



Research Article

Perception about objective structured practical examination among undergraduate students in a dental institution in Bengaluru city – A cross-sectional survey

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ABSTRACT

Objectives: Practical assessments hold a critical role in evaluating students' performance. However, achieving objectivity, consistency, authenticity, reliability, and practical usefulness in student evaluations can be a formidable challenge. Objective structured practical examination (OSPE) offers a unique approach to aligning assessment methods with the educational objectives. The objective of the study is to assess the opinion about OSPE in comparison with traditional practical examination among undergraduate students in a dental institution.

Materials and Methods: A cross-sectional survey was conducted among all the undergraduates of one of the dental institutions using a questionnaire consisting of 10 questions on five-point Likert scale after checking for its reliability and validity. Data was analyzed using Chi-square test. **Results:** In the present survey, 80% of the subjects perceived that OSPE is better when compared to traditional practical examination, whereas 20% of the subjects disagreed in their opinion, and the results were significant at $P < 0.05$. **Conclusion:** OSPE was found to be a better method for evaluation when compared to the traditional method.

Keywords: Clinical evaluation, Objective structured practical examination, Teaching assessment, Traditional practical examination, Undergraduate students

INTRODUCTION

An integral part of a medical curriculum is an appropriate assessment of the student's clinical competencies. Medical/dental students should be assessed for their knowledge, comprehension, and psychomotor skills. Traditional examination overlooks these points and substantially reflects the global performance of the students. Objective structured practical examination (OSPE) is the new system of assessment, which is an objective, valid, and reliable tool for evaluation of teaching and learning.^[1]

OSPE included neutrality and uniformity in questions and the marking of students. Evaluation is a systematic process that consists of finding out the extent to which educational objectives have been achieved by students. No examination pattern is currently available that can fulfill all the criteria for assessment of students, based on their knowledge, comprehension, and skills. In addition, there is a failure to evaluate students' perspectives and feedback about traditional examination methods, which have been rehearsed for decades.^[2]

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OSPE was derived from objective structured clinical evaluation in 1975, which was later extended to practical examination. OSPE test in the students on what they can do rather than what they know. OSPE is a reliable device that has a good capacity to differentiate between different orders of students. It also tests the internal attendance and the student's attitude toward learning during the time of practical demonstration and performance.^[3]

It is an unprejudiced system of evaluation of teaching and learning, which is neither stressful nor dependent on the mood of the examiner, and is constructed to judge the performances of students in the practical examination consistently with having objectives in the respective domain. OSPE is an assessment format in which the candidate rotates a circuit of stations at each of which a specific task has to be performed. The marking system for each station is structured in advance.^[4]

Extensive exploration of literature reveals that very few studies have been conducted in the field of dentistry to assess the opinion about OSPE in comparison with traditional practical examination among students. Hence, an attempt has been made in the present study to assess the opinion about OSPE in comparison with traditional practical examination in first to final year undergraduate students in a dental institution.

The aim of the study is to assess the opinion about OSPE in comparison with traditional practical examination among undergraduate students in a dental institution.

MATERIALS AND METHODS

A cross-sectional survey was conducted to assess the perception about OSPE compared to traditional practical examination among undergraduate dental students. After taking ethical clearance from the Institutional Review Board and permission from the head of the institution, a survey was conducted at Vydehi Institute of Dental Sciences and Research Center, Bengaluru. All the study participants were informed about the pros and cons of the survey, and written informed consent was obtained from them. All the students belonging to 1st, 2nd, 3rd, and final years, a total of 258, constituted study participants.

Assessment about perception regarding OSPE and traditional practical examination was done using a self-structured, pretested questionnaire consisting of 10 questions with options on a five-point Likert scale. The questionnaire is checked for its content validity and reliability, and the reliability was found to be 0.8. The questionnaire was administered to the participants during their leisure hours and in the library. Participants took 10–15 min to fill the questionnaire. The data were collected and entered in the Statistical Package for the Social Sciences version 23.

Data analysis was done using the Chi-square test to check the significance difference between OSPE and traditional practical examination among undergraduate students.

RESULTS

A cross-sectional survey was conducted to pool the opinions about OSPE among undergraduate dental students. In the present study, 80% of the subjects perceived that OSPE is better when compared to traditional practical examination (TPE), whereas 20% of the subjects disagreed in their opinion, and the results were significant at $P < 0.05$.

Out of 258 study participants, 59 (22%) were first Bachelor of Dental Surgery (BDS) students, 68 (26%) constituted by second year BDS, 69 (27%) by third year BDS, and 62 (25%) by final BDS students. In all the years, female students were more (80%) compared to male students (20%) [Table 1].

From the 1st BDS till the final year BDS, there is a gradual increase in acceptance of OSPE. Among undergraduate students, 68% of the 1st year, 79% of 2nd year, 81% of 3rd year, and 84% of the final year perceived that OSPE is better than TPE, and the results were significant at $P < 0.05$ [Table 2].

DISCUSSION

In the present cross-sectional survey, the participants felt that OSPE is better when compared to the traditional method of evaluation. The results are in accordance with the studies conducted by Patil and Saini,^[4] Jaywant and Pai,^[5] Deshpande *et al.*,^[2] and Wani and Dalvi,^[1] whereas the results are controversial to the study conducted by Hasan *et al.*,^[3] where

Table 1: Distribution of study subjects based on gender and year of study.

Year	n (%)	Gender	
		Male, n (%)	Female, n (%)
I BDS	59 (22)	11 (19)	48 (81)
II BDS	68 (26)	12 (18)	56 (82)
III BDS	69 (27)	13 (19)	56 (81)
IV BDS	62 (25)	10 (16)	52 (84)

BDS: Bachelor of Dental Surgery

Table 2: Perception about OSPE among study participants.

Year	OSPE, n (%)	Chi-square value	P-value
I BDS	Agree - 40 (68) Disagree - 19 (32)	3.75	0.05
II BDS	Agree - 54 (79) Disagree - 14 (21)	4.24	0.04
III BDS	Agree - 56 (81) Disagree - 13 (19)	4.72	0.03
IV BDS	Agree - 52 (84) Disagree - 10 (16)	4.61	0.03

BDS: Bachelor of dental surgery, OSPE: Objective structured practical examination. P-value significant at < 0.05 using Chi-square test.

they found that the mean score of the traditional method of practical evaluation was significantly higher than that of OSPE even though OSPE was found to be a valuable tool.

Adoption of OSPE as a method for assessment leads to a decrease in the time span of examination. The assessment was uniform for all the students, and it reduced the stress of students by making them go through only one round of examination. The same set of exercises was given to all the students by eliminating the role of luck. The advantage of OSPE includes faculty–student interaction, integration of teaching and evaluation, adaptability to local needs, and a relatively short time.

The main feature of OSPE is that both the process and the product are tested, giving importance to individual competencies. Patient variability and examiner variability are eliminated, thus increasing the validity of the examination.^[6]

OSPE provides integration of teaching and evaluation. Students take more interest due to the variety and keep themselves alert during the whole process of examination, which is not found in a conventional one.^[7]

Limitations

1. In the present study, only one institution was included; further studies needs to be carried out, including more students from different institutions.
2. Being a cross-sectional survey, the present study can assess both exposure and effect, providing information on the relationship between two variables as they exist at one point in time. In the future, longitudinal studies have to be conducted.

Recommendation

The OSPE can be modified easily as per institutional circumstances and needs. Further, a large number of students can be tested within a relatively short time. Hence, the process of OSPE is so educative that it is being recommended for formative assessment as well.

CONCLUSION

OSPE was found to be a better method for evaluation when compared to the traditional method. Majority of the

undergraduates, in ascending order from first to final years, felt that OSPE is better than the traditional method.

Ethical approval: The research/study was approved by the Institutional Review Board at Vydehi Institute of Dental Sciences and Research Centre, Bengaluru, approval number VIMS-IEC/STAFF/AP/2018/261.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent.

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