

“Awareness and Knowledge of Dental Teaching Faculty on OSCE/OSPE examination- An Online Survey”

ABSTRACT:

Aims: Past many decades the traditional way of examining the students includes both short and long cases as well viva-voce examination. In the conventional assessment method, there are some voids found such as communication skills.

Study Design: A descriptive cross-sectional study was performed using a pre-designed questionnaire through Google forms.

Place and Duration of Study: Questionnaire distributed to the participants of various dental colleges across India through e-mails, and through Whats App, from 16th Feb 2022 to 30th March.

Methodology: The questionnaire was pre-tested, and validation was performed. A total of 501 responses were received from the participants. The received data was entered in Microsoft Excel sheet. Descriptive Statistical Analysis was done by using IBM SPSS version 26.

Results: A total of 501 faculty members participated. Senior Lectures stood in first place (153) and the least interest shown by the Readers (100). While gender wise designations follow as in Senior Lecturer designation dominated by the female faculty. 82.4% of faculty were aware about the OSCE and 77.8% claimed they knew about OSPE. More than half of the participated faculty revealed that they have not undergone any training programme to conduct OSCE/OSPE.

Conclusion: Very few of the Dental Institutions conduct the OSCE/OSPE programmes. Though there are many ways to test the student's knowledge, no single method is superior to other methods. It is advisable to use a combination of methods for better results.

Keywords:

Objective Structured Clinical Exam (OSCE) ; Objective Structured Practical Exam (OSPE); Traditional Exam; Clinical Competence; Examiner Bias; Exam Stress.

1. INTRODUCTION:

Expertising in the clinical area is of supreme importance for any of the dental student. Teaching and assessment method which emphasizes clinical competence is extremely vital. A few of the Dental Institutions in the worldwide in general and majority of the institutions in India still following the traditional way of assessing the student skills. In conventional exam pattern, only the theoretical knowledge of the student will be assessed by the examiners, and students will get one clinical procedure to be performed. Some of the academicians blame this system having some lacunae which include, lack of standardization, accuracy, and a lot of examiner bias [1,2]. To solve these issues, in 1975 first time Harden RM et al [3], introduced Objective Structured Clinical Exam/Objective Structured Practical Exam (OSCE/OSPE) in medical examination claiming this method of assessment having more advantages and very minimal problems. The National Assessment & Accreditation Council and Dental Council of India (DCI) in its regulations for the degree of Bachelor of Dental Surgery recommend the implementation of the OSCE or OSPE as a tool for assessing dental students' skills [4,5]. After OSCE/OSPE was introduced in dentistry, several dental schools have introduced OSCE/OSPE in different countries [1,2, 6]. For conducting any exam, teacher/faculty plays pivotal role. The faculty should have proper knowledge and experience in their speciality for proper assessment of the examinees. In the literature a little wealth of depict of dental teaching faculty awareness and knowledge on OSCE/OSPE exam system [7]. Hence this study unified the knowledge and awareness to analyse and portray the dental teaching faculty's attitude towards OSCE/OSPE examination.

2. METHODOLOGY:

A descriptive cross-sectional study was performed using a pre-designed questionnaire through Google forms. Google forms are an exceptional tool used to obtain the online data. The advantage with these forms is they can provide immediate statistical results to the researcher to draw the proper interpretation. The questionnaire [Annexure-1] was pre-tested, and validation was performed. Proper validation of questionnaire was established by: (1). The questions were evaluated and discussed with various dental teaching faculty across India, to get face validity of the questionnaire, (2). A questionnaire construction expert was involved during the preparation of questionnaire and (3). A pilot study was undertaken on 30 participants. The questionnaire was distributed to the participants of various dental colleges across India through e-mails, and through Whats App, from 16th Feb 2022 to 30th March. A total of 501 responses received from the participants. The received data was entered in Microsoft Excel sheet. Descriptive Statistical Analysis was done by using IBM SPSS version 26.

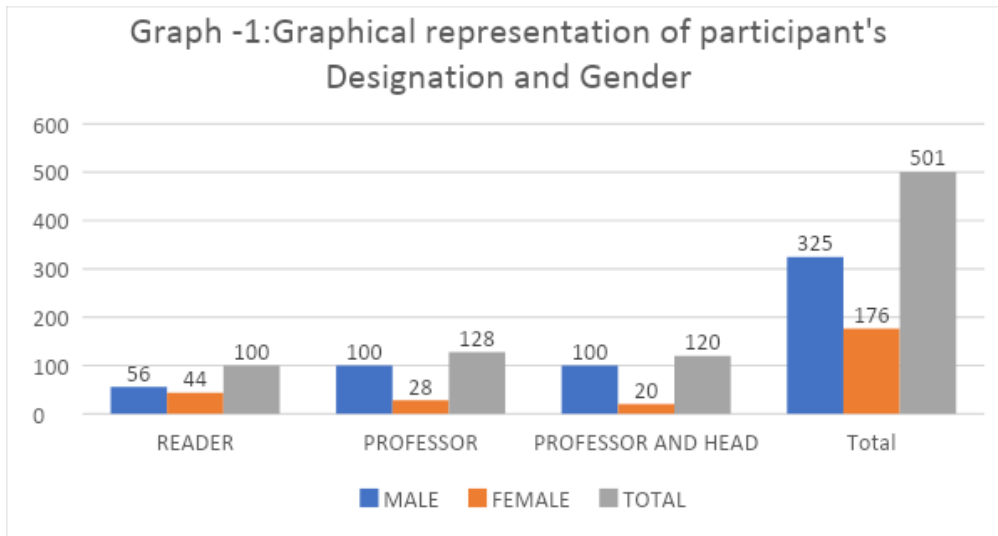
Ethical considerations

This research has been registered with the Institutional ethics Committee board. Participants were informed that participation in the study was entirely voluntary.

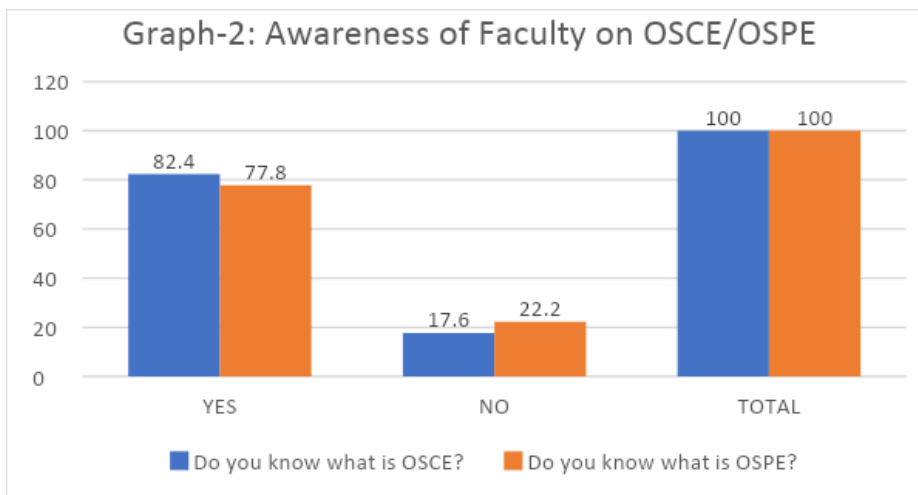
3. RESULTS

A total of 501 faculty members were participated in the study. The participant's gender point of view, the male gender was dominated with 64.9% (325), and female percentage was less (35.1%). Whereas designation point of view the Senior Lectures were stood in first place (153) followed by Professors (128), then Professor and Heads (120), the least interest

shown by the Reader designation (100). While gender wise designations follow as in Senior Lecturer designation dominated by the female faculty whereas rest of the designations male participation was big in number. [Graph-1]



Awareness of faculty on OSCE/OSPE as an assessment method, the lion head share of faculty members was aware of OSCE (82.4%), whereas 77.8% faculty revealed that they know about OSPE exam. [Graph-2]



When it comes to knowledge of the dental teaching faculty members on traditional exam versus OSCE/OSPE, about traditional exam pattern we have observed mixed results. 51.9% of faculty were under impression that, all the important skills were not tested, when it comes to testing all the students equally in traditional exam, again 53.3% were stated that all the students were not testing equally, and majority percentage (57.7%) expressed that all

the students will get same questions. Except minor percentage (14.4) rest all the faculty members strongly felt that traditional exam is not on par with OSCE/OSPE exam pattern. A huge percentage (78.4%) of faculty members were in favour of implementing OSCE/OSPE assessment method for all the exams. [Table-1]

Table-1: Knowledge of the Dental Teaching Faculty on Traditional exam v/s OSCE/OSPE

SNo	Questions	Response		Total %
		Yes (%)	No (%)	
	8.In the traditional exam pattern-all the important skills of the students are tested?	241(48.1)	260(51.9)	501(100)
	8a.In the traditional exam pattern-all the does all the students are tested equally?	234(46.7)	267(53.3)	501(100)
	8b.In the traditional exam pattern- does all the students get the same questions?	289(57.7)	212(42.3)	501(100)
	8c.Do you think OSCE/OSPE is better than traditional exam pattern?	429(85.6)	72(14.4)	501(100)

	9. Do you suggest to follow OSCE/OSPE for all the exams?	393(78.4)	108(21.6)	501(100)
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The knowledge of the Dental Teaching Faculty on OSCE/OSPE training; type of exam pattern; its advantages & disadvantages, when it comes to the training of faculty members for OSCE/OSPE, majority of the participants (64.7%) stated that they have not undergone any training for the conduction of OSCE/OSPE pattern, but huge percentage (83.6%) of them are shown positive attitude towards attending the training in the future. While responding to type of exam, there are 79.6% of the faculty felt that these are summative exams. The lion head share (90.2%) felt that OSCE/OSPE can provide outlook for the students on self-evaluation, and almost all the participants (94.6%) were revealed that OSCE/OSPE can provide remarkable feedback on confusions even in minor areas and understanding of the students as well as very good assessment method (92.4%) for progress of the students. Hand full of participants (82%) agreed that OSCE/OSPE is a solution for the lacunae present in the traditional exam. A predominant percentage (94%) felt that the OSCE/OSPE pattern can enhance the accuracy and efficacy of the assessment. According to 82.6%, of the participants stated that there was no role of luck favouring the student in OSCE/OSPE assessment method and meticulously all the students will be assessed. A very good percentage of faculty (91.2%) under the opinion of OSCE/OSPE pattern can minimise the bias among the examiners. Regarding the stress related to OSCE/OSPE, 59.1% percentage of the respondents felt that the students will undergo stress with this exam pattern. Whereas a greater number of faculty (71.3%) felt that OSCE/OSPE is a universally using method for the assessment. Major share of faculty (93.2%) under opinion of OSCE/OSPE can aid in the actual self- assessment of students. Almost all the participants (94.4%) felt that OSCE/OSPE can provide feedback to the students about themselves, as well their weakness and their strengths too (90.8%).[Table-2]

Table-2: Knowledge of the Dental Teaching Faculty on OSCE/OSPE training; type of exam pattern; advantages & Disadvantages

SNo	Questions	Response		Total %
		Yes (%)	No (%)	
	10. Have you attended any training programme on OSCE/OSPE conduction?	177(35.3)	324(64.7)	501(100)

	10a.If no: Are you interested to attend in the future?	419(83.6)	82(16.4)	501(100)
	11. OSCE / OSPE is a summative exam?	399(79.6)	102(20.4)	501(100)
	11a. OSCE/OSPE can provide scope for self-evaluation by the student?	452(90.2)	49(9.8)	501(100)
	11b. OSCE/OSPE can provide remarkable feedback about students understanding and pinpoint areas of confusion?	474(94.6)	27(5.4)	501(100)
	11c. OSCE/OSPE is a valuable method in assessing students' progress towards competence?	463(92.4)	38(7.6)	501(100)
	11 d. Will you agree that OSCE/OSPE can overcome the problems	411(82.0)	90(18)	501(100)

	arising from the traditional exam system?			
	11e. OSCE/OSPE can improve the validity and reliability of assessment?	471(94.0)	30(6.0)	501(100)
	11f. Do you think, OSCE/OSPE can eliminate the 'Luck of the draw'?	414(82.6)	87(17.4)	501(100)
	11g. Do you agree that OSCE/OSPE can reduce variations in marking standards from examiner to examiner?	457(91.2)	44(8.8)	501(100)
	12. Do you think OSCE/OSPE exam can induce more stress in the student?	205(40.9)	296(59.1)	501(100)
	13. Is OSCE/OSPE a globally used assessment method?	357(71.3)	144(28.7)	501(100)
	14. OSCE/OSPE can give the students a greater	467(93.2)	34(6.8)	501(100)

	'realistic self-assessment'?			
	15. OSCE/OSPE can provide 'feedback' to the students?	473(94.4)	28(5.6)	501(100)
	16. OSCE/OSPE can reveal students' strengths and weaknesses?	455(90.8)	46(9.2)	501(100)

DISCUSSION:

To our knowledge this is the first research study in India to delve into the opinion of dental teaching faculty members about OSCE/OSPE. This study scrutinizes the knowledge and awareness of dental teaching faculty in relation to OSCE/OSPE as assessment method of dental students. After 50 years of its introduction in medical examination, the OSCE/OSPE has been widely adopted as the examination to assess clinical competence all over the world in various medical disciplines including dentistry both in undergraduate and postgraduate levels [2,8].

Traditional exams usually assess the theory and students will get one clinical procedure to be performed.[9] According to Kumar V et al., [10] the lacunae in the curriculum can be identify with the implementation of OSCE/OSPE examination. The students during the OSCE/OSPE examination, will perform different clinical procedures in different stations by rotation within a stipulated period, the related theory knowledge levels can be assessed, also the weakness of the student can also be identified in that step. The present study results on strengths and weaknesses were revealed by the OSCE/OSPE pattern are on par with the reports of Plasschaert AJM [9] and his colleagues. Dennyhy PC et al., [11] and Mossey PA et al., [12] mentioned OSCE pattern is the ideal format for assessing the skills like communication skills, logical thinking and problem-based capacity, diagnosis and treatment planning. Manogue M et al., [1] added that the OSCE/OSPE pattern targets mainly the skills which are not tested during the traditional exam such as communication skills and practical procedures

According to Zayyan M, [13] for the successful conduction of OSCE/OSPE the faculty required training or should have previous experience. In the present study only few faculty members (35.3%) attended the training programme for conduction of OSCE/OSPE but majority of the faculty (83.6%) who have not been attended any training previously are very keen to attend in the future.

In the present study 79.6% of faculty members felt that OSCE/OSPE is a summative assessment method and very less faculty felt it is a formative type of evaluation. These results are not in line with the study results of Shumway JM [14], Lele SM [15] and Harden RM [3], who felt that an OSCE is a formative evaluation, whereas our study results are coinciding with the study results of Traynor M and Galanouli D [16] which reveals that the summative assessment designs to regulate clinical skills. Frantz JM et al., [17] from their pilot study concluded that the OSCE/OSPE can provide both summative as well as formative type of evaluation of the students. These results are contrary to many documented studies which claims that the OSCE/OSPE can provide either summative or formative type of assessment methods, including the present study.

Wass V et al., [18] and Manogue M et al., [1] claim that the OSCE increases the reliability of the examination and is very well suited to provide feedback to the students thereby enabling them to reflect upon and improve their abilities. The present study results on reliability were also supporting the above studies. Very big percentage of faculty (94%) felt that OSCE/OSPE can improve the validity and reliability. According to Al-Mously N et al., [19] now worldwide, OSPE is accepted as a gold standard for assessing practical lab skills. OSCE has achieved worldwide acceptability as an established mode for learner assessment [20,21]. The literature witnessing on the advantages of OSCEs/OSPE system which reveals that the bias of examination will be reduced, and dependability will become more [3,22,23]. Our study results were also accepting on the examiners' bias. A total of 91.2% participants agreed that the bias of examiners will become less with OSCE/OSPE examination and can reduce the variations among the examiners.

Some researchers claim that the OSCE increases the reliability of the examination.[24] According to Brown G et al., [25] and Puryer J et al., [26] the OSCE has also been shown to have good reproducibility. The results of the present study on feedback for the students, almost all the participants (94.4%) felt that OSCE/OSPE is very well suited to provide feedback to the students thereby enabling them to reflect upon and improve their abilities. The OSCE method can provide the scope for the students to know their weakness as well as their strengths.

Fistful of evidence available from the literature on student's anxiety and stress during the OSCE/OSPE examinations which leads into repercussion during the assessment [27,28]. Whereas our study results were against the above studies and in favour of Shitu B et al., [29] and Shahazad A et al., [30] study results, in which the students felt the stress induced during OSCE/OSPE exam was less than the traditional exam.

Some researchers explained the reasons also. According to Brand HS et al., [31] stress may be the result of more expectations for good grades as well tedious preparation for the exam by the students may lead to excess stress levels, Whereas Marshall G et al., [32] claimed that the rudeness and callous behaviour of some of the examiners may also lead to the stress for students. Even some unscientific information such as shaking of student's hands, increased blood pressure found during the OSCE examination [33].

The role of faculty members very crucial for the success of OSCE/OSPE exam, in relation to proper designing, standardize the final assessment, critical areas of examination to be focused, smooth conduction and providing feedback to students [34]. The present study results on improving the validity and reliability of OSCE/OSPE exam system (94%) will also

matching with the above study reports. These results are concurring with the results of Manogue M et al [1].

CONCLUSION: To implement any new assessment method successfully, the concerned faculty must have thorough knowledge and experience in that subject. Hence it is advisable to undergo training programme by all the teaching faculty. Some of the countries already implementing OSCE/OSPE programme in their dental curriculum. Less number of dental institutions in India following the OSCE/OSPE. No single method of assessment can exhaustively examine the dental students. Hence it is advisable to follow different methods rather than one method. The Dental Education Units of all the dental colleges may plan for providing periodic training programme for all the faculty members for the smooth assessment of student skills both theoretical and clinical/Practicals.

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