

Bringing objectivity to assessment in Preclinical Prosthodontics: The student's perspective on OSPE

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Abstract:

Student assessment or examination is the single strongest determinant of what students actually learn (as opposed to what they are taught), and is considered to be uniquely powerful as a tool for manipulating the whole education process. Traditional, age-old methods like essay/essay type questions, which suffer from lack of objectivity, are giving way to newer objective methods of assessment in the form of multiple choice questions, short answer questions, and such other tools, for assessment of cognitive domain. Current system of assessment of students in Preclinical Prosthodontics depends on the evaluation of the teeth arrangement done by the students in three hours and evaluation by viva voce. However this method does not give an overall assessment of practical work done by the student in the period of two years. There are continuous attempts to make assessment more objective and reliable rather than subjective. As far as skills assessment is concerned the conventional methods are not only subjective in nature, but also lack scope for direct observation of the performance of skills by the assessor. Moreover the coverage of contents may be limited. This project was undertaken to develop Objectively Structured Practical Examination (OSPE) module for second year students to aid in an overall assessment in Pre clinical Prosthodontics. The OSPE module was conducted as a midterm test and student's perception about the OSPE module was gathered in the form of feedback questionnaire through which, it was found that assessment in Preclinical Prosthodontics by OSPE pattern can be a very effective method to complement the existing examination system for formative assessment.

Keywords: OSPE, Formative assessment, Preclinical Prosthodontics.

Introduction:

Appearing for an examination is the most dreaded part of any curriculum for the student and the pressure to give their best often creates fear and confusion. Examination patterns all over the world are being improvised in terms of making it more objective for better assessment of the students. Student assessment is often described as 'the tail that wags the dog' of medical education. It is seen as the single strongest determinant of what students actually learn (as opposed to what they are taught), and is considered to be uniquely powerful tool for manipulating the whole education process (1). There are continuous attempts to make assessment more objective and reliable rather than subjective. Traditional, age-old methods like essay/essay type questions, which suffer from lack of objectivity, are giving way to newer objective methods of assessment in the form of multiple choice questions, short answer questions, and such other tools, for assessment of cognitive domain (2). As far as

skills assessment is concerned the conventional methods are not only subjective in nature, but also lack scope for direct observation of the performance of skills by the assessor. Moreover the coverage of contents may be limited. Hence, attempts have been made to introduce methods that can overcome the above-mentioned limitations. One step in this direction is the Objective Structured Clinical Examination (OSCE) described in 1975, by Harden *et al.*, at the Dundee University, for assessment in clinical subjects, which has been a useful tool in this regard (3). The OSCE had been introduced as a reliable approach to assess the basic clinical skills. It is a flexible test format based on a circuit of 'stations'. At each station, a specific leaning objective is tested (4). The OSCE has been widely used for formative and summative assessment in various medical disciplines worldwide, including the non-clinical disciplines (5). For assessment in preclinical and paraclinical subjects, a modified version of the OSCE, the objective structured

practical examination (OSPE) has been introduced (6). In India, the use of OSPE for assessment of pharmacology skills has been reported from some institutes (7-8).

Conventionally assessment of students in Pre-clinical Prosthodontics depends on the evaluation of the teeth arrangement done by the student on the day of the examination in three hours and viva voce. However this method does not give an overall assessment of practical work done by the student in the two years period. Objectively structured practical examination (OSPE) for Preclinical Prosthodontics has been introduced as a more comprehensive method to evaluate overall performance and skill of the students which also gives a clear perspective to the students as to their performance in the practical examination and brings in more objectivity and transparency to the examination pattern.

Aim:

To analyse student's performance using OSPE.

Objectives:

To develop validated OSPE stations for Preclinical Prosthodontics.

To evaluate perception of students about assessment by OSPE.

Materials and Methods:

30 students (n = 30) were selected following a randomized sampling method from the second year BDS students. Institutional Ehtics Committee clearance was obtained. The students were instructed and informed about the OSPE pattern of assessment for Preclinical Prosthodontics. 10 OSPE stations were prepared which included 2 procedural, 4 interpretation, 3 reasoning and 1 rest stations of 3 minutes duration for each station and thereby a total time of 30 min per student. The syllabus for examination was preclinical complete denture Prosthodontics.

Procedure:

- Developing and validating OSPE station 10 OSPE stations designed, were peer reviewed and validated by the senior staff in the Department of Prosthodontics regarding the sequence, time and marks allotted and the types of stations included.
- Training of teaching and non teaching staff for OSPE module The teaching and the non teaching staff required for the conduction of the OSPE module were trained to carry out the module.
- Ethical clearance The study with details of the developed stations and questionnaire were submitted to the Institutional ethics committee to obtain the ethical clearance.
- Carrying out intervention of OSPE As per the planned pattern the OSPE module was carried out.
- Obtaining student's feedback- After the OSPE students perspective was evaluated in the form of a questionnaire which was filled by the students who had been subjected to the OSPE.

The feedback questionnaire used for the study is as follows:

OSPE for preclinical Prosthodontics: The student's perspective

1. Conventional methods of assessment in Preclinical Prosthodontics do provide understanding of all steps of complete denture fabrication.
 - i. Strongly disagree
 - ii. Disagree
 - iii. Not able to opine
 - iv. Agree
 - v. Strongly agree
2. Tick the options that best describes your experience about this module.
 - i. Finding my way through the OSPE module was easy yes/no
 - Ii. I felt that programme enhanced my knowledge about laboratory steps of complete denture fabrication yes/no
 - iii. I feel that the programme will increase my confidence in doing laboratory steps of complete denture fabrication yes/no

iv. I feel that OSPE module will improve my understanding in theory yes/no

v. I prefer a routine examination instead of these OSPE assessment yes/no

3. Tick the options that best represents your opinion about this OSPE module

i. Informative

ii. Boring

iii. Enjoyable

IV. Innovative

v. Useful

VI. Useless

4. What was the best thing about this module?

5. Do you suggest any changes in the module to make it better?

6. This module should be used along with the conventional assessment methods regularly.

i. Strongly disagree

ii. Disagree

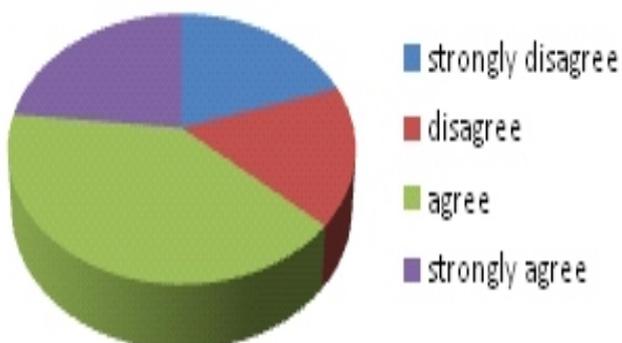
iii. Not able to opine

iv. Agree

v. Strongly agree

Results:

40% students do not feel that conventional exam pattern evaluate complete understanding of steps of CD Fabrication.



1. Experience about the module:-

95 % of the students felt finding way through the OSPE module was easy and enhanced knowledge about laboratory steps of complete denture fabrication and increased their confidence in doing preclinical

Complete denture Prosthodontics and will also improve understanding in theory. 5% students preferred a routine examination instead of the OSPE assessment

2. 96% students found the OSPE informative and innovative: 95% thought that the module was enjoyable and useful. 3% students thought that the module was boring and useless

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4. 96% students thought that the OSPE greatly improved self assessment

5. Only 3% students thought that the module was time consuming.

6. 90% students felt that OSPE module should be included along with conventional assessment method for Preclinical Practical examination.

About 40% of students felt that current pattern of practical examination does not assess the students complete understanding of complete denture fabrication and about 90% of Students feel that the OSPE should be included with the current examination system.

Discussion:

Since the introduction of OSPE as a method for formative assessment of students by Harden (1975) many studies have been carried out to determine its usefulness in overall evaluation of students in various subjects. Dissanayake AS et al (9) found that the introduction of OSPE led to a marked improvement in the mean scores for the laboratory component of the final examinations in the physiology courses. Rahman N et al in 2001 (10) evaluated the competency of Objective Structured Practical Examination (OSPE) as an assessment technique compared to Traditional Practical Examination (TDPE) in assessment of laboratory component of physiology, the results of Physiology practical examination of 400 students and concluded that OSPE is a better

Choice as an assessment technique over the Traditional method measuring wide range of practical skill. [Sandila MP](#) (11) et al conducted a study to test students in experimental physiology by OSPE and concluded that OSPE is an effective tool to discriminate between good and poor performers in physiology practical examinations. Supriya Malhotra et al (12) in their study evaluated OSPE as a tool for formative assessment of practical skills of undergraduate students in pharmacology and found OSPE to be more feasible and acceptable to the students.

In the present study, preclinical examination of IInd BDS students was carried out by OSPE pattern. We tried to determine the perception of students regarding conventional as well as OSPE method of assessment in preclinical Prosthodontics. From the feedback obtained from the students examined using OSPE pattern it was concluded that about 40% of students felt that current pattern of practical examination does not assess the students complete understanding of complete denture fabrication and about 90% of Students feel that the OSPE should be included with the current examination system. The ten OSPE stations were designed in such a way that all the aspects of student's performance could be judged.

Conclusion:

- Examination systems should focus on assessment for learning rather than assessment of learning.
- OSPE can enhance self directed learning potential of the student
- OSPE can be complimentary to the existing system in formative assessment
- Future direction: More OSPE stations can be developed and validated for every topic and periodic evaluation of students can be carried out by OSPE which is objectively formulated and a more standardised method for evaluation of the student's complete understanding of Pre-clinical complete denture Prosthodontics.

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