# The importance of nursing education about sexual and gender diversity: a scoping review

## *A importância da educação em enfermagem sobre diversidade sexual e de gênero: revisão de escopo*

## *Importancia de la educación en enfermería sobre diversidad sexual y de género: revisión de alcance*

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**ABSTRACT**

**Objective**: to map educational strategies in nursing that promote inclusive behaviors in sexual and gender diversity care. **Method**: scoping review in accordance with the methodological framework proposed by the Joanna Briggs Institute. Searches were performed in the MEDLINE and Cumulative Index to Nursing and Allied Health Literature, using descriptors adapted to the specificities of each database. Studies involving nursing students or professionals and educational interventions related to inclusive care were included. Data were selected, extracted, and thematically analyzed. **Results**: fourteen studies were included. Strategies were grouped into simulation, online modules and digital tools, structured curricular programmes, and didactic methods. Simulation improved confidence, communication, and attitudes. Digital tools enhanced knowledge and cultural sensitivity. Structured programmes reduced prejudice. Didactic methods were more effective when combined with interactive approaches. **Conclusions**: multimodal approaches showed better outcomes. Integrating simulation, digital tools, and structured curricula supports inclusive care, although further research on long-term effects is needed.
**Descriptors:** Equity; Cultural competence; Gender diversity; Nursing education

***RESUMO***

***Objetivo:*** *mapear estratégias educacionais em enfermagem que promovem comportamentos inclusivos no cuidado à diversidade sexual e de gênero.* ***Método:*** *revisão de escopo conforme método do Joanna Briggs Institute. Foram realizadas buscas na MEDLINE e Cumulative Index to Nursing and Allied Health Literature, com descritores adaptados. Foram incluídos estudos com estudantes ou profissionais de enfermagem e intervenções educativas relacionadas ao cuidado inclusivo. Os dados foram selecionados, extraídos e analisados tematicamente.* ***Resultados:*** *foram incluídos 14 estudos. As estratégias*

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*agruparam-se em simulação, módulos online, programas curriculares estruturados e métodos didáticos. A simulação melhorou confiança, comunicação e atitudes. Ferramentas digitais ampliaram conhecimento e sensibilidade cultural. Programas estruturados reduziram os preconceitos. Métodos didáticos foram mais eficazes quando combinados com abordagens interativas.* ***Conclusões****: abordagens multimodais apresentaram melhores resultados. A integração de simulação, ferramentas digitais e currículos estruturados favorece um cuidado inclusivo, sendo necessários estudos sobre efeitos a longo prazo.*
***Descritores****: Equidade; Competência cultural; Diversidade de gênero; Educação em enfermagem*

***RESUMEN***

***Objetivo****: mapear estrategias educativas en enfermería que promuevan comportamientos inclusivos en la atención a la diversidad sexual y de género.* ***Método****: revisión de alcance según el método del Joanna Briggs Institute. Se realizaron búsquedas en MEDLINE y CINAHL, utilizando descriptores adaptados a cada base de datos. Se incluyeron estudios con estudiantes o profesionales de enfermería sobre intervenciones educativas relacionadas con el cuidado inclusivo. Los datos fueron seleccionados, extraídos y analizados temáticamente.* ***Resultados****: se incluyeron catorce estudios. Las estrategias se agruparon en simulación, módulos en línea, programas curriculares estructurados y métodos didácticos. La simulación mejoró la confianza, comunicación y actitudes. Las herramientas digitales ampliaron el conocimiento y la sensibilidad cultural. Los programas estructurados redujeron prejuicios, mientras que los métodos didácticos fueron más eficaces combinados con enfoques interactivos.* ***Conclusiones****: los enfoques multimodales mostraron mejores resultados, favoreciendo el cuidado inclusivo. Se requieren estudios longitudinales para evaluar su sostenibilidad de manera consistente y sostenible.*
***Descriptores****: Equidad; Competencia cultural; Diversidad de género; Educación en enfermería*

## INTRODUCTION

Education is a cornerstone for ensuring competent, ethical, and person-centered nursing practice. In healthcare inclusive care, nurses must be prepared to meet the needs of individuals with diverse sexual orientations and gender identities. Research underscores the need to integrate LGBTQIAPN+ health content into nursing curricula.[1]

Despite growing recognition of the need for inclusive healthcare, evidence indicates that nursing students often report discomfort, lack of confidence, and insecurity when interacting with LGBTQIAPN+ individuals.[2] A study with advanced practice nurses showed that an online program focused on sexual and gender minority health improved knowledge and clinical skills.[3] Other studies highlight contextual factors affecting the implementation of affirming care, including time constraints, lack of institutional resources, and organizational unawareness, which hinder the integration of LGBTQIAPN+ content into clinical practice.[4]

For instance, a phenomenological study found that students frequently experience insecurities when interacting with LGBTQIAPN+ individuals, which may negatively influence the quality of care.[5] Similarly, survey-based research has demonstrated variability in students' comfort levels, with some reporting being "not at all comfortable" discussing LGBTQIAPN+ health issues.[6] These challenges appear to be associated with gaps in nursing education, as studies consistently highlight limited, inconsistent, and often superficial integration of LGBTQIAPN+ health content within curricula.[7-8] Importantly, educational interventions have been shown to improve students' knowledge, attitudes, and confidence in providing care to LGBTQIAPN+ populations, suggesting that curricular content plays a key role in shaping preparedness.[9-10] However, the extent, nature, and effectiveness of LGBTQIAPN+ curricular integration in nursing education remain fragmented across the literature.

Therefore, a scoping review is warranted to systematically map existing evidence, identify gaps, and inform future curriculum development. A preliminary search on November 19, 2025, in databases including MEDLINE, Cochrane, and JBI Evidence Synthesis, found no reviews addressing this topic, confirming the study's originality. The objective of this review *is to map educational strategies in nursing that promote inclusive behaviors in sexual and gender diversity care*. The review question was: *What nursing educational strategies can be used to promote inclusive behaviors in the care of LGBTQIAPN+ individuals?*

## MATERIALS AND METHODS

This review followed the JBI scoping review methodology.[11] This approach was well suited to capture the breadth and diversity of studies on LGBTQIAPN+ content inclusion in nursing education and interventions designed to strengthen cultural and clinical competencies.[9-10,12] The reporting of the review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines,[13] which were used to ensure transparent and comprehensive reporting of the review process.

Studies involving nursing students and nursing professionals will be included. This encompasses undergraduate and postgraduate nursing students, pre-licensure and advanced practice nursing students, registered nurses, and nurses participating in continuing professional development or other educational activities. Studies involving students or professionals from other health disciplines will also be considered when they are part of an interprofessional educational intervention that includes nursing participants. The population targeted by educational strategies comprises learners and professionals being prepared to provide inclusive care to LGBTQIAPN+ individuals.

Three central concepts were operationally defined to guide this review. Sexual diversity involves different sexual orientations, including lesbian, gay, bisexual, pansexual, and asexual.[14] Gender, in contrast, is understood as a social and cultural construct distinct from biological sex, surrounding identities such as transgender, non-binary, and travesti, among others, as discussed in studies on nursing students' preparedness to care for transgender and non-binary individuals.[15] Gender diversity therefore refers to the range of gender identities and expressions that deviate from cisnormative norms, a dimension central to curricular recommendations for sexual and gender minorities in health education.[1,15]

Nursing education includes both academic training (undergraduate and postgraduate) and continuing professional development aimed at strengthening clinical, ethical, and communication competencies, aligning with studies emphasizing the need to integrate LGBTQIAPN+ content into nursing education.[16] These definitions delimit the review's objective and justify the inclusion of studies addressing educational interventions, program evaluations, and analyses focused on competence in caring for individuals with sexual and gender diversity.[17]

The concept of inclusion in healthcare refers to practices ensuring that all individuals, regardless of sexual orientation or gender identity, have equitable, safe, and respectful access to health services. In the context of nursing education and practice, inclusive care involves preparing and supporting nursing students and professionals to recognize diverse sexual orientations and gender identities and to respond appropriately to the specific healthcare needs of LGBTQIAPN+ individuals while avoiding discrimination or marginalization. Respect for sexual orientations and gender identities is fundamental to reducing health disparities.[18]

The experiences of LGBTQIAPN+ individuals in healthcare are strongly shaped by sociocultural context and geographic location. In regions or subcultures where conservative or prejudicial attitudes prevail, barriers to healthcare access are common, including implicit or explicit discrimination.[19-20] Conversely, the implementation of inclusive institutional policies and

educational programs focused on sexual and gender diversity contributes to safer and more respectful nursing practices.[12,21]

The context of this study focuses on the provision of inclusive nursing care for LGBTQIAPN+ individuals, considering cultural, subcultural, geographic, and institutional factors that influence the quality and equity of care. Formal nursing care settings are considered, including hospitals, primary care clinics, and community health centers.

This scoping review included a wide range of study designs to capture the breadth of available evidence. Experimental and quasi-experimental studies were considered, including randomized and non-randomized controlled trials, before-and-after studies, and interrupted time series designs. Analytical observational studies, such as prospective and retrospective cohort studies, case–control studies, and analytical cross-sectional studies, were also included. In addition, descriptive observational designs (case series, case reports, and descriptive cross-sectional studies) and qualitative research approaches, including phenomenology, grounded theory, ethnography, action research, and feminist research, were eligible. Systematic reviews, opinion papers, and text-based articles meeting the inclusion criteria were likewise included.

The search strategy followed a three-step process using controlled vocabulary and keywords to identify both published and unpublished literature. A limited exploratory search was conducted in MEDLINE (via PubMed) and CINAHL (via EBSCO). Titles, abstracts, and index terms of relevant studies were analysed to identify appropriate search terms. The initial search was conducted in two stages. In the first stage, the following descriptors were used in MEDLINE (PubMed): “sexual and gender minorities,” “sexism,” “education, nursing,” and “delivery of health care.” In the second stage, the keywords “sexual and gender minorities,” “education,” and “nursing” were used in the titles and abstracts of relevant studies. These keywords, combined with the identified index terms, were subsequently adapted and applied to each database included in the review.

Subsequently, reference lists of included studies were systematically screened by the review team at the title and abstract level. Studies published in English were considered, with no geographical or cultural restrictions and no date limits applied. The full search was conducted on November 19, 2025, and updated on November 20, 2025; no additional records were identified during the final update.

The search strategy employed exclusively the three previously identified descriptors. Records were retrieved from MEDLINE (via PubMed) and CINAHL (via EBSCO), with descriptors adapted to the specifications of each database (Table 1).

As no bibliographic management software was used, all references were organized manually, and duplicates were identified and removed manually during screening. Study eligibility was determined through a two-stage selection process. In the first stage, two independent reviewers screened titles and abstracts for alignment with the predefined inclusion criteria. Potentially relevant sources were then retrieved in full text and assessed independently by the same two reviewers to confirm eligibility. Any disagreements between the reviewers at either stage were discussed until consensus was reached. No third reviewer was involved in the resolution of disagreements. Reasons for exclusion at the full-text stage were documented and are presented in the PRISMA-ScR flow diagram (Figure 1).

Data extraction was conducted by all reviewers using a standardized data extraction tool, which was specifically developed for this review. The tool was pilot-tested on the first included studies, and no modifications were required following the pilot. The extraction process involved identifying information related to participants, concept, context, study methods, and key findings relevant to the review question.

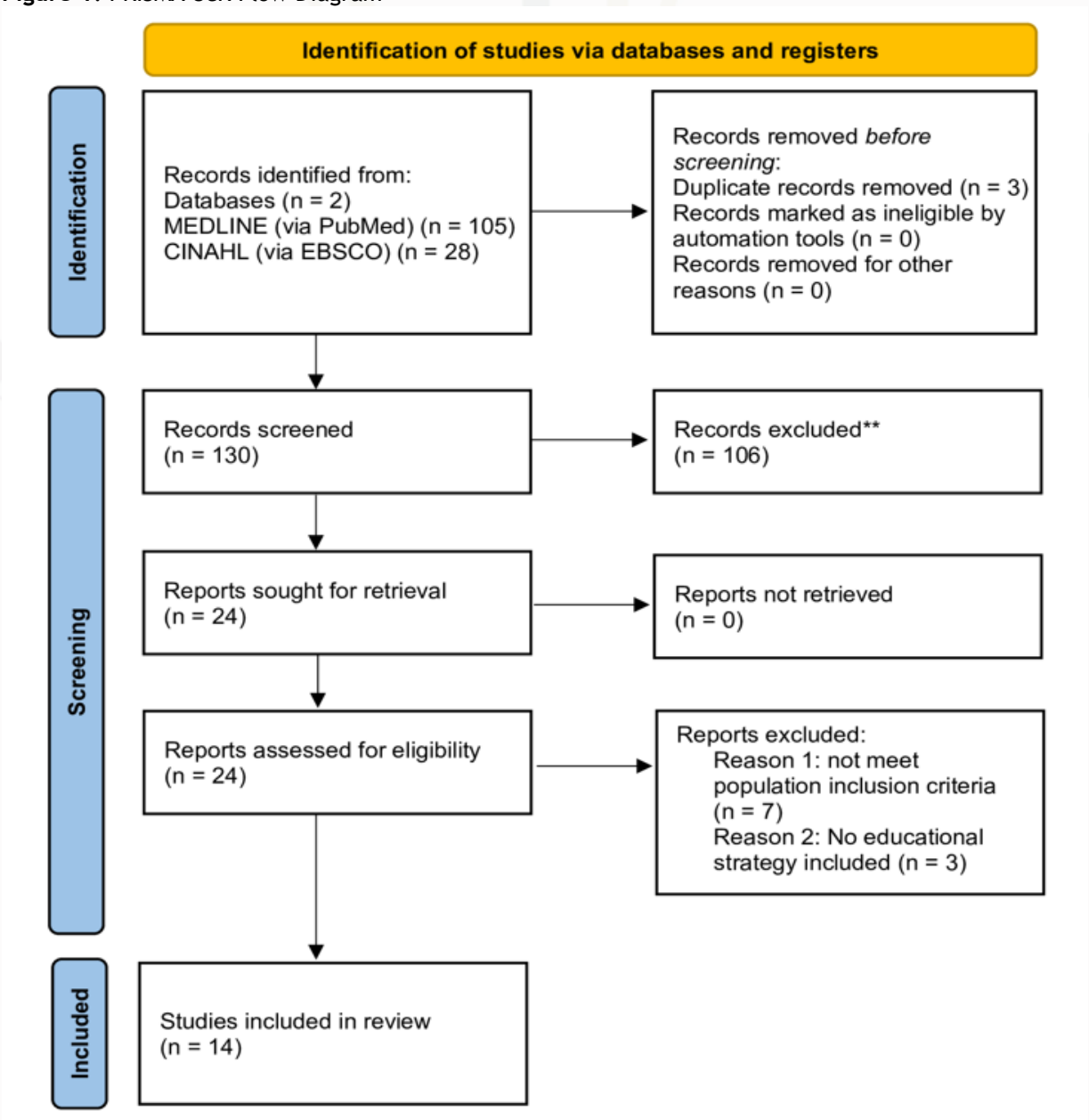
Review registration: This scoping review was not prospectively registered.

**Table 1.** Search Strategy, Controlled Vocabulary, and Results Across Databases

| Database | Controlled Vocabulary | Keyword Search Terms (Boolean Operators) | Limits Applied | Results (n) |
|---|---|---|---|---|
| MEDLINE (PubMed) | Sexual and Gender Minorities [MeSH]; Education, Nursing [MeSH]; Delivery of Health Care [MeSH] | "Sexual and Gender Minorities" AND "Education, Nursing" AND "Delivery of Health Care" | English language; no date limits | 105 |
| CINAHL (EBSCO) | Sexual and Gender Minorities; Nursing Education; Education (CINAHL Headings) | "Sexual and Gender Minorities" AND "Nursing Education" AND "Education" | English language; no date limits | 28 |
| Total | | | | **133** |

Source: Prepared by the authors, 2025.

**Figure 1.** PRISMA-ScR Flow Diagram[13]




Source: Prepared by the authors, 2025.

Fourteen studies were included. All were published in English and conducted across diverse geographical contexts, primarily in the United States (n = 8), Canada (n = 2), Turkey (n = 1), and Pakistan (n = 1), with additional contributions from other international settings (n = 2), between 2017 and 2025. Most studies targeted nursing students, including undergraduate, pre-licensure, and advanced practice students, as well as nurses enrolled in continuing education programs. Contexts were predominantly within higher education nursing programs.

The selected studies were thematic-organized into four categories of educational strategies: Simulation (Table 2); Online Modules/Digital Tools/E-learning (Table 3); Structured Educational Programs/Curricular Interventions (Table 4); and Lectures, Didactic Classes, and Workshops (Table 5).

Simulation-based strategies emerged as particularly effective. Both virtual simulations and simulations involving transgender and gender-diverse standardized patients enhanced students' clinical confidence, communication skills, and understanding of the specific healthcare needs of LGBTQIAPN+ individuals. These experiential learning approaches enabled engagement with realistic clinical scenarios in controlled environments, supporting empathy development and the reduction of implicit bias.

**Table 2.** Simulation

| Authors, Year, Country | Study Aim | Study Design | Population | Educational Strategy | Context | Results |
|---|---|---|---|---|---|---|
| Altmiller et al. (2023), USA[22] | To evaluate the effect of a virtual simulation focused on transgender adult care on nursing students' attitudes and beliefs | Quasi-experimental study | Third- and fourth-year undergraduate nursing students | Virtual simulation focused on transgender patient care | Higher education nursing programs in the USA. | The simulation improved students' attitudes and confidence in providing care to transgender individuals |
| Quattrini et al. (2023), USA[23] | To implement a simulation using transgender and gender-diverse standardized patients | Interprofessional education pilot study | Nursing students and students from other health disciplines | Simulation with transgender and gender-diverse standardized patients | Advanced interprofessional education setting | Improved clinical communication skills and understanding of the specific needs of transgender and gender-diverse populations |
| Lim, F., & Ozkara San, E. (2024), EUA[24] | To review how transgender health is taught in undergraduate nursing programs | Narrative review | Nursing students and nurses | Multiple strategies: simulation, online modules, lectures, case-based learning | International educational contexts with focus on reducing transgender health disparities in the USA | Identified a lack of structured content and recommended multimodal approaches, although lectures remain the predominant teaching method |

Source: Prepared by the authors, 2025.

**Table 3.** Online Modules / Digital Tools / E-learning

| Authors, Year, Country | Study Aim | Study Design | Population | Educational Strategy | Context | Results |
|---|---|---|---|---|---|---|
| Ziegler et al. (2021), Canada[25] | To develop and implement an online educational tool on cultural humility in LGBTQI2S healthcare | Multimethod study | Nurses and other healthcare professionals | Sexual Orientation and Gender Identity Nursing Toolkit including virtual simulation and curated resources | Addressing knowledge gaps in LGBTQI2S healthcare education in Canada | Development of a toolkit aimed at promoting cultural humility and reducing barriers to LGBTQI2S healthcare |
| Luctkar-Flude et al. (2020), Canada[12] | To develop an online educational toolkit using virtual simulation games | Phased methodological development study | Nurses, nursing students, and other healthcare professionals | **Online modules, virtual simulation games, reflective quizzes, debriefing, and self-assessment** | Addressing limited LGBTQI2S content in healthcare education; CIHR-funded project | Creation of a comprehensive toolkit promoting cultural humility, bias reflection, and person-centred LGBTQI2S care |
| Klotzbaugh et al. (2019), USA[26] | To evaluate the effect of an educational module on gender minority health | Pilot study | Master's-level nursing students | Online educational module addressing terminology, affirming practices, health disparities, and gender-affirming pharmacological care | Advanced pharmacology course in a graduate nursing program | Statistically significant improvements in knowledge and perceived preparedness to care for transgender individuals |

Source: Prepared by the authors, 2025.

Online modules, digital tools, and e-learning interventions also demonstrated consistent positive outcomes. These strategies primarily strengthened theoretical knowledge, encouraged critical self-reflection, and increased awareness of sexual and gender diversity. Their flexible and accessible format facilitated self-directed learning and supported integration into both undergraduate education and continuing professional development.

Structured educational programs and curriculum-integrated interventions showed sustained benefits when LGBTQIAPN+ content was embedded systematically within nursing curricula. These approaches led to significant improvements in knowledge, attitudes, and clinical competencies, highlighting the importance of longitudinal and comprehensive educational models rather than isolated instructional sessions.

Lectures, didactic sessions, and workshops remained widely used and provided essential conceptual foundations related to LGBTQIAPN+ health and health disparities. However, evidence indicated that their effectiveness was limited when implemented in isolation and was substantially enhanced when combined with interactive and experiential learning methods.

**Table 4.** Structured Educational Programs/Curricular Interventions

| Authors, Year, Country | Study Aim | Study Design | Population | Educational Strategy | Context | Results |
|---|---|---|---|---|---|---|
| Mert-Karadas & Yucel-Ozcirpan (2023), Turkey[27] | To evaluate an educational program on LGBTQIAPN+ reproductive health | Quasi-experimental pre–post study | Fourth-year undergraduate nursing students | Structured educational program on LGBTQIAPN+ reproductive health | University nursing program in Turkey | Significant improvements in knowledge, attitudes, and skills related to LGBTQIAPN+ reproductive health |
| Carmichael et al. (2024), USA[28] | To assess the impact of an educational intervention on knowledge and attitudes toward TGNB care | Quasi-experimental single-group pre–post study | Undergraduate nursing students | Educational intervention on transgender and non-binary health | Academic nursing programs | Significant improvement in knowledge and attitudes, particularly in sex and gender belief domains |
| Soomar et al. (2025), Pakistan[29] | To assess students' knowledge after integrating GSD content into the curriculum | Quasi-experimental pre–post study | Undergraduate nursing students (BSN) | Ten-day curricular intervention including lectures, case studies, and online sessions | Nursing education in a context of high stigma and limited prior training | Significant improvement in knowledge, attitudes, and confidence in addressing gender and sexual diversity |
| Yingling et al. (2017), USA[30] | To describe the integration of LGBTQIAPN+ health content in a Family Nurse Practitioner program | Descriptive article | FNP students | Development and implementation of a dedicated LGBTQIAPN+ health module | Advanced practice nursing education | Positive reception by students and faculty; modules may guide future curricular integration |

Source: Prepared by the authors, 2025.

**Table 5.** Structured Educational Programs/Curricular Interventions

| Authors, Year, Country | Study Aim | Study Design | Population | Educational Strategy | Context | Results |
|---|---|---|---|---|---|---|
| Kroning (2018), USA[31] | To discuss the need for LGBTQIAPN+ health education in nursing curricula | Opinion/discussion article | Undergraduate nursing students | Didactic education, curriculum integration, simulations, projects | Undergraduate nursing education in the USA | Emphasized the urgent need for curricular reform to reduce LGBTQIAPN+ health disparities |
| Abeln & Love (2019), USA[32] | To discuss transgender mental health disparities and the need for trans-inclusive nursing education | Narrative review and theoretical discussion | Transgender population; nurses; educators | Trans-inclusive education, terminology training, faculty development | US healthcare system with systemic discrimination | Highlighted lack of training as a contributor to disparities and advocated for trans-inclusive education |
| Sherman et al. (2023), USA[10] | To critically review literature on LGBTQIAPN+ education in nursing | Qualitative systematic review | Undergraduate and graduate nursing students | Lectures, role-play, standardized patients, panels, cultural humility readings | Nursing education | Identified limited validated evaluation tools and emphasized the need for comprehensive curricular approaches |

Source: Prepared by the authors, 2025.

## DISCUSSION

The review mapped a range of educational strategies in nursing education that effectively can promote inclusive behaviors in the care of LGBTQIAPN+ individuals.[1] Educational interventions were associated with improvements in knowledge, attitudes, and culturally competent clinical skills.[4,8-9] Systematic inclusion of LGBTQIAPN+ content in pre-licensure and continuing education strengthens nurses' cultural competence interventions.[33] Thus, improve knowledge, attitudes, and preparedness among students, and promotes inclusive practices.[29-30,34] Still, curricular coverage remains limited.[9]

Simulation emerged as a prominent educational strategy in the included studies, either through virtual environments with digital patients[22] or using transgender and gender-diverse standardized patients.[23] LGBTQIAPN+ individuals experience significant health disparities, including higher rates of mental health issues and barriers to preventive care, partly due to limitations in professional training.[35] Few studies address sexual and gender minority health, highlighting their underrepresentation.[36] Given this, simulation enables practical experiential learning in controlled settings, fostering the development of confidence, empathy, and communication skills, while also contributing to the reduction of prejudice and discriminatory attitudes.[22-23,28] The experiential learning facilitated by simulation is particularly relevant in preparing students for complex clinical situations involving LGBTQIAPN+ individuals.

Online modules and digital tools also showed consistent benefits, particularly in strengthening theoretical knowledge and promoting critical reflection through flexible and self-directed learning.[12,25]

Moreover, these approaches enable learners to engage with sensitive content at their own pace, which may reduce discomfort and enhance engagement, highlighting the potential of blended learning models to support the integration of inclusive principles into nursing curricula.[26]

Structured educational programs and integrated curricular interventions demonstrated sustained improvements in knowledge, attitudes, and clinical competencies when LGBTQIAPN+ content was systematically embedded across nursing curricula. These findings underscore the value of longitudinal and integrated educational approaches. Lectures and workshops continue to provide essential foundational knowledge but appear most effective when combined with active learning strategies.[27-30]

These findings are particularly relevant considering the new National Curricular Guidelines for undergraduate nursing education in Brazil, established by Resolution CNE/CES No. 1 of May 15, 2026. The Guidelines recognize gender, sexual orientation, and gender identity as dimensions to be considered in comprehensive nursing education and identify inclusive care and education on gender and gender identity as transversal themes in the curriculum. In this context, the educational strategies mapped in this review provide international evidence that can inform the systematic integration of sexual and gender diversity into nursing education. The findings therefore reinforce the relevance of approaches that move beyond isolated content and incorporate diversity across different educational activities and stages of professional training, supporting the preparation of nurses to provide equitable, respectful, and inclusive care to LGBTQIAPN+ individuals.[37]

Overall, the evidence indicates that no single strategy is sufficient. The findings suggest that multimodal educational approaches combining theoretical instruction with experiential and digital methods may be valuable for fostering inclusive and culturally competent nursing practice.[1,24] Early and sustained educational interventions are critical to shaping professional values, reducing discriminatory behaviors, and preparing nurses to deliver safe and affirming care to LGBTQIAPN+ individuals.

## CONCLUSION

This scoping review highlights the central role of nursing education in preparing nurses to provide inclusive, safe, equitable, and culturally responsive care to LGBTQIAPN+ individuals. Four main categories of educational strategies were identified: simulation, online modules and digital tools, structured educational programs and curricular interventions, and lectures, didactic classes, and workshops. Across the included studies, these strategies were associated with improvements in knowledge, attitudes, confidence, communication skills, and competencies related to inclusive care. The findings indicate that no single educational strategy is sufficient to address the complexity of LGBTQIAPN+ health education. Rather, multimodal approaches that integrate theoretical instruction, experiential learning, and digital resources appear particularly relevant for supporting the development of inclusive nursing competencies. The systematic and sustained incorporation of sexual and gender diversity content throughout nursing education may provide an important foundation for preparing future nurses to recognize and respond to the specific healthcare needs of LGBTQIAPN+ individuals.

Important gaps remain, particularly regarding the limited availability of validated instruments for evaluating educational interventions and the scarcity of evidence on their long-term effects on clinical practice. Future research should therefore assess the implementation and sustainability of these strategies across diverse educational and cultural contexts, as well as their transfer into clinical practice. The findings provide a structured international evidence map that can inform curriculum development, faculty planning, and educational initiatives aimed at strengthening inclusive nursing education and care.

## REFERENCES

1 Bloompott K, Dyck MJ, Kim M, Schafer Astroth K, Stockmann C, Reitz OE. The Scope of LGBTQIA+ Health Content in Prelicensure Nursing Curricula. J Nurs Educ. 2023;62(11):623-30. DOI: https://doi.org/10.3928/01484834-20230906-04

2. Thawnarain A, Downing C. Nursing students' caring practices in caring for LGBTQIA+ patients in a hospital setting. Nurse education today. 2025;153:106792. DOI: https://doi.org/10.1016/j.nedt.2025.106792.

3 Tsusaki R, Mullassery D, Ramaswamy P. Development and implementation of sexual and gender minority curriculum for advanced practice nursing: A feasibility study. J Adv Nurs. 2024;80(11):4412-21. DOI: https://doi.org/10.1111/jan.16051

4 Crawford J, Brandt A, Kramer M, Ristock J, Schultz AS. Gender inclusive and affirming practices across undergraduate nursing curriculum: A scoping review. Nurse education today. 2024;141:106320.

5 Lemus Celin CD, Suarez-Albor CL, Curcio F, Ivziku D, Hernandez Almanza OE, Carta MG, et al. How Do Nursing Students Perceive Care Towards the LGBTIQ+ Community? A Phenomenological Study on Sexual and Gender Diversity. Nurs Rep. 2025;15(5):155. DOI: https://doi.org/10.3390/nursrep15050155

6 Saini S, MacDonald J, Clunie M, Slark J, Prebble K, Paton N, et al. Embedding LGBTQI+ competency into nursing education: Formative evaluation of an interdisciplinary project. Nurse education today. 2022;119:105546. DOI: https://doi.org/10.1016/j.nedt.2022.105546

7 Webb CC, Zablocki GM. Nurse educators' perceptions of teaching patient-centered LGBTQ+ gender-affirming care to undergraduate students. Nursing Education Perspectives. 2023;44(3):175-7. DOI: https://doi.org/10.1097/01.NEP.0000000000000967

8 Farias GM, Martini JG, Vargas MAdO. Knowledge of nursing teachers about health promotion for the LGBTQIA+ population. Revista da Escola de Enfermagem da USP. 2024;58:e20240178. DOI: https://doi.org/10.1590/1980-220X-REEUSP-2024-0178en

9 Priddle T, Crawford T, Power T. The inclusion and representation of LGBTIQ+ content in undergraduate nurse education: A scoping review. Nurse Education Today. 2023;124:105771. DOI: https://doi.org/10.1016/j.nedt.2023.105771

10 Sherman AD, Smith SK, Moore SE, Coleman CL, Hughes TL, Dorsen C, et al. Nursing pre-licensure and graduate education for LGBTQ health: A systematic review. Nursing outlook. 2023;71(2):101907. DOI: https://doi.org/10.2139/ssrn.4213514

11 Peters MD, Godfrey C, McInerney P, Munn Z, Tricco AC, Khalil H. Scoping reviews. Joanna Briggs Institute reviewer's manual. 2017;2015:1-24.

12 Luctkar-Flude M, Tyerman J, Ziegler E, Carroll B, Shortall C, Chumbley L, et al. Developing a sexual orientation and gender identity nursing education toolkit. J Contin Educ Nurs. 2020;51(9):412-9. DOI: https://doi.org/10.3928/00220124-20200812-06

13 Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 2018;169(7):467-73. DOI: https://doi.org/10.7326/m18-0850

14 Kleinplatz PJ, Diamond LM. Sexual diversity. In: Tolman D, Diamond L. (ORG). APA handbook on sexuality and psychology. American Psychological Association Press; 2013. p. 245-67. Available from: https://www.researchgate.net/publication/264741819_Diversity_in_sexual_practices

15 Adzajlic B, Heywood S. Key Concepts and Definitions. Challenging Gender Stereotypes in the Early Years: Routledge; 2022. p. 7-16.

16 Santos LCd, Toriyama ATM, Nichiata LYI. Sexual and gender diversity in nursing: radicalizing knowledge and practices. Rev. Esc. Enferm. USP. . 2026;60:e20250275.

DOI: https://doi.org/10.1590/1980-220X-REEUSP-2025-0275en

17 Soud R, Davies A, Brass J, Jacobs S. Addressing Gaps in Ontario's Sexual Health Education: Supporting Healthy Sexual Lives in Young Adults with Disabilities. Sexes. 2025;6(3):42. DOI: https://doi.org/10.3390/sexes6030042

18 Lim F, Paguirigan M, Cernivani D. Delivering LGBTQ-sensitive care. Nursing Critical Care. 2018;13(4):14-9. DOI: https://doi.org/10.1097/01.CCN.0000534918.70677.9c

19 Nye CM, Anderson A. Transgender and gender diverse nursing care. AJN The American Journal of Nursing. 2021;121(10):53-7. DOI: https://doi.org/10.1097/01.NAJ.0000794272.25624.e5

20 Thawnarain A, Downing C. Nursing students' caring practices in caring for LGBTQIA+ patients in a hospital setting. Nurse education today. 2025;153:106792. DOI: https://doi.org/10.1016/j.nedt.2025.106792

21 Walker K, Arbour M, Waryold J. Educational strategies to help students provide respectful sexual and reproductive health care for lesbian, gay, bisexual, and transgender persons. Journal of midwifery & women's health. 2016;61(6):737-43. DOI: https://doi.org/10.1111/jmwh.12506

22 Altmiller G, Wilson C, Jimenez FA, Perron T. Impact of a virtual patient simulation on nursing students' attitudes of transgender care. Nurse Educator. 2023;48(3):131-6. DOI: https://doi.org/10.1097/NNE.0000000000001331

23 Quattrini V, Roesch A, Kretz D. Implementing a transgender and gender-diverse standardized patient simulation in advanced health assessment: an interprofessional education pilot. Nurse Educator. 2023;48(6):E196-E7. DOI: https://doi.org/10.1097/NNE.0000000000001421

24 Lim F, San Eda O. Methods of teaching transgender health in undergraduate nursing programs: A narrative review. Nurse Educator. 2024;49(3):130-6. DOI: https://doi.org/10.1097/NNE.0000000000001558

25 Ziegler E, Luctkar-Flude M, Carroll B, Tyerman J, Chumbley L, Shortall C. Development of an online educational toolkit for sexual orientation and gender identity minority nursing care. Rev. latinoam. enferm. (Online). 2021;29:e3470. DOI: https://doi.org/10.1590/1518-8345.4712.3470

26 Klotzbaugh RJ, Ballout S, Spencer G. Results and implications from a gender minority health education module for advance practice nursing students. Journal of the American Association of Nurse Practitioners. 2020;32(4):332-8. DOI: https://doi.org/10.1097/JXX.0000000000000249

27 Mert-Karadas M, Yucel-Ozcirpan C. The impact of an educational program based on the reproductive health of LGBT individuals developed for nursing students to improve the knowledge, skills and attitudes of students: a quasi-experimental study. Nurse Education in Practice. 2023;70:103668. DOI: https://doi.org/10.1016/j.nepr.2023.103668

28 Carmichael TN, Copel LC, McDermott-Levy R. Effect of an Education Intervention on Nursing Students' Knowledge of and Attitudes Toward Caring for Transgender and Nonbinary People. Nurse Educator. 2024;49(5):268-73. DOI: https://doi.org/10.1097/NNE.0000000000001600

29 Soomar SM, Cassum LA, Mughal FB, Akhtar A, Soomar SM. "Equalize" and "Include": integrating gender and sexually diverse population's healthcare in nursing curriculum-a quasi-experimental study. BMC Nurs. 2025;24(1):1023. DOI: https://doi.org/10.1186/s12912-025-03154-1

30 Yingling CT, Cotler K, Hughes TL. Building nurses' capacity to address health inequities: incorporating lesbian, gay, bisexual and transgender health content in a family nurse practitioner programme. Journal of Clinical Nursing. 2017;26:2807-17. DOI: https://doi.org/10.1111/jocn.13707

31 Kroning M. Lesbian, gay, bisexual, and transgender education in nursing. Nurse Educator. 2018;43(1):41. DOI: https://doi.org/10.1097/NNE.0000000000000429

32 Abeln B; Love R. Bridging the gap of mental health inequalities in the transgender population: The role of nursing education. Issues in Mental Health Nursing. 2019;40(6):482-5. DOI: https://doi.org/10.1080/01612840.2019.1565876

33 Goodall KR, Wofford LG. Pedagogical strategies of LGBTQIA+ education in pre-licensure nursing: An integrative review. Nurse Education Today. 2022;119:105547. DOI: https://doi.org/10.1016/j.nedt.2022.105547

34 West MGLN, Araújo EC, Vilar CMLN, Batista MAL, Pereira DMR, Silva ATCSGd, et al. Continuing nursing education actions in the face of homophobia: an integrative review. Rev Bras Enferm. 2024;77:e20230094. DOI: https://doi.org/10.1590/0034-7167-2023-0094

35 Santos FDRP, de Sales KS, Bussinguer PRR, dos Santos DC, Fernandes AB, Lopes VGS. Experiences of LGBTQIAPN+ patients in primary health care. Revista Cereus. 2024;16(1):469-85. DOI: https://doi.org/10.18605/2175-7275/cereus.v16n1p469-485

36 Ricks JM, Arthur EK, Stryker SD, Yockey RA, Anderson AM, Allensworth-Davies D. A systematic literature review of community-based participatory health research with sexual and gender minority communities. Health Equity. 2022;6(1):heq. 2022.0039. DOI: https://doi.org/10.1089/heq.2022.0039

37. West, Milka Gabrielle de Lira Nóbrega, et al. "Desenvolvimento e validação de uma cartilha educacional sobre saúde LGBT+ na Atenção Primária à Saúde." *Revista Brasileira de Enfermagem* 78 (2025): e20240433. https://doi.org/10.1590/0034-7167-2024-0433pt

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