

R E V I E W

Nursing education in Albania and global trends: Systematic review of clinical competence and health literacy

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Abstract. *Background and aim:* Nursing education is essential for preparing skilled health professionals capable of addressing public health challenges effectively. In Albania, aligning with international standards has brought significant changes to the nursing education system, yet challenges persist due to limited resources and the demand for diversified competencies. Comparing Albania's nursing education system with international experiences can provide valuable insights for enhancing its quality. This review addresses the research question: How can international nursing education models be effectively adapted to enhance nursing education in Albania and address challenges in developing professional competencies? *Methods:* A systematic review was conducted on databases PubMed, Scopus, CINAHL, Web of Science, PsycINFO, and ProQuest, covering the period from 2014 to 2024. Peer-reviewed studies in English and Albanian focusing on educational models, professional skills, and nursing education in Albania or globally were included. Study quality was assessed using the CASP criteria. *Results:* Seven studies were selected, highlighting critical aspects of nursing education, including health literacy, professional self-efficacy, clinical skills, guideline adoption, and e-learning programs. Findings indicate that effective nursing education should integrate health literacy to enhance patient communication, leverage online learning to address geographical disparities, and diversify clinical experiences to prepare nurses for complex healthcare environments. *Conclusions:* This review underscores the importance of evidence-based educational frameworks and standardized guidelines for advancing nursing education in Albania. The adoption of international strategies, such as incorporating health literacy and e-learning, can enhance educational outcomes, improve the quality of care, and foster a more resilient healthcare system capable of meeting population needs. (www.actabiomedica.it)

Key words: nursing education, albania, health literacy, clinical competence, e-learning in healthcare, comparative study, systematic review

Introduction

Nursing education is a fundamental pillar for the preparation of qualified health professionals, capable of responding effectively to the health needs of populations and contributing to the improvement of health services (1). This is particularly relevant in countries such as Albania, where the healthcare sector is developing and the need for competent and well-trained nurses is crucial to address emerging challenges in healthcare. In Albania, as in many developing

countries, the nursing education system has undergone significant transformations in recent years, in an attempt to adapt to international standards and to ensure a level of quality that meets European and global expectations. However, specific challenges remain that reflect the cultural, economic, and institutional characteristics of the country, while offering unique opportunities for improvement (2).

The importance of quality nursing education is highlighted by the increasing investments and reforms that are being implemented globally to improve

educational standards (3). Nursing education not only helps build technical skills but also develops analytical, communication, and management skills that are essential to a nurse's daily work in complex and rapidly changing settings (4,5). In many advanced countries, the training of nurses provides for a high degree of specialization and continuous training, in order to ensure that healthcare professionals are always up-to-date on the latest practices based on scientific evidence (6,7). In recent years, Albania has also taken steps to align with European directives in the field of nursing education, adopting practices and models that have been successfully tested in other international contexts (8). However, significant differences remain compared to other countries, due to factors including the economic context, available resources, government policies, and cultural traditions. These differences are manifested, for example, in the quality and quantity of educational resources available, in the opportunities for practical training, and in the structure of educational programs, which often fail to fully respond to the needs of the Albanian population (9). This review aims to examine the evolution of nursing education in Albania and to compare it with international experiences, with the aim of highlighting similarities and differences and identifying potential areas for improvement. Through this literature review, we seek to understand how successful educational models applied in other countries can be adapted to the Albanian context to improve the quality of nursing education and, consequently, of the health services offered to the population. This type of comparison is particularly useful because it allows for the identification of effective approaches that could solve some of the current challenges of the nursing education system in Albania. A crucial aspect that emerges from the literature is that nursing education plays a fundamental role not only in the technical training of nurses but also in the promotion of ethical, relational, and professional values that are essential for clinical work. In Albania, however, the evolution of nursing education faces many challenges, including the need to improve the quality of academic training, fill infrastructure gaps, and ensure an adequate level of skills among nursing professionals. Added to this is the difficulty of attracting qualified human resources and retaining nurses within the national health system, as many of them choose to migrate to other countries

in search of better professional opportunities (10). The integration of international experiences in the field of nursing education offers a unique opportunity to improve training standards in Albania, aiming at an alignment with European and global practices. Educational models adopted in countries with advanced health systems, such as those in Northern Europe and the United States, can serve as an example for improving curricula and training practices (11). For example, many international nursing programs place a significant emphasis on hands-on clinical training and the development of leadership and management skills, aspects that could benefit from increased attention in Albania (2). In recent years, Albania has implemented significant reforms in both the health and education sectors, in an effort to improve the skills of nurses and raise the quality of care provided. However, compared to other European countries, limited resources and the lack of continuing education programs are obstacles that prevent the full development of the nursing sector. Continuous training is an essential aspect of keeping healthcare personnel up-to-date on the latest innovations and clinical practices, and its absence represents a major gap in the Albanian healthcare system (12). In this context, the aim of the present literature review is to explore international nursing educational experiences, compare them with the current situation in Albania, and identify best practices that can be adapted to the Albanian context. In particular, the review focuses on educational models adopted in countries with limited resources, which face challenges similar to those of Albania and which have developed innovative strategies to overcome economic and logistical difficulties. Such strategies include, for example, the use of practical simulations, mentoring programs, and collaborations between health and educational institutions to strengthen students' clinical competencies (13). Another relevant aspect that emerges from the literature is the need for nursing education that takes into account the specific needs of local populations (14). Albania, with its geographical and socio-economic peculiarities, needs a nursing education system that trains professionals capable of operating in rural and remote contexts, where access to health services is often limited (15). In these areas, nurses must be able to handle complex clinical situations with limited resources, and for this reason, it is crucial that they receive practical

training geared towards concrete problem-solving and self-employment (16,17). The adoption of modern nursing education models is therefore crucial to cope with the growing needs of the population, especially in rural and remote areas of Albania, where access to health services is limited (18). Another important factor is training in emergency and crisis management, an aspect that becomes essential in contexts where medical resources are scarce, and the timely intervention of nurses can make the difference between life and death (19). Consequently, it is necessary to integrate elements of practical clinical training into nursing curricula, with a focus on the development of critical and analytical skills, so as to prepare nurses capable of dealing with high-intensity situations (20).

The present literature review focuses on the following aspects:

- The current structure of nursing education in Albania.
- The main challenges faced by nursing education programs, including lack of resources, the need for continuing education, and the exodus of professionals to other countries.
- The applicability of international models for improving the quality of nursing education in resource-limited settings.

The analysis of international experiences can provide valuable insights for the development of innovative educational policies in Albania, aimed at creating a sustainable and high-quality nursing education system (21). Nursing education in Albania is at a turning point, where opening up to international models and adapting proven practices in similar contexts can represent a significant turning point for the national health system. However, to achieve lasting results, it will require concerted efforts from the government, educational institutions, and health organizations to overcome existing barriers and ensure that Albanian nurses receive the training they need to operate successfully both nationally and internationally (22).

This review aims to answer the following research question structured according to the PICO framework:

- Population: Nurses or nursing students in Albania and in international contexts of comparison.

- Intervention: Methods and models of nursing education, including specific skills such as health literacy and standardized protocols.
- Comparison: Educational models and clinical practices used in international contexts with respect to nursing education in Albania.
- Outcome: Improvement of clinical skills, management skills, and comprehensive training of nurses to adequately respond to health needs.

Materials and Methods

To ensure the identification of strategies applicable to Albania, this review included studies from both the Balkan region and broader international contexts. While some countries included, such as Ireland, Austria, and Canada, may not share Albania's socio-economic conditions, their nursing education systems offer innovative strategies that could be adapted to the Albanian context. Specifically, international experiences were selected based on their relevance to challenges faced in Albania, including resource limitations, geographical disparities, and the need for continuous professional development. This approach ensures that the review identifies effective practices that can support the ongoing development of nursing education in Albania. To conduct a comprehensive review of the literature on nursing education in Albania and international experiences, a systematic methodology covering a period of 10 years, from 2014 to 2024, was adopted. The 10-year time frame (2014-2024) was selected to balance comprehensiveness with relevance, capturing recent developments in nursing education while reflecting key reforms in Albania's healthcare and education sectors. This time frame ensures that the review focuses on studies that are both current and historically significant. The goal of this extended period is to ensure a broader historical view and capture the significant evolutions in the field of nursing education in Albania, as well as the international trends of relevance. The review was carried out with strict selection criteria to identify high-quality studies, which offer an accurate comparison between the Albanian context and international experiences. To reduce publication bias and obtain a complete representation of the available data, the research was extended to sources of grey literature,

including government reports, dissertations and institutional documents relevant to nursing education. This choice has made it possible to include studies that would otherwise not be published in the main peer-reviewed journals, but which offer significant contributions to the understanding of educational practices and models applicable to the Albanian context.

Sources and databases used

The research was carried out using a wide range of databases, to ensure comprehensive coverage of the studies published on the subject. The main sources used include PubMed, Scopus, CINAHL, Web of Science, PsycINFO, and ProQuest, each of which provides access to reliable, peer-reviewed scientific literature in the fields of nursing, healthcare, and social sciences. Each database was chosen for its potential to cover specific and multidisciplinary aspects of nursing education, such as the effectiveness of educational models, practical training, and the influence of health and social policies on nursing curricula.

Search strategies

To ensure the relevance of the results, specific search strategies strings combined with Boolean operators (AND, OR) were used to refine the search across databases. Search strategies used for database investigation include:

- “nursing education” OR “nursing training” OR “healthcare education” OR “health sciences education” AND “Albania” OR “Balkan region” OR “Southeast Europe” OR “Europe” AND “international comparison” OR “education models” OR “global standards”
- “nursing education models” AND “clinical training” AND “Albania” AND “Europe”
- “nursing education standards” OR “curriculum development” OR “competency-based education” AND “healthcare reform”
- “healthcare education reform” AND “nursing” AND “Albania” OR “Balkan region”
- “comparative study” AND “nursing education” AND “Europe” OR “global perspectives”

These strings have been tailored to the specific requirements of each search platform to maximize the relevance of the results. The use of specific keywords, such as “nursing education models” and “clinical training”, made it possible to isolate studies that provide a direct comparison between Albania and other countries. The use of Boolean operators further refined the results, reducing the number of irrelevant studies and increasing the accuracy of the search (Table 1). The search strategies were designed to align with the key components of the PICO framework, focusing on the population (nursing students or nurses), interventions (education models and training), and outcomes (competency development). These strategies ensured that relevant studies addressing the research question were identified. Although the search strategies were initially developed based on the research team’s expertise and established guidelines, we acknowledge the potential benefits of involving a librarian or an expert documentalist, and future reviews will consider this approach to further optimize comprehensiveness and accuracy. The search covered both indexed literature from databases such as PubMed, Scopus, CINAHL, Web of Science, PsycINFO, and ProQuest, and grey literature. Grey literature was retrieved through targeted searches in institutional repositories, government reports, and conference proceedings. Additionally, a snowball search of references from relevant studies was conducted to capture additional resources, ensuring a comprehensive collection of relevant evidence for the review.

Inclusion and exclusion criteria

The inclusion criteria covered empirical and theoretical studies focusing on nursing education models and training, including quantitative, qualitative, and mixed-method designs. Eligible studies were those published between 2014 and 2024, in English or Albanian, and providing evidence related to educational strategies, competency development, and nursing curricula. Studies that were not peer-reviewed, lacked a direct focus on nursing education, or were published in languages other than English or Albanian were excluded. Grey literature, including institutional reports, government documents, and conference proceedings,

Table 1. Database Search Strings.

Database	Search Strings	Record
PubMed	("nursing education" OR "nursing training" OR "health education" OR "health sciences education") AND ("Albania" OR "Balkan countries" OR "Southeast Europe" OR "Europe") AND ("education reform" OR "curriculum development" OR "educational standards" OR "clinical skills" OR "professional competencies")	30
Scopus	TITLE-ABS-KEY("nursing education" OR "nursing training" OR "health education" OR "health sciences education") AND TITLE-ABS-KEY("Albania" OR "Balkan countries" OR "Southeast Europe" OR "Europe") AND TITLE-ABS-KEY("education reform" OR "curriculum development" OR "educational standards" OR "clinical skills" OR "professional competencies")	60
CINAHL	("nursing education" OR "nursing training" OR "healthcare education" OR "health sciences education") AND ("Albania" OR "Balkan countries" OR "Southeast Europe" OR "Europe") AND ("education reform" OR "curriculum development" OR "educational standards" OR "clinical skills" OR "professional competencies")	60
Web of Science	TS=("nursing education" OR "nursing training" OR "healthcare education" OR "health sciences education") AND TS=("Albania" OR "Balkan countries" OR "Southeast Europe" OR "Europe") AND TS=("education reform" OR "curriculum development" OR "educational standards" OR "clinical skills" OR "professional competencies")	9
PsycINFO	("nursing education" OR "nursing training" OR "healthcare education" OR "health sciences education") AND ("Albania" OR "Balkan countries" OR "Southeast Europe" OR "Europe") AND ("education reform" OR "curriculum development" OR "educational standards" OR "clinical skills" OR "professional competencies")	4
ProQuest	("nursing education" OR "nursing training" OR "healthcare education" OR "health sciences education") AND ("Albania" OR "Balkan countries" OR "Southeast Europe" OR "Europe") AND ("education reform" OR "curriculum development" OR "educational standards" OR "clinical skills" OR "professional competencies")	840

was included to provide additional insights and broaden the scope of the review. However, articles that lacked peer review and were not part of recognized or credible grey literature sources were excluded, as they did not meet the quality standards required for inclusion. This review followed established methodological guidelines, including the Cochrane Handbook for Systematic Reviews of Interventions and the JBI Manual for Evidence Synthesis, to ensure the rigor of the systematic approach. The review also adheres to the PRISMA 2020 reporting guidelines, and a completed PRISMA checklist is provided as supplementary material. Studies were excluded due to insufficient content quality when they failed to provide clear research aims, appropriate methodologies, or reliable data relevant to the research question. Using the CASP tool, studies were considered insufficient when fewer than 5 out of 10 key criteria were met, particularly in areas such as internal validity, reliability of results, or relevance to the population studied. This scoring threshold ensured that only methodologically sound studies were

included. This review aimed to include studies from Albania and other international contexts with educational models that could be potentially adapted to the Albanian setting. While some countries included, such as Ireland, Austria, and Canada, may not be directly comparable in terms of socio-economic context, their nursing education practices were considered relevant for identifying transferable strategies to improve nursing education in Albania.

Study selection

The study selection process involved a multi-stage approach to ensure the identification of relevant studies. Initially, titles and abstracts were screened independently by two reviewers to determine their relevance to the inclusion criteria. This initial screening was conducted in blind, ensuring that reviewers were unaware of each other's decisions to minimize bias. Any disagreements were resolved through discussion, and a third reviewer was consulted when necessary. Full-text

articles of potentially relevant studies were then retrieved and reviewed independently by the same two reviewers to confirm their eligibility. A dedicated reference management software (EndNote X8) was used to manage citations, detect duplicates, and streamline the selection process. The PRISMA flow diagram, included in the results section, illustrates the full process of identification, screening, eligibility, and inclusion of studies.

Data analysis and synthesis procedure

The quality of the studies included was assessed using the criteria of the Critical Appraisal Skills Programme (CASP), which considers fundamental methodological aspects such as internal validity, reliability of results and relevance to the population studied. The evaluation was conducted in duplicate by two independent researchers to ensure greater accuracy and reduce the risks of subjective interpretation, in line with best practices for systematic review. The studies were classified into thematic categories, with particular attention to three aspects: (1) the effectiveness of the educational

models adopted, (2) the competences developed through training and (3) the specific challenges encountered in contexts with limited resources, such as Albania. This systematic review represents a detailed and structured analysis of the available data, offering a meaningful comparison between the nursing education system in Albania and international experiences, and identifying best practices for improving nursing education.

Results

This review adopted a narrative synthesis of the data, since the included studies show significant methodological heterogeneity and variations in results, such as to make a meta-analysis impractical. Narrative synthesis makes it possible to highlight the common themes and the main differences, offering a complete but not quantitative view of the results present in the literature. After a rigorous selection process, seven studies were included in the review. These studies cover a range of topics relevant to nursing education and training models, with specific

Table 2. Synoptic Chart of Included Studies.

N	Study	Country	Publication Year	Study Design	Sample Size	Main Findings
1	Bulfone et al. (2024) (27)	Italy	2024	Observational study	500 nursing students	Health literacy training enhances students' ability to communicate with patients.
2	Dowling et al. (2023) (28)	Ireland	2023	Online educational intervention	Not applicable	E-learning programs improve access to specialized training in oncology nursing.
3	Duka et al. (2023) (29)	Albania	2023	Cross-sectional	200 nurses	Self-efficacy is positively correlated with perceived professional competence.
4	Merry et al. (2021) (31)	Canada	2021	Qualitative review	Not applicable	Language and cultural support are crucial for academic success of migrant students.
5	Notarnicola et al. (2023) (30)	Italy	2023	Cross-sectional	350 nurses	Diverse work experiences increase clinical competence and confidence.
6	Phillip et al. (2024) (32)	Multicentre	2024	Guideline development	Not applicable	Standardized guidelines improve uniformity of care in resource-limited settings.
7	Roehe et al. (2024) (33)	Austria	2024	Systematic review	Multiple studies	Interactive teaching methods improve knowledge retention in health education.

applications to the Albanian context and international scenarios. Initially, the database search yielded a total of 1003 articles: 30 from PubMed, 60 from CINAHL, 60 from Scopus, 9 from Web of Science, 4 from PsycINFO and 840 from ProQuest. After the removal of 50 duplicate items, 953 items were screened. Of these, 771 were excluded during the review of titles and abstracts, as they did not meet the inclusion criteria. In the next phase of detailed evaluation, an additional 175 articles were excluded for reasons such as unsupported language, lack of peer review, irrelevant topic, inadequate methodology, insufficient quality of content, and not relevant population or study context.

A synoptic chart summarizing the key characteristics of the included studies has been added to provide

a clear overview. This chart includes details such as publication year, country of origin, study design, sample size, and main findings. The inclusion of this table (Table 2). improves transparency and facilitates a comprehensive understanding of the evidence base.

At the end of the selection process, seven studies remain that fully meet the objectives of the review and provide a broad spectrum of contributions for nursing education. The study selection process was plotted using the PRISMA diagram, which clearly and in detail illustrates the phases of identification, screening, eligibility and inclusion of studies. The updated PRISMA diagram is included in figure 1, providing transparency and traceability in the item selection and evaluation process.

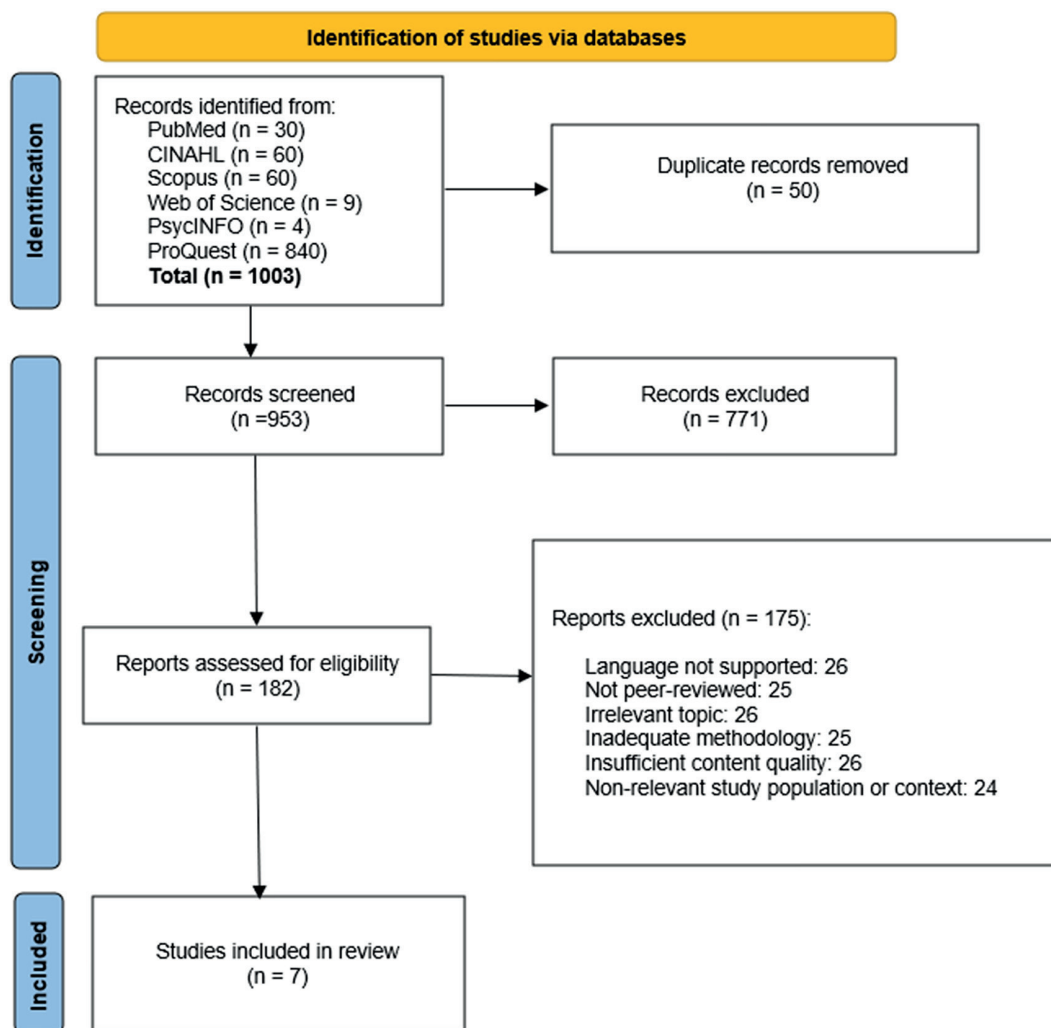


Figure 1. PRISMA Statement.

The review included seven key studies that analyzed central aspects of nursing education, with a focus on training skills and methods. Topics that emerged include competence in health literacy, professional self-efficacy, the adoption of clinical guidelines and the use of online learning modalities (Table 3).

Below is a summary of the main aspects of each theme, divided by study.

The study by Bulfone et al., assessed health literacy skills in nursing students, revealing a significant gap in the ability to interpret and communicate health information effectively (27). The methodology included a competency analysis based on structured questionnaires, showing varying outcomes between students of different backgrounds. Dowling et al. developed an online educational program for nurses operating in advanced oncology settings. The results show how the e-learning modality can facilitate access to specialized training, despite the absence of a control group that has limited comparisons with other teaching methods (28). Duka et al., explored the link between professional skills and self-efficacy in nurses in Albania, using an observational design (29). The data indicates a positive

correlation between self-efficacy and perceived level of skills, underlining the importance of targeted training interventions to improve professional confidence. Notarnicola et al., examined the perceived clinical competencies of nurses based on the work environment, identifying greater confidence in competencies among those operating in diverse clinical settings (30). The analysis of the data, obtained through questionnaires, highlighted the need for varied practical experiences to enhance training. Merry et al., focused on the difficulties faced by migrant nursing students, noting how language and cultural barriers negatively affect performance (31). The qualitative methodology made it possible to identify specific support strategies, such as tutoring and language assistance, that improve academic integration. Phillip et al., developed guidelines for monitoring type 1 diabetes, highlighting the value of evidence-based practices for nursing education as well (32). The results suggest that wider adoption of clinical protocols during training could improve the uniformity of care provided. Roehe et al., conducted a systematic review of teaching methods, highlighting the effectiveness of interactive modalities (33). The

Table 3. Thematic Subdivision of Included Studies.

Thematic Categories	Study	Topic
Effectiveness of the Educational Models Adopted	Dowling et al. (2023) (28)	Study on the implementation of an e-learning program for nurses specializing in the treatment of advanced cancer, examining the effectiveness of the online model for continuing education.
	Roehe et al. (2024) (33)	Systematic review of teaching methods in the health field, with particular attention to interactive teaching methods and their effectiveness in improving knowledge retention.
Skills Developed Through Training	Bulfone et al. (2024) (27)	Study on health literacy skills among nursing students, evaluating how training can improve the ability to communicate health information to patients.
	Duka et al. (2023) (29)	Observational study investigating the correlation between professional skills and self-efficacy in nurses, highlighting the role of training in enhancing professional confidence.
	Notarnicola et al. (2023) (30)	Analysis of clinical skills perceived by nurses based on the variety of work experiences, suggesting that diverse training contributes to developing greater confidence in skills.
Specific Challenges in Resource-Constrained Contexts	Merry et al. (2021) (31)	Study on the linguistic and cultural difficulties faced by migrant nursing students, and on the support, strategies needed to improve their academic and professional integration.
	Phillip et al. (2024) (32)	Development of evidence-based guidelines for monitoring type 1 diabetes, suggesting that wider adoption of standardized protocols could improve uniformity of care in resource-constrained settings.

research suggests that an engaging teaching approach can improve knowledge retention, a principle that can also be applied to nursing education to promote the transfer of skills from theory to practice. In summary, these studies provide an empirical basis for improving nursing education in resource-limited settings, such as Albania, suggesting the importance of health literacy skills, online learning methodologies, and a standardized guide-line-based approach to improve the quality of training and care (Table 4).

Nursing education in Albania

The studies focusing on nursing education in Albania highlighted several challenges and opportunities. Key issues included limited access to resources, insufficient practical training opportunities, and the migration of nursing professionals due to better employment prospects abroad. Studies such as Duka et al. (2023) emphasized that many nursing students in Albania experience limited exposure to diverse clinical settings, which affects their confidence and practical competence. Notarnicola et al. (2023) noted that students trained in limited clinical environments often face difficulties in adapting to complex healthcare situations (29,30). However, positive aspects were also

identified, such as recent reforms aimed at aligning Albanian nursing education with European standards. Initiatives to introduce continuous professional development programs and collaborative partnerships between universities and healthcare institutions were seen as promising, though their implementation remains in the early stages. Health literacy was found to be an emerging area of focus, with Bulfone et al. (2024) identifying its integration as a key strategy to improve communication between nurses and patients in Albanian healthcare settings (27).

International experiences

The studies from international contexts provided a range of transferable strategies and successful models that could be adapted to Albania. Dowling et al. (2023) demonstrated the effectiveness of e-learning programs in Ireland, which improved access to specialized training for nurses in oncology settings (28). These programs could be applied in Albania to address geographical disparities and resource limitations, especially in rural areas. Roehe et al. (2024) highlighted that interactive teaching methods, such as problem-based learning and simulations, are more effective in enhancing knowledge retention and clinical competence (33). These methods,

Table 4. Critical Analysis of Included Studies Using CASP Criteria.

Study	Clear Aim	Appropriate Methodology	Study Design Clear	Recruitment Strategy Appropriate	Data Collection Methodology	Ethical Considerations	Results Clear	Study Findings Validity	Generalizability
Bulfone et al. (2024) (27)	Yes	Yes	Yes	Yes	Clear	Yes	Yes	High	Moderate
Dowling et al. (2023) (28)	Yes	Yes	Yes	No	Clear	Yes	Yes	Moderate	Low
Duka et al. (2023) (29)	Yes	Yes	Yes	Yes	Clear	Yes	Yes	High	Moderate
Notarnicola et al. (2023) (30)	Yes	Yes	Yes	Yes	Clear	Yes	Yes	High	Moderate
Merry et al. (2021) (31)	Yes	Yes	Yes	Yes	Clear	Yes	Yes	Moderate	Moderate
Phillip et al. (2024) (32)	Yes	Yes	Yes	Yes	Clear	Yes	Yes	High	Moderate
Roehe et al. (2024) (33)	Yes	Yes	Yes	Yes	Clear	Yes	Yes	High	High

Table 5. Comparison of Key Findings: Albania vs. International Contexts.

Aspect	Findings in Albania	Findings in International Contexts	Potential Adaptations for Albania
Practical training	Limited exposure to diverse clinical settings	Simulation-based training and diverse clinical rotations	Introduce simulation labs and expand clinical rotations
Health literacy	Emerging focus, but not fully integrated into curricula	Key component of nursing education in Italy and Canada	Integrate health literacy programs in nursing curricula
Continuous education	Limited access to continuous professional development	Continuous education programs widely available	Expand professional development initiatives
E-learning	Underdeveloped in rural and resource-limited areas	Effective use of e-learning in Ireland and Austria	Develop e-learning platforms to address geographical disparities
Standardized guidelines	Limited integration in curricula	Widely used in resource-constrained settings	Adopt evidence-based clinical guidelines in training
Cultural and linguistic support	Limited focus on regional diversity	Tailored programs for migrant students (Canada)	Develop cultural and linguistic support programs

successfully implemented in Austria and Italy, could help improve the practical training of Albanian nursing students. Several studies, including Phillip et al. (2024), emphasized the role of standardized clinical guidelines in improving the consistency and quality of care. In contexts with resource constraints, adopting evidence-based protocols during nursing education could provide students with a strong foundation for clinical practice (32). The importance of cultural and linguistic support was another key finding. Merry et al. (2021) illustrated how tailored support programs for migrant students in Canada improved academic success. This suggests that similar initiatives could be beneficial for nursing students in Albania, especially in regions with diverse populations and multilingual healthcare needs (31) (Table 5).

Discussion

The results of this review provide an in-depth overview of various aspects of nursing education, highlighting how training models, professional skills and challenges for students can be improved in contexts such as Albania, where educational re-sources are often limited. Each study contributes significant elements that, compared with other similar works in literature, allow us to outline the best practices to improve nursing education. The study by Bulfone et al., which

explores health literacy skills in nursing students, represents an important contribution to the preparation of health professionals capable of adequately responding to public health needs (27). Numerous studies, confirm the importance of health literacy to improve communication between patients and nurses, especially in developing countries where health literacy is lower than in high-income countries (34 – 36). Integrating these skills into educational curricula can improve not only patient autonomy, but also adherence to treatments, potentially reducing negative treatment outcomes. Although Bulfone et al.’s approach is methodologically sound, a comparable study conducted by Yang, Hu, & Qi, in China emphasizes that health literacy needs to be supported by digital and community resources to achieve sustainable impact, suggesting that nursing education in Albania could benefit from similar initiatives to improve the effectiveness of educational interventions (27, 37). The study by Dowling et al., implemented an online educational program for European nurses engaged in advanced cancer care (28). This approach reflects the growing trend of using e-learning platforms to make up for the lack of access to quality educational resources, a common challenge also in Albania. Other studies, such as those by Moutsopoulos, show that online programs can be particularly useful for updating nurses’ clinical skills, without interrupting hospital service. However, Dowling et al. did not include a control group, a shortcoming that limits

direct comparison of efficacy compared to traditional methods (28). Studies such as that of Nguyen et al., in Vietnam highlight that online program, while improving theoretical knowledge, may be less effective in practical training, suggesting that a combination of on-line learning and supervised hands-on clinical experience may be required to achieve comprehensive results in Albania (39). The work of Duka et al., on the correlation between professional skills and self-efficacy in Albanian registered nurses highlights the importance of supporting nurses' confidence and competence to improve the quality of care (29). International studies, such as that of Bandura, on the concept of self-efficacy, show that the perception of one's own competence influences motivation and work performance (29). A similar study by Gagne et al., found that self-efficacy correlates with intrinsic motivation and job satisfaction (40). Although the absence of an experimental dimension limits causal conclusions, Duka et al. confirm that increased support for vocational training could reduce burnout among nurses in Albania, a theme that is reflected in studies such as that of García-Lázaro et al., in the Latin American context, where levels of self-efficacy have been linked to higher quality of care and reduced staff turnover (29,41).

The study by Notarnicola et al. analyzes the clinical competences perceived by nurses in different work contexts (30). According to Notarnicola et al., nurses with diverse experience report higher levels of competence and confidence in their clinical abilities. This finding is reflected in studies such as that of Benner (1984), which theorizes the "beginner to expert" model, highlighting that practice in various settings helps nurses develop more advanced skills and respond more flexibly to complex clinical situations (42). Benner's (1984) framework, which emphasizes the progression of nursing competence from novice to expert, provides a valuable perspective on understanding the professional development of Albanian nurses (42). The challenges identified in this review, such as limited practical training and resource constraints, align with the early stages of Benner's model, suggesting that targeted interventions could facilitate faster transitions toward higher levels of competence. In addition, studies such as that of Baxter et al., indicate that opportunities for diverse experience not only increase clinical

confidence but also improve the resilience of nurses, a crucial factor in an often-pressured healthcare system like the Albanian one (43). Therefore, the Albanian education system could benefit from diversifying the clinical experiences offered to students, improving the quality of perceived clinical skills. A study by Merry et al., analyzed the linguistic, cultural, and logistical difficulties faced by migrant and international nursing students, identifying supportive strategies that can facilitate these students' integration and academic success (31). Other studies, such as that of Haverila et al., confirm that cultural integration is crucial to ensure the success of international students and reduce the dropout rate (44). Merry et al. suggest that the adoption of language support and cultural mentoring programs can increase retention and improve student performance (31). Although there is no similar program for nursing students in Albania yet, such an initiative could not only improve the experience of international students, but also increase the intercultural skills of nursing staff, an increasingly relevant aspect in a globalized healthcare.

The work of Phillip et al., represents an example of how evidence-based guidelines can improve the quality and uniformity of health care (32). In this case, the study develops guidelines for monitoring preclinical type 1 diabetes which, while not specific to nursing, offers a useful example of how standardizing protocols can reduce variability in care. Studies such as that of Orangi et al., show that the adoption of evidence-based guidelines not only improves the quality of care but also increases the effectiveness of interventions in low-income settings, as demonstrated in care projects in African countries (45). In Albania, adopting clinical guidelines in the nursing curriculum could help students become familiar with standardized protocols, preparing staff for quality care.

Finally, the study by Roche et al., explores the dynamics between teaching methods and academic performance, noting that interactive approaches can enhance learning (33). This study aligns with other work in the field of health education, such as that of Challa et al., which shows that teaching methods based on interaction and active practice are more effective in promoting knowledge retention (46). In Albania, the introduction of interactive teaching methodologies

could help improve nursing students' transition from theory to clinical practice, boosting confidence and skills. The comparison with the work of Hu et al., on the flipped classroom in China confirms that the use of innovative methods can increase engagement and improve the quality of learning, suggesting a potential for improvement for the Albanian nursing education system as well (47). Some studies cited in the discussion were included to provide additional context and support for interpreting the findings. These studies were not part of the systematic review as they did not meet the predefined inclusion criteria but were considered relevant for highlighting potential implications and expanding the discussion of key themes. In summary, this review highlights how the integration of evidence-based educational models, the adoption of clinical guidelines, and the diversification of training experiences can significantly contribute to the training of competent and prepared nurses in Albania. Comparison with other international studies reinforces the idea that nursing education can benefit from an innovative and flexible approach, capable of adapting to local challenges and responding to global needs. Educational institutions in Albania could, therefore, consider implementing these models and strategies to improve the quality of nursing education and, consequently, the effectiveness of the national health system. In the discussion, we referenced additional studies to provide context and support for interpreting the findings. These studies, while not part of the systematic review due to not meeting the predefined inclusion criteria, were considered relevant for expanding the discussion of key themes. Their inclusion in the discussion helped highlight broader implications and provided examples of successful strategies in nursing education that could inform future improvements in Albania. We recognize the importance of distinguishing between the studies included in the systematic review and those cited for contextual purposes, and this clarification has been made in the revised discussion.

Comparison of nursing education in Albania with international experiences

The comparison between nursing education in Albania and international contexts highlights both

differences and transferable practices that could enhance the Albanian system. One key finding is the lack of diverse clinical training opportunities in Albania, as indicated by Notarnicola et al. (2023) and Duka et al. (2023), which limits students' ability to gain practical experience across different healthcare settings (29,30). This contrasts with countries like Italy and Austria, where simulation-based training and diverse clinical rotations are standard practices, as highlighted by Roehle et al. (2024). Adopting similar strategies in Albania could help bridge the gap in clinical competence (33). Another critical area is health literacy, which is emerging in Albania but remains underdeveloped compared to countries such as Italy and Canada. Bulfone et al. (2024) emphasized the importance of integrating health literacy into nursing education to improve communication with patients (27). In international contexts, health literacy programs have been shown to positively impact patient outcomes, suggesting that a similar approach could benefit Albanian nurses.

E-learning is another potential area for development in Albania, particularly in rural regions where access to training resources is limited. Dowling et al. (2023) demonstrated how e-learning platforms have improved access to specialized training in Ireland (28). Implementing similar platforms in Albania could address geographical disparities and provide continuous learning opportunities for nurses working in remote areas. Furthermore, the limited use of standardized clinical guidelines in Albanian nursing curricula contrasts with their widespread application in international contexts, particularly in resource-constrained settings. Phillip et al. (2024) illustrated how adopting evidence-based protocols during training improves care consistency (32). Integrating such guidelines in Albania could help standardize clinical practice and prepare nurses for diverse healthcare environments. Cultural and linguistic support, as discussed by Merry et al. (2021) in the Canadian context, highlights another gap in Albanian nursing education (31). Tailored programs aimed at addressing the specific needs of diverse populations could help better prepare nurses for multicultural settings, which are increasingly common in both rural and urban areas of Albania.

Limitations

This revision has some limitations that may affect the generalizability of the results. First, the research was limited to studies published in the last ten years and available in English or Albanian, thus excluding any articles in other languages or previously published. This choice may have limited the breadth of the framework presented, not including potentially relevant studies that could have enriched the review. Second, the inclusion of studies conducted in different cultural and health contexts, while offering a broad perspective, may have influenced the consistency of results, as educational facilities, available resources and training needs may vary considerably between countries. In addition, the absence of a quantitative analysis (meta-analysis) limits the possibility of drawing statistically robust conclusions on the effectiveness of the educational models compared. Finally, despite the use of the CASP method to assess the quality of the included studies, variation in study designs, methodologies and competency assessment criteria may have led to some heterogeneity in outcomes. This review was not registered in PROSPERO as its primary focus is on educational models and qualitative aspects, which do not fall within the registration criteria focused on health-related outcomes. However, to ensure transparency and methodological rigor, the review followed established systematic review guidelines, including the use of PRISMA recommendations. Although Embase and CENTRAL, as recommended by the Cochrane Handbook, were not included in this review due to access limitations and resource constraints, we ensured broad coverage of relevant literature by using databases such as PubMed, Scopus, CINAHL, Web of Science, PsycINFO, and ProQuest. This limitation may have led to the exclusion of potentially relevant studies, and its implications on the comprehensiveness of the review are acknowledged and discussed as a possible limitation of the findings. We acknowledge that the inclusion of only 7 studies may limit the generalizability of the findings. This limitation is partly due to resource and access constraints, which influenced the search strategy, and the scope of databases included. Future systematic reviews will consider involving a librarian or

expert documentalist to enhance the comprehensiveness and optimize the search process.

Implications for clinical practice and educational policies

The results of this review not only have direct practical implications for the improvement of nurses' clinical skills but also suggest important areas of intervention for educational policies in Albania. The integration of health literacy skills, for example, could be promoted at national level as a standard for nursing education curricula, helping to train professionals capable of communicating effectively with patients. The use of online learning modalities and the diversification of clinical experiences represent strategies that could be formally adopted by institutional educational programs to make training more accessible, especially in rural or remote areas. In addition, the creation of standardized guidelines for nursing education could improve the uniformity and quality of training programs, aligning them with the best international standards. At the policy level, these results offer ideas for the adoption of policies that encourage the continuous updating and diversification of nurses' training paths. The implementation of educational policies in line with these results would make it possible to improve the overall quality of healthcare and respond more effectively to the needs of the population.

Directions for future research

Considering the limitations and the results that emerged, there are several directions for future research in the field of nursing education. First, it would be useful to conduct longitudinal studies to assess the long-term effectiveness of the educational models implemented, with a focus on the impacts of health literacy skills and online programs on the clinical practice of nurses. In addition, further studies could explore the impact of diversifying clinical experiences, comparing outcomes between nurses trained in limited settings and nurses with diverse training. This could help identify key competencies that improve adaptability and clinical effectiveness. Future research could also evaluate the application of support programs for international and migrant students

in nursing in Albania, examining the effectiveness of linguistic and cultural interventions to improve the inclusion and academic performance of these students. Given the positive impact of standardized guidelines high-lighted in other health sectors, further studies could analyze the effectiveness of evidence-based guidelines in improving the clinical readiness of nursing students, particularly in low-income settings such as Albania. Finally, it would be advantageous to conduct comparative studies between innovative teaching methods, such as the flipped classroom, and traditional methods, to identify the most effective learning models in fostering the transfer of knowledge from theory to clinical practice.

Conclusions

This review examined the main educational models and skills needed to improve nursing education, with a focus on the Albanian context and international experiences. The results indicate that an effective nursing education system must integrate health literacy skills, foster the diversification of clinical experiences and adopt innovative teaching techniques, such as online programs. The importance of these skills not only strengthens nurses' ability to respond to clinical needs, but also improves adherence to treatment and patient autonomy, thus increasing the quality of healthcare. The selected studies underline how the promotion of self-efficacy and the adoption of evidence-based protocols can reduce variability in care practices, increasing the consistency and quality of care. The implications for nursing education in Albania are obvious: adopting educational strategies based on international evidence could improve the effectiveness of local programs, fostering the growth of competent nurses prepared to respond to the challenges of a changing health system. In particular, the adoption of online learning programs and clinical guidelines could reduce educational inequalities between urban and rural areas, making nursing education accessible and homogeneous throughout the country. The limitations of the review, including variability in health care settings and differences in the educational models analyzed, highlight the need for further research to validate the

applicability of these findings in the local setting. Despite this, this review offers a valuable starting point for Albanian educational institutions, which can draw on international experiences to develop more effective and future-oriented training programs. The continuous evolution of nursing education and the adaptation of training models globally can support the improvement of clinical skills and quality of care, contributing to a more resilient health system and nurses who are better prepared for the challenges of the profession.

Ethical Approval: Ethical approval was not required for this study as it did not involve human patients or participants.

Conflict of Interest: Each author declares that he or she has no commercial associations (e.g., consultancies, stock ownership, equity interest, patent/licensing arrangement, etc.) that might pose a conflict of interest in connection with the submitted article.

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