



INTRODUCTION OF OBJECTIVELY STRUCTURED PRACTICAL EXAMINATION (OSPE) IN PATHOLOGY: A PILOT STUDY.

Pathology

Dr. Keyuri Patel

Professor and Head Department of Pathology Pramukh Swami Medical College, H M Patel Center for Medical Care and Education Karamsad, Gujarat, 388325,

**Dr. Mustafa
Fakaruddin
Ranapurwala***

Associate Professor in Pathology Pramukhswami Medical College H M Patel Center for Medical Care and Education Karamsad, Gujarat, 388325 *Corresponding Author

ABSTRACT

BACKGROUND: Objectively structured practical examination (OSPE) helps bring in a level of objectivity with an opportunity to be tested for psychomotor skills and comprehension also.

AIM AND OBJECTIVES: The present study was undertaken to introduce, implement and to evaluate the feasibility of using OSPE as a tool for the formative assessment.

METHODOLOGY: OSPE was introduced as a tool of formative assessment of second year MBBS students in the subject of Pathology in our department and feedback was taken.

RESULTS: The students favoured OSPE over the conventional mode of assessment for having a better evaluation process and being reliable and valid with minimal bias. However, issues pertaining to the time for observed stations, need for viva voce and faculty involvement need to be addressed.

CONCLUSIONS: OSPE can be effectively integrated with the conventional mode of assessment to bring a level of objectivity and structure to the conventional mode of assessment.

KEYWORDS

assessment, objective, standardized, structured, formative

BACKGROUND

Assessment is a goal-oriented process and is effective when it integrates all the three domains of learning i.e. cognitive, affective and psychomotor.¹ The quality of an assessment depends on its reliability, validity, educational impact, acceptability and feasibility.² Assessment for practical skills in medical education has largely been subjective and predominantly memory based.³ Objective Structured Practical Examination (OSPE) is an innovation in this regard, described by Hards and his group from Dundee.⁴ OSPE is an assessment tool wherein there is a series of station at which the students work through tasks designed to test various skills.³ The marking system for each station is structured in advance.⁵

AIMS AND OBJECTIVES

1. The present study was undertaken with the primary objective to plan, introduce and implement OSPE (Objective Structured Practical Examination) as a tool of internal assessment in the undergraduate pathology curriculum at the Pramukh Swami Medical College, Karamsad.
2. Additionally, feedback of medical students and faculty members regarding perception of both assessment methods were sought and analyzed to understand the perceived for the strengths and deficiencies of the both modes of assessment.

METHODOLOGY

Study Design: The present study was an observational, prospective and non-randomized study undertaken at the Pramukhswami Medical College, Karamsad within a period of six months after approval from the Institutional Ethics Committee.

Subject Recruitment: The study population comprised of ninety-five (95) second year undergraduate students of MBBS at Pramukh Swami Medical college in the academic year 2016.

Conduct of OSPE: The whole module of the formative assessment is outlined in the Figure 1.

Feedback:

- A. Feedback from students: The feedback forms were received from the students for OSPE and conventional mode of assessment. The feedback questionnaire was subdivided to cover three areas of interest:
 - a. Evaluation Process.
 - b. Quality of Performance Testing
 - c. Student Perception of validity and reliability

Each question under the aforementioned headings were to be responded on a five-point Lickert scale.⁶

B. Feedback from Observers

The faculty members acting as observers were also requested to provide feedback to understand if OSPE can be implemented as a formative mode of assessment.

Data Analysis: The data from the feedback forms were taken up for descriptive analysis. Here, the individual responses to each question for OSPE and conventional mode of assessment were analysed for perceptions of the students towards the two modes of assessment. Faculty perceptions with regards to the implementation of OSPE as a mode of formative assessment were analysed for feasibility and scope of improvement. Microsoft Office Excel Professional Plus 2016 was used for the various descriptive analysis and frequency distribution tables generated.

RESULTS

The results of the evaluation of the feedback from the ninety-five students who had appeared for OSPE suggested that OSPE had better evaluation process and was more reliable in comparison to the conventional method of assessment.

Feedback from the students (Table 1 and Table 2):

- OSPE consistently was favoured as a better evaluation process and a more valid and reliable mode of formative assessment.
- However, the students thought that the conventional assessment was better at performance testing than OSPE.
- The main areas of concern in the quality of performance testing where OSPE was found less favorable to conventional assessment were:
 - a. Complete awareness of the nature of the exam
 - b. Specificity of the individual tasks reflecting the taught topics

Faculty Feedback:

- Majority of the faculty had a positive response to the pilot study.
- 06(66.67%) of the faculties were in favor of implementation of OSPE as a formative assessment tool, albeit after minor corrections and review.
 - 02(22.22%) faculties were happy with the current module of OSPE and had suggested that it can be implemented without any revision at present, with a review after first few months.
 - One faculty was not particularly happy with the current OSPE

setup and had suggested that major corrections and review were required before implementing OSPE as a tool for formative assessment.

Suggestions:

A few recurrent suggestions from students and/or faculty were:

1. More time for the observed stations
2. Inclusion of viva voce in conjunction with OSPE.
3. More active contribution from all faculty to increase validity of questions of the various stations.

CONCLUSIONS

OSPE is an objective, well-structured, valid and reliable mode of formative assessment to test different desired components of competence better. Students feel more comfortable and less stressful to perform the exam. However, an inclusion and of interaction with the observer would add an element of communication skills and affective domain.

Figure 1: Details on the module for conduct of OSPE

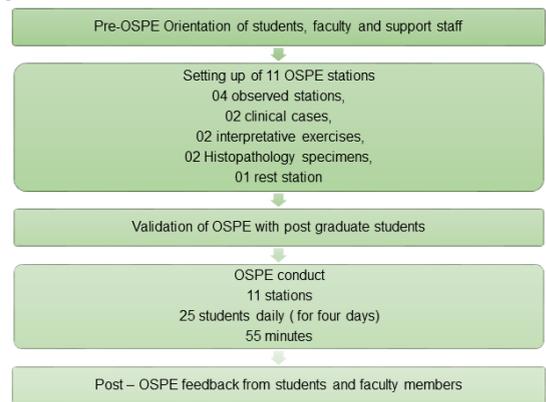


Table 1 – Frequency Distribution of Responses for OSPE Mode of Assessment (n=95).

Sr. No.	Evaluation Process	Strongly Agree (5)		Agree (4)		Neutral (3)		Disagree (2)		Strongly Disagree (1)	
		No.	%	No.	%	No.	%	No.	%	No.	%
1	The Exam was fair	42	44.21%	28	29.47%	13	13.68%	6	6.32%	6	6.32%
2	Wide knowledge areas were covered	32	33.68%	41	43.16%	12	12.63%	6	6.32%	4	4.21%
3	Needed more time for the various stations/ exercises	29	30.53%	29	30.53%	23	24.21%	10	10.53%	4	4.21%
4	Exam was well structured and sequenced	39	41.05%	36	37.89%	10	10.53%	7	7.37%	3	3.16%
5	Areas of weaknesses could be easily highlighted	25	26.32%	42	44.21%	19	20.00%	4	4.21%	5	5.26%
6	Assessed relevant practical skills	30	31.58%	44	46.32%	14	14.74%	3	3.16%	4	4.21%
Sr. No.	Quality of Performance Testing	To great extent (5)		To Some extent (4)		Neutral (3)		Not entirely (2)		Not at all (1)	
		No.	%	No.	%	No.	%	No.	%	No.	%
1	Fully aware of the nature of exam	30	31.58%	39	41.05%	14	14.74%	9	9.47%	3	3.16%
2	The individual tasks reflected those taught	34	35.79%	33	34.74%	17	17.89%	6	6.32%	5	5.26%
3	Instructions were clear and unambiguous	43	45.26%	32	33.68%	14	14.74%	3	3.16%	3	3.16%
4	Examination provided logical sequence	43	45.26%	31	32.63%	11	11.58%	8	8.42%	2	2.11%
5	Exercises provided opportunities to learn	39	41.05%	25	26.32%	16	16.84%	13	13.68%	2	2.11%
Sr. No.	Student perception of validity and reliability	To great extent (5)		To Some extent (4)		Neutral (3)		Not entirely (2)		Not at all (1)	
		No.	%	No.	%	No.	%	No.	%	No.	%
1	The exam provides a true measure of essential skills in pathology	34	35.79%	35	36.84%	16	16.84%	8	8.42%	2	2.11%
2	The exam process is standardized	33	34.74%	26	27.37%	29	30.53%	3	3.16%	4	4.21%
3	Personality, ethnicity and gender does not affect the scores in this exams	51	53.68%	18	18.95%	13	13.68%	7	7.37%	6	6.32%

Table 2 - Student responses to all questions of the feedback questionnaire(n=95)

Sr. No.	Questions raised	OSPE		Conventional assessment	
		Mean	SD	Mean	SD
1	The Exam was fair	3.98	1.19	3.74	1.20
2	Wide knowledge areas were covered	3.95	1.05	3.82	1.04
3	Needed more time for the various stations/ exercises	3.72	1.13	3.39	1.22
4	Exam was well structured and sequenced	4.05	1.05	3.73	1.03
5	Areas of weaknesses could be easily highlighted	3.82	1.04	3.61	1.01
6	Assessed relevant practical skills	3.98	0.99	3.71	1.12
7	Fully aware of the nature of exam	3.88	1.13	4.08	1.01
8	The individual tasks reflected those taught	3.89	1.05	4.06	0.95
9	Instructions were clear and unambiguous	4.15	1.04	4.15	0.94
10	Examination provided logical sequence	4.11	0.99	3.91	1.09
11	Exercises provided opportunities to learn	3.91	1.06	3.87	1.12
12	The exam provides a true measure of essential skills in pathology	3.96	1.12	3.89	1.03
13	The exam process is standardized	3.85	1.00	3.73	1.06
14	Personality, ethnicity and gender does not affect the scores in this exams	4.06	1.05	3.74	1.20

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