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REVISIÓN

Clinical placement sites and practical learning environments in health professions education: a systematized descriptive and thematic review of Scopus indexed records, 2020 to 2026

Campos clínicos y entornos de aprendizaje práctico en la formación de profesionales de la salud: revisión sistematizada descriptiva y temática de registros indexados en Scopus, 2020 a 2026

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ABSTRACT

This study aimed to descriptively and thematically analyze records indexed in Scopus between 2020 and 2026 concerning clinical placement sites and practical learning environments in health professions education. A systematized review was conducted using titles, abstracts, keywords, and bibliographic metadata. The search initially identified 11,640 records. After applying document filters and removing duplicates, 9,669 records were screened by title and abstract. Of these, 5,713 were excluded because of insufficient thematic relevance, and 3,956 formed the final corpus. The thematic classification was supported by ATLAS.ti and manually validated by both authors. The results were organized into three non-mutually exclusive dimensions: pedagogical quality and competency development, identified in 2,107 records (53.3%); supervision, relationships, and student well-being, present in 2,071 records (52.4%); and institutional conditions and innovation in practical learning environments, observed in 1,663 records (42.0%). The analyzed content emphasized theory–practice integration, feedback, integration into healthcare teams, psychological safety, supervisor availability, institutional coordination, and the incorporation of educational technologies. It is concluded that the literature approaches clinical education as a multidimensional process. These findings describe general thematic trends but do not establish the effectiveness of specific interventions or the superiority of particular clinical education models.

Keywords: clinical placement sites; health professions education; practical learning; clinical supervision; professional competencies.

RESUMEN

El estudio tuvo como objetivo analizar descriptiva y temáticamente los registros indexados en Scopus entre 2020 y 2026 sobre campos clínicos y entornos de aprendizaje práctico en la formación de profesionales de la salud. Se desarrolló una revisión sistematizada basada en títulos, resúmenes, palabras clave y metadatos bibliográficos. La búsqueda identificó inicialmente 11.640 registros. Después de aplicar filtros documentales y eliminar duplicados, 9.669 registros fueron examinados mediante títulos y resúmenes. De estos, 5.713 se excluyeron por falta de pertinencia temática y 3.956 conformaron el corpus analizado. La clasificación temática se realizó con apoyo de ATLAS.ti y fue validada manualmente por los dos autores. Los resultados se organizaron en tres dimensiones no mutuamente excluyentes: calidad pedagógica y desarrollo de competencias, identificada en 2.107 registros (53,3 %); supervisión, relaciones y bienestar estudiantil, presente en 2.071 (52,4 %); y condiciones institucionales e innovación de los entornos prácticos, observada en 1.663 (42,0 %). Los contenidos analizados destacaron la articulación teórico-práctica, la retroalimentación, la integración en los equipos, la seguridad psicológica, la disponibilidad de supervisores, la coordinación institucional y la incorporación de tecnologías. Se concluye que la literatura aborda la formación clínica como un proceso multidimensional. Los resultados describen tendencias temáticas, pero no permiten establecer la efectividad de intervenciones específicas.

Palabras clave: campos clínicos; educación en salud; aprendizaje práctico; supervisión clínica; competencias profesionales.

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INTRODUCTION

The training of health professionals requires linking the knowledge acquired during academic education with its application in real care situations. In this process, clinical settings allow students to develop clinical reasoning, decision-making capacity, communication skills, and modes of action consistent with the ethical responsibilities of each profession. These spaces also favor the progressive construction of professional identity, as they bring students closer to healthcare dynamics, interprofessional relationships, and the concrete conditions in which the care of people takes place. Therefore, the clinical setting should not be understood only as the place where practical training is carried out, but as an important part of professional training. [1,2].

The clinical learning environment is made up of pedagogical, relational, organizational, and material factors that interact during the practical experience. These include the available infrastructure, opportunities to participate in procedures, relationships with health teams, the quality of supervision, and the confidence students feel to ask questions or acknowledge their difficulties. The combination of these elements explains why students assigned to the same institution may experience different learning opportunities. It also demonstrates that the quality of a clinical field cannot be assessed through a single indicator, since it requires considering different dimensions of the training process. [1,3].

Supervision is among the most relevant components of practical learning. Having an available reference professional to guide, clarify doubts, and provide feedback makes it easier for the student to take on responsibilities according to their level of preparation. When this relationship develops in an atmosphere of respect and trust, students have greater possibilities of recognizing their limitations, requesting help, and learning from their mistakes. Conversely, distant, inconsistent supervision, or supervision focused mainly on controlling performance, can limit participation and cause the practicum to become mainly an observation experience [4,5]. The quality of accompaniment is also related to student satisfaction with the training environment [6].

The sense of belonging represents another important component of the clinical experience. Joining a health center means entering a space that has norms, responsibilities, hierarchies, and particular ways of organizing work. Learning is favored when students are recognized as members of the training team, participate in clinical activities, and receive tasks consistent with their abilities. Environments with greater student participation show that peer collaboration and the progressive assignment of responsibilities can strengthen autonomy and commitment to learning, provided that adequate professional accompaniment exists [7,8].

Institutional conditions also determine the training opportunities available. The number of students assigned to each service, the number of supervisors, the clinical workload, the diversity of cases, and access to infrastructure and resources condition the possibilities for active participation. An excessive concentration of students can generate competition for access to procedures, reduce the time devoted to supervision, and increase the workload of the professionals responsible for supervision [9]. Likewise, the duration of a rotation does not by itself guarantee a better experience, because its results depend on the quality of the accompaniment and the environment in which the practice takes place [6].

The relationship between higher education institutions and health facilities constitutes an additional challenge. Although both participate in training, their priorities may differ: educational institutions must ensure compliance with learning outcomes, while health centers must respond to users' needs and ensure the continuity of their services. When there is little coordination between both parties, differences may arise between what the student is expected to do and the activities they can ultimately carry out in the clinical setting. Therefore, communication, the clear distribution of responsibilities, and the preparation of the professionals involved in supervision are necessary aspects to foster a coherent training experience [2,10].

Clinical experience also has an emotional dimension that must be considered alongside the development of technical competencies. During their clinical experiences, students may face situations such as pain, uncertainty, death, interpersonal conflicts, and fear of making mistakes. A respectful and safe environment allows them to process these experiences, seek help, and strengthen their confidence. Conversely, lack of support, humiliation, or discriminatory treatment can affect their well-being and limit their willingness to participate. The professionals observed, the quality of communication, and the characteristics of the environment also influence the acquisition of care-related behaviors [11].

The COVID-19 pandemic significantly modified clinical training experiences, due to restrictions on access to health care facilities and the need to ensure continuity of educational activities. In this context, the use of simulations, virtual users, remote case analysis, and hybrid modalities

expanded. These alternatives made it possible to maintain certain learning opportunities and fostered educational innovation; however, they also showed that direct contact with users, their families, and health care teams has characteristics that cannot be fully reproduced through digital tools [12,13].

Virtual simulation can provide safe, standardized, and repeatable experiences prior to entry into healthcare facilities. Its use has been associated with strengthening clinical reasoning, especially when scenarios require decision-making and conclude with structured feedback [14]. It can also promote evidence-based learning and facilitate access to infrequent clinical situations [15]. However, its effectiveness depends on pedagogical design, technological availability, and the preparation of those who guide the activities. For this reason, simulation and virtual resources are understood as tools that complement practical training but do not completely replace in-person clinical experience [3,15].

Recent scientific production on clinical placements is distributed across different disciplines, healthcare contexts, teaching modalities, and supervision models, which makes it difficult to obtain an integrated view of its main trends. Given this situation, the present study aims to descriptively and thematically analyze the records indexed in Scopus between 2020 and 2026 on clinical placements and practical learning environments in the training of health professionals. The analysis considers the information available in titles, abstracts, keywords, and bibliographic metadata, with the purpose of characterizing their temporal evolution and identifying the predominant thematic dimensions. This delimitation makes it possible to recognize general trends, factors linked to the quality of practical experiences, and aspects that require further research with full-text analysis [4,8,13].

METHODOLOGY

Research design

A systematized descriptive and thematic review was carried out, oriented toward the analysis of bibliographic records on clinical fields and practical learning environments in the training of health professionals. The unit of analysis consisted of the records retrieved from Scopus, and the review was limited to the information available in the titles, abstracts, keywords, and bibliographic metadata.

The identification, screening, and selection process was documented through an adaptation of the flow diagram proposed by PRISMA 2020 [16]. This adaptation was used to provide transparency regarding the number of records retrieved, the exclusions applied, and the composition of the thematic corpus. Because a systematic evaluation of full texts was not carried out, the procedure did not include an eligibility phase based on comprehensive reading or an assessment of the risk of bias of the studies.

Information source and search period

The literature search was conducted in May 2026 in the Scopus database. This source was selected for its coverage of scientific journals in education, medicine, and health sciences, as well as for the availability of structured metadata for export and analysis.

Records published from January 2020 to the date on which the search was executed were considered. The information corresponding to 2026 therefore represents partial coverage of the year. No initial restrictions were established by language, subject area, or open access. The only limitation incorporated directly into the search equation corresponded to the publication period.

Search strategy

The search strategy was constructed using English terms related to clinical learning environments, formative practices, the student body, and the various health disciplines. The descriptors were combined using the Boolean operators AND and OR and were searched in the title, abstract, and keyword fields using the TITLE-ABS-KEY command.

The search equation used was the following:

TITLE-ABS-KEY((“clinical learning environment” OR “clinical education environment” OR “clinical training environment*” OR “clinical practice environment*” OR “clinical placement*” OR “clinical practicum*” OR “clinical rotation*” OR “clinical clerkship*” OR “clinical training” OR “clinical education” OR “clinical learning” OR “practice placement*” OR “practice-based learning” OR “workplace-based learning” OR “work-integrated learning” OR “fieldwork education” OR “fieldwork

placement*" OR "experiential learning") AND (student* OR undergraduate* OR trainee* OR intern*) AND ("health profession*" OR "health science*" OR "healthcare education" OR "medical education" OR medicine OR nursing OR midwifery OR physiotherapy* OR "physical therap*" OR "occupational therap*" OR dentistry OR pharmacy OR nutrition OR dietetic* OR "speech therap*" OR "speech-language pathology" OR radiograph* OR "medical technology*" OR kinesiology)) AND PUBYEAR > 2019 AND PUBYEAR < 2027**

The search did not incorporate restrictions by subject area, document type, source type, or publication stage. These criteria were applied subsequently during the screening of the results, in order to maintain a broad initial search and separately record the exclusions made.

Eligibility criteria

The selection criteria were defined according to the period, population, educational context, phenomenon studied, learning modality, and characteristics of the reviewed documents. Since the analysis was carried out using titles, abstracts, keywords, and metadata, full-text availability was not considered as one record for the selection of records.

Table 1. Inclusion and exclusion criteria applied to records

Dimension	Inclusion criteria	Exclusion criteria
Period	Publications between January 2020 and May 28, 2026	Publications before 2020 or after the search period
Population	Students in health degree programs or training programs	Studies focused exclusively on users, teachers, or professionals without student participation
Context	Clinical settings, healthcare centers, practicums, rotations, internships, field activities, and other practical learning environments	Studies conducted exclusively in theoretical classrooms and unrelated to practical or clinical experiences
Phenomenon	Learning, experiences, perceptions, competencies, supervision, well-being, assessment, and barriers or facilitators associated with the practice environment	Clinical research focused exclusively on diseases, treatments, procedures, or user outcomes
Modality	Face-to-face, simulated, virtual, or hybrid experiences linked to practical training	Digital education or simulation without an explicit relationship to practical learning or the development of clinical competencies
Document type	Articles published in scientific journals	Publications from books, series, conferences, or other sources
State	Publications in final status	Articles in press or records not in their final version
Available information	Records with a title and abstract sufficient to assess their relevance	Records without a title, abstract, or sufficient information to determine their relationship to the object of study

Source: own elaboration based on records retrieved from Scopus (2026).

Identification and cleaning of records

The initial search retrieved 11,640 records. In the first stage, no exclusions were applied by thematic area. Subsequently, 1,759 documents that did not correspond to articles, 11 publications from sources other than journals, and 197 records that were not in final publication status were removed. After applying these criteria, 9,673 records remained.

The records were exported from Scopus in CSV format. The file contained 33 fields of information, including authorship, title, publication year, source, abstract, keywords, affiliations, language, DOI, and Scopus identification number. All exported records had a title and abstract.

Duplicate identification was performed by comparing the title, DOI, and Scopus identifier. This procedure allowed the detection and elimination of four duplicate records, so the set available for screening consisted of 9,669 records.

Table 2. Initial screening of records retrieved from Scopus

Stage	Excluded records	Remaining records
Records identified in Scopus	—	11.640
Documents other than articles	1.759	9.881
Sources other than journals	11	9.870
Publications with non-final status	197	9.673
Duplicate records	4	9.669
Records available for screening	—	9.669

Source: own elaboration based on records retrieved from Scopus (2026).

Screening and compilation of the thematic corpus

The two authors jointly reviewed the titles and abstracts of the 9,669 records retrieved. Screening considered the explicit presence of students from health programs and the document's relationship to clinical fields, professional practices, rotations, internships, clinical simulations, or other practical learning environments.

Records focused exclusively on diseases, treatments, clinical procedures, or care outcomes unrelated to student training were excluded. Those referring solely to theoretical education, training of practicing professionals, or educational technologies without an explicit connection to clinical or practical experiences were also removed.

Differences in assessment between the authors were reviewed jointly and resolved by consensus. The participation of a third reviewer was not necessary. As a result of the screening, 5,713 records that did not meet the thematic criteria were excluded, and a corpus of 3,956 records was formed for the descriptive and thematic analysis. No subsequent phase of full-text retrieval or evaluation was carried out.

Extraction and organization of information

The information was organized into a matrix created in Microsoft Excel from the CSV file exported from Scopus. For each record, data for title, abstract, publication year, authors, journal, author keywords, indexed keywords, affiliations, language, DOI, and Scopus identifier were preserved.

The matrix made it possible to maintain the link between each original record and the categories used during the analysis. For the temporal characterization, the publication year reported by Scopus was used. Records corresponding to 2026 were interpreted as partial results because the search was conducted in May of that year.

Thematic classification

Given the volume of the corpus, the thematic classification of the 3.956 records was performed using a coding procedure assisted by ATLAS.ti 26 for Windows, applied to the information available in the titles and abstracts. Before beginning the analysis, the authors defined 3 thematic dimensions and, for each dimension, prepared a set of terms, expressions, and assignment rules. These criteria were incorporated into the program to locate matches and perform an initial coding of the records.

Prior to counting, the following operational dimensions were established:

1. Pedagogical quality and competency development: included records that mentioned integration between theory and practice, learning opportunities, clinical reasoning, decision-making, professional skills, progressive autonomy, assessment, feedback, or preparation for professional practice.

2. Supervision, relationships, and student well-being: gathered records related to supervisors, tutors, preceptors, or mentors; integration into the team; peer support; communication; sense of belonging; stress; anxiety; burnout; mistreatment; discrimination; or psychological safety.

3. Institutional conditions and innovation in practical environments: This category included records related to the availability and capacity of clinical sites, the number of students per supervisor, clinical workload, infrastructure, resources, coordination between educational institutions and health centers, simulation, virtual reality, virtual users, telehealth, or hybrid modalities.

The assignment was performed only when the title or abstract contained information explicitly linked to any of the dimensions. Subsequently, the 2 authors reviewed the initial assignments generated with software support, paying particular attention to ambiguous records, matches produced out of context, and possible cases not detected by the established terms. Differences were resolved through discussion and consensus.

Once the review was completed, the membership of each dimension was recorded in the analysis matrix using a dichotomous variable: presence, coded with the value 1, and absence, coded with the value 0. The dimensions were not mutually exclusive, so the same record could be assigned to more than one category. This characteristic explains why the sum of the thematic frequencies is greater than the total number of records in the corpus and why the percentages do not add up to 100%.

The coding was, therefore, software-assisted and manually validated, without using machine learning models or artificial intelligence tools to determine the final classification. Responsibility for thematic assignment remained with the authors.

Information analysis

The descriptive analysis considered absolute frequencies and percentages. The temporal distribution was calculated using the 3,956 records that made up the thematic corpus as the denominator. For each dimension, the percentage was obtained by dividing the number of records assigned to the category by the total corpus and multiplying the result by 100.

Thematic interpretation was limited to the content available in the titles and abstracts. A meta-analysis was not performed because the purpose of the study was not to combine quantitative results of interventions, but to describe the retrieved output and identify the predominant themes.

Instruments for assessing methodological quality or risk of bias were also not applied. This decision stemmed from the fact that full texts were not examined and that the unit of analysis consisted of bibliographic records rather than the comprehensive results of the studies. Consequently, the frequencies obtained represent the presence of themes in titles and abstracts, not the magnitude of effects or the quality of available evidence.

Ethical considerations

The study used exclusively bibliographic information from scientific publications and did not involve the direct participation of people or the processing of sensitive personal data. For this reason, informed consent and evaluation by an ethics committee were not required. During the process, criteria of academic integrity, methodological transparency, traceability of records, and fidelity in the presentation of the retrieved information were maintained.

RESULTS

Selection and formation of the corpus

The search strategy applied in Scopus initially identified 11,640 records published between January 2020 and 28 May 2026. During bibliographic screening, 1,759 documents that did not correspond to scientific articles, 11 records from sources other than journals, and 197 publications that were not in final status were excluded. After applying these filters, 9,673 records remained.

Subsequently, the bibliographic metadata were examined by comparing titles, DOI, and other identifying elements. This procedure allowed the detection and removal of 4 duplicate records, leaving 9,669 records available for screening by titles and abstracts.

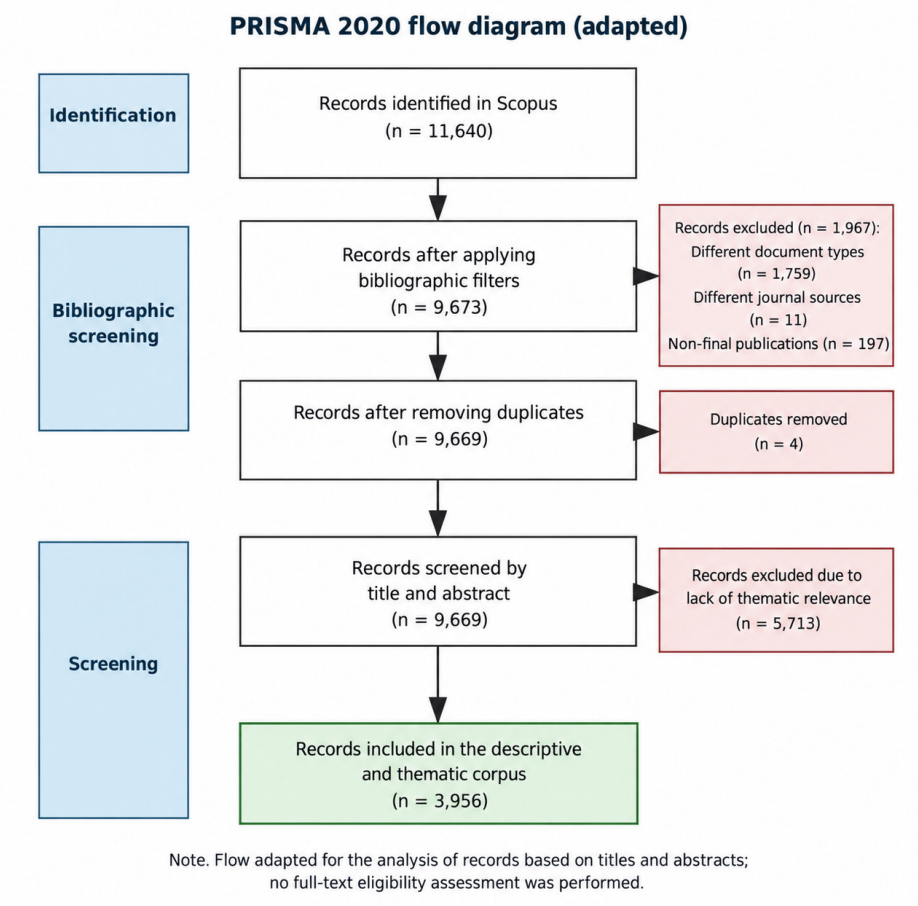
During screening, 5,713 records that did not have an explicit relationship with clinical fields or practical learning environments in the training of health professionals were excluded. As a result, 3,956 records formed the descriptive and thematic corpus. This figure represents 40.9% of the records examined, while the documents excluded during screening accounted for 59.1%. Figure 1 presents the process of identification, cleaning, and screening.

Table 3. Process of identification, cleaning, and formation of the corpus

Stage	Excluded	Remaining
Records identified in Scopus	—	11.640
Document type other than article	1.759	9.881
Type of source other than journal	11	9.870
Publication status other than final	197	9.673
Duplicate records	4	9.669
Records excluded for lack of relevance based on title and abstract	5.713	3.956
Records included in the descriptive and thematic corpus	—	3.956

Source: own elaboration based on the records retrieved from Scopus (2026).

Figure 1. Flow diagram adapted from PRISMA 2020 for the identification, cleaning, and screening of records.



Source: own elaboration according to PRISMA 2020.

Temporal distribution of the analyzed corpus

The 3,956 records included in the corpus were distributed between 2020 and 28 May 2026. In 2020, 455 records were identified, equivalent to 11.5% of the total. In 2021, the figure increased to 560 records (14.2%), and in 2022 it reached 578 (14.6%). In 2023, 526 publications were recorded, corresponding to 13.3% of the corpus.

During 2024, 579 records were identified (14.6%), whereas in 2025 the highest frequency of the period was observed, with 700 publications (17.7%). For 2026, 558 records were counted, equivalent to 14.1% of the corpus. This last figure comprises only the publications available up to the date the search was executed, 28 May 2026, and therefore does not represent the complete annual production.

During the analyzed period, a variation in publications was observed, ranging from 455 records in 2020 to 700 in 2025. Although the overall frequency was higher in recent years, the distribution did not show a continuous increase, owing to decreases recorded in 2023 and in the partial period corresponding to 2026.

Identified thematic dimensions

The coding of the titles and abstracts of the 3,956 records made it possible to organize the corpus into three dimensions: pedagogical quality and competency development; supervision, relationships, and student well-being; and institutional conditions and innovation in practical environments.

Table 4. Annual distribution of the records included in the corpus

Year	Records	Percentage
2020	455	11,5 %
2021	560	14,2 %
2022	578	14,6 %
2023	526	13,3 %
2024	579	14,6 %
2025	700	17,7 %
2026	558	14,1 %
Total	3.956	100,0 %

Source: own elaboration based on the records retrieved from Scopus (2026).

The most frequent dimension was pedagogical quality and competency development, identified in 2,107 records, equivalent to 53.3% of the corpus. The dimension of supervision, relationships, and student well-being was present in 2,071 records, corresponding to 52.4%. In turn, the dimension of institutional conditions and innovation in practical environments was identified in 1,663 records, equivalent to 42.0%.

The dimensions were not mutually exclusive, so that the same record could be assigned to more than one category when its title or abstract contained information related to different components of the practical training. For this reason, the sum of the frequencies reaches 5,841 assignments and exceeds the 3,956 records in the corpus. Similarly, the sum of the percentages corresponds to 147.7% and not 100%.

Table 5. Thematic dimensions identified in titles and abstracts

Dimension	Records	Percentage
Pedagogical quality and competence development	2.107	53,3 %
Supervision, relationships, and student well-being	2.071	52,4 %
Institutional conditions and innovation of practical environments	1.663	42,0 %

Source: Own elaboration based on records retrieved from Scopus (2026). Note: The dimensions are not mutually exclusive; a record may address more than one category.

Pedagogical quality and competency development

The dimension of pedagogical quality and competency development was identified in 2,107 records, equivalent to 53.3% of the corpus. This category grouped publications whose titles or abstracts referred to the learning opportunities provided during practicums, the articulation between theoretical content and its application in real contexts, and the progressive development of clinical and professional competencies.

Among the contents classified in this dimension were clinical reasoning, decision-making, the execution of procedures, communication with users, work in interprofessional teams, and preparation for professional practice. References were also identified to the application of knowledge acquired during academic training and to student participation in care situations.

Another recurring content corresponded to the progressive participation of students in clinical activities. The titles and abstracts mentioned experiences ranging from initial observation to task performance and the gradual acquisition of responsibilities, in accordance with the level of training and under professional supervision. Likewise, content related to autonomy, confidence, professional identity, and the perception of preparedness to enter the workforce was recorded.

Feedback, reflection on practice, and formative assessment were also present in this dimension. The records referred to guidelines aimed at recognizing strengths, identifying errors, and relating clinical experiences to curricular learning. Overall, the classified contents included opportunities for participation and competency development as well as pedagogical organization and learning support during the practical experience.

Supervision, relationships, and student well-being

The dimension of supervision, interpersonal relationships, and student well-being was identified in 2,071 records, equivalent to 52.4% of the corpus. This category grouped publications

whose titles or abstracts addressed students' relationships with supervisors, tutors, mentors, and clinical teams, as well as peer support, sense of belonging, and emotional experiences associated with practices.

Among the content related to supervision, the availability and continuity of accompaniment, provision of instructions, guidance during clinical activities, clarification of doubts, and feedback on performance were identified. References were also found to insufficient or discontinuous supervision modalities, or those mainly focused on the control and evaluation of activities carried out by students.

Sense of belonging appeared to be linked to students' integration into health teams, participation in meetings and clinical activities, recognition of their formative role, and the assignment of responsibilities consistent with their level of preparation. In contrast, other records referred to experiences of exclusion, limited appreciation, communication difficulties, and limited participation within practice centers.

Regarding student well-being, the titles and abstracts included content on stress, anxiety, fatigue, fear of making mistakes, and concern about meeting performance expectations. Likewise, mentions of emotional support, respectful treatment, psychological safety, mistreatment, discrimination, and interpersonal conflicts were identified. Overall, this dimension brought together the relational and emotional components described in the records as part of the practical training experience.

Institutional conditions and innovation in practical environments

The dimension of institutional conditions and innovation in practical environments was identified in 1,663 records, equivalent to 42.0% of the corpus. This category grouped publications whose titles or abstracts addressed aspects related to the capacity of practice centers, supervisor availability, care workload, infrastructure, training resources, institutional coordination, and the use of technologies in practical training.

Among the organizational conditions, references were found to the number of students assigned to the services, the student-to-supervisor ratio, the availability of clinical placements, the diversity of care situations, and access to procedures, equipment, and infrastructure. Content related to the organization of shifts, the time available for supervision, and the compatibility between training activities and the care demands of health centers was also identified.

Coordination between higher education institutions and healthcare facilities constituted another component of this dimension. The records included references to joint planning, the definition of roles and responsibilities, communication between institutions, the correspondence between practical activities and learning outcomes, and the pedagogical preparation of the professionals responsible for supervision.

Innovation in practical environments included publications related to clinical simulation, virtual reality, virtual users, digital platforms, telehealth, and hybrid modalities. These resources were addressed as means to prepare students before contact with users, complement in-person experiences, and facilitate access to clinical situations that may occur less frequently in practice centers. References to scenario design, technological availability, feedback, and the integration of these strategies with in-person practical activities were also identified.

DISCUSSION

The analysis of the 3,956 records shows that scientific production on clinical fields and practical learning environments addresses, in an interrelated manner, pedagogical, relational, emotional, institutional, and technological components. The frequency of the dimension of pedagogical quality and competence development (53.3%) was close to that recorded for supervision, relationships, and student well-being (52.4%). This proximity indicates that, within the titles and abstracts analyzed, clinical learning is not presented solely as the acquisition of technical skills, but also as an experience conditioned by supervision, integration into health teams, and student well-being. Nevertheless, these frequencies represent the presence of content in the records and do not allow the magnitude of their effects or causal relationships to be established.

The pedagogical quality and competence development dimension gathered references to the articulation between theory and practice, clinical reasoning, communication, decision-making, interprofessional work, and professional identity. These results are consistent with the review by Cant et al. [4], which recognizes supervision and the characteristics of the clinical environment as relevant components of the training experience. In this sense, the mere presence of students in

a healthcare center does not guarantee the development of meaningful learning. Opportunities for participation, the progressive assignment of responsibilities, and feedback make it possible to transform clinical situations into formative experiences. This implies that the professionals responsible for supervision need both disciplinary experience and pedagogical tools to guide learning according to the student's level of preparation.

The frequency reached by the supervision, relationships, and student well-being dimension indicates the sustained presence of these components in the analyzed literature. The availability of support, the attitude of professionals, communication, and sense of belonging were associated with student participation in practice centers. These results coincide with Panda et al. [17], who identified difficulties related to lack of support, scarcity of resources, workload, the gap between theory and practice, and fear of making mistakes. Likewise, communication and the professionals present in the environment can influence the development of behaviors linked to care [11]. Therefore, the evaluation of clinical fields should incorporate, in addition to academic results, indicators related to respectful treatment, psychological safety, integration into teams, and the existence of mechanisms to prevent and address situations of mistreatment or discrimination.

The third dimension shows that training opportunities are also conditioned by the organizational capacity of practice centers. The number of students, the availability of supervisors, the clinical workload, the infrastructure, and access to clinical experiences delimit the possibilities for participation. Abuosi et al. [9] observed that the number of students present during practicums is related to the assessment of the learning environment, which reinforces the need to consider the training capacity of each institution. Added to these conditions is the coordination between higher education institutions and health centers. The definition of responsibilities, ongoing communication, the correspondence between activities and learning outcomes, and the preparation of those who supervise constitute relevant aspects for reducing the gap between the curriculum and the experiences actually developed.

The presence of simulation, virtual reality, virtual users, telehealth, and hybrid modalities reflects the incorporation of technologies into practical learning environments. Previous reviews have reported favorable results of virtual simulation for clinical reasoning [14], decision-making [18], and clinical thinking [19]. However, these results depend on scenario design, level of realism, pedagogical orientation, and quality of feedback. Technology can complement in-person practice through safe and repeatable experiences, but it does not fully reproduce interaction with users, families, and health teams. These findings should be interpreted considering that the study used exclusively Scopus records and that classification was based on titles and abstracts, without comprehensive review of full texts or assessment of methodological quality. In addition, the dimensions were not mutually exclusive, the corpus presented disciplinary and contextual heterogeneity, and the 2026 data comprised only publications available up to May 28. Therefore, the results allow recognizing general thematic trends, but not determining the effectiveness or superiority of specific clinical training models.

CONCLUSIONS

The descriptive and thematic analysis of the 3,956 records made it possible to identify three predominant dimensions in scientific production on clinical fields and practical learning environments: pedagogical quality and competency development; supervision, relationships, and student well-being; and institutional conditions and innovation. The frequency of these dimensions shows that practical training is approached as a process in which opportunities for participation, articulation between theory and practice, feedback, professional accompaniment, and the organizational characteristics of healthcare centers converge.

Supervision, integration into teams, and student well-being occupied a relevant position within the corpus. The identified contents highlight the availability of supervisors, communication, respectful treatment, sense of belonging, and psychological safety as components of the training experience. Likewise, the number of students, clinical workload, infrastructure, resources, and coordination between higher education institutions and health centers should be considered in planning and evaluating clinical placements. This requires establishing responsibilities, learning outcomes, communication mechanisms, and support conditions consistent with the capacities of each practice center.

Simulation, virtual reality, and hybrid modalities expand opportunities for preparation and practice in controlled environments; however, they must be integrated as a complement to in-person experiences. The scope of these conclusions is limited to the analysis of titles, abstracts, and

metadata of records retrieved exclusively from Scopus, without a comprehensive review of full texts or assessment of their methodological quality. Therefore, the results describe trends and content present in the corpus, but they do not allow determining the effectiveness of interventions or establishing the superiority of specific models. Future research should incorporate full-text analysis, methodological assessment, and comparison across disciplines and territorial contexts to deepen understanding of the conditions that favor relevant, safe, and sustainable clinical experiences.

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