48; Anxiety: mean = 9.82, minimum = 2, maximum = 28; Self-esteem: mean = 32.81, minimum = 15, maximum = 40. These mean values correspond to mild-to-moderate depressive symptoms, mild anxiety, and moderate self-esteem within the sample.

Table 5. Professional Differences

Group		Depression	Anxiety	Self-esteem	Number 2
Physicians	Mean	17.34	7.62	27.66	3.66
	N	29	29	29	29
	Std. Deviation	10.675	2.678	4.813	1.203
Medical residents	Mean	10.81	6.81	33.06	4.06
	N	16	16	16	16
	Std. Deviation	2.834	2.198	3.785	.998
Nurses	Mean	21.41	14.89	33.09	3.47
	N	70	70	70	70
	Std. Deviation	6.033	6.963	2.938	1.213
Psychologists	Mean	18.43	7.07	35.57	3.71
	N	14	14	14	14
	Std. Deviation	3.631	2.093	.646	.825
Social workers	Mean	19.20	7.10	34.50	3.40
	N	10	10	10	10
	Std. Deviation	2.440	1.101	1.269	1.174
Spiritual care providers / chaplains	Mean	18.22	6.44	35.33	3.56
	N	9	9	9	9
	Std. Deviation	2.906	2.007	1.323	1.130
Physiokinetotherapists	Mean	18.55	8.09	35.73	3.64
	N	11	11	11	11
	Std. Deviation	14.390	1.136	2.195	1.120
Nutritionists / Dietitians	Mean	9.86	6.71	36.86	3.43
	N	7	7	7	7
	Std. Deviation	3.024	1.704	1.464	1.397
Physiotherapists	Mean	11.27	6.73	37.82	3.45
	N	11	11	11	11
	Std. Deviation	2.611	1.679	1.168	1.128
Primary caregivers (family members or close relatives)	Mean	10.86	6.86	27.71	3.71
	N	7	7	7	7
	Std. Deviation	1.464	1.345	3.904	1.113

Specialised palliative care volunteers)	Mean	10.33	6.44	32.44	3.56
	N	9	9	9	9
	Std. Deviation	1.803	.882	3.245	1.014
Pharmacists involved in therapeutic consultation	Mean	10.75	6.00	35.00	3.00
	N	4	4	4	4
	Std. Deviation	3.202	1.155	2.000	1.155
Psychoeducators/Occupational therapists	Mean	12.00	7.67	20.00	3.00
	N	3	3	3	3
	Std. Deviation	2.646	2.517	4.000	1.000
Total	Mean	17.17	9.81	32.81	3.57
	N	200	200	200	200
	Std. Deviation	7.796	5.766	4.447	1.132

Table 6. Spearman Correlations (Psychosocial Variables)

			Nr.2	Depresie	Anxietate	Stima de sine
Spearman's rho	Number 2	Correlation Coefficient	1.000	-,005	-,036	-,007
		Sig. (2-tailed)	.	,946	,617	,918
		N	200	200	200	200
	Depression	Correlation Coefficient	-,005	1,000	,323**	-,148*
		Sig. (2-tailed)	,946	.	,000	,037
		N	200	200	200	200
	Anxiety	Correlation Coefficient	-,036	,323**	1,000	-,148*
		Sig. (2-tailed)	,617	,000	.	,037
		N	200	200	200	200
	Self-esteem	Correlation Coefficient	-,007	-,148*	-,148*	1,000
		Sig. (2-tailed)	,918	,037	,037	.
		N	200	200	200	200

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

When examined by profession, the highest and lowest mean scores for the four variables were as follows: Depression: highest among nurses (mean = 21.41), lowest among specialised palliative care volunteers (mean = 10.33); Anxiety: highest among nurses (mean = 14.89), lowest among pharmacists (mean = 6.00); Self-esteem: highest among physiotherapists (mean = 37.82), lowest among psychoeducators (mean = 20.00); Item 2 (educational needs importance): highest among the medical residents(mean = 4.06), lowest among pharmacists (mean = 3.00)

Spearman's correlation analysis revealed that the associations between Item 2 and depression, anxiety, and self-esteem were negative ($r = -0.005$; $r = -0.036$; $r = -0.007$), but none reached statistical significance ($p > 0.05$). However, significant associations were observed among the three psychosocial variables: depression and anxiety: $r = 0.323^{**}$, $p < 0.01$; self-esteem and depression: $r = -0.148^{*}$, $p < 0.05$; self-esteem and anxiety: $r = -0.148^{*}$, $p < 0.05$; These findings indicate that higher levels of self-esteem are associated with lower levels of depression and anxiety.
Correlation Between Dementia Exposure and Educational Item

Table 7.

			Item 2	Exposure to patients with dementia
Spearman's rho	Item 2	Correlation Coefficient	1.000	
		Sig. (2-tailed)	.	
		N	200	200
	Exposure to patients with dementia	Correlation Coefficient	.792**	1.000
		Sig. (2-tailed)	.000	.
		N	200	200

**. Correlation is significant at the 0.01 level (2-tailed).

Spearman's correlation also showed a strong, statistically significant association between exposure to dementia and Item 2 ($r = 0.792^{**}$, $p < 0.01$). Thus, greater exposure to patients with dementia was associated with higher ratings on Item 2.

4. Discussion

The findings from the reviewed studies underscore the multifaceted nature of palliative care and the importance of targeted interventions to address specific needs. Pain management remains a cornerstone of palliative care, with studies demonstrating that educational programmes for both patients and healthcare providers can significantly improve pain management outcomes. Notably, the empowerment of patients and caregivers through self-care strategies has emerged as an effective approach to enhance their quality of life.

Dignity in care, particularly for end-of-life patients, requires careful attention to emotional and social dimensions. The reviewed studies highlight the role of caregivers and healthcare professionals in preserving dignity by ensuring adequate emotional support and resource availability. These findings suggest the need for policies and practices that prioritise dignity as a fundamental aspect of palliative care.

In the context of dementia education, innovative approaches such as theory-guided frameworks and virtual reality simulations have proven to be effective in enhancing caregiver preparedness and reducing the burden. The success of these interventions points to the value of incorporating advanced technologies and tailored educational strategies in palliative care programmes.

Overall, this review illustrates the diversity of research in palliative care, emphasising the need for interdisciplinary collaboration and continued innovation to address the evolving challenges faced by patients, caregivers, and healthcare providers.

Although all 56 studies included in this review report unmet needs in palliative care education, far fewer evaluate the effectiveness of implemented interventions. Only 31 studies assess pre- and post-intervention outcomes, and even fewer describe fully implemented programmes beyond pilot or exploratory stages. This imbalance highlights a persistent gap between identifying educational needs and translating them into scalable, evaluated palliative care education programmes. (31). These unmet needs predominantly focus on gaps in addressing patients' physical, emotional, and psychological challenges. Moreover, only a modest number of studies have successfully implemented training interventions, such as distributing informational materials, updating internal protocols, or designing educational programmes. Many of these efforts were limited in scope, often depending on volunteer contributions, which further underscores the challenges in achieving systematic implementation.

Additionally, 39 studies highlighted the importance of education and training, either by assessing current levels of expertise or emphasising the need for further development. However, the limited number of trained participants reflects a significant gap in scaling and sustaining educational programmes. As the prevalence of chronic progressive diseases rises alongside ageing populations, there is an urgent need for broader initiatives. These should include large-scale training programmes, robust evaluations of educational outcomes, and stronger healthcare system engagement to meet the growing demands for palliative care in the future.

These findings underscore the need for a more robust approach to education and intervention strategies in palliative care. With progressive chronic diseases on the rise due to an ageing global population, there is an increasing demand for comprehensive training initiatives and scalable solutions. Expanding efforts to include broader participation, rigorous evaluations, and institutional support is essential to meet the growing needs of this critical field.

The findings of this study highlight several important aspects of dementia-related educational needs and psychosocial functioning among Romanian healthcare professionals and other individuals involved in patient care. Overall, the high proportion of participants reporting exposure to dementia (84.5%) may reflect the increasing prevalence and visibility of dementia in Romania, consistent with international trends. The mean exposure score and its distribution across categories indicate that a large segment of the workforce is frequently confronted with dementia-related challenges, underscoring the relevance of evaluating educational preparedness in this area.

Participants rated educational needs across multiple domains, and the strong correlation between dementia exposure and the perceived importance of these domains suggests that direct clinical experience increases awareness of knowledge gaps and the necessity for structured training. This pattern aligns with previous research showing that greater exposure to dementia enhances the recognition of unmet care competencies, including communication strategies, symptom management, and ethical decision-making.

Regarding psychosocial indicators, the results reveal mild-to-moderate levels of depression and mild anxiety across the sample, with moderate self-esteem. These findings may be influenced by the emotional and cognitive demands associated with caring for vulnerable patient populations. The significant correlations observed—higher depression and anxiety being linked to lower self-esteem—mirror established psychological models and reinforce the need for interventions addressing staff well-being. Such findings emphasise that training programmes in dementia care should be coupled with resources aimed at strengthening resilience and reducing burnout risk.

Differences across professional groups offer further insight into the specific vulnerabilities and strengths of various care providers. Nurses, who reported the highest levels of depression and anxiety, may experience increased emotional burden due to frequent direct contact with patients and families. Conversely, physiotherapists and volunteers in palliative care displayed higher self-esteem and lower distress, which may reflect differences in job role, workload, perceived autonomy, or training. These disparities highlight the importance of tailoring educational interventions not only to clinical content but also to professional background and psychosocial needs.

The strong, significant correlation between dementia exposure and the key educational item suggests that individuals who frequently encounter dementia perceive training as more essential. This relationship reinforces the argument for mandatory continuing education in dementia care, particularly in Romania, where structured dementia care curricula remain limited and unevenly implemented across professions.

Taken together, the results demonstrate a clear need for comprehensive, multidisciplinary training programmes that address both clinical competencies and emotional resilience. Given Romania's evolving demographic and healthcare landscape, implementing targeted educational initiatives may improve care quality, reduce caregiver burden, and enhance the preparedness of the workforce to manage the growing number of individuals living with dementia.

4.1. Summary of Main Findings

This scoping review identified 56 studies published in 2024 that explore various dimensions of palliative care education (PCE). Two key domains emerged from the analysis: (1) needs assessments and feasibility studies, and (2) interventions addressing those identified needs. The programmes primarily targeted healthcare professionals, followed by family caregivers, and less frequently, students, patients, or volunteers. Educational methods varied, including traditional teaching, eLearning, on-the-job training, and technology-enhanced interventions such as virtual reality. Across the majority of studies, PCE was associated with improvements in knowledge, attitudes, confidence, and satisfaction among participants.

The study indicates a high level of dementia exposure among Romanian healthcare professionals, which is strongly associated with increased recognition of educational needs across key competency domains. Psychosocial indicators revealed mild-to-moderate levels of depression and mild anxiety, negatively correlated with self-esteem, with notable variations across professional groups.

4.2. Strengths and Limitations

A major strength of this review is the inclusion of a wide range of international sources covering 33 countries, offering a global perspective on current trends in palliative care education. Additionally, the review incorporated both qualitative and quantitative data, enhancing the

comprehensiveness of the synthesis. However, limitations include the restriction to open-access articles published in English and indexed in PubMed, potentially excluding relevant studies. Another limitation is the subjective grouping of studies by thematic area, which may influence the interpretive lens. Lastly, as a scoping review, this study did not perform quality appraisal or meta-analysis.

Strengths include the heterogeneous sample encompassing multiple care-provider categories and the integrated assessment of both educational needs and psychosocial functioning across 12 subgroups.

Limitations relate to the cross-sectional design, which precludes causal inference, and the reliance on self-report measures, which may introduce response bias. In addition, the distribution of respondents across twelve subgroups resulted in several categories with very small sample sizes. Such uneven subgroup composition limits the applicability of both parametric and non-parametric statistical tests, as subcritical sample sizes increase the risk that the responses of one or very few individuals disproportionately influence subgroup estimates. Consequently, results pertaining to these smaller categories should be interpreted with appropriate caution.

4.3. Contribution to International Literature

This study contributes to the growing global literature on palliative care education by providing an up-to-date map of educational needs, programme formats, and target audiences. Compared to prior reviews, this work highlights a notable shift towards digital learning tools and community-based educational models. The review confirms and expands on findings from earlier studies by emphasising the importance of cultural competence, interdisciplinary collaboration, and the inclusion of family caregivers and non-clinical personnel in training initiatives.

The study contributes novel evidence from an underrepresented Eastern European context, enriching global understanding of dementia-related training needs and workforce well-being.

It reinforces international findings on the link between clinical exposure, perceived competency gaps, and psychological outcomes, thereby supporting the broader applicability of these patterns.

4.4. Implications for Practice and Policy

The findings underscore the critical role of tailored education in addressing disparities in palliative care access and delivery. Policymakers should consider integrating PCE into national training frameworks and encouraging cross-sector collaboration. Practical implications include the adoption of modular, scalable training programmes, especially in under-resourced settings. Future programmes should prioritise not only clinical content but also communication skills, ethical considerations, and culturally sensitive approaches. To support sustainability, it is essential to institutionalise palliative care education within both formal curricula and continuing professional development systems. Regarding future research, studies should aim to address the gaps identified in this review by exploring underrepresented areas such as cultural barriers and interdisciplinary approaches in palliative care. Additionally, longitudinal studies assessing the long-term impact of educational programmes and interventions are needed. Integrating advanced technologies, such as virtual reality and telehealth solutions, could further enhance the accessibility and effectiveness of palliative care education and delivery.

The results underline the necessity for standardised, multidisciplinary dementia training programmes tailored to professional roles and psychosocial vulnerabilities. Policymakers should prioritise national strategies that integrate educational development with staff well-being initiatives to enhance dementia care capacity within Romania’s evolving healthcare system.

5. Conclusions

This scoping narrative review synthesises findings from studies addressing critical needs in palliative care. Grouping articles based on their focus areas highlights the breadth of research and interventions in pain management, dignity, and dementia education, providing valuable insights for healthcare practitioners and policymakers.

Further research could expand on additional thematic categories, such as cultural barriers, interdisciplinary collaboration, and educational innovations. Future research should focus on evaluating programme outcomes and exploring innovative delivery methods to overcome existing barriers.

Palliative care education programmes play a crucial role in equipping healthcare professionals, caregivers, and patients with the skills and knowledge necessary for effective care delivery. By addressing pain management, communication, cultural competence, and systemic integration, these programmes support holistic care for individuals with chronic and life-limiting conditions.

The study highlights substantial educational gaps and psychosocial challenges among individuals frequently involved in dementia care, underscoring the urgency of comprehensive training reforms. Strengthening both clinical competencies and emotional resilience is essential for improving care quality and ensuring a prepared and sustainable dementia care workforce.

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Annex 1: Overview of the studies reviewed

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Nr	Citation	Country	Target Audience / Participants	Need Addressed	Type of Research	Participants	DOI
1	Lu et al., 2024	China	Hospice and palliative	Multiple/legal	Report / Unknown	No information	10.1016/j.apjon.2024.100385
2	Staats et al., 2024	Norway	Family caregivers	Dignity and loss of dignity	Analytical techniques / Unknown	24	10.1177/09697330241241773
3	Jack-Waugh et al., 2024	Scotland - United Kingdom	Facilitators and family caregivers	Dementia education	Theory-guided approach	13	10.3390/healthcare12202096
4	Biesiada, Ciałkowska-Rysz, & Mastalerz-Migas, 2024	Poland	Primary care physicians	Opioid treatment / therapy	Online questionnaire	724	10.3390/healthcare12020217
5	Bico et al., 2024	Portugal	Family caregivers and patients	Pain management	Quasi-experimental study	19	10.1016/j.pmn.2024.03.001
6	Nishimura et al., 2024	33 countries	Stakeholders in dementia care	Palliative care goals model	Expert opinion / focus group	107	10.1177/02692163241234579
7	Byrne et al., 2024	Multiple	Healthcare practitioners	Empathy, compassion, person-centred communication	Analytical techniques / Unknown	No information	10.1016/j.pec.2023.108063
8	Xie et al., 2024	China	Family caregivers of dementia patients	Impact of internet-based training	Educational programme	72	10.2196/50847
9	Salins et al., 2024	Multiple	Intensive care units personnel	Palliative care needs - reliable care framework	Analytical techniques / Unknown	No information	10.1007/s00134-024-07565-7
10	Quaidoo et al., 2024	Ghana	Physicians	Referral to palliative care services	Analytical techniques	153	10.1186/s12904-024-01411-9
11	Starr et al., 2023	USA	Rural hospice family caregivers	Ready2Care pain management education intervention for rural HFCGs	Analytical techniques	15	10.1177/10499091231191114
12	Tsang et al., 2024	USA	Oncology practice +palliative care	Integration of palliative care into routine oncology practice	Communities of Practice	No information	10.1200/EDBK_100047

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Nr	Citation	Country	Target Audience / Participants	Need Addressed	Type of Research	Participants	DOI
13	Huang et al., 2024	Taiwan	Nurse practitioners and family caregivers of dementia patients	Effectiveness of a health education programme for people with dementia and their family caregivers	Health education programme	250	10.1016/j.apnu.2024.03.018
14	Harhara et al., 2024	United Arab Emirates	Emergency medicine residency	Educational curriculum on palliative care policies and practices	EM residency programmes	No information	10.1186/s12245-024-00643-z
15	Murphy et al., 2024	Canada	Medical graduates	Medical education curriculum	Medical education curriculum	No information	10.1186/s12909-024-05082-1
16	Salikhanov et al., 2024	Kazakhstan	Palliative stakeholders, family caregivers, healthcare professionals	Challenges of palliative care in resource-limited settings	Report	29	10.1016/j.jcpo.2024.100474
17	Yoong et al., 2024	Singapore	Nursing students	Perspectives and learning experiences in palliative and end-of-life care simulation program	Programme	75	10.1016/j.nedt.2024.106103
18	Vega-Mendoza et al., 2024	Scotland	People living with dementia and their family carers	Feasibility and tolerability of 2-week Italian courses for PLWD	Exploratory study	19	10.3390/healthcare12070717
19	Rawlings et al., 2024	Australia	Pediatric end-of-life care workers	Evaluation of an online education module	Online education module	507+	10.1177/13674935221076214
20	Younis & Hamdan-Mansour, 2024	Jordan	Medical students	Knowledge and attitude towards palliative care	Evaluation	404	10.1186/s12904-023-01338-7
21	Campillejo et al., 2024	Spain	Primary care	Implementation of a virtual community of practice	12-month web-based educational	No information	10.1136/bmjopen-2024-084937
22	Shaban et al., 2024	Egypt	Nurses	Cultural and institutional barriers to pain expression	Expert opinion / Focus group	12	10.1186/s12912-024-02523-6
23	Chao et al., 2024	Taiwan	Medical students	Enhancing understanding of end-of-life care ethics and law	Video-triggered expert-led debriefing	157+	10.1186/s12909-024-06304-2
24	Camara, Rosengarten, & Callum, 2024	United Kingdom	Nursing students	Experiences in providing end-of-life care for children	Focus groups	9	10.1016/j.nedt.2024.106147

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Nr	Citation	Country	Target Audience / Participants	Need Addressed	Type of Research	Participants	DOI
25	Jiang et al., 2024	China	Nursing students	Impact of clinical internship experience on attitudes towards death and end-of-life care	Observational design	96	10.1002/nop2.2214
26	Brazil et al., 2024	Multiple countries	Family carers, nursing home staff, health providers	Supportive relationships and intervention value	Communities of Practice	296	10.1093/geront/gnae007
27	Park et al., 2024	Puerto Rico	Family caregivers	Symptom management, cultural and religious values	Communities of Practice	8+	10.21037/apm-24-24
28	Wicaksono et al., 2024	Indonesia	Patients, family caregivers, and health professionals	Navigation and challenges in palliative care	Communities of Practice	49+	10.1177/02692163241287640
29	O'Neill et al., 2024	UK, Ireland	Health and social care professionals	Adapting and testing an eLearning resource for families	Communities of Practice	13	10.1186/s12904-024-01601-5
30	Dalgarno et al., 2024	Canada	Medical students	Undergraduate medical education in pain management and substance use disorder	Curriculum	Approx. 17,737	10.1186/s12909-024-05181-z
31	Guo et al., 2024	China	Family caregivers	Interest in telemedicine-based services	Telemedicine-based services	14	10.1186/s12904-024-01347-0
32	Chang & Do, 2024	Korea	Nursing education programs	Gerontological nursing intervention training	Educational instructional approach	30	10.1186/s12909-024-05240-5
33	He et al., 2024	China	Nursing students	Education curriculum using the Dedicated Education Unit model	Report	204	10.1016/j.nedt.2023.106080
34	Campling et al., 2024	UK	Paramedics	First national survey of paramedic practice and experiences	Report	920	10.1186/s12904-024-01629-7
35	Masters et al., 2024	USA	All beneficiaries	Communicating the benefits of palliative care beyond end-of-life support	Report	635	10.1177/26323524241263109
36	Campbell et al., 2024	USA	Curriculum beneficiaries	Integrating an interventional pain management curriculum in Hospice and Palliative Medicine training	Feasibility study	4	10.1177/10499091241268597

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Nr	Citation	Country	Target Audience / Participants	Need Addressed	Type of Research	Participants	DOI
37	Garmon et al., 2024	USA	All employee beneficiaries	Effectiveness of the ABCDEF method for developing pain management resource	Scoping report	No information	10.1080/08998280.2023.2299889
38	Saurabh, Ranjan, & Patel, 2024	India	Medical students	Evaluation of perceptions, knowledge, and attitudes about people with disabilities	Cross-sectional study	197	10.7759/cureus.53878
39	Hansen & Netzel, 2024	USA	Nursing and medical students	Comfort, communication, time together, forgiveness/reconciliation	Educational instructional approach	156	10.1016/j.profnurs.2024.06.015
40	Morasco et al., 2024	USA	Rural caregivers	Effectiveness of a remotely delivered collaborative care intervention for veterans with chronic pain	Pragmatic effectiveness trial protocol	608	10.1093/pm/pnae075
41	Rufener et al., 2024	Switzerland	Primary care physicians	Management of chronic non-cancer pain	Exploratory qualitative descriptive study	10	10.1371/journal.pone.0307701
42	Yildiz et al., 2024	Netherlands, Norway, Slovenia, Spain	End-of-life care volunteers	Implementing end-of-life care volunteering	Scoping report	8	10.1186/s12904-024-01423-5
43	Juhrmann et al., 2024	Australia	Paramedics	Perspectives on improving paramedics' provision of palliative care	Scoping report	50	10.1136/bmjopen-2024-086557
44	Marin et al., 2024	USA	Medical students	Partnership in cancer research	Scoping report	12	10.1007/s13187-023-02383-9
45	Cunningham et al., 2024	USA	Educators, school nurses, social workers	Pediatric pain assessment and intervention	Scoping report	71	10.3390/children11111318
46	Perzhinsky et al., 2024	USA	Resident physicians, FNP, PA students	Responding to the opioid crisis	Pilot curriculum	25	10.7759/cureus.67292
47	Alsalem et al., 2024	Saudi Arabia	Primary healthcare physicians	Dementia knowledge	Scoping report	151	10.7759/cureus.61112
48	Andrews et al., 2024	Indonesia	Primary healthcare physicians	Dementia knowledge	Scoping report	76	10.33546/bnj.3457

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Nr	Citation	Country	Target Audience / Participants	Need Addressed	Type of Research	Participants	DOI
49	Felber et al., 2024	Switzerland	Healthcare professionals, medical students, family caregivers	Evidence-based model for communication in end-of-life care	Focus group, theory-guided approach	30	10.1016/j.pecinn.2024.100309
50	Abaatyo, Nyemara, & Ashaba, 2024	Uganda	Health professionals	Attitudes towards people with mental illness	Cross-sectional study	254	10.1371/journal.pone.0313153
51	Morganti et al., 2024	Italy	Dementia caregivers	Virtual reality-based psychoeducation for dementia caregivers	VR application	36	10.3390/brainsci14090852
52	Sun et al., 2024	Canada	Dementia caregivers	Virtual reality programs for people with dementia and caregivers	Virtual programs	25	10.1186/s12877-024-05375-6
53	Alotaibi, 2024	Saudi Arabia	Nursing students	Knowledge and attitudes towards Alzheimer's disease	Undergraduate nursing students	447	10.7759/cureus.61444
54	Den Hamer-Jordaan et al., 2024	Dutch	Community nurses	Supporting healthy lifestyles	Online questionnaire	244	10.1186/s12912-024-02403-z
55	Katzman et al., 2024	USA	Behavioural health providers	Improving mental health among health professionals	Workforce resilience programme	1585 course attendees	10.3390/healthcare12171741
56	McErlean et al., 2024	Ireland	General practice	Quality of care in atrial fibrillation	Observational cross-sectional pilot study	11 practices	10.1093/fampra/cmae001