INTEGRATING PEDAGOGICAL AND CLINIC KNOWLEDGE IN HEALTH PROFESSIONS EDUCATION: A COMPARATIVE REVIEW ON STUDENT COMPETENCES AND PATIENT WELL-BEING

INTEGRAZIONE DELLE CONOSCENZE PEDAGOGICHE E CLINICHE NELLA FORMAZIONE DELLE PROFESSIONI SANITARIE: UNA REVISIONE COMPARATIVA SULLE COMPETENZE DEGLI STUDENTI E SUL BENESSERE DEI PAZIENTI

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ABSTRACT
The increasing complexity of health needs requires healthcare professionals who are able to integrate technical expertise with relational skills, and the inclusion of pedagogical content in healthcare curricula represents an effective strategy to foster their development. This comparative review (2020–2025) of ten studies shows that such educational models enhance empathy, communication, and reflexivity, thereby improving trust, satisfaction, and patient engagement in the care pathway, and highlights the importance of interdisciplinary training approaches in healthcare education.

La crescente complessità dei bisogni di salute richiede professionisti sanitari capaci di integrare competenze tecniche e abilità relazionali e l'inserimento di contenuti pedagogici nei curricula delle professioni sanitarie rappresenta una strategia efficace per svilupparle. Questa revisione comparativa (2020-2025) di dieci studi mostra che tali modelli potenziano empatia, comunicazione e riflessività, migliorando fiducia, soddisfazione e partecipazione al percorso di cura e sottolineano l'importanza di percorsi formativi interdisciplinari nelle professioni sanitarie.

KEYWORDS
Curricular Integration; Healthcare Education; Patient Well-Being.
Integrazione curriculare; formazione sanitaria; benessere paziente.

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Introduction

Over the past decades, higher education in the healthcare field has undergone a profound transformation, driven by cultural, scientific, and social changes that have radically reshaped the way care and medical professionalism are conceived. Whereas for much of the twentieth century the primary aim of healthcare education was to provide students with solid and up-to-date technical knowledge, today this approach is no longer sufficient to address the increasing complexity of patients' health needs.

Patient care is no longer understood merely as a technical intervention aimed at curing a diseased body, but rather as a complex relational process that encompasses the biological, psychological, social, and existential dimensions of the human being (Engel, 1977; Borrell-Carrió et al., 2004). Consequently, healthcare education is required to radically revise its purposes and pedagogical strategies, moving away from a transmissive model centred exclusively on technical-disciplinary knowledge towards an integrated approach capable of developing not only clinical competences, but also relational, communicative, empathic, and reflective skills in students (Decety & Jackson, 2004).

International literature has long emphasised that the quality of the care relationship and the effectiveness of therapeutic interventions largely depend on these transversal competences, which contribute to building a trust-based relationship with patients and enhancing treatment adherence, thereby improving health outcomes and the overall well-being of the person receiving care (Charon, 2008; Mortari, 2015).

It can therefore be argued that the paradigm of person-centred care currently represents one of the most significant pedagogical orientations in healthcare education. This paradigm requires professionals not to be merely executors of technical procedures, but rather true facilitators of the care process, capable of placing the uniqueness of the patient — along with their background and subjectivity — at the heart of their professional practice (De Mennato, 2018; Barbieri, 2006).

Narrative medicine, for example, has demonstrated how listening to patients' illness stories and integrating these narratives into clinical practice contribute to the construction of more personalised therapeutic pathways and to the

strengthening of the therapeutic alliance (Charon, 2008) between caregiver and patient.

At the same time, attention to the communicative dimension has become an essential element of healthcare education — not as a mere accessory to medical knowledge, but as a central component of professional competence, as crucial as clinical knowledge and technical skills. Numerous studies have indeed shown that effective communication improves patient satisfaction, reduces anxiety levels, increases trust in healthcare professionals, and enhances adherence to therapeutic recommendations (Rider & Keefer, 2006; Silverman, Kurtz & Draper, 2016).

In light of these considerations, there has been a growing awareness that healthcare education must be grounded in a systematic integration of pedagogical and clinical knowledge. This integration should not manifest merely through the occasional inclusion of pedagogy or psychology courses within traditional curricula, but rather through a comprehensive rethinking of the entire educational framework, in which clinical and humanistic dimensions are closely interconnected and mutually reinforcing (Frenk et al., 2010).

Such an integrated approach can take various forms: longitudinal models in which pedagogical content continuously accompanies the development of clinical competences (Hense et al., 2021); horizontal curricula that combine clinical and communication modules within individual courses (Menard et al., 2021); high-fidelity simulation experiences that enable students to practise relational skills in protected settings (Issenberg et al., 2005); or spiral curricula that revisit relational topics at increasing levels of complexity throughout the entire course of study (Kumaravel et al., 2021; Zhou et al., 2021).

Regardless of the form adopted, the ultimate goal remains to overcome the divide between technical knowledge and humanistic understanding, in order to foster genuinely person-centred learning. Schön (2017) argues that reflexivity and awareness of one's professional role are competences that can only be developed when they are organically integrated into the educational process, rather than treated as peripheral additions.

Pedagogical research has often highlighted that the development of clinical-relational competences is not an end in itself, but rather a means to improve the quality of care and promote the patient's overall well-being. By focusing on the how

of care delivery, the quality of the final outcome becomes closely tied to the quality of the care process itself (Diamare et al., 2021).

Skills such as active listening, empathy, and therapeutic communication enable the construction of stronger relationships based on mutual trust and a solid therapeutic alliance, which translate into greater patient satisfaction, improved adherence to treatment, and, in some cases, better clinical outcomes (Decety & Jackson, 2004; Gottschall, 2012). Therefore, the development of programmes that integrate technical training with narrative competences can significantly enhance patient satisfaction and improve the understanding of their needs (Treacy-Abarca et al., 2021).

Other interventions, such as longitudinally integrated social medicine courses, have been shown to increase students' ability to consider the socio-cultural context of patients, thereby fostering greater participation in the therapeutic pathway and ensuring continuity of care (Goyal et al., 2021).

On the basis of what has been discussed so far, a fundamental principle can therefore be stated: patient well-being represents an indirect yet crucial indicator of the effectiveness of educational programmes. When this occurs, healthcare education is capable of developing clinical-relational competences that concretely contribute to transforming the care experience and promoting health in its broadest sense (Bruzzone, 2020).

Despite the growing scientific interest in pedagogical-clinical integration, current literature is still characterised by significant fragmentation: many studies examine the effectiveness of individual educational interventions targeting specific competences, yet few offer perspectives capable of organically connecting these findings. It is precisely from this gap that the need arises for a comparative review aimed at bridging the knowledge divide and providing a more systematic and comprehensive overview.

Through the critical analysis of various approaches adopted at the international level, the comparison of methodologies employed, and the evaluation of the effectiveness of teaching strategies, such a review makes it possible to identify convergences, divergences, and emerging trends. This perspective not only allows for an up-to-date overview of the available evidence but also offers valuable

insights for the future design of educational curricula oriented towards patient well-being.

Many studies, for example, limit themselves to assessing educational outcomes in students without exploring the impact on the quality of care and patient well-being. Others, while acknowledging the importance of pedagogical-clinical integration, do not provide tools to measure its effectiveness systematically. Identifying these critical issues is a crucial step in guiding future developments in research and educational practice.

The present contribution, through a comparative review of the literature published between 2020 and 2025, aims to critically analyse the role of the systematic integration of pedagogical modules within university curricula for healthcare professions, with particular attention to their impact on the development of students' clinical-relational competences and to the effects that such competences exert on the quality of the care relationship and on the overall well-being of the patient.

Building on these premises, the study aims to:

1. Examine the main integrated educational models implemented in degree programmes in medicine and other healthcare professions;
2. Compare the teaching methodologies, assessment tools, and outcomes reported in international studies;
3. Analyse how the development of clinical-relational competences directly or indirectly influences the patient's care experience;
4. Identify the main areas of convergence and divergence within the literature, highlighting potential research gaps;
5. Propose guidelines and recommendations useful for the design of future person-centred curricula aimed at improving overall well-being.

From this perspective, the research question underpinning the present study can be formulated as follows: «Does the systematic integration of pedagogical modules within healthcare curricula enhance students' clinical-relational competences with a view to improving patient well-being?».

1. Methodological Framework of the Comparative Review

The present comparative review aims to analyse the main international empirical evidence on the role of pedagogical-clinical integration in healthcare education, with particular attention to the development of clinical-relational competences among students enrolled in healthcare degree programmes and to their direct and indirect impact on patient well-being. The objective of this work is to construct a systematic and up-to-date overview of the most effective teaching practices and innovative curricular models, thereby providing a useful reference framework to guide future educational design and research developments in the pedagogical-healthcare field.

The bibliographic search was conducted between January and June 2025 and involved the use of four major international academic databases, selected for their complementarity and their ability to provide comprehensive coverage of the relevant disciplines. Scopus (Elsevier) was chosen for the breadth of its multidisciplinary coverage in the biomedical and educational fields, while Web of Science was preferred for its relevance in the social sciences and pedagogical domains, proving particularly useful for identifying interdisciplinary perspectives and approaches. PubMed (National Library of Medicine) served as the primary source for identifying clinical and medical studies with a specific focus on educational dimensions, whereas Google Scholar was employed as a cross-disciplinary academic search engine to capture contributions not indexed in the other databases but potentially significant for the scope of the review.

The searches were conducted independently by two members of the research team in order to minimise the risk of selection bias; the results were subsequently compared and harmonised to resolve any discrepancies. The construction of the search strings involved combining key terms and their synonyms through the use of Boolean operators (AND, OR), thereby ensuring a balance between precision and breadth of results.

The main keywords employed included "*integrated curriculum*", "*pedagogy*", "*clinical competence*", "*patient-centred care*", "*communication skills*", "*empathy*", "*relational skills*", and "*health professions education*", accompanied by terminological variants such as "*curriculum integration*", "*relational competence*", and "*interpersonal skills*".

The application of this strategy led to the identification of a total of 276 articles published between January 2020 and June 2025. The distribution of results was as follows: 82 articles retrieved from Scopus, 64 from Web of Science, 58 from PubMed, and 72 from Google Scholar. After the removal of 48 duplicate records,

the total number of studies subjected to screening was 228. Each title and abstract was independently reviewed by two reviewers, followed by a full-text reading of the studies selected in the subsequent phase, in order to ensure consistency with the objectives of the review.

To ensure methodological accuracy and the relevance of the final corpus, rigorous inclusion and exclusion criteria were applied. Only empirical studies published between January 2020 and June 2025, written in English or Italian, peer-reviewed, and with an available DOI were included in the review.

Moreover, studies were required to have been conducted within healthcare education settings - such as degree programmes in medicine, nursing, physiotherapy, or pharmacy - and to include educational interventions based on the integration of pedagogical, humanistic, or communicative content into clinical curricula.

Additional inclusion criteria concerned the measurement of outcomes related to the development of clinical-relational competences, such as empathy, therapeutic communication, active listening, and reflexivity, as well as the presence of data on the direct or indirect impact of relational competences on the patient experience, measured through indicators such as satisfaction, treatment adherence, perceived quality, or clinical outcomes.

In parallel, all editorials, commentaries, opinion pieces, and theoretical essays lacking empirical data were excluded from the review, for a total of 56 articles. A further 41 studies focusing exclusively on technical or scientific competences without any reference to relational aspects or patient well-being were also removed, along with 32 studies lacking measurable outcomes or outcomes unrelated to dimensions of well-being. An additional 19 articles — consisting of residual duplicates, conference abstracts, or non–peer-reviewed reports — were also excluded from the corpus.

The application of these criteria resulted in the exclusion of a total of 148 studies, reducing the sample to 80 articles subjected to full-text review. Subsequently, a more in-depth analysis of the complete texts led to the exclusion of a further 70 articles, primarily due to their lack of alignment with the more stringent inclusion criteria — such as the absence of evaluations of clinical-relational outcomes, the use of descriptive methodologies without empirical validation, or the lack of explicit links between the relational competences developed and patient well-being indicators.

The final sample included in the comparative review therefore consisted of 10 studies (*Figure 1*).

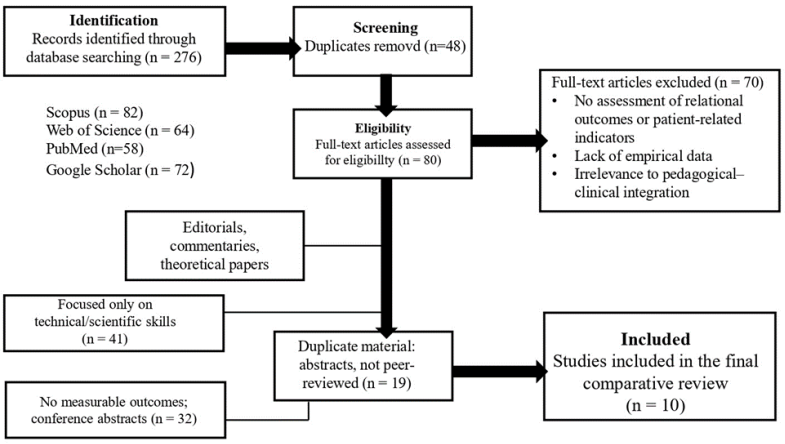

Figure 1. Flow of the review process

Once the studies to be included had been identified, a structured multi-phase analysis was undertaken. First, key information was extracted from each article, including the author and year of publication, research objectives, context and sample involved, type of curricular integration implemented, assessment tools used, main outcomes observed in students, and impacts reported on patients.

The data collected were then organised into a comparative matrix, which enabled the different educational strategies adopted to be cross-referenced and allowed for the identification of convergences and divergences among the results reported by the studies.

The outcomes were classified into two main categories:

- *Proximal outcomes*, referring to the clinical-relational competences developed by students, such as empathy, communication skills, reflexivity, and active listening;
- *Distal outcomes*, relating to the patient care experience, such as satisfaction, trust, treatment adherence, perceived quality of care, and clinical results.

Finally, a qualitative Thematic Analysis was conducted, inspired by the framework proposed by Braun and Clarke (2006). This involved an iterative six-phase procedure:

1. familiarisation with the data;
2. generation of initial codes;
3. searching for themes;
4. reviewing themes;
5. defining and naming themes;
6. producing the final report.

This approach made it possible to identify the most effective educational models, the factors that facilitate or hinder the acquisition of relational competences, and the extent to which such competences influence care outcomes.

The adoption of this method also ensured transparency and rigour in the interpretation of results, allowing for the construction of a structured, coherent, and up-to-date overview of the available international evidence. It provided a comparative reading of the main trends emerging from the scientific literature, while simultaneously highlighting methodological limitations and potential directions for future empirical research. *Table 1* summarizes the ten studies underpinning this review.

Author(s) (Year)	Title	Design	Context / Participants	Curricular integration type	Main outcomes (students)	Implications for patient well-being.
Menard et al. (2021)	Integrating evidence-based medicine skills into a medical school curriculum: a quantitative outcomes assessment	Quasi-experimental (cohort)	Medical students, USA	Scaffolded / distributed throughout the curriculum.	Decision-making and analytical competences in Evidence-Based Medicine (EBM)	More appropriate clinical decisions; improved therapeutic outcome.
Goyal et al. (2021)	The design and implementation of a longitudinal social medicine curriculum at the University of Vermont's Larner College of Medicine	Interventional study	Medical students, USA	Longitudinal integration of social medicine modules.	Socio-relational awareness and communicative competences.	Improved doctor–patient relationship
Allouch et al. (2024)	Tools for measuring curriculum integration in health professions' education: a systematic	Systematic review	Global health programmes	Analysis of assessment tools for integration	Alignment between training and real needs	Patient-centred training
Beattie et al. (2024)	Influence of a rural Longitudinal Integrated Clerkship on medical graduates' geographic and specialty decisions: a constructivist grounded theory study	Qualitative study	Rural medical students, Australia	LIC (Longitudinal Integrated Curriculum)	Professional preparation and reflexivity	Increased access to care in underserved areas
Hense et al. (2021)	Implementing longitudinal integrated curricula: systematic review of barriers and facilitators	Systematic review	International medical schools	Integrated LIC models	Continuous clinical competence and relational skills	Care continuity and perceived quality
Treacy-Abarca et al. (2021)	Enhancing existing medical school curricula with an innovative healthcare disparities curriculum.	Educational intervention	Medical students, USA	Thematic integration focused on health disparities.	Empathy and intercultural competences.	More equitable and personalised care.
Matinho et al. (2022)	A systematic review of integrated learning definitions, frameworks, and practices in recent health professions education literature	Systematic review	Global health education	Theoretical and methodological analysis	Conceptual and structural clarity	Patient-centred curriculum design.
Feigerlova et al. (2024)	Team-based learning (TBL) curriculum combined with video vignettes improves performance of undergraduate medical students on OSCE	Experimental study	French medical students	Integration of simulation-based methodologies.	OSCE scores and relational skills.	Improved communication and patient satisfaction.

Table 1. Studies on Curriculum Integration in Medical Education and Patient-Centered Outcomes

2. Results of the Comparative Review

In continuity with the previous sections, this part summarises the main findings that emerged from the comparative analysis of the international literature published between 2020 and 2025 on the systematic integration of pedagogical modules within university curricula for healthcare professions.

The studies analysed outline a coherent picture: pedagogical-clinical integration significantly influences, first and foremost, students' competences, contributing to the redefinition of their professional profile, and subsequently, the quality of the care relationship, with measurable effects on patient well-being. From this analysis, four main models of curricular integration emerge, differing in structure, duration, intensity, and educational objectives, yet united by the common aim of overcoming the traditional divide between technical knowledge and humanistic understanding.

Longitudinal Integrated Curricula (LIC) represent one of the most comprehensive and structured forms of integration. In these models, pedagogical and relational content is not confined to isolated moments within the educational pathway but instead accompanies students throughout the entire curriculum, providing a continuous thread between theoretical learning and clinical practice (Hense et al., 2021).

The underlying rationale of this approach lies in the continuity of the educational relationship, which translates into ongoing opportunities to apply communicative, empathic, and reflective competences in real clinical contexts. Several studies (Beattie et al., 2024; Goyal et al., 2021) highlight that students enrolled in longitudinal curricula develop a more mature and integrated professional profile, characterised by an enhanced ability to adapt to the individual needs of patients and a deeper understanding of the socio-cultural context of care.

From the patient's perspective, LICs are associated with increased overall satisfaction and a more positive perception of the therapeutic relationship. The student's prolonged presence and continuous contact with patients allow for the development of stronger trust-based relationships, improved treatment adherence, and a strengthened doctor–patient alliance, with significant effects on the overall effectiveness of healthcare interventions (Beattie et al., 2024).

Alongside longitudinal curricula, a second model identified is that of horizontal or transversal models, which involve the integration of pedagogical and relational content in parallel with core clinical courses, often through seminars, workshops, or thematic modules. Although they do not guarantee the same continuity as LICs,

these approaches have nonetheless proven effective in enhancing communication skills and empathy, particularly when the educational content is closely linked to everyday clinical practice (Treacy-Abarca et al., 2021).

Moreover, such models play a significant role in raising awareness of healthcare disparities and in strengthening students' ability to interact with patients from diverse socio-cultural backgrounds. This heightened awareness translates into a more personalised and attentive approach to care, capable of improving patients' perception of equity and responsiveness to their individual needs.

A third approach that emerged from the analysis is represented by spiral or scaffolded models, in which pedagogical themes are revisited cyclically throughout the entire educational pathway, with progressively increasing levels of complexity and depth. In this way, learning is gradually built upon previously consolidated foundations, fostering the development of increasingly advanced and integrated competences (Menard et al., 2021).

The results show a significant improvement in students' ability to apply theoretical knowledge to complex clinical contexts, as well as greater mastery of therapeutic communication in challenging situations. These benefits also have indirect but substantial effects on patient well-being, as students trained within a progressive model demonstrate greater effectiveness in managing critical communicative interactions, such as delivering bad news or providing support during long-term care pathways (Feigerlova et al., 2024).

Finally, another model identified in the literature is interdisciplinary and interprofessional integration, which is based on collaboration among different disciplines - both healthcare-related and non-healthcare - in the design and delivery of curricula. These educational pathways promote the development of transversal competences, such as the ability to work within multiprofessional teams, to communicate effectively with colleagues from diverse backgrounds, and to coordinate the care process in a coherent and integrated manner (Schoenherr & McConnell, 2024).

From the patient's perspective, the interprofessional approach results in more coordinated and comprehensive treatment plans, a reduction in communication errors among healthcare providers, and a stronger perception of being cared for by a cohesive and attentive team.

Taken together, these four models offer complementary and convergent perspectives on the effectiveness of pedagogical-clinical integration within

healthcare education pathways. The comparative analysis reveals an almost unanimous consensus in recognising the crucial role of integrated curricula in the development of clinical-relational competences that are fundamental to contemporary practice.

To facilitate reading and comparison across the different approaches, *Table 2* summarises the main advantages, limitations, and impacts of the models analysed.

Model	Overview	Key benefits	Key limitations	Impact on learners and patients
Longitudinal Integrated Curriculum (LIC)	Students follow the same patients and tutors over time, integrating theory and practice continuously	Builds care continuity, empathy, and knowledge; supports curricular consistency	Risk of overload, complex coordination, lower priority vs. other modules.	Strengthens relational skills and improves patient outcomes.
Spiral integration model	Pedagogical, clinical, and communication content are taught together within the same module.	Encourages reflection, interdisciplinarity, and empathy.	Requires complex curricular coordination.	Improves team-based work effectiveness.
Spiral model	Content is revisited and deepened progressively through more complex cases.	Enables structured curriculum and progressive learning.	Hard to assess short-term impact.	Enhances experiential learning and care quality.
Interprofessional model	Students from different health disciplines learn together on shared cases.	Promotes collaboration, communication, and multiprofessional vision.	Requires strong logistical coordination.	Improves therapeutic coherence and holistic care.

Table 2. Overview of pedagogical-clinical integration models

Numerous studies report a statistically significant improvement in performance on Objective Structured Clinical Examinations (OSCEs) among students who have undertaken educational pathways based on integrated curricula (Feigerlova et al., 2024). These results are not limited to the enhancement of technical skills but, even more importantly, concern the development of advanced communicative competences - including the ability to establish effective dialogue with patients, express empathy, and use clear and comprehensible language.

The improvement observed in OSCE performance is particularly significant, as it reflects students' ability to integrate theoretical knowledge, practical skills, and relational competences within simulated clinical contexts, thereby serving as a reliable predictive indicator of future professional effectiveness.

Among the various clinical-relational dimensions enhanced by pedagogical-clinical integration, empathy emerges as one of the most profoundly transformed competences, representing a crucial starting point for understanding the formative impact of this approach. Studies employing validated instruments such as the

Jefferson Scale of Empathy (JSE) report significant increases in students' scores following participation in integrated modules (Hojat, 2016; Treacy-Abarca et al., 2021).

These results go beyond a mere rise in empathic levels, translating into a deeper understanding of patients' needs and a heightened sensitivity to the psychological and social dimensions of illness. Closely linked to these outcomes is the strengthening of active listening skills, considered a natural extension of empathy itself. Students trained through integrated approaches demonstrate a greater ability to recognise emotional cues, interpret explicit and implicit needs, and respond appropriately - thereby enhancing the overall quality of the therapeutic interaction.

Alongside the development of empathy and active listening, communicative competence represents another central pillar of integrated curricula. Available data indicate a significant improvement in students' ability to establish effective therapeutic relationships characterised by clarity, respect, active participation, and shared decision-making (Rider & Keefer, 2006).

This competence is particularly relevant during the most sensitive stages of the care pathway - such as diagnostic communication, expectation management, and the informed consent process - where the quality of the relationship directly influences the patient's perception and experience. The effects on clinical practice are concrete and measurable: effective therapeutic communication helps reduce conflicts between clinician and patient, increases overall satisfaction, and strengthens the perception of being heard and actively involved in clinical decisions (Silverman, Kurtz & Draper, 2016).

However, pedagogical integration does not end with the development of relational competences; it also fosters professional reflexivity, understood as the ability to critically analyse one's actions, learn from experience, and adapt dynamically to the complex needs of patients (Schön, 2017). Students trained through integrated curricula demonstrate greater awareness of the ethical implications of care, increased sensitivity to vulnerabilities and individual differences, and a more pronounced capacity to personalise clinical decisions according to the context.

The analysis of the studies highlights how the enhancement of these clinical-relational competences produces both direct and indirect effects on patient well-being, which can be articulated into four key dimensions.

Firstly, patient satisfaction emerges as one of the most frequently used indicators to assess educational impact: increased empathy, active listening, and communicative competence among practitioners trained within integrated curricula are associated with a significantly higher perception of the quality of care received (Goyal et al., 2021). This satisfaction is not merely a subjective outcome but represents a cornerstone for building the therapeutic alliance and ensuring continuity of care, as it fosters the development of trust both in the healthcare system and in individual professionals.

Secondly, numerous studies report an increase in treatment adherence among patients cared for by professionals trained through integrated models. The ability to deeply understand patients' needs, communicate clearly and accessibly, and actively involve them in therapeutic decision-making facilitates treatment acceptance and supports its concrete implementation (Treacy-Abarca et al., 2021). In addition, a significant reduction in misunderstandings and conflicts within the care relationship has been observed: empathic, clear, and bidirectional communication helps manage expectations, reduce anxiety, and promote more effective collaboration between patients and the healthcare team (Silverman, Kurtz & Draper, 2016).

Finally, the integrated approach makes it possible to provide more personalised and person-centred care, moving beyond an exclusively biomedical view of illness to include the psychological, social, and cultural dimensions that shape the overall experience of disease. This results in more authentic and holistic attention to patients' needs and makes a decisive contribution to their overall well-being (Charon, 2008).

The studies included in the review employed a variety of instruments to assess outcomes for both students and patients. Among the most commonly used were:

- Jefferson Scale of Empathy (JSE): measures students' levels of empathy and their ability to understand the patient's perspective (Hojat, 2016).
- OSCE rubrics: provide a structured evaluation of technical, communicative, and relational competences in simulated clinical settings (Chavira et al., 2022).
- Patient satisfaction questionnaires: explore perceptions of care quality, clarity of communication, and involvement in decision-making (Gibbons et al., 2015).
- Therapeutic adherence scales: measure the consistency between medical prescriptions and patient behaviour (Morisky et al., 1986).

- Qualitative analyses (interviews, focus groups, narrative diaries): offer in-depth insights into the lived experiences of both patients and students, providing valuable information on relational processes (Lune & Berg, 2017).

The integration of quantitative and qualitative methodologies is not merely a broader evaluation strategy but an essential approach for capturing the complexity and depth of the educational phenomena under analysis. This mixed-method perspective enables not only the precise measurement of the effectiveness of integrated curricula but also a detailed and coherent reconstruction of the process through which the development of clinical-relational competences translates into tangible outcomes for patients, thereby contributing to their overall well-being.

Taken together, the results of the comparative review outline a solid and coherent picture, clearly demonstrating that the systematic integration of pedagogical modules into healthcare curricula is not simply an educational enhancement, but rather a transformative factor capable of profoundly influencing professional practice. The evidence shows that such integration leads to a substantial improvement in students' clinical-relational competences, resulting in measurable effects on the quality of the care relationship and, consequently, on patient well-being.

However, the relationship between education and care outcomes unfolds through a mediated process, illustrated in Figure 2, in which the development of relational competences represents the crucial link connecting educational pathways to the concrete care experience: integrated curricula → enhancement of relational competences → effective therapeutic relationship and improved health outcomes.

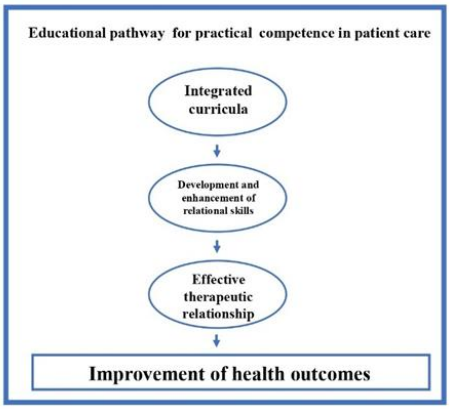

Figure 2. From Integrated Curricula to Health Outcomes: A Mediated Pathway Through Relational Competence

This conceptual model, which clarifies the causal and functional link between pedagogical and clinical dimensions, highlights the high strategic value of educational integration and suggests that intentionally investing in the relational dimension of future healthcare professionals' training constitutes a decisive lever for building care systems that are more human, effective, and person-centred.

Such systems, in addition to responding more precisely to clinical needs, are capable of generating deeper, more meaningful, and transformative health experiences for both patients and communities, thereby contributing to a redefinition of the very quality of contemporary care.

Conclusions

The comparative review of the literature published between 2020 and 2025 provides a clear and coherent picture of the impact of pedagogical-clinical integration within healthcare university curricula. The evidence collected demonstrates, with remarkable consistency, that the systematic inclusion of pedagogical modules in healthcare education programmes significantly contributes to the development of fundamental clinical-relational competences, such as empathy, therapeutic communication, professional reflexivity, and ethical awareness.

These competences, often regarded as complementary to technical skills, are in fact central to building effective and personalised care relationships. Students trained through integrated curricula demonstrate a greater ability to understand the complex needs of patients, communicate clearly and collaboratively, manage sensitive communicative situations, and establish relationships based on trust and active listening.

Such abilities not only enhance the quality of clinical interaction but also translate into tangible outcomes for patient well-being, including higher levels of satisfaction, improved treatment adherence, and a stronger perception of care as person-centred.

The results also show that the relationship between education and quality of care follows a mediated pathway: curricular integration fosters the development of relational competences in students; these competences, in turn, enhance the

quality of the therapeutic relationship; and, ultimately, an effective relationship translates into a positive impact on the patient's experience and well-being.

This pathway highlights how the educational process does not end within the pedagogical dimension but has concrete repercussions on the care system and on people's health. Indeed, one of the most significant findings of this review concerns the paradigmatic transformation of healthcare education: it is no longer sufficient for curricula to prepare professionals who are technically and scientifically competent; they must also train practitioners capable of situating technical expertise within a relational, ethical, and empathic framework.

The person receiving care is not merely a passive recipient of clinical interventions, but rather an individual with complex needs that require a holistic and integrated approach to care (Engel, 1977; Charon, 2008).

Designing truly person-centred educational programmes requires a profound rethinking of the aims, content, and methodologies of healthcare education. This entails the systematic inclusion, within curricula, of courses in pedagogy, psychology, and communication, complemented by authentic learning experiences that enable students to practise and consolidate relational competences in real or simulated clinical settings.

In a complex and constantly evolving healthcare system, professionals cannot rely solely on possessing solid technical and scientific knowledge: they must also be prepared to address the human dimension of care by developing empathic abilities, active listening skills, and advanced therapeutic communication competences. These skills are essential for recognising and interpreting patients' often implicit needs and for building authentic therapeutic alliances based on trust, participation, and shared responsibility.

Only through integrated and multidimensional training - one that combines technical expertise, relational competences, and psycho-pedagogical sensitivity - is it possible to prepare professionals capable of promoting not only the clinical effectiveness of interventions but also the overall well-being of the person receiving care, thereby contributing to the creation of healthcare pathways that are genuinely centred on the individual.

It becomes clear that there is a pressing need to rethink the structure of educational pathways in an intentional, systematic manner, distributed throughout the entire university programme, moving beyond fragmented or episodic approaches that risk undermining their overall effectiveness. From this perspective, as highlighted by

the comparative review, collaboration among physicians, nurses, pedagogues, and psychologists represents a key element in enriching the educational process and preparing students to face real-world contexts characterised by high levels of care complexity and an increasingly necessary multiprofessional interaction.

Another crucial aspect concerns investment in the development and validation of reliable assessment tools that are sensitive to the relational dimensions of professional competence. While technical competences can be measured through standardised practical assessments, communicative, empathic, and reflective skills require more sophisticated methodologies that combine quantitative and qualitative instruments, direct observation, simulations, and structured feedback - all capable of capturing the complexity and depth of the educational process.

Although the review has highlighted consistent and promising results, it has also revealed several significant gaps in the current literature, outlining key directions for future research. Firstly, there is a need for multicentric longitudinal studies, as most of the available research is of limited duration and focuses on single cohorts of students. Broader investigations conducted across diverse institutional and cultural contexts would allow for the assessment of the long-term effectiveness of integrated curricula and a deeper understanding of how competences acquired during training are translated into established professional practices.

Another priority concerns the direct measurement of patient impact. Many current studies rely on indirect indicators, such as satisfaction or treatment adherence; however, it is necessary to develop tools and methodologies capable of more accurately assessing the effects of pedagogical-clinical integration on clinical outcomes, quality of life, and patients' psychological well-being.

Equally important is the development of advanced interdisciplinary educational models. The future of healthcare education lies in increasingly close integration between different disciplines, and educational projects that combine medicine, pedagogy, and psychology have the potential to foster a truly holistic and person-centred approach.

Finally, it is essential to deepen the understanding of competence transfer dynamics in order to explore how relational skills acquired during training are applied in everyday clinical practice, and to identify which organisational, cultural, or individual factors may facilitate or hinder their effective implementation.

The evidence gathered offers universities and faculties of medicine and health sciences valuable guidance for rethinking and further enhancing their educational

programmes. Based on these findings, several practical recommendations can be outlined to support the evolution of educational pathways:

1. Integrate pedagogical modules from the first year of study and maintain them consistently throughout the entire curriculum.
2. Create spaces for reflection and discussion on communication, empathy, and clinical ethics.
3. Strengthen high-fidelity simulation experiences and the use of narrative cases to practise complex relational competences.
4. Promote interprofessional collaboration already during the training phase, facilitating interaction among students from different healthcare professions.
5. Develop formative assessment systems that include patient feedback and structured observations of clinical communication.

Through a profound rethinking of educational pathways, universities can be transformed into contexts where not only technical knowledge is transmitted, but where advanced relational competence - the cornerstone of person-centred medicine - is actively cultivated. The evidence clearly demonstrates that the systematic integration of pedagogical modules into healthcare curricula is not merely an educational enhancement, but an essential element in training the healthcare professionals of the future.

It fosters the development of robust clinical-relational competences, improves the quality of care, and has a direct impact on the well-being of the person receiving care.

Author contributions

Gaetano Monaco is the author of Sections 2 and 3; Alberto Fornasari is the author of Section 4; Matteo Conte is the author of Sections 1 and 2.

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