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Perception of Junior Faculty regarding OSPE

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ABSTRACT

Objective: The objective structured practical examination (OSPE) is an accepted assessment tool. This includes observation of students, performing at particular stations, as part of a vital assessment for learning. Preparation of every OSPE station is based on a specific area and objective to be tested. To prepare and organize OSPE stations, a lot of hard work and team-based effort is required. Furthermore, the OSPE stations must be assessing synchronously with practical aspect of curriculum. This study was done to assess the perception of junior faculty regarding OSPE. **Study Design:** Descriptive cross-sectional study. **Settings:** Bahria University Medical & Dental College, Karachi Pakistan. **Duration:** February 2021 to June 2021. **Methods:** The sample size was calculated as 100. Attainment of approval from the Ethical Review Committee of Bahria University Medical & Dental College was followed by the commencement of the study. Signing of the consent form by the participants was followed by filling out the structured questionnaire form. **Results:** The study included 14 (14.1%) males and 85 (85.9%) females. The mean age of study participants was 28±3 SD. The purpose of OSPE being inquired by the study participants was responded as, to make assessments objective by 15 (14.4%), to make assessments subjective by 85 (81.7%). **Conclusion:** This study concluded that in order to prepare OSPE for undergraduate students, the perception of junior faculty is not adequate. Furthermore, an immense need exists for arranging faculty development workshops for junior faculty in order to upgrade OSPE preparation skills and apprise them regarding the significance of OSPE as an assessment tool, yielding innovative outcomes.

Keywords: OSPE, assessment, faculty, curriculum, medical education.

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INTRODUCTION

Regular examinations of students happen on a continual basis throughout a course.¹ In order to assist faculty, universities are rapidly increasing faculty communities as well as professional development opportunities.²

Current requirements in the areas of health as well as education currently demand transformed educators who are not confined to the task of imparting knowledge only; it is required that they promote knowledge, assist student learning, facilitate working as teams, be considerate about reality related to social life, be critical, reflect exhibit the capacity of transforming the health care model.³

Learning is steered by assessment. Educative assessment methodology is required for promoting active learning. In this context, Objective Structured Practical Examination (OSPE) is highly adopted, despite various other methodologies. As opposed to traditional methodology, OSPE is highly advantageous. OSPE is inclusive of directly observing the performance of a student at planned stations.⁴ In OSPE, various stations are created, and every station has a particular objective. OSPE is demanding in terms of teamwork as well as logistic

support. As an advantage, extensive testing can be done via OSPE, within a short time, utilizing the standard setting. OSPE is, however, studied as an extremely common as well as prominent way for assessment of practical or laboratory-based basic sciences within the initial phase of the medical curriculum. OSPE should be in accordance with the curriculum and require higher cognitive skills.⁵

The Objective Structured Practical Examination (OSPE) includes various stations requiring completion concomitantly, with every station needing 4-5 minutes. The students go to the next station when a signal is given and should rotate through all stations. With a pre-determined sequence, students are rotated such that every student goes to each station successively in response to a signal to proceed ahead.

Time and again, students can commence independently at any station for completion of the cycle. A component of competence tested is the objective of station conceptualization in the first place. Performance tasks are meant for procedure stations, whereas "question stations" are for responding to various questions or for recording findings from prior procedure stations. Observers with pre-validated checklists are

positioned at all stations to score the student's performance. At a pioneer level, OSPE was devised by Harden *et al.* from the University of Dundee, Scotland, in 1975, following which it has encountered ensuing improvements.⁶ As part of OSPE, the competence of a student is evaluated for general experiments, via the capacity to identify equipment for experiments, procedures to conduct experiments, instrument handling, observing, as well as interpreting results, conclusions.⁷ En route to optimizing the preparation of health professionals, increased attention is being placed on competency-based education. Competency-based education (CBE) constitutes the groundwork for designing and enforcing education that recognizes the befitting performance characteristics of health care professionals.⁸ OSPE diminishes examiner bias and, for assessment of practical skills in pre- and para-clinical subjects, it is now an established tool.⁹ OSPE is utilized to assess areas highly crucial in connection with the skill of learning performance by the students. These include being capable of interpreting data, solving problems, teaching skills, as well as communication skills. Various studies have revealed that OSPE is an accurate as well as good assessment tool and diminishes examiner bias in numerous levels of medical education. To assess practical skills within pre- and para-clinical subjects, OSPE is now an established tool.¹⁰ The barriers to the usage of OSPE include its labour-intensive nature, the impediment to maintenance of the same difficulty level, as well as observer fatigue. Despite such pitfalls, OSPE has culminated in advanced student assessment.¹¹ Currently, there exist huge, enhanced demands on medical school faculty members to be creative as well as productive teachers, successful investigators, and productive clinicians. These pressures have emanated from the latest curriculum development, competition in the health care institutions, and the limited resources for research.¹²

OSPE is a tool to evaluate constituents of practical skills, including simple procedures, interpretation of lab results, communication, attitude, etc. These are tested utilizing set check lists as well as rotating the student around some stations; a few have observers having check lists. OSPE is highly beneficial in assisting students to enhance their integration abilities, making them more skilled clinicians.¹²

The selection of a pertinent assessment method has a pivotal role in medical students' education.

Accordingly objective structured practical examination (OSPE) assesses practical capabilities via suitable stepwise, scientific, targeted, as well as scheduled ways, promptly considering the performance of students as part of a programmed test station.¹³

Assessment is an essential strong motivator of student learning. Each assessment strategy contributes to the overall student performance score. This is the grassroots cause of the high frequency of various divisions of assessment methodology. Chiefly categorized into two, formative as well as summative. Assessment of clinical and practical skills is done via long case exam, OSCE, mini clinical evaluation exercise, OSPE, multi-source feedback, as well as portfolios, among others.¹⁴

Assessment via OSPE emphasizes the individual ability of students. It is a multidimensional practical examination tool designed to identify experimental equipment, experimental

methodology, proper instrument handling, and the ability to infer and interpret results and conclusions.¹⁵ Practical skills assessment by OSPE is superior to traditional exams as it links knowledge gathering with evaluation; practical knowledge is assessed using OSPE.¹⁶ Over the last twenty years, a global movement among researchers and policymakers has begun to evaluate factors that improve the efficiency of educational systems. Students and teachers are the two main pillars of the classroom in every educational system.¹⁷ Medical education worldwide has prioritized competencies needed to produce a competent future doctor in both patient health and community service.¹⁸ OSPE has driven advancements in student assessment methods.

METHODS

The study was a descriptive cross-sectional study conducted from February 2021 to June 2021. The sample size for this study was 100. After getting approval from the Ethical Review Committee of Bahria University Medical & Dental College vide ERC letter No 09/2021 dated 11-02-2021, the study was commenced. A structured questionnaire, inclusive of questions about the OSPE, was used to collect data. This study was done at Bahria University Medical & Dental College. Participants for the proposed research project included faculty members from Bahria University Medical & Dental College.

The study included only those individuals who fulfilled the inclusion criteria. Non probability convenience sampling was used for sample size assessment.

The study criteria for inclusion were junior faculty members who had been teaching at the institution for less than 2 years. The inclusion criteria also included junior faculty members who had been teaching at the institution for less than 2 years, only within the age group of 24 to 60.

The exclusion criteria included junior faculty members having been in teaching for less than 2 years only but being pregnant, suffering from a longstanding disease like diabetes and hypertension, as well as chronic debilitating illnesses like renal failure, liver failure, and cancer.

Participants were enrolled as per the inclusion criteria only. Before participation, brief guidance was given to participants in the first place regarding the nature of the study, the objectives of the study, and the advantages of being a participant in this study. To ascertain voluntary participation, written informed consent was obtained from all individuals. followed by filling of

A structured questionnaire form was filled out by study participants following the attainment of consent.

Anonymity retention as well as confidentiality maintenance for information provided by study participants were assured. The questionnaire began by solely including demographic and socioeconomic data. In the initial part of the questionnaire, age and gender were inquired about from study participants.

The participants were asked about their qualifications. Participants were asked about the duration to having been in teaching. Furthermore, the questionnaire included questions

about medical education, including having had any formal training in Medical Education. Participants who chose the response yes to having had any formal training in Medical Education were asked about qualifications from amongst certificates in health professions education, diplomas in health professions Education, and Master of Health Professions Education (MHPE). Participants were asked about the number of faculty development workshops attended, specifically related to training in medical education, with choice of responses being 4, <4, >4, and don't remember.

Participant insight in connection with OSPE was evaluated by assessing participant perception related to the extent of importance OSPE has for the assessment of knowledge of practical skills of undergraduate students, by means of choosing from amongst very important, moderately important, not important, and don't know as responses available to participants.

Participant perception was assessed regarding the linkage between the content of OSPE stations for undergraduate students and the efficiency of those students after graduating as a doctor, by means of responses reflecting the degree of significance of linkage as very strong, moderately strong, no linkage, and don't know was the last response.

Participants were specifically asked about having attended faculty development workshops arranged for new faculty in their institution, and the response options were yes and no. Participants who had answered yes to attending faculty development workshops arranged for new faculty in their institution were further questioned regarding which area they found most difficult to grasp: Learning objectives, PBL, making a table of specifications for the curriculum, and mentoring. After having attended Medical Education workshops for faculty development

Participant perception was questioned regarding the necessity to do practical skills testing as part of stations in OSPE, including I/V lines, and drips on dummy models, and response options included yes, no, and don't know. Participant viewpoint was obtained regarding the purpose of OSPE, being between making assessments objective and making assessments subjective. Participant knowledge regarding the assessment capacity of OSPE was inquired about utilizing response options: knowledge only, skills only, attitude only, and knowledge, skills, and attitude simultaneously. Participants' viewpoint was obtained regarding OSPE, ensuring integration of teaching and evaluation. Participant opinion was obtained regarding OSPE being a structured tool. Eventually, the participants were asked regarding OSPE, yielding the most in terms of student assessment as which one from the amongst, among formative and summative assessments.

All the statistical analyses were performed using SPSS version 23. The entire data was entered into SPSS. Descriptive statistics for categorical variables included frequencies and percentages. Descriptive statistics for continuous variables included mean and standard deviation. Inferential statistics for categorical variables was the Chi-Square test in order to check significant differences in response by study participants. Statistically significant cut-off value was $P < 0.05$.

RESULTS

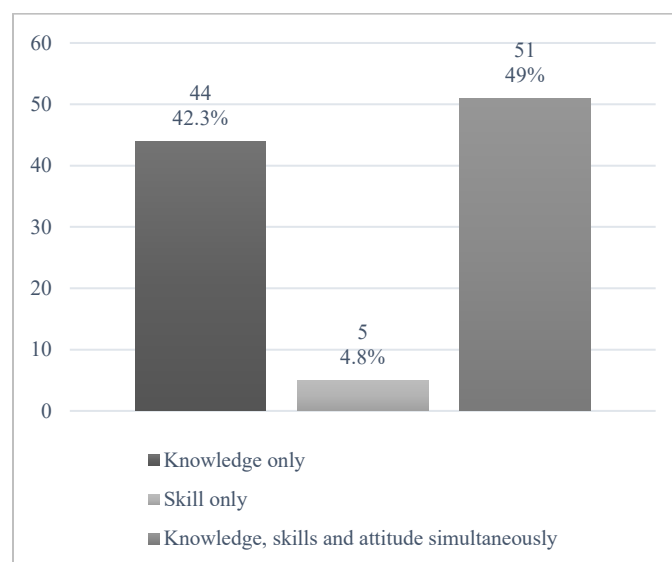
In this study, 14 (14.1%) males were 14 (14.1%), and females were 85 (85.9%). The mean age of study participants was 28 ± 3 SD. The socio-demographics are as shown in Table 1.

Table 1: Socio-demographics

Age		28±3 SD
Gender	Males	15 (15.1%)
	Females	85 (85%)
Qualifications	Undergraduate only	33 (33%)
	Postgraduate Certificate	18 (18%)
	Postgraduate Diploma	8 (8%)
	Postgraduate Master	41 (41%)

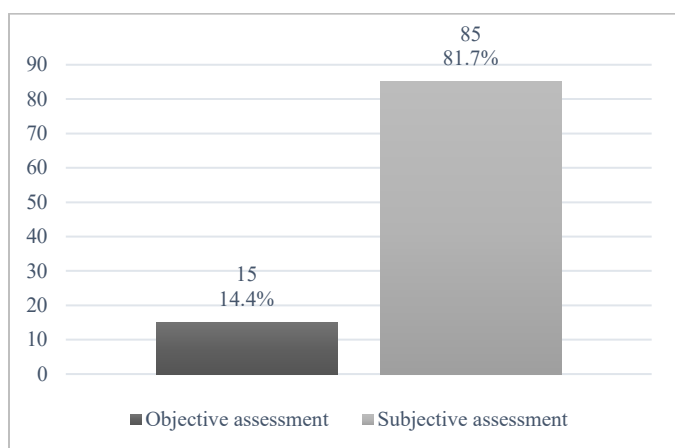
Regarding assessment by OSPE, 44 (42.3%) participants reported that it only assessed knowledge, 5 (4.8%) participants reported that it only assessed skills, and according to 51 (49%) participants, OSPE assessed knowledge, skills, and attitude simultaneously, as shown in Figure 1.

Figure 1: Perception regarding assessment by OSPE



Regarding OSPE being a structured tool, the response yes was given by 77 (74%) study participants, whereas it was no by 10 (9.6%) participants. Around 13 (12.5%) study participants responded with the option don't know, to OSPE being a structured tool. OSPE ensuring integration was responded to as yes by 59 (59%) no by 41 (41%) participants. The study participants involved in teaching medical students for 6 months were 43 (43%), for 1 year were 14 (14%) and for 2 years were 43 (43%).

The purpose of OSPE being inquired by the study participants was responded as, to make assessments objective by 15 (14.4%), to make assessments subjective by 85 (81.7%), as shown in Figure 2.

Figure 2: Purpose of OSPE

Amongst the study participants, 24 (23.1%) had received medical education training background, whereas 76 (73.1%) were devoid of it. Medical education qualification-holding participants were 11 (10.6%). Out of these 5 (4.8%) participants had a Certificate in Health Professions Education (CHPE), and 6 (5.8%) had a Master of Health Professions Education

Amongst the study participants, 42 (40.4%) had till the study attended 4 faculty development workshops, <4 faculty development workshops were till this study attended by 43 (41.3%), and till this study >4 workshops were attended by 15 participants (15%). The necessity of practical skills testing using i/v lines and dummies was considered as required by 96 (92.3%) and not required by 4 (3.8%). After having attended a faculty development workshop, the difficult to grasp areas were learning objectives by 10 (9.6%), PBL by 13 (12.5%), making a table of specification for the curriculum by 71 (71%), and mentoring by 6 (5.8%). Importance of OSPE for assessing knowledge of practical skills was considered very important by 57 (54.8%), moderately important by 19 (18.3%), and not important by 24 (23.1%), as shown in Table 2. Linkage between the content of OSPE stations and student efficiency was regarded as very strong by 57 (54.8%) and moderately strong by 43 (43%), as shown in Table 2.

Study participants who had attended faculty development workshops for new inducted faculty were 73 (70.2%), and study participants not attended faculty development workshops for new inducted faculty were 27 (26.0%).

Table 2: Perception regarding importance of OSPE

Variables		Frequency (Percentage %)
Importance of OSPE for assessment of the knowledge of practical skills of undergraduate students?	Very important	57 (54.8%)
	Moderately important	19 (18.3%)
	Not important	24 (23.1)
Linkage between the content of OSPE stations for undergraduate students and the efficiency of those students after graduating as doctors.	Very strong	30 (30.5%)
	Moderately strong	42 (40.4%)
	No linkage	20 (20.2%)
	Don't know	8 (9%)

There were significant associations of OSPE being a structured tool with OSPE ensuring integration, content of OSPE stations having an impact on efficiency of students as future doctors, importance of OSPE for assessing knowledge of practical skills, OSPE and any formal training in Medical Education, as shown in Table 3.

Table 3: Variable associations

Variables		P-Value
OSPE is a structural tool	OSPE ensuring integration	0.000
	The content of OSPE stations has an impact on the efficiency of students as future doctors	0.000
	Importance of OSPE for assessing knowledge of practical skills OSPE	0.000
	Any formal training in Medical Education	0.000

DISCUSSION

In this study majority of participants considered OSPE as a subjective assessment tool. Most of the study participants considered OSPE as a summative assessment. OSPE only assessing practical skills was the response of very few participants in this study. The majority of study participants considered OSPE to assess simultaneously knowledge, skills, and attitude.

Synchronous with our study, a study by Kamal *et al* revealed very few study participants had considered OSPE as being assessment tool for knowledge of practical skills only.¹¹ The study by Bashir *et al* included only a few participants having had a formal medical education qualification, like our study.¹⁹ Like our study, participants in the study by Pervaiz *et al* agreed that OSPE is a thorough assessment of the motor skills of students.²⁰

The results of the study coincide with the study by Yusof *et al*, deeming an essential connection between OSPE stations' content and student efficiency link.²¹ Synchronous with the study by Anees *et al*, this study revealed that OSPE efficiently assesses the domain of skills.²² In this study majority of participants agreed with OSPE, ensuring integration, and this coincided with a study by Menahal *et al*.²³

Synchronous with our study, study by Berlemont *et al* revealed OSPE being an accurate way to assess skills.²⁴ Similar to our study, OSPE was considered as structured tool in study by Hultgren *et al*.²⁵ Considerable emphasis was placed on Faculty development programme for enhancing competency to assess, in study by Nor *et al*, similar to our study.²⁶

However, studies by Meenahal *et al* and Naidoo also contradicted with our study, as most study participants considered OSPE as an objective tool in these studies, whereas in our study, OSPE was considered a subjective assessment tool by most participants in our study.²⁶⁻²⁷

Our study contradicts with study by Zabin *et al*, wherein only 7% participants had perception regarding all three domains, knowledge, skill, and attitude being assessed by OSPE. As

opposed to this, in our study majority of participants considered OSPE as a simultaneous assessment tool for knowledge, skills, and attitude.²⁸

The results of our study also differed from the study by Frantz *et al*, in which OSPE was considered as meant for objective assessment by the majority. Contrarily, in our study majority considered OSPE as a subjective assessment.²⁹

Study results were contrasting to study by Khodeir *et al*, wherein weightage of OSPE was compared as summative versus formative contribution.³⁰

It is therefore concluded that the perception of junior faculty regarding OSPE is not adequate. Future studies should be conducted directed towards facilitate and guide regarding the importance of OSPE as an essential component to build efficient medical doctors in the future.

CONCLUSION

It is therefore concluded that the perception of junior faculty regarding OSPE is not adequate. Future studies should be conducted directed towards facilitating and guiding regarding the importance of OSPE as an essential component to build efficient medical doctors in the future.

LIMITATIONS

Study limitations included being single-centred, limited sample size, inter-observer bias was not considered, stress level associated with OSPE preparation, as well as assessment was not inquired. The study did not peruse into role of OSPE deemed by study participants in terms of formative assessment versus summative assessment. Viewpoint on OSPE as standardized examination was not taken from study participants. Necessity of training on OSPE preparation being deemed important or not important, was not found out. Percentage of study participants having had OSPE preparation training, inclusive of checklists preparations and premade response questions, was not evaluated in this study.

SUGGESTIONS / RECOMMENDATIONS

A huge scarcity of studies exists pertaining to OSPE as an assessment tool. Hence more thorough studies especially qualitative studies are required in future to get aggrandized insights centered around OSPE.

CONFLICT OF INTEREST / DISCLOSURE

None.

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