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Competency-Based Assessment in Latin American Medical Education: A Scoping Review and Thematic Analysis.

Evaluación por Competencias en la Educación Médica Latinoamericana: una revisión de alcance y análisis temático.

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Summary.

Objective: To map the strategies, instruments, and approaches used to assess competencies in medical education in undergraduate and postgraduate programs in Latin American countries. Introduction: Competency-based medical education is the predominant model worldwide. Its implementation in Latin America has driven significant curricular changes; however, it faces contextual challenges and a heterogeneity in assessment approaches that requires analysis. Inclusion criteria: Studies in Spanish or English (2011–2024) focused on undergraduate or postgraduate medical students in Latin American countries, framed within competency assessment, were included. **Methods:** A scoping review was conducted in SciELO, Scopus, and Web of Science following the Arksey and O'Malley protocol and the PRISMA-ScR statement. Data were subjected to descriptive thematic analysis. **Results: Of 395 articles identified, 23 studies** from eight countries were included, with Mexico, Brazil, and Chile being the most prominent. The predominant method was the Objective Structured Clinical Examination (n=17), including virtual modalities. Other instruments identified were the Script Concordance Test, Objective Structured Assessment of Technical Skills, and 360° Questionnaire. The most frequently assessed domains were patient care and medical knowledge. **Conclusions:** Competency assessment in Latin America focuses primarily on the ECOE, a valuable but insufficient tool for the current complexity of competencies. Although progress is being made toward multimodal assessment systems, further research is needed on emerging methods and the contextual validity and applicability of the instruments.

Keywords: Latin America, Clinical Competence, Quality Education, Competency-Based Medical Education, Medical Students, Assessment Methods.

Resumen.

Objetivo: Mapear las estrategias, instrumentos y enfoques utilizados para evaluar competencias en la educación médica en programas de pregrado y posgrado en países de América Latina. Introducción: La educación médica basada en competencias es el modelo predominante mundial. Su implementación en Latinoamérica ha impulsado importantes cambios curriculares, sin embargo, enfrenta desafíos contextuales y una heterogeneidad en los enfoques evaluativos que requiere ser analizada. Criterios de inclusión: Se incluyeron estudios en español o inglés (2011-2024) enfocados en estudiantes de medicina de pregrado o posgrado en países latinoamericanos, enmarcados en la evaluación de competencias. **Métodos:** Revisión de alcance en SciELO, Scopus y Web of Science siguiendo el protocolo de Arksey y O'Malley y la declaración PRISMA-ScR. Los datos fueron

sometidos a un análisis temático descriptivo. **Resultados:** De 395 artículos identificados; se incluyeron 23 estudios de ocho países, destacando México, Brasil y Chile. El método predominante fue el Examen Clínico Objetivo Estructurado (n=17), incluyendo modalidades virtuales. Otros instrumentos identificados fueron el Script Concordance Test, Objective Structured Assessment of Technical Skills y Cuestionario 360°. Los dominios más evaluados fueron el cuidado del paciente y conocimiento médico. **Conclusiones:** La evaluación de competencias en Latinoamérica se centra principalmente en el ECOE, una herramienta valiosa pero insuficiente para la complejidad competencial actual. Aunque se avanza hacia sistemas multimodales de evaluación, se requiere profundizar en métodos emergentes y la validez y aplicabilidad contextual de los instrumentos.

Palabras clave: América Latina, Competencia Clínica, Educación de Calidad, Educación Médica Basada en Competencias, Estudiantes de Medicina, Métodos de Evaluación.

1. Introduction

Medical education aims to train competent, ethical, and humanistic professionals capable of responding to the population's health needs through safe, effective, and patient-centered care. To achieve this, training models have evolved toward approaches that integrate knowledge, skills, and values in an articulated manner, giving rise to competency-based medical education (CBME), which orients training toward observable outcomes and professional performance aligned with the real demands of the health system (1). CBME is defined by the Association of American Medical Schools (AAMC) as "an outcomes-based approach to the design, implementation, and evaluation of educational programs, as well as for the assessment of students along the continuum, which uses observable competencies or skills (2)." Unlike the traditional approach based on training time, which emphasizes the instructional process independent of the outcome of the learning program, CBME aims to ensure that students achieve specific competencies required to perform effectively and safely in professional practice (3-4).

While there is no single consensus in the literature on how to define a competency (3, 5), there is agreement that, for the CBME framework, competencies must be discernible and quantifiable (6), that is, capable of being assessed during the medical training process. This has led, over the years, to the development of international reference frameworks that guide the training and evaluation of physicians in different contexts. Among the most influential are *Trusted Professional Activities* (TPAs) (7) and the Accreditation Council *for Postgraduate Medical Education Milestones.* (ACGME) (8) and the CanMEDS framework (9).

The model has been widely adopted in Europe, North America, and Oceania; however, progress is also being made in Latin America, with some countries already beginning educational reforms. For example, Brazil has developed a national accreditation system (SAEME) aligned with international standards (10), Colombia has implemented innovative curricula focused on EPA (11), some medical schools in Chile have adopted the CanMEDS model (12-14), and institutions in Ecuador have proposed competency-based curricular frameworks for specialized medical training (15). These experiences demonstrate a growing interest in modernizing medical education in the region, although specific obstacles remain that hinder its implementation. However, as with the lack of consensus on the definition of the concept of competency, CBME faces significant challenges in its evaluation process. Currently, there is no single globalized framework, nor have evaluation methods been clearly defined: in terms of the type of instrument to be used; the environment in which it should take place; the modalities and timing of these; and how to measure the results obtained (16). This methodological heterogeneity makes it difficult to compare results between institutions and countries (17), and hinders the possibility of establishing reliable indicators on the real impact of CBME on the clinical performance of graduates, thus limiting the evaluation of its effectiveness at the national and international level (18).

Furthermore, the development and implementation of competency-based medical education (CBME) has primarily occurred in Canada, the United States, and the United Kingdom—contexts with significant socioeconomic and cultural differences compared to Latin American countries. The latter are characterized by substantial social inequalities, resource limitations, and a shortage of healthcare professionals, conditions that directly influence teaching, assessment, and clinical practice processes (19). Moreover, there are intrinsic differences in medical and educational culture and identity in Latin America, with diverse models of healthcare service delivery and medical training systems (20). Therefore, a universal model conceived in high-income countries cannot be directly applied without adaptation to the contexts, realities, and needs of the region (21). Consequently, it is essential to explore how competency assessment in medical education has been approached in Latin America, identifying its progress, limitations, and particularities. Understanding these experiences will provide contextualized evidence that contributes to strengthening relevant, equitable, and sustainable assessment models for medical training in the region. Therefore, this scope review aims to map the strategies, instruments, and approaches used to assess competencies in medical education in different Latin American countries.

The overall objective of this study was to map and analyze the strategies, instruments, and approaches used to assess competencies in medical education in Latin America. To achieve this, a scoping review was chosen because this methodology allows for the identification of key characteristics and factors related to the application of the CBME (Comprehensive Medical Education Assessment) framework by describing available sources in detail, thus enabling the analysis of patterns and potential interventions. Therefore, this review will compile and analyze the literature related to the assessment of medical competencies within the CBME framework for undergraduate and postgraduate medical students in Latin America.

2. Methods

To carry out this study, the protocol proposed by Arksey and O'Malley (22) was used, and the report was structured based on the guidelines of the PRISMA-ScR statement (23).

Step 1: Identify the research question

For this review, the following research question was formulated: "What are the Latin American experiences reported in the literature regarding competency-based assessment methodologies in the medical training of undergraduate and postgraduate students?" In this context, the term "experiences" was understood as the application, implementation, perception, or results associated with an assessment method used to measure clinical competencies in medical students.

Step 2: Identify relevant literature

On October 17, 2025, a comprehensive search was conducted in the SciELO, Scopus, and Web of Science databases using related keywords and Boolean operators to combine the terms. The most frequently used keyword was: *Competency-Based Medical Education (CBME), Clinical Competence, Clinical Skills, Assessment, Assessment Tools, Feedback, Criterion-Referenced Evaluation, Simulation, Objective Structured Clinical Examination (OSCE), Workplace-Based Assessment (WBA), Mini-Clinical Evaluation Exercise (mini-CEX), Multi-Source Feedback (MSF), Directly Observed Procedural Skills (DOPS), Medicine, Medical Students* and *Medicine Students.*

Inclusion and exclusion criteria

Only studies published in Spanish and English were included, as the review team responsible for the selection and data extraction process was fluent in these languages. Studies published between January 2011 and December 2024 were considered to cover a representative and homogeneous graduation period for two undergraduate medical cohorts. Included sources had to focus on undergraduate medical students or residents in specialty programs. In the case of multidisciplinary studies, data corresponding to medical students had to be separable from data for other disciplines. Furthermore, included studies had to be framed within the CBME (Comprehensive Health Care Model) or explicitly mention the competencies assessed and the assessment tools or methods used. Only research conducted in Latin American countries was included, defined as: Mexico, Guatemala, Belize, Honduras, El Salvador, Nicaragua, Costa Rica, Panama, Cuba, Dominican Republic, Puerto Rico, Haiti, Colombia, Venezuela, Ecuador, Peru, Bolivia, Chile, Argentina, Paraguay, Uruguay, and Brazil.

This review considered experimental and quasi-experimental study designs, as well as analytical observational studies (prospective or retrospective cohort studies and analytical cross-sectional studies).

Reviews, commentaries, brief communications, case studies, abstracts, and editorials were excluded, as were sources without full-text access or that had not undergone peer review. Grey literature was also excluded, and no additional manual searches were conducted.

Step 3: Selection of appropriate items

Following the search, all identified citations were compiled in CSV format, uploaded to the Rayyan platform, and duplicates were removed. The team had previously conducted a calibration pilot using a small set of articles to ensure consistency in the criteria applied for the final selection. The selection process was carried out in two stages. First, three reviewers independently assessed the titles and abstracts of the collected articles using the defined selection criteria. Subsequently, the full text of those articles that met the inclusion criteria was reviewed to confirm their inclusion in the final study. Discrepancies were resolved by unanimous consensus in weekly meetings.

Stage 4: Data Extraction, Mapping, and Graphing

Data extraction was performed using a template developed in Google Sheets, which was piloted with a subset of three studies to ensure consistency among reviewers and to adjust the operational definitions of the variables before final use. Identification data (year of publication, authors, country of origin) and content data (study design, population, objectives, competency assessment tools, and competencies assessed) were collected.

Stage 5: Summary and presentation of results

The extracted data underwent descriptive thematic analysis. This analysis was performed manually by two reviewers, who independently coded the information contained in the extraction matrix. Any discrepancies were consulted and resolved by a third reviewer. The studies were grouped according to country of origin, type of participants, and the competency assessment method used. The data were then described in five main categories: characteristics of the sources, assessment methods used, competencies assessed, distribution by country, and differences between undergraduate and postgraduate studies.

3. Results

Search results

The initial search identified 395 records across all databases. After removing 43 duplicates, 352 records underwent initial screening based on title and abstract. Of these, 53 were selected for full-text review. A thorough review excluded an additional 30 articles for not fully meeting the inclusion criteria. In total, 23 studies met the inclusion criteria for the final analysis. The complete description of the selection process is illustrated below in the PRISMA diagram (Figure 1).

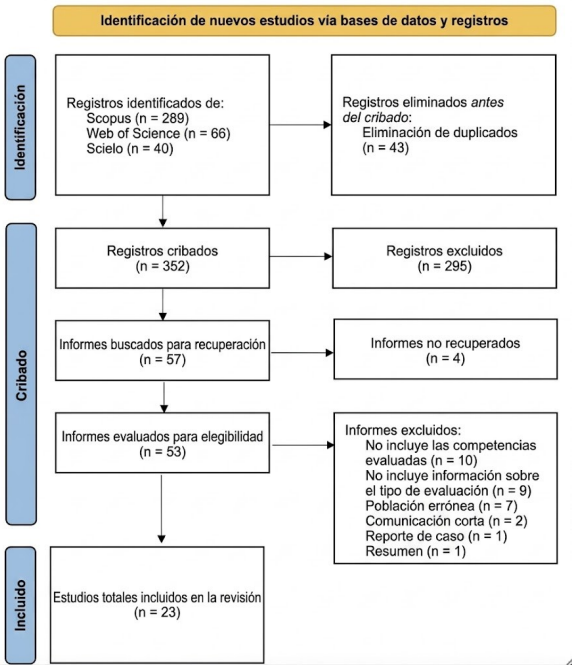

Figura 1. Flowchart of the studies selection.

Characteristics of the sources

The individual characteristics of each study, including design, population, objectives, and assessment instrument used, are presented in Table 1. The studies were published between 2012 and 2023 in eight Latin American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Mexico, and Peru. Six experimental or quasi-experimental studies were identified, evaluating a specific educational intervention. In addition, 16 observational studies and one qualitative study were included. Of the experimental studies, two were conducted virtually. Of the 23 studies, 19 included undergraduate medical students, and four were conducted at the postgraduate level, specifically with residents in geriatrics, pediatrics, family medicine, internal medicine, and obstetrics and gynecology.

Competency assessment methods

The competency assessment methods identified in the studies were diverse, although the Objective Structured Clinical Examination (OSCE) was the most frequent, appearing in 17 studies; of these, 3 corresponded to virtual modalities (Web-OSCE or Tele-OSCE) coinciding in the year of use with the COVID-19 pandemic. This methodology is flexible and can be used for both formative and summative purposes; moreover, in most cases, the OSCE is accompanied by rubrics or previously validated checklists to objectively evaluate student achievement. Other assessment tools described include: the Objective Structured Technical Skills Assessment (OSATS), observed on two occasions; the 360° Questionnaire, present in one study; the Scripts Concordance Test (SCT), also present once; and guidelines for direct observation in daily clinical practice, used in two studies. In addition to these tools, seven of the studies also supplemented the assessment with traditional theoretical tests, either essay or multiple-choice, that evaluate cognitive domain.

Competencies assessed

The competencies assessed in the included sources are divided into 6 domains according to the ACGME: Patient care, medical knowledge, practice-based learning, interpersonal communication skills, professionalism, and systems-based practice [(47)] In this way, competencies can be compared more objectively. Overall, it can be observed that the 17 studies that used OSCEs and Web-OSCEs measure patient care competencies and medical knowledge; 76.5% of these measure interpersonal communication skills, and 29.4% measure professionalism. On the other hand, the study that applied a 360° questionnaire measures patient care competencies, medical knowledge, professionalism, and interpersonal communication skills. Finally, all the studies that assessed with OSATs, SCT, and observation guidelines implemented medical knowledge competencies and practice-based learning.

Assessment of skills by Latin American country

The geographical distribution of the studies showed that Mexico had the highest number of publications, with a total of 9 studies. Brazil followed with 5 studies and Chile with 4. Peru, Cuba, Bolivia, Argentina, and Colombia each contributed 1 study. Furthermore, Chile and Brazil were the countries that implemented the most diverse methodologies.

Evaluation methods in undergraduate and postgraduate education

The assessment of competencies in Latin American medical education shows a clear predominance of undergraduate studies, which comprised 82.6% of the studies, compared to postgraduate studies, which accounted for 17.4%. At the undergraduate level, the main focus is the objective measurement of clinical and technical performance, with the OSCE (Objective Structured Clinical Examination) as the central tool for evaluating skills such as history taking, physical examination, diagnosis, management, and communication. This is complemented by the OSATS (Operative Surgical Assessment System) for surgical skills and the SCT (Scientific Clinical Test) for clinical reasoning in contexts of uncertainty. Furthermore, the Web-OSCE has proven to be valid and viable in low-cost virtual modalities. In contrast, postgraduate studies are geared towards evaluating comprehensive clinical competencies using OSCEs and Web-OSCEs, also incorporating transversal domains such as professionalism, humanism, and organization through the 360° Questionnaire.

4. Discussion

This review suggests that medical education in Latin America demonstrates that performance is largely assessed using structured tools, with the OSCE being the predominant evaluation method. However, the analyzed literature acknowledges that this method is insufficient to evaluate all aspects of daily medical performance. This is where competencies such as professionalism, teamwork, and strong interpersonal communication skills become important, aspects that traditional structured models fail to fully capture. The current state of evaluation in Latin American medical education reflects a "regional transition," meaning a gradual process in which medical programs are adapting international educational models to their own health and training systems. This transition is profoundly marked by an evaluative dynamic within a context of limited resources, which explains the strong reliance on the OSCE as a pragmatic adaptation to the region's structural limitations.

The incorporation of instruments such as the SCT, the OSATS, and the 360° questionnaire demonstrates an emerging diversification of assessment strategies in the region, although their use remains limited. Within the context of the reviewed literature, these methods are widely supported by their ability to assess domains that fall outside the scope of traditional examinations, such as reasoning under medical uncertainty, technical skills, and transferable competencies. However, in training practice, their implementation remains insufficient due to operational barriers, such as a lack of faculty training and greater logistical complexity. This barrier is also observed in technology-mediated assessments such as the tele-OSCE, where time and interaction constraints necessitate the use of more agile and focused tools such as the STOP model, a structured strategy for clinical feedback and reflection. This model is easily applicable in these contexts and promotes self-reflection, formative feedback, metacognition, and continuous improvement of clinical and communication skills. In summary, the analysis reveals that Latin American undergraduate and postgraduate medical programs have not yet managed to ensure the conditions or resources to systematize the use of these emerging tools.

Regarding the competencies assessed, the results show that the OSCE primarily measures medical knowledge and patient care, followed by interpersonal communication skills, present in 76.5% of the instrument's applications. This high representation demonstrates that in Latin America, the doctor-patient interaction is already recognized and integrated as an essential evaluative component. However, systemic domains such as professionalism or practice-based learning are mostly assessed using specific tools like the OSATS, SCT, or 360° Questionnaire, which are less frequently used. According to the reviewed literature, this distribution is consistent with the ease of operationalizing specific clinical competencies in controlled settings compared to those requiring longitudinal observation of behavior. This shows that current medical school curricula promote the development of a large part of the clinical foundation but lack regulations that promote the cross-cutting integration of medical competency assessment.

Furthermore, the marked concentration of research at the undergraduate level (82.6%) compared to the limited representation at the postgraduate level (17.4%) reveals a structural gap in the continuum of medical training. In clinical practice, this difference translates into the fact that resident evaluation faces logistical barriers in local hospitals, where heavy workloads and clinical demands hinder the systematic implementation of formative assessment. From a health and education policy perspective, this disparity underscores that accreditation standards in Latin America appear to focus their requirements and resources almost exclusively on basic university education, postponing the creation of frameworks that standardize competency-based assessment for medical specialty programs.

This review constitutes one of the first updated mappings (2011–2024) of competency-based assessment in Latin American medical education, offering a panoramic view that allows for a

comparison of the region's reality with international literature on competency-based education. The findings of this study reflect a high degree of methodological heterogeneity in assessment and limited international validation of the instruments used. As mentioned by authors such as Weller et al. (16) and Alharbi (18), the absence of standardized assessment frameworks hinders the comparison of results between institutions and impedes the creation of reliable indicators of the real impact of assessment on clinical performance. The results from the last 14 years included in the review demonstrate a great capacity for adaptation, as exemplified by the adoption of technology-mediated tools (such as the tele-OSCE) in response to the pandemic. These findings can guide medical schools seeking to update their assessment models or align them with international frameworks, as well as encourage comparative research between Latin American medical training and that of the United States, Canada, and Europe.

On the other hand, this review prompts reflection on the ethical dimensions involved in competency assessment research. Ethical reporting in the included sources is generally omitted. For example, only six studies explicitly report having obtained informed consent from students or simulated patients before the assessments. Furthermore, another conflict arises from studies that used telesimulation or video recordings for feedback. In these scenarios, it is crucial to consider the vulnerabilities associated with student data security when storing recordings of clinical performance. For example, in the Web-OSCE experience, it is documented that evaluators were required to record Zoom sessions and subsequently share them in a Google Drive folder to collect exam evidence. Although the confidentiality of names was maintained, transferring and storing student videos on external platforms raises concerns about cybersecurity, access permissions, and the storage of the recordings used. Representing ethical values in the practice of competency-based medical education is a critical issue and an unavoidable requirement in the current era, and it should be made explicit to promote good practices in research.

Finally, several limitations of this study must be considered. First, the results show significant heterogeneity in terms of methodological designs, the populations studied, and the assessment instruments applied in the different local contexts. This marked variability makes it difficult to make direct comparisons between countries and prevents the establishment of standardized conclusions about which strategies are most effective for the region. Second, the findings reveal a clear asymmetry in the representation of educational levels, with 82.6% of the studies focusing on undergraduate education. This significantly restricts the ability to extrapolate conclusions to postgraduate medical training, leaving a gap in our understanding of how competencies are assessed in more complex clinical settings. Finally, the results demonstrate a systematic lack of reporting on the methodological quality and formal validation of the instruments used in the included primary sources. Consequently, the findings of this study should be understood strictly as a descriptive mapping; that is, the review allows us to illustrate what tools are currently used, but the nature of the results does not allow us to ensure the reliability or the real impact of the assessments on the clinical performance of Latin American medical students.

5. Conclusions

- Competency-based assessment in Latin America is a developing field, where there are barriers to applying the model in both undergraduate and postgraduate medical education.
- Although progress is being made towards multimodal assessment systems, further research is still needed on emerging methods and the contextual validity and applicability of the instruments.
- Competency-based assessment in the continent remains focused on the OSCE, a valuable tool but insufficient to encompass the complexity of current medical performance.

- Although there are initiatives aligned with international trends, their adoption is heterogeneous and with little incorporation of emerging methods such as WBAs, EPAs and portfolios.
- Delving deeper into these areas will strengthen the quality of the evaluation and advance towards multimodal systems capable of more accurately reflecting real clinical performance and responding to Latin American health needs.

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Table 1. Characteristics of the studies selected in the review on Competency-Based Assessment in Latin America.

	Authors, year and country	Studio design	Population	Assessment tool	Competency domains assessed
1	Rivero-López et al. (24), 2021, Mexico	Observational, comparative	Postgraduate (First-year Family Medicine Residents)	Web-ECOE	Patient care Medical knowledge Interpersonal communication skills
2	Eraña Rojas et al. (25), 2016, Mexico	Cross-sectional, descriptive, and mixed	Undergraduate (Fifth-year medical students)	OSCE	Patient care Medical knowledge Interpersonal communication skills
3	Trejo-Mejía et al. (26), 2014, Mexico	Interventional, pre-post test design	Undergraduate (Medical Interns)	OSCE	Patient care Medical knowledge Interpersonal communication skills
4	Roberti et al. (27), 2016, Brazil	Quantitative, analytical and descriptive	Undergraduate (Medical students from first to fifth year)	Script Concordance Test (SCT)	Medical knowledge Practice-based learning
5	Tejos et al. (28), 2019, Chile	Interventional, pre-post test design	Undergraduate (Fourth-year medical students)	Direct observation guideline (DOC)	Medical knowledge Practice-based learning
6	Andresen et al. (29), 2011, Chile	Observational, prospective	Undergraduate (Sixth-year medical students)	Clinical practice assessment guideline / checklist	Medical knowledge Practice-based learning
7	Pérez-Daniel et al. (30), 2018, Mexico	Quasi-experimental, pre-post test design	Undergraduate (Sixth-year medical students)	Objective Structured Assessment of Technical Skills (OSATS)	Medical knowledge Practice-based learning
8	Cornejo-Carrasco (31), 2022, Peru	Retrospective, descriptive, and longitudinal	Undergraduate (Fifth-year medical students)	OSATS	Medical knowledge Practice-based learning

9	Neumann Fabricio et al. (32), 2020, Brazil	Longitudinal, mixed	Postgraduate (Obstetrics and Gynecology Residents)	360° Questionnaire	Patient care Medical knowledge Professionalism Interpersonal communication skills
10	Blanco Aspiazu et al. (33), 2015, Cuba	Qualitative	Undergraduate (Medical Interns*)	Assessment rubric for teaching and clinical visits + Theoretical and practical exercise	Patient care Interpersonal communication skills Professionalism Medical knowledge
11	Jadue et al. (34), 2023, Chile	Cross-sectional, descriptive	Undergraduate (Third-year medical students)	Web-ECOE	Patient care Medical knowledge Interpersonal communication skills
12	Gómez Peña et al. (35), 2019, Bolivia	Cross-sectional, descriptive	Undergraduate (Fifth semester medical students)	OSCE	Patient care Medical knowledge
13	Martínez-González et al. (36), 2016, Mexico	Observational, longitudinal and comparative	Undergraduate (Medical Interns*)	Theory test + OSCE	Patient care Medical knowledge Interpersonal communication skills
14	Mercado-Cruz (37), 2022, Mexico	Descriptive, cross-sectional and correlational	Undergraduate (Final year medical students)	Web-ECOE	Patient care Medical knowledge Interpersonal communication skills
15	Bozzo Navarrete et al. (38), 2020, Chile	Longitudinal	Undergraduate (Medical Students)	OSCE	Patient care Interpersonal communication skills Medical knowledge
16	Pérez-Raffo et al. (39), 2019, Argentina	Quantitative, descriptive	Postgraduate (Residents in pediatrics, family medicine and internal medicine)	OSCE	Patient care Medical knowledge Interpersonal communication skills
17	Martínez-González et al. (40), 2014,	Cross-sectional, descriptive	Undergraduate (Second-year medical students)	Theory test + OSCE	Patient care Medical knowledge

	Mexico				Practical experience in services Professionalism
18	Vasconcelos Rodrigues et al. (41), 2019, Brazil	Cross-sectional, descriptive	Undergraduate (Sixth-year medical students)	OSCE	Patient care Medical knowledge Professionalism
19	Couto et al. (42), 2018, Brazil	Cross-sectional, descriptive	Undergraduate (Medical students in their fourth through eighth semesters)	Theory test + OSCE	Interpersonal communication skills Professionalism Patient care Medical knowledge
20	Agudelo et al. (43), 2015, Colombia	Interventional, pre-post test design	Undergraduate (Medical Interns*)	Theory test + OSCE	Patient care Medical knowledge
21	Martínez-González et al. (44), 2017, Mexico	Cross-sectional, descriptive	Undergraduate (Ninth-semester medical students)	Theory test + OSCE	Interpersonal communication skills Professionalism Patient care Medical knowledge
22	Trejo-Mejía et al. (45), 2016, Mexico	Cross-sectional, descriptive	Undergraduate (Fifth-year medical students)	OSCE	Patient care Medical knowledge Interpersonal communication skills
23	Avelino-Silva et al. (46), 2012, Brazil	Longitudinal, comparative	Postgraduate (Students completing their medical residency in geriatrics)	Theory test + OSCE	Medical knowledge Patient care Interpersonal communication skills

*In the Latin American context, the medical internship is defined as the last year of the undergraduate degree or clinical cycle prior to graduation.