

# STRUCTURED OBJECTIVE CLINICAL EXAMINATION AS AN EDUCATIONAL TOOL IN HEALTHCARE: COMPREHENSIVE REVIEW

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## EXAME CLÍNICO OBJETIVO ESTRUTURADO COMO FERRAMENTA EDUCACIONAL NA ÁREA DE SAÚDE: REVISÃO INTEGRATIVA

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## EXAME CLÍNICO OBJETIVO ESTRUTURADO COMO HERRAMIENTA EDUCACIONAL EN EL ÁREA DE SALUD: REVISIÓN INTEGRATIVA

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**Objective:** to identify the applicability of the Objective Structured Clinical Exam as a tool to evaluate the educational and clinical competence of undergraduate students in the healthcare area. **Method:** comprehensive review of the literature in which three databases were searched from 2010 to 2015. **Results:** 12 manuscripts were selected and categorized into two groups: Objective Structured Clinical Exam as an effective and valid method for the evaluation of the students' clinical competence in the practice simulation, and Objective Structured Clinical Exam as a predictive evaluation of student performance in clinical practice. **Conclusion:** it was evidenced that the Objective Structured Clinical Exam is recognized as a valid strategy to evaluate clinical competence in the teaching-learning process with significant benefits. However, the limitations associated with the exam are also recognized.

**Descriptors:** Educational evaluation. Clinical competence. Simulation.

*Objetivo:* identificar a aplicabilidade do Exame Clínico Objetivo Estruturado como ferramenta de avaliação educacional e de competência clínica de discentes de graduação da saúde. *Método:* trata-se de revisão integrativa

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*da literatura em que foram realizadas buscas em três bases de dados, no período de 2010 a 2015. Resultados: selecionaram-se 12 manuscritos, que foram categorizados em dois grupos: Exame Clínico Objetivo Estruturado como método efetivo e válido para a avaliação da competência clínica dos discentes na simulação da prática, e Exame Clínico Objetivo Estruturado como avaliação preditiva do desempenho do estudante na prática clínica. Conclusão: evidenciou-se que o Exame Clínico Objetivo Estruturado é reconhecido como estratégia válida para avaliar a competência clínica no processo de ensino-aprendizagem, apresentando benefícios significativos, entretanto, as limitações associadas ao exame também são reconhecidas.*

*Descritores: Avaliação educacional. Competência clínica. Simulação.*

*Objetivo: identificar la aplicabilidad del Examen Clínico Objetivo Estructurado como herramienta de evaluación educativa y de competencia clínica de discentes de graduación de la salud. Método: se trata de revisión integrativa de la literatura en que se realizaron búsquedas en tres bases de datos, en el período de 2010 a 2015. Resultados: se seleccionaron 12 manuscritos, que fueron categorizados en dos grupos: Examen Clínico Objetivo Estructurado como método efectivo y válido para la evaluación de la competencia clínica de los discentes en la simulación de la práctica, y el Examen Clínico Objetivo Estructurado como evaluación predictiva del desempeño del estudiante en la práctica clínica. Conclusión: se evidenció que el Examen Clínico Objetivo Estructurado se reconoce como estrategia válida para evaluar la competencia clínica en el proceso de enseñanza-aprendizaje, presentando beneficios significativos, sin embargo, las limitaciones asociadas al examen también son reconocidas.*

*Descritores: Evaluación educativa. Competencia clínica. Simulación.*

## Introduction

The inclusion of evaluation methods that simulate real clinical situations has provided a solution for the lack of tools that allow the student to demonstrate his/her understanding of the clinical competences, since they reproduce the real tasks that a healthcare professional must perform in an appointment with a patient. In this context, one of the most commonly used tools is the *Objective Structured Clinical Examination* (OSCE)<sup>(1)</sup>.

The OSCE is used to evaluate the competences and clinical skills of students and healthcare professionals in scenarios that simulate real situations. Simulations are approximations of reality in an attempt to reproduce clinical circumstances under standardized conditions, allowing, through observation, the assessment of specific objectives<sup>(2)</sup>.

We emphasize that the assessment of clinical skills and competences plays a key role in the education of healthcare professionals. In view of this, the OSCE is one of the most valid, effective and reliable methods of evaluating clinical skills and competences, which demonstrates its educational relevance<sup>(3)</sup>.

Since its creation in 1970, the OSCE has often been applied in a variety of clinical disciplines. Despite the widespread acceptance of this method, there is a dispute about the relevance and usefulness of the OSCE in comparison to the classic assessment exams. Thus, for the OSCE to have a valid and reliable configuration, it is vital that the content and scenario of this test be carefully selected, favoring the students' performance and decision-making<sup>(4)</sup>.

The in-loco evaluation of clinical practices proposed by the OSCE is considered reliable, however, in the educational process it is not always possible to do it, since problems related to skills, attitudes and knowledge are detected only when the future healthcare professional is before a real patient. Thus, the OSCE aims to identify such problems before the internship and to evaluate the performance of a trained professional<sup>(2)</sup>.

The OSCE simulation process consists of three stages: elaboration of the cases to be simulated with patient standardization and scenario preparation; filming process; evaluation process and the description of the instrument developed<sup>(2,5)</sup>. In this context, the OSCE aims to help the student develop skills that are essential in clinical care, as well as to identify knowledge gaps<sup>(2)</sup>.

Several authors have proposed measuring clinical competence through the OSCE. They define this type of competence as a psychological construction that involves cognitive, affective, and psychomotor skills such as critical thinking, problem solving, and incorporation of knowledge, values, beliefs, and attitudes. In this scenario, the exam has been recommended as an evaluation method for undergraduates, graduate students and trained professionals. Considerations on some of the practical aspects of the examination are essential for a valid execution<sup>(6)</sup>.

Aiming to highlight the advantages of the OSCE, it is essential to specify that the exam uses an approach that assesses the aspects of clinical competence in a comprehensive, consistent and structured way, valuing the objectivity of the process and instituting a method that intends to evaluate the cognitive properties, affective and psychomotor skills of students and thus enable a more objective estimate of the student's clinical competence<sup>(4)</sup>.

Another advantage of applying the OSCE is that its level of complexity is easily determined, and it is simple to define what competences, attitudes, problem-solving skills, and effective knowledge need to be analyzed. The OSCE has a greater possibility of reproduction when compared to the traditional clinical examination, in addition, the standards used in this test can be more easily compared. Finally, the assessment strategy applied in this examination is unique for all participating scenarios and examiners, enhancing the objectivity of the exam<sup>(6)</sup>.

The main disadvantage of the OSCE is that the preparation of this examination demands a lot of work. However, it is necessary to assure its objectivity. The organization of the activities of the OSCE requires long period of preparation and training, in addition to a numerous team of support. However, at the moment of the examination, the time of the examiner is used in a more efficient fashion<sup>(6,7)</sup>.

The cost of the OSCE implementation process is a significant obstacle preventing its implementation. Another perceived disadvantage of this evaluative approach is the perception that

students' knowledge and skills are allocated in separate compartments, making it impossible for the patient to be understood as a whole. Furthermore, since it is known that simulated patients are part of the examination, it is essential to certify their careful standardization<sup>(6,8)</sup>.

A disadvantage concerning the perception of participating students in the OSCE is the relatively high level of emotional stress experienced by the students during the examination. This circumstance can be detrimental to their performance. Exams are perceived by students as sources of stress, and the OSCE in particular is considered as stressful as traditional evaluative methods. It is believed that student stress is associated with fears regarding possible failures during the evaluative activity, and that the incorporation of a new examination may be presumed to be a threatening experience<sup>(3)</sup>.

Some other barriers readily identified in the OSCE implementation include concerns about increased workload and teacher omission, absence of a simulated patient standardization program, doubts and misconceptions about the validity and reliability of the exam compared to other evaluation methods, difficulty in incorporating the OSCE in a previously established curriculum and lack of space for the accomplishment of the activities<sup>(8)</sup>.

Despite the above mentioned disadvantages, the OSCE has confirmed it is a viable evaluation method, becoming usual in evaluations based on clinical performance, especially in undergraduate exams. It is also integrated as an important component of the new teaching paradigm of clinical skills. Granting time, space and means for the students to exercise the clinical skills acquired during graduation needs to be a recurring practice in all healthcare courses. Likewise, the educational and evaluative model proposed by the OSCE needs to be improved and disseminated among the undergraduate courses in health<sup>(6)</sup>.

The objective of this study is to identify the applicability of the OSCE as a tool for educational and clinical competence evaluation in the teaching-learning process of undergraduate students of healthcare.

## Method

This is an Comprehensive Review (IR) of the literature, one of the research methods used in the Evidence-Based Practice (EBP), allowing the incorporation of evidence into clinical practice. In addition, the IR aims to gather and synthesize research results on a certain topic or issue, in a systematic and orderly manner, contributing to deepening the knowledge on the researched topic<sup>(9,10)</sup>.

For the execution of this research, six distinct stages were adopted, which include: problem definition and research objective (theme identification); establishment of criteria for inclusion and exclusion of publications and search in the literature; categorization of primary studies (definition of information to be extracted from selected studies); analysis of the studies included in the comprehensive review; interpretation of results; and synthesis of the knowledge evidenced in the studies<sup>(9-11)</sup>.

The guiding question of the present study was formulated using the Patient, Intervention, Comparison and Outcomes (PICO) tool<sup>(12)</sup>. In this context, the following guiding question was asked: "What is the applicability of the Objective Structured Clinical Exam as a tool for undergraduate students of healthcare?"

The searches were conducted in the following databases: PubMed, Lilacs (Latin American and Caribbean Health Sciences Literature) and Scopus. The following descriptors were used: "Educational Measurement/Avaliação Educacional" and "Clinical Competence/Competência Clínica", in addition to the keyword "Objective Structured Clinical Examination" keyword, adopted to delimit the investigated subject. The controlled descriptors used in the study were defined according to the Medical Subject Headings (MeSH) and Health Sciences Descriptors (DeCS). It is emphasized that the use of the "AND" boolean operator was requested to cross the different descriptors.

Thus, the primary articles published in full that address the applicability of the OSCE in

the teaching-learning process of undergraduate healthcare students, published in the English, Spanish and Portuguese languages, were considered eligible in the period from 2010 to 2015. Works that constituted revisions, theses, dissertations and editorials were excluded and after careful reading, only articles that answered the guiding question of the research remained.

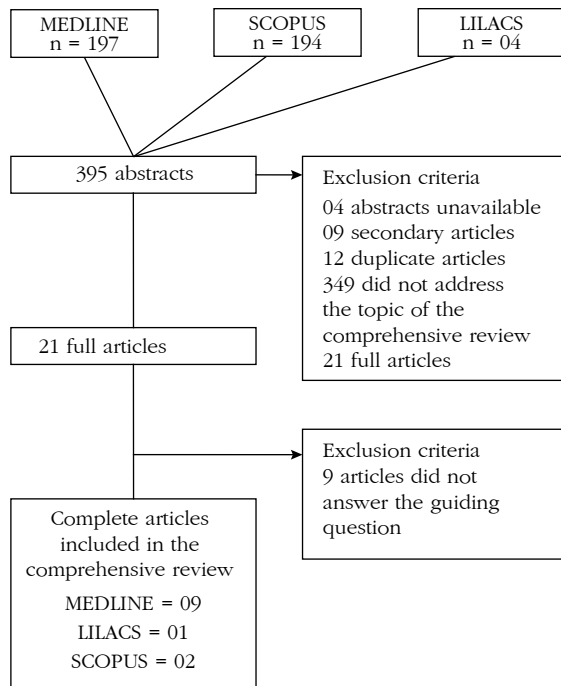
Afterwards, information was collected to answer the guiding question of the proposed comprehensive review, followed by the analysis, categorization and synthesis of the themes of each of the scientific publications. In this context, for the analysis and synthesis of the manuscripts included in the comprehensive review, we opted for the use of a validated instrument that girds the domains of identification of the original article, methodological profile of the research, assessment of methodological rigor, verified interventions and verified results<sup>(13)</sup>.

In order to complement the information available in the manuscripts included in this study, the levels of evidence inherent to each article were classified<sup>(14)</sup>.

Finally, the analysis of the results obtained through the synthesis of the selected publications in this research was carried out in a descriptive way, evidencing the knowledge produced on the subject in question and enabling the accomplishment of a critical analysis of the results, the quality of the evidence and its utility, in order to reach the scope of this method.

## Results

After identifying and analyzing 395 publications, 383 publications were excluded. A total of 12 articles were selected concerning the applicability of the OSCE as a tool for the educational evaluation and clinical competence in the teaching-learning process of undergraduate students of healthcare. The screening process and the number of publications obtained in each step are shown in the diagram in the figure.



**Figure** – Flow Diagram of the selection process of comprehensive review articles.

Source: Own elaboration.

Among the papers included in the comprehensive review, three were carried out in the Asian continent, four in North America, one in the European continent, one in Oceania, one in the African continent and two in South America, both carried out in Brazil.

As for the subjects covered in these surveys, the size and characteristics of the populations were variable, a fact that can be justified by the heterogeneity of localities and contexts observed. The subjects of the papers were undergraduates and professionals in nursing, medicine, dentistry, nutrition and physical therapy.

In agreement with the studies involved in the present comprehensive review of the literature, there was an increase in the number of publications between 2011 and 2013, representing 75% of the sample. Moreover, among the articles analyzed, all were developed in universities.

Regarding the type of journal in which the manuscripts covered in the review were published, five were published in medical journals, two in nursing journals, two in the same journal

of education concerning the dental field, and three were published in journals in other areas of healthcare.

Regarding the methodological design of the surveys included in this study, the sample was composed of: six studies with a descriptive, cross-sectional and quantitative approach; two retrospective studies and a quantitative approach; two cross-sectional studies with a quantitative and qualitative approach; a cohort study; and, finally, a qualitative study. Thus, eleven manuscripts with level of evidence VI and one with level of evidence IV were added to this comprehensive review of the literature.

Regarding the applicability of the OSCE as a tool for educational and clinical competence evaluation in the teaching-learning process of undergraduate students in the healthcare area, there was an absolute superiority of positive references, including studies that proposed some caveats to be considered for the application of the OSCE. The Table summarizes the manuscripts included in this comprehensive review.

## Discussion

The highest level of evidence found in the articles corresponded to the cohort done with students of nutrition, whose objectives were to portray the evaluation of clinical competence through the pre-clinical use of the OSCE and to compare the performance of students in the clinic over a given period. The remaining 11 articles are from descriptive studies, with level VI of evidence. Based on these results, we observed the need for further studies on the subject, as already pointed out by some of the studies(23,26).

In view of such expositions and in order to establish discussions among the selected manuscripts, it was decided to categorize the results into two groups: the OSCE as an effective and valid method for the evaluation of the students' clinical competence in the simulation of the practice; and the OSCE as a predictive evaluation of student performance in clinical practice.

**Table** – Summary table of articles containing title, year, objective, methodological outline, category in which it was inserted and level of evidence.

| <b>Title and Year</b>  | <b>Objective</b>  | <b>Designing</b>   | <b>Category</b>  | <b>Level of Evidence</b> |
|--|---|--|--|--------------------------|
| Dental student perceptions of the educational value of a comprehensive, multidisciplinary OSCE. 2014(15).                                  | To examine the perception of students about the OSCE educational value  | Cross-sectional study with quantitative and qualitative approach             | OSCE as an effective and valid method for the evaluation of the students' clinical competence in the practice simulation     | VI                       |
| Reliability and predictive validity of a comprehensive preclinical OSCE in dental education. 2013(16).                                     | To explore the relationship between students' performance in the OSCE in pre-clinical education and in the first year of clinical practice        | Retrospective study with a quantitative approach                             | The OSCE as a predictive evaluation tool of student performance in clinical practice   | VI                       |
| Development and implementation of an objective structured clinical examination (OSCE) in CMF-surgery for dental students. 2013(17).        | Objectively evaluate the practical knowledge of the trainees of the Cranio-Maxillo-Facial surgery clinic  | Descriptive cross-sectional study with quantitative and qualitative approach | The OSCE as an effective and valid method for the evaluation of the students' clinical competence in the practice simulation | VI                       |
| Final year MBBS students' perception for observed structured clinical examination. 2013(18).   | To determine the perception of students of the last year of medicine on the OSCE and investigate its acceptance among these students              | Cross-sectional study with quantitative and qualitative approach             | The OSCE as an effective and valid method for the evaluation of the students' clinical competence in the practice simulation | VI                       |
| Student assessment by objective structured examination in a neurology clerkship. 2012(19).   | To evaluate the reliability and predictive capacity of the OSCE in the evaluation of medical students after completing an internship in neurology | Descriptive cross-sectional study with quantitative and qualitative approach | The OSCE as a predictive evaluation tool of student performance in clinical practice   | VI                       |
| Identifying strengths and weaknesses in the use of Objective Structured Clinical Examination (OSCE) in a nursing program. 2012(20).        | To identify strengths and weaknesses in the use of the OSCE in a nursing course   | Qualitative study  | The OSCE as an effective and valid method for the evaluation of the students' clinical competence in the practice simulation | VI                       |
| Using Objective Structured Clinical Examination (OSCE) in undergraduate psychiatric nursing education: is it reliable and valid? 2012(21). | To evaluate the implementation, validity and reliability of the OSCE in the teaching of psychiatric nursing in undergraduate                      | Descriptive cross-sectional study with quantitative and qualitative approach | The OSCE as an effective and valid method for the evaluation of the students' clinical competence in the practice simulation | VI                       |

Continua



Continuação

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|---|---|--|--|----|
| Objective structured clinical examination for undergraduates: is it a feasible approach to standardized assessment in India? 2011 <sup>(22)</sup> .   | To sensitize universities, examiners, organizers, teachers and students from India to use the OSCE  | Descriptive cross-sectional study with quantitative and qualitative approach | The OSCE as an effective and valid method for the evaluation of the students' clinical competence in the practice simulation | VI |
| <i>A new method for the assessment of patient safety competences during a medical school clerkship using an objective structured clinical examination.</i> 2011 <sup>(23)</sup> .             | To evaluate the performance of fifth year medical students using the OSCE with a focus on patient safety following the implementation of an interactive program for the recognition of adverse events | Descriptive cross-sectional study with quantitative and qualitative approach | The OSCE as an effective and valid method for the evaluation of the students' clinical competence in the practice simulation | VI |
| <i>Objective structured clinical evaluation as an assessment method for undergraduate chest physical therapy students: a cross-sectional study.</i> 2011 <sup>(24)</sup> .                    | To analyze the use of the OSCE as a tool to evaluate the skills of undergraduate students in respiratory physiotherapy and to verify their internal consistency                                       | Descriptive cross-sectional study with quantitative and qualitative approach | The OSCE as an effective and valid method for the evaluation of the students' clinical competence in the practice simulation | VI |
| <i>Measuring the success of an objective structured clinical examination for dietetic students.</i> 2010 <sup>(25)</sup> .  | To describe the evaluation of students' clinical competence with the pre-clinical use of the OSCE and then compare it with the students' performance in the practice                                  | Cohort study   | The OSCE as a predictive evaluation tool of student performance in clinical practice   | IV |
| <i>Assessment of clinical competence of medical students using the structured clinical examination: first 2 years' experience in Taipei Veterans General Hospital.</i> 2010 <sup>(26)</sup> . | To analyze previous experience with the OSCE to improve the quality of the exam   | Retrospective, cross-sectional study with a quantitative approach            | The OSCE as an effective and valid method for the evaluation of the students' clinical competence in the practice simulation | VI |

Source: Own elaboration.

### *The OSCE as an effective and valid method for the evaluation of the students' clinical competence in the practice simulation*

In one of the IR studies, undergraduate dentistry students perceived the use of the OSCE as comprehensive, multidisciplinary and intended to assess clinical competence, being an effective and significant evaluation method. In addition,

students rated the learning experience with OSCE as extremely positive and able to simulate clinically relevant settings, although they have reported that the exam is more stressful than other assessment methods. In the educational landscape, the students recognized the merit of the OSCE, which allowed the construction of critical thinking, the comprehensive of knowledge and preparation for the next phase of clinical

teaching. This work also proved that the exam is an adequate method to train the students in the assistance to the patient and evaluate their aptitudes before they enter a clinical environment. Thus the OSCE also facilitated the provision of feedback for the students, guiding them in the use of their cognitive skills for the exercise of their future profession(15).

Additionally, a study carried out in Germany with dental students concluded that the OSCE can be used in the evaluation of some skills needed by healthcare professionals. The questionnaire applied in the research indicated that examiners and students classified the test in a positive way, judging that it was a simulated test with clinical relevance to the context. For the professors involved, the particularity of the OSCE is based on immediate feedback to the students, motivating them and improving the learning process(17).

Corroborating the two studies described above, we highlight the work done in Mexico, where the OSCE was used as an evaluation system in the dental academic field. The research pointed to such a method of evaluation as a gold standard for analyzing the clinical competences of dentists(27).

Another paper noted that the OSCE is an advantageous method of assessing competences as long as some obstacles to its development and implementation are eliminated. First, there was a consensus among the individuals participating in the study that this assessment should be in accordance with the curricular objectives of the courses. Most of the students understood that the skills tested in the OSCE were of a practical nature, a factor that helped identify the weaknesses of the students. A minimal number of learners have stated that the clinical skills required in the OSCE have never been learned in theory or have been taught superficially. In general, 67% of the participating students were satisfied with the evaluation process. Such satisfaction index can be considered low in comparison to similar studies, whose acceptability of the students was around 90%. Regardless of this outcome, the research reported that students

considered the OSCE a realistic, challenging and relevant experience(18).

Two of the 12 articles were developed in the context of nursing undergraduate courses using the OSCE(20,21). In one, the authors praised that such a method of evaluating clinical competences, when properly designed and implemented, can provide students with opportunities to demonstrate their interpersonal skills, problem-solving skills, weighting abilities and application of basic clinical knowledge. Through appropriate selection and standardization of the training of simulated patients, in addition to the use of appropriate instruments, it was found that the OSCE provides a valid and reliable mechanism for assessing the competences of the learner(20).

In another manuscript, the technique was used in order to evaluate the clinical competence related to professional training in psychiatric nursing. The results of the use of the OSCE in the development of clinical psychiatric nursing competences indicated that all the stations that composed the exam were considered reliable to evaluate the students, in addition to mentioning that the OSCE was considered, by a large part of the students and employees, as a positive process and useful practical experience, providing evidence on the reliability and validity of this tool in the assessment of students' skills and competences(21).

Considering the results pointed out in these two studies, it is worth mentioning the content of a review about the use of simulation in nursing undergraduate courses, which described the different purposes of the simulation application in these courses. Because it is a dynamic, attractive and comprehensive tool, it is recommended that simulation be used in several contexts of teaching and learning in nursing with the purpose of strengthening the training of future nurses(28).

Another research project demonstrated that the OSCE is an objective, valid and reliable system for assessing the clinical skills of students. In this particular examination, all learners can be examined under similar conditions



and deal with similar problems. This fact contributes to a high degree of standardization, which is one of the main difficulties found in other forms of examination. The authors verified that the OSCE, after implantation, contributed substantially, in an objective and appropriate way, to the evaluation of the students' clinical competence, presenting, however, some limitations, such as the fact of analyzing the clinical competence in a partial way, not contemplating the patient in its entirety(22).

In the context of professional practice, it was observed that the OSCE is a useful tool for the evaluation of students' clinical competence, since it represents an opportunity to provide feedback. This approach also creates a favorable opportunity to assess the complex interfaces of dimensions of humanism, patient-centered care, physician-patient relationship, and patient safety. It was also found that there is not always an equivalence between the performances observed in the OSCE and the conduct actually adopted(23).

In another scenario, physical therapy students participating in one of the studies covered in the review presented distinct performances in the traditional exams and the OSCE. Notably, it was verified that the OSCE evaluates skills different from those evaluated by the traditional exam, suggesting the application of the former in the evaluation of competences in which the traditional exam fails, generating a complementary process. The OSCE presented adequate internal consistency and assessed all the skills and competences expected of undergraduate physical therapy students, indicating that it is a valid exam and has the potential to add to the traditional exam(24).

Finally, some authors have stated that the OSCE is relevant to the assessment of clinical competence. Therefore, raising the quality of the examination is key, given that advances in OSCE are reflected in improving the quality of vocational education and training(15,17,18,20-24,26). The overall reliability of the OSCE was satisfactory when confronted with similar studies(26).

### *The OSCE as a predictive evaluation tool of student performance in clinical practice*

A constituent paper of this RI described the application of OSCE for undergraduates in dentistry and obtained high reliability, as measured by Cronbach's alpha coefficient. Another important psychometric characteristic in evaluation methods is validity. The OSCE was designed for the evaluation of the clinical skills of first year students of dental clinical teaching. The predictive validity of the examination was of particular interest to the authors in order to define the extent to which the OSCE could conjecture the clinical performance of these students in reality. Positive correlations were found between OSCE performance and subsequent performance in the first year of the clinic. It was inferred that students who achieve appropriate performance in a simulation of clinical skills are also more productive in a clinical setting. In a summary, the authors concluded that the OSCE was able to assess their clinical capacity in a standardized way. The results showed that the OSCE is a comprehensive, multidisciplinary method and can be a reliable and valid educational diagnostic tool in the healthcare education process(16).

Another manuscript showed that the OSCE offers a more reliable measure of the clinical performance of the student than the clinical evaluation carried out by the faculty, implying in the consolidation of the exam as a valid and effective tool that can be adopted as part of the evaluation of the students after the completion of the neurology internship. This research also suggested that the OSCE can be used as an instrument through which it is possible to predict students' performance in a legitimate clinical performance(19). In order to reinforce this finding, we highlight the study developed in the United States with undergraduate students, which used the OSCE to develop the clinical reasoning on the musculoskeletal system based on the principles of physical examination guiding the diagnosis hypothesis. Thus, the strategy proved reliable in identifying significant deficiencies in physical examination skills to

diagnose common diseases of the shoulders, back, and knees among medical students(29).

In conclusion, some researchers have reported the experience gained using the OSCE over six years in preclinical teaching. These investigators corroborated the fact that preclinical OSCE represents a significant performance indicator for subsequent clinical performance. In addition, the OSCE proved to be a valuable method of educational evaluation, aiding in the teaching of clinical practice. As far as the opinion of the students is concerned, the examination has gained considerable acceptance as an evaluation procedure for the clinical competence of each individual(25).

In summary, the OSCE was evaluated positively regarding its objectivity of student evaluation and the approach to aspects related to the clinical competence of these subjects in situations that simulate the clinical environment of reality. The validity and reliability of the OSCE have been conveniently described in the literature, and it is essential to establish rigorous examination planning prior to its implementation. Therefore, the OSCE is characterized as a method with significant benefits, however, the limitations associated with the examination are also recognized.

## Conclusion

This review enabled the approach of a topic of extreme importance in the context of the teaching evaluation methods of the contemporary university system. Thus, this work contributed to the identification of evidence available in the literature on the usefulness of the OSCE as a tool for education, performance and clinical competence evaluation in the teaching-learning process of undergraduate students of healthcare.

Regarding the validity of the OSCE, there was a consensus that, when the respective examination is properly designed and applied, it presents clear validity of content. In this landscape, determining the validity of the simulated exam and the predictive validity of the OSCE proved to be a controversial subject with conflicting results.

## Collaboration

1. conception, project, analysis and interpretation of data: Ariane Cristina Barboza Zanetti, André Almeida de Moura and Carla Lucia Goulart Constant Alcoforado.

2. essay writing and critical review of intellectual content: Ariane Cristina Barboza Zanetti, André Almeida de Moura, Maria Olívia Barboza Zanetti, Daniele Ramos, Marina Cortez Pereira Bonelli and Carla Lucia Goulart Constant Alcoforado.

3. final approval of the version to be published: Ariane Cristina Barboza Zanetti and Carla Lucia Goulart Constant Alcoforado.

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