

## Review Article

# Objective structured clinical examination in nursing education: a comprehensive review

Rajkannan N.<sup>1\*</sup>, Niky Mathew<sup>2</sup>, Gowthami B. N.<sup>3</sup>, Nandeesh Kumar P. R.<sup>3</sup>,  
Deepu B. N.<sup>4</sup>, Sahana I. N.<sup>3</sup>, Madhusmitha R.<sup>2</sup>

<sup>1</sup>Department of Psychiatric Nursing, Cauvery College of Nursing, Mysuru, Karnataka, India

<sup>2</sup>Department of Obstetrics and Gynaecological Nursing, Cauvery College of Nursing, Mysuru, Karnataka, India

<sup>3</sup>Department of Medical-Surgical Nursing, Cauvery College of Nursing, Mysuru Karnataka, India

<sup>4</sup>Department of Community Health Nursing Cauvery College of Nursing, Mysuru Karnataka, India

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### \*Correspondence:

Dr. Rajkannan N.,

E-mail: rajkannancon@gmail.com

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## ABSTRACT

The preparation of clinically competent nurses is a fundamental responsibility of nursing education systems worldwide. Conventional assessment approaches in nursing education frequently prioritize knowledge acquisition over integrated clinical performance, thereby providing an incomplete representation of a student's readiness for real-world practice. As nursing roles expand in complexity and responsibility, assessment strategies must evaluate not only theoretical understanding but also the application of skills, clinical reasoning, communication, and professional behaviour. The Objective Structured Clinical Examination (OSCE) emerged as an assessment methodology designed to systematically evaluate the application of clinical knowledge, skills, and professional behaviours in controlled practice settings. This review examines the conceptual foundations, historical development, structural design, implementation strategies, educational impact, strengths, limitations, and future directions of OSCE in nursing education. Particular emphasis is placed on nursing-specific competencies such as psychomotor proficiency, clinical decision-making, communication, ethical practice, professionalism, and patient safety within competency-based curricula. Evidence from national and international literature supports OSCE as a valid and reliable assessment approach that enhances clinical preparedness, accountability, and professional confidence among nursing students.

**Keywords:** OSCE, Nursing education, Clinical competence, Competency-based education, Simulation

## INTRODUCTION

Nursing practice requires the integration of scientific knowledge, technical skills, ethical reasoning, clinical judgment, and compassionate patient-centered care. With increasing patient acuity, technological advancement, and expectations for quality and safety, nurses are expected to function with greater autonomy and accountability. Nursing education therefore carries the critical responsibility of ensuring that graduates are not only knowledgeable but also clinically competent and practice-

ready.<sup>1</sup> Assessment of clinical competence plays a central role in achieving this objective. Traditional assessment methods such as written examinations, oral viva voce, and conventional practical examinations have been criticized for subjectivity and their limited capacity to evaluate real-world nursing performance.<sup>2</sup> These approaches often emphasize recall of information rather than the application of knowledge in clinical contexts, while examiner bias and variability in patient conditions further compromise reliability.

The Objective Structured Clinical Examination (OSCE) was introduced to address these limitations by providing a structured, objective, and transparent method of clinical assessment. Through standardized scenarios and predetermined scoring criteria, OSCE enables consistent evaluation of clinical readiness while promoting fairness and accountability in nursing assessment.<sup>3</sup>

### CONCEPTUAL OVERVIEW OF OSCE

OSCE is an assessment approach centered on observable competence, wherein learners sequentially engage with multiple short clinical scenarios that are specifically designed to measure distinct clinical tasks, decision-making abilities, and professional conduct.<sup>4</sup> Each station targets predefined learning outcomes and is assessed using structured scoring tools.

Standardization is achieved by exposing all candidates to the same clinical scenarios and predetermined scoring criteria, thereby enhancing fairness and consistency in assessment outcomes. Within nursing education, OSCE allows direct evaluation of psychomotor skills such as medication administration and wound care, cognitive abilities including clinical reasoning and prioritization, and affective attributes such as communication, empathy, and ethical practice.<sup>2</sup> This multidimensional focus reflects the holistic nature of nursing practice.

### EVOLUTION OF OSCE IN NURSING EDUCATION

First implemented within medical education during the 1970s, OSCE was later incorporated into nursing programmes as educational models increasingly emphasized measurable clinical competence over theoretical proficiency alone.<sup>4,5</sup> The growing focus on patient safety, quality assurance, and professional accountability further supported its adoption across nursing institutions.

Over time, nursing OSCEs evolved from simple procedural checklists to complex scenario-based assessments that incorporate communication skills, ethical decision-making, teamwork, and critical thinking. The integration of simulation technology, standardized patients, and digital scoring platforms has enhanced realism, reliability, and educational value.<sup>6-8</sup>

### EDUCATIONAL FOUNDATIONS OF OSCE

The educational validity of OSCE is supported by established learning theories. Within frameworks of clinical competence, OSCE occupies the level at which learners must translate conceptual understanding into demonstrable clinical actions, allowing assessors to observe performance rather than inferred knowledge.<sup>9</sup>

Through its integrated station design, OSCE simultaneously evaluates analytical thinking, technical skill execution, and professional attitudes, reflecting the

multidimensional nature of nursing practice.<sup>10</sup> This alignment with cognitive, psychomotor, and affective learning domains supports holistic competence development among nursing students.

### RATIONALE FOR OSCE IN NURSING EDUCATION

The expanding scope of nursing practice necessitates assessment strategies capable of evaluating clinical competence, ethical responsibility, and professional accountability in a consistent manner. OSCE provides a structured mechanism for achieving this objective by enabling direct observation of performance in standardized clinical situations.<sup>3</sup>

The use of predefined clinical scenarios and structured scoring tools minimizes subjective judgment and contributes to more reliable and reproducible assessment decisions.<sup>11</sup> In addition, OSCE promotes experiential learning and reflective practice through structured feedback and debriefing. Ensuring competence prior to direct patient care contributes significantly to patient safety and quality of care.<sup>12</sup>

### STRUCTURE AND DESIGN OF OSCE

An OSCE typically consists of multiple stations lasting five to ten minutes, each mapped to specific curricular objectives. Nursing OSCE stations commonly assess medication administration, infection prevention, wound care, patient education, documentation, emergency response, and clinical prioritization.<sup>5</sup>

Assessment within OSCE stations is primarily guided by structured checklists derived from accepted nursing practice standards, ensuring alignment with expected levels of clinical performance. These checklists are often supplemented by global rating scales to evaluate communication, professionalism, and overall clinical judgment.<sup>6</sup>

### ROLE OF FEEDBACK AND DEBRIEFING

A key educational strength of OSCE lies in structured feedback and debriefing. Timely feedback enables learners to identify performance gaps, reinforce correct practices, and enhance self-awareness. Simulation-based debriefing further facilitates reflection on clinical reasoning, communication, and professional behaviour, transforming OSCE into a powerful formative learning experience.<sup>7</sup>

### OSCE IN COMPETENCY-BASED NURSING EDUCATION

Competency-based nursing education emphasizes demonstrable performance rather than theoretical knowledge alone. OSCE operationalizes this philosophy by allowing direct observation of skill execution, clinical reasoning, communication, and professional conduct.<sup>9</sup>

In India, the Indian Nursing Council advocates outcome-oriented evaluation through its competency-based curriculum framework. OSCE aligns closely with these

regulatory expectations by offering a standardized and defensible approach to assessing essential nursing competencies.<sup>13</sup>

**Table 1: Mapping of Indian nursing council core competencies to OSCE stations.**

INC competency domain	Illustrative OSCE station	Key performance indicators
Patient-centered care	Comprehensive patient assessment	History taking, care planning
Clinical nursing skills	Medication administration	Five rights, aseptic technique
Infection prevention	Hand hygiene and PPE	WHO steps, waste disposal
Communication	Patient education	Clarity, empathy
Emergency care	Basic life support	ABC approach

**Table 2: Example OSCE checklist for medication administration.**

Checklist item	Score (1/0)
Verifies prescription	<input type="checkbox"/>
Patient identification	<input type="checkbox"/>
Hand hygiene	<input type="checkbox"/>
Aseptic technique	<input type="checkbox"/>
Documentation	<input type="checkbox"/>

## EDUCATIONAL IMPACT OF OSCE

Findings across nursing education literature indicate that participation in OSCE contributes to improved learner confidence, strengthened clinical reasoning, and greater preparedness for entry into professional practice.<sup>2-12</sup> Faculty benefit from improved assessment structure and inter-examiner reliability, while institutions report enhanced credibility of clinical evaluation processes.<sup>11</sup>

## INNOVATIONS AND FUTURE DIRECTIONS

Recent innovations include simulation-enhanced OSCEs, virtual and video-assisted formats, and digital scoring systems. Emerging exploration of artificial intelligence for performance analytics and feedback generation may further improve scalability, objectivity, and educational impact.<sup>8-14</sup>

## CONCLUSION

The OSCEs has reshaped the evaluation of clinical competence in nursing education by shifting assessment emphasis from knowledge recall to observable clinical performance. By enabling standardized, objective, and transparent assessment of essential nursing competencies, OSCE supports the preparation of clinically capable and professionally accountable graduates.

Within the Indian context, OSCE aligns strongly with national competency-based curricular mandates. Broader implementation of OSCE across nursing institutions may contribute to greater consistency in clinical assessment practices, improved graduate competence, and enhanced patient safety. Continued faculty development,

institutional commitment, and innovation will be essential for sustaining and advancing OSCE practices in nursing education.

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