

# Objective Structured Clinical Examination in Pharm D and Clinical Pharmacy Courses in India; a Rising Need to Acquaint?

Kingston Rajiah\* and Sajesh K Veettil

Department of Pharmacy Practice, School of Pharmacy and Health Sciences, Faculty of Medicine and Health, International Medical University, 57000 Kuala Lumpur, Malaysia

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## ABSTRACT

At hand is a rising need to acquaint with objective structured clinical examination (OSCE) as a part of pharmacy exams in India. OSCE is a recognized, consistent, and active assessment to valuate professional skills in an impartial and an obvious method. All OSCE station desires to obligate a marking scheme that covers communication skills and content skills assessing the chores expected from the students. Mostly, OSCE stations have active, preparatory and rest stations. These stations may comprise with clinical focused contents. This paper is an initiative to start OSCE in pharmacy; it investigates the characteristics of OSCE stations and summaries the foots to contrivance OSCE. Also, significant matters resembling the benefits of OSCE, its limits, fortes, flaws, chances, and the scheduling of OSCE in pharmacy are also roofed. The OSCE format in pharmacy and its stations needs to be validated, certified, and finalized before its use in exams. This may require approval from the pharmacy council of India and all India council of technical education. More round table discussions are required. But there will be a tremendous challenge for the students and staff members of pharmacy in India to incorporate OSCE in pharmacy exams.

**Keywords:** OSCE, Clinical pharmacy, Pharm D, India.

## INTRODUCTION

At hand is a rising need to acquaint with objective structured clinical examination (OSCE) as a part of clinical pharmacy and pharm D courses in India. OSCE is an assessment method established and introduced by Hardin in the year 1979,<sup>1</sup> it has been practiced in medical and paramedical courses worldwide.<sup>2</sup> This paper is an initiative to start OSCE in clinical pharmacy and pharm D; it investigates the characteristics of OSCE stations and summaries to contrivance OSCE. Also, significant matters resembling the benefits of OSCE, its limits, fortes, flaws, chances, and the scheduling of OSCE in pharmacy are also roofed. The current practice in exams consists of long cases presentations and viva voice

assessments in clinical pharmacy and pharm D. The current assessment has disadvantages in assessing individual skills and creativity among pharmacy students.<sup>3</sup> Most of the time, the examiners fail to assess the objective role by a student. These methods have been interpreted in many journals and focus has been only on the base of the 'Miller's pyramid of competence'.<sup>3-5</sup> To summarize, there has been greater difficulty to evaluate the top levels of the pyramid of competency in a valid and reliable manner. To astound these inadequacies, introduction of OSCE is necessary which will incorporate assessment of clinical skills and competencies necessary for advancement in the pharmacy education. Domains of competencies incorporated in each station in an OSCE will be diverse; overall all

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**Address for correspondence**  
**Kingston Rajiah Lecturer,**  
 Pharmacy practice  
 International medical  
 university  
 No. 126, Jalan Jalil Perkasa  
 19, Bukit Jalil, 57000 Kuala  
 Lumpur, Malaysia  
 Tel: 60146400547  
 E-mail:  
 kingrajiah@gmail.com



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domains of competencies are tested. The examination is structured to observe all students on matching content by the same examiners using predetermined guidelines; and a systematic feedback is obtained from both students and the assessors, which can be integrated to enhance the learning through feedback and reflection. OSCE is meant to test the 'shows how' level of the Miller's pyramid.<sup>6</sup>

Medical schools across the world have increasingly implemented OSCE and it has now been widely described in the medical literature and adopted by the medical and nursing profession.<sup>7</sup> Currently OSCE is a component of entry-to-practice the Canadian Pharmacist Qualifying Examination.<sup>8</sup> The global paradigm shift near pharmaceutical care practice conveys the need for such changes in pharmaceutical education even in countries where clinical pharmacy and pharmaceutical care are still at infancy.

## FEATURES OF OSCE

An OSCE is comprised of a series of stations through which all candidates rotate on a timed basis. In each station, the candidate is faced with a simulated task or problem; the candidate is required to perform specific functions to complete the task or address the problem.<sup>9</sup> This method of assessment makes information challenging to obtain through traditional tests. As a performance-based assessment method, OSCE measures cognitive learning, essential practice skills, and the ability to communicate effectively through problem-solving skills.<sup>10</sup>

No other clinical pharmacy and pharm D schools from India, to the best of our knowledge, have reported experiences in conducting OSCE. Pertaining to our experience in coordinating OSCEs in different levels of undergraduate pharmacy education in one of the Pharmacy universities, Malaysia; it's our desire to share our experience with the development and conduct of the examination in a narrative way.

Designed for a higher level pharmacy graduate assessment, there can be a total of 16 stations, including 7 stations with assessors, 1 written assessment, 4 preparatory and 4 rest stations. The duration for each station can be fixed to 6 minutes or varying according to the local context of practice. The OSCE examination can be conducted over two days. Preparatory station is to formulate the task by students before incoming into the active station. Student performance with standardized simulated patient on an active station is observed and evaluated independently, using a standardized structured marking guide followed by a global rating scale. A rest station is incorporated for approximately every 15 minutes into the exam, to give a break to the students.

In each station, (preparatory and assessed station) students are requisite to perform the task according to the scenario with instructions given. An assessor can sit in each assessed station to examine the students using a structured marking guide. The time keeper can sound the buzz to mark the end of each 6-minute session, and the students have to rotate to the next stations accordingly. There can be sufficient invigilators to make sure the students go to the correct stations and to ensure the proper conduct of the OSCE. Students can be given a briefing prior to the exam and can be kept quarantined as and when required.<sup>11</sup>

**Examiners:** All assessors are selected by the OSCE coordinator according to their area of specialty, with the approval of the Dean/OSCE working group. The assessors can be lecturers from pharmacy practice team and/or other relevant lecturers and/or pharmacy practice tutors who have gone through OSCE standardization workshops.

**Simulated patients:** Stimulated patients are healthy lay people who are trained to act as patients according to the script given to them. They will be briefed by the assessors about the scenarios. These stimulated patients have gone through the standardization workshops and have acted as stimulated patients for numerous pharmacy skills development sessions for a substantial period.

**Simulated doctors/health care professionals:** Stimulated doctors or health care professionals are usually lecturers from school of medicine, pharmacy, nursing or the relevant field. The same with stimulated patients, they will be briefed by the OSCE coordinator or script writer of the particular scenarios.<sup>12</sup>

## PROCESS OF OSCE

Key developmental stages that should be followed in the design of an OSCE are given in table 1.

**Table 1: Design of an OSCE**

1. Blueprint preparation	5. Review meetings for station scenarios, assessment tools and examination materials
2. Consultation with faculty and other stakeholders for workstation progress	6. OSCE feasibility testing if necessary
3. Planning of OSCE workstations components	7. Meeting of all stakeholders on the conduct of the examination. Training standardized patients and examiners. Students' briefing sessions.
4. Development of station scenarios, assessment tools and examination materials	8. Quality assurance

The learning objectives of the course and the student's level of learning should be decided before planning OSCE. Blueprinting involves the process of comparing test content against the learning objectives; which ensures a representative sample of what the student is expected to have achieved.<sup>13</sup>

A working group includes OSCE coordinator and faculty members involved in teaching of learning objectives can be assigned to develop a blueprint describing competencies to be assessed and how they can be assessed. Blueprint can serve as a guide which includes essentials of the examination, slating of suggested workstations, overall competencies to be tested and it's comparison with learning objectives, examination schedules, students grouping and venue, financial requirements, assigned responsibilities, guidelines for stakeholders and so on. Additional process can be completed by a detailed review of the literature on how OSCEs for both undergraduate and licensure examinations were conducted in other parts of the world.<sup>14</sup>

During review meetings contents of respective stations and their assessment tools should be standardized and face-validated by the same working group to make sure that all examination materials are thoroughly inspected for accuracy and consistency. Standardization and face-validation will certify that the tasks assigned in each station are expected to measure the clinical skills and competence of the students conferring to the learning objectives and the appropriateness of the items used in the marking scheme for evaluating the expected learning objectives. All required examination materials and assessment tools should be reviewed, prepared and compiled by the coordinator. A final briefing session will conduct by the OSCE coordinator three days prior to the examination to the working group, higher officials from the University, invigilators and assessors to verify and appraise the degree of readiness for the actual examination. Assessors should consult with the individual script writers for each station one day prior to the real examination to make sure that scenario, tasks and assessing content are familiar and standardized among all assessors. Simulated patients should undergo briefing/training prior real examination and on the day of examination a mock session will be carried out in the presence of assessors to ensure the understanding and standardization of the scenario.

Students should underdo minimum of two mock OSCE sessions prior to the real examination. Two briefing sessions can be conducted for students by the OSCE coordinator. All necessary details on the nature of the examination can be briefed in the first session, which includes nature and mode of OSCE,

workstations, expectations etc. All the students will be informed the planning, grouping, schedules, venues and general rules of the examination through notification usually two to three weeks prior to examination. The final briefing session will be delivered on the day of examination in which students were briefed again the general rules of conduct of the examination as well as on the workstations.

## **METHODS EXPEDITING OSCE APPLICATION**

OSCE stations must stand to widely assess the proficient talent of a student.<sup>15,16</sup>

An ephemeral sketch of the strictures that sustenance the application of OSCE is given in the Table 2 and 3.

## **BENEFITS OF THE OSCE**

The OSCE has many benefits. "OSCE is applicable to any area of medical education."<sup>17,18</sup> The whole exam is objective and endorses limpidity.<sup>19</sup> A huge amount of students can be assessed in a short period. It inspires augmented communication among the assessor and students.<sup>20,21</sup> It eases a suitable addition of training and assessment. The capriciousness modeled by valuation of students on unlike patients, dissimilar cases, and mixed issues is radically clipped out. Likewise, the inconsistency that happens amongst dissimilar assessors is avoided once numerous students are evaluated by means of a uniform setup, which profitably clues to impartiality in the assessment.<sup>10</sup> OSCE has been efficacious in eradicating favoritisms linked with old-style exam structures.

## **COMPLICATIONS OF OSCE SETUP AND OVERPOWERING IT**

OSCE's power will improve impartiality. Nevertheless, some issues are unavoidable. Most of the time, new OSCE set up is frustrating.<sup>22,23</sup> Anyway it's the same for any new set up whether it's practical or case presentation. Students may complain about lack of time for the task assigned for them though it is sufficient.<sup>23</sup> OSCE scripts which are reused can be an issue but it can be overcome by modifying the scenarios.<sup>24</sup> For the OSCE coordinators it may be hard time to arrange the entire set up and its time consuming.<sup>25</sup> But it is the same for any kind of exam, say practical and case presentation.<sup>26,27</sup> It can be overcome by the trial and error sessions prior to OSCE.

Communication skills and counseling are main structures of clinical pharmacy<sup>28,29</sup> which are not looked over in current clinical pharmacy practical exams, but very much needed in clinical pharmacy practice.

**Table 2: Day 1 Stations**

Station	Scenario	Knowledge	Skills
1	REST		
2	Responding to Symptoms	<ul style="list-style-type: none"> <li>Recognize signs &amp; symptoms of patient's complain</li> <li>Recommend the products and counseling appropriately</li> </ul>	<ul style="list-style-type: none"> <li>Communication skills</li> <li>Handling a cooperative client</li> <li>Clearing patient's concerns</li> <li>Use of lay language</li> <li>Problem solving</li> </ul>
3	Drug History Taking* (preparatory)		
4	Drug History Taking	<ul style="list-style-type: none"> <li>Essentials of drug history</li> <li>Drug related responses &amp; problems</li> </ul>	<ul style="list-style-type: none"> <li>Communication skills</li> <li>Understanding of patient's notes</li> <li>Eliciting treatment issues</li> <li>Responding to patient</li> <li>Consult appropriate reference books for drug interaction</li> </ul>
5	REST		
6	Counselling on Device use	<ul style="list-style-type: none"> <li>How to use drug delivery devices like (ex: Novopen) etc</li> </ul>	<ul style="list-style-type: none"> <li>Communication skills</li> <li>Use of lay language</li> <li>Demonstration of device use</li> <li>Ability to improve patient compliance</li> </ul>
7	Health education promotion	<ul style="list-style-type: none"> <li>Information &amp; knowledge on health related issues</li> <li>Public health concerns</li> </ul>	<ul style="list-style-type: none"> <li>Communication skills</li> <li>Provision of appropriate information</li> <li>Addressing the patient concerns</li> </ul>
8	REST		

\*preparatory stations are for the students to prepare themselves for the next station

**Table 3: Day 2 Stations**

Station	Scenario	Knowledge	Skills
9	Drug counseling* (preparatory)		
10	Drug counseling	<ul style="list-style-type: none"> <li>Understanding on drug use</li> <li>Drug related problems</li> <li>Tapering of dose</li> </ul>	<ul style="list-style-type: none"> <li>Communication skills</li> <li>Handling a cooperative patient</li> <li>Use of lay language</li> <li>Provide clear counseling regarding use of drug</li> <li>Assess patient understanding</li> </ul>
11	Prescription screening* (preparatory)		
12	Prescription screening* (preparatory)		
13	Prescription screening	<ul style="list-style-type: none"> <li>Legal requirements of prescription</li> <li>Errors in prescription</li> <li>Drug related problems</li> </ul>	<ul style="list-style-type: none"> <li>Communication skills</li> <li>Searching information source</li> <li>Appropriate recommendation</li> </ul>
14	REST		
15	Receiving a drug information query	<ul style="list-style-type: none"> <li>confirmation of information</li> <li>Confirmation of satisfaction of querer</li> </ul>	<ul style="list-style-type: none"> <li>Communication skills</li> <li>Information gathering via phone call</li> <li>Ability to respond query</li> <li>Assess callers understanding</li> </ul>
16	Handling drug information query	<ul style="list-style-type: none"> <li>Handling drug query</li> <li>Searching source of information</li> <li>Provision of information</li> <li>Confirmation of satisfaction of querer</li> </ul>	<ul style="list-style-type: none"> <li>Communication skills</li> <li>Information gathering via phone call</li> <li>Ability to respond query</li> <li>Assess callers understanding</li> </ul>

\*preparatory stations are for the students to prepare themselves for the next station

It's a known fact that improper communication and counseling may cause medical issues with death rate up to 20%.<sup>30,31</sup> OSCE delivers a chance to measure the deserted skills by permitting the formation of exactly intended stations.<sup>32</sup>

Clinical pharmacy as field pacts with the attainment and examination of skills. In current scenario, they have developed the backbone of all aspects in pharmacy.<sup>33</sup> Even though it's beginning, a preliminary knowledge with "OSCE" has established "accessibility, interactivity"<sup>34</sup> Additional, "this procedure of valuation is well-thought-out to be lucrative in rapports of students and patients and, also, seems to be favored by students."<sup>35</sup>

## SUMMARY OF OSCE IN CLINICAL PHARMACY

OSCE is used in many disciplines of medical sciences. In the predominant clinical pharmacy ideal, practical exam includes diversely of long case presentations, viva-voice. The outline of OSCE as a recent method will moreover need one or more of the current method<sup>36</sup> or OSCE may be a supplementary method. It's essential to be evoked that all exams express boundaries of stint. So, substituting instead of toting OSCE can be more practicable while including it in exams. Regardless of its constraints, OSCE must be instigated. Lastly, it need to be recapped that the OSCE method will not substitute the current mode of practical exams, rather enlarges it efficiently and improving impartiality.

## CONCLUSION

OSCE is an exam that uses an appropriate design at each station. It simplifies valuation of essential proficiency and existing proficient skills in many medical fields in an impartial and a obvious way. In India, it has been effectively introduced and applied by scrutiny frames in medical specialties.

As regards to clinical pharmacy, it's high time to integrate OSCE as an assessment part of the exam. This may need many combined events like; dynamic contribution and influence from the educational clinical pharmacy community, efforts of genius participants of foremost education institutions, association of a sequence of seminars/conferences, precarious procedure of authentication, accreditation, and confirmation in advance to the use of OSCE in clinical pharmacy exams.

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