

Comparative Study to Know the Perception of Medical Student and Faculty about OSPE and Traditional Method of Assessment

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Received: 15-06-2022 / Revised: 20-07-2022 / Accepted: 10-08-2022

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Conflict of interest: Nil

Abstract

Background: Medical Colleges in our country follow traditional methods of examination & these traditional methods have inter-examiner variation which in turn prevents uniform pattern of marking. These variations can be reduced by newer methods like objective structured practical examination (O.S.P.E). The study's aim was to determine the usefulness of O.S.P.E as a formative assessment tool and to learn about students' and faculty's attitudes toward OSPE.

Methodology: A cross-sectional study was conducted on third-year MBBS students in phase one. For documenting the perception of students and faculty towards OSPE & traditional method, a Likert's scale-based questionnaire used. A total of 45 MBBS students volunteered for the study. Traditional Viva Voce Examination was followed by OSPE for the students. The average score for the OSPE vs. traditional technique score comparison done.

Results: Students' average results in OSPE were 26.58 ± 3.15 but their average marks in Traditional Viva Voce Examination were 23.89 ± 4.50 , and this difference was statistically significant. In comparison to traditional viva voce examination, 86.6 % of students and 80 % of faculty believe OSPE is fairer.

Conclusion: This study showed that in comparison to Traditional Practical Examination, OSPE was more effective as inter-examiner variation was removed and every student had equal chance with same set of station to get marks.

Keywords: OSPE, Medical, Education

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Background

In Medical curriculum assessment of the students is done through different type of traditional methods of examinations like viva voce, multiple choice Question (MCQ), short (SAQ) and long answer Question (LAQ). Traditional examination methods are being used to examine students' cognitive

domain, whereas practical examinations are used to assess students' cognitive, psychomotor, and emotional domains as well. Majority of times the students are evaluated only for knowledge.[1,2].

It is a well-known fact that the students learn and study the subject for what they will be

assessed for i.e. “learning is assessment driven” [3,4]. When evaluating a student, a single assessment approach is inadequate [1,5]. As traditional methods of evaluation focused on cognitive domain, students are more concern regarding subjective type of evaluation & plan the study accordingly. In this process the practical portion (psychomotor & affective) lags behind and only cognitive part is mainly explored by students as well as by different examinations.

Miller's pyramid has "Know" and "Know how" at the bottom and "Show how" and "Does" at the top [6,7]. In Community medicine subject there are many aspects which needs to be evaluated by Miller's pyramid “Know how”, “Show how” & “does” that can be evaluated with help of OSPE. OSPE was first developed by Ronald Harden more than 35 years ago, OSPE can help us in eliminating inter-examiner variation as well as also introduce the psychomotor & affective domain in assessment along with cognitive domain [5,8].

OSPE has been used to assess students' abilities in the areas that are most important to them, such as data acquisition/interpretation, problem solving, teaching, and communication [3]. Thus, the purpose of this study is to determine the feasibility of employing OSPE as a tool for formative assessment of undergraduate M.B.B.S. students, as well as to document the students' and faculty members' perceptions of the traditional approach (viva voce) and OSPE.

Methodology

This was a Cross sectional Study done at Smt. B.K.S Medical Institute & Research Centre, Piparia. The study included 5th semester MBBS students who were on clinical posting in Community Medicine. The study included total 45 students that

were purposively chosen. Students and faculty member were sensitized before involving them in study for the format of OSPE assessment. Participation in this study was voluntary for students & Faculty. As well as students were also informed about the marks obtained during this assessment not going to be included in their internal aggregate. After that those students & faculty who gave consent were included in this study. OSPE consists of many "stations" in which examinees are expected to complete a variety of practical tasks in a set amount of time while meeting criteria specific to the practical skill, showing skill and/or attitude competency [6-8].

In this study there were 5 stations in OSPE & each station had 5 min where students have to perform the given task in front of faculty. For each station the given procedure or task is sub divided and according to it marks were allotted. Faculty member present at each station had to give marks as per the criteria formed before the start of examination.

Five stations prepared for OSPE examination were as following: 1) Demonstrate the measurement of MUAC and also classification of MUAC 2) Measure and interpret the Blood Pressure of the subject according to classification used for hypertension 3) Write the steps to prepare a home-based ORS solution. What advice would you give to the mother of 2 year old child suffering from mild dehydration for administration of ORS? 4) A forty years old female weighing 80 kg with height of 1.8 Meters. Calculate her B.M.I and explain the classification used for interpreting B.M.I. 5) Measure the pulse Examination.

Students' viva voce and OSPE scores were recorded into an excel file and compared. To compare the effectiveness of OSPE to viva voce examination, “t test” was applied for statistical analysis.

Students and faculty members' opinions and perspectives were recorded using a proforma that included questions comparing the Traditional Method of Practical Examination, i.e. viva voce, to the OSPE. To find out how they felt about OSPE, a Likert scale was used.

This study was started after receiving approval from the institutional ethics

committee. And consent was taken from students and faculty member before the start of study.

Results

In this study total 45 students were participated, 44.4% were female participants and 55.6% were male participants in the study.

Table 1: Mean marks obtained by students in OSPE and Traditional Viva Voce Examination

	Mean	Standard Deviation	Standard Error of Mean	t value	p value
OSPE	26.58	3.15	0.47	3.28	0.001
Viva Voce	23.89	4.50	0.67		

As shown in table 1 the mean marks scored in OSPE were 26.58±3.15 as compared to viva voce in which mean marks scored were 23.89±4.50. This difference in mean score between OSPE and Viva Voce was statistically significant.

Table 2: Student's perception regarding OSPE (n=45)

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
When compared to traditional viva voce examination, OSPE is more fair.	13.3%	73.3%	11.1%	2.3%	0%
In comparison to traditional viva voce examinations, OSPE covered a comprehensive variety of knowledge.	20%	46.7%	31.1%	2.2%	0%
OSPE is easier to pass and score better when compared to traditional viva voce examination	28.9%	26.7%	42.2%	2.2%	0%
If the number of stations is increased, OSPE may become burdensome and lengthy.	11.1%	44.4%	40%	4.5%	0%
Viva – Voce is better than OSPE	6.7%	15.6%	46.6%	31.1%	0%
From now on, OSPE should be used as the primary method of assessment in Community Medicine.	6.7%	60%	26.7%	4.4%	2.2%
OSPE can reduce examiner bias and patient variability to a great extent.	26.7%	48.9%	24.4%	0%	0%
Attitude of examiners during OSPE was better as compared to traditional viva voce examination.	11.1%	51.1%	33.3%	2.2%	2.2%
In comparison to a regular viva voce examination, OSPE caused less emotional stress.	26.7%	42.2%	31.1%	0%	0%

Table 2 shows that 86.6 percent of students believe OSPE are more fair than a typical viva voce assessment. When compared to traditional viva voce examinations, almost 68.9% of students thought that OSPE caused less emotional stress. OSPE should be used as the technique of assessment in Community Medicine in the future, according to 66.7 percent of students. At the same time, 55.5 percent of students felt that if the number of stations grew, OSPE would be challenging and tedious.

Table 3: Faculties perception regarding OSPE (n=5)

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
When compared to traditional viva voce examination, OSPE is more fair.	40%	40%	0%	20%	0%
In comparison to traditional viva voce examinations, OSPE covered a comprehensive variety of knowledge.	20%	60%	0%	20%	0%
OSPE is easier to pass and score better when compared to traditional viva voce examination	20%	0%	40%	40%	0%
If the number of stations is increased, OSPE may become burdensome and lengthy.	40%	20%	20%	20%	0%
Viva – Voce is better than OSPE	0%	0%	20%	60%	20%
From now on, OSPE should be used as the primary method of assessment in Community Medicine.	20%	40%	20%	20%	0%
OSPE can reduce examiner bias and patient variability to a great extent.	20%	40%	20%	20%	0%
Attitude of examiners during OSPE was better as compared to traditional viva voce examination.	20%	20%	40%	20%	0%
In comparison to a regular viva voce examination, OSPE caused less emotional stress.	20%	0%	40%	40%	0%

As shown in table 3, In comparison to traditional viva voce examinations, 80 % of faculties agreed that OSPE covered a broad knowledge.

60% of faculty agreed that OSPE could eliminate examiner bias and patient variability. OSPE should be used as the tool of assessment in the Community Medicine department, according to 60% of faculty.

Discussion

In this study the mean marks scored in OSPE were 26.58 ± 3.15 as compared to viva voce in which mean marks scored were 23.89 ± 4.50 . The difference between OSPE and Viva Voce in mean score was statistically significant (p value = 0.001). Similar findings were found in a study by Relwani NR *et al.*,

who found that students scored higher in OSPE than viva voce, with the difference in the mean score between the two being statistically significant. Similar result were documented by Richa Nigam *et al* and Trivedi *et al*. [9,10].

This study was also aimed to assess the students' and faculties perception towards OSPE. In this study 86.6% of students and 80% of faculties felt that OSPE is fairer compared with traditional viva voce examination. In a study by Gujjala Radhika *et al.*, 94% of faculty members agreed that OSPE is a fair technique of assessment, which is similar to the current study [11]. While study conducted by Relwani NR *et al* and Nitin Faldessai *et al* also reported OSPE is fair in comparison to traditional methods of assessments [1,12].

In this study, 80 % of faculty members considered OSPE covered a broad range of information when compared to traditional viva voce exams. The current finding differed from that of Wadde SK *et al*, who found that 30.77 percent of faculty agreed that OSPE covered a broad breadth of knowledge [5].

According to the results of the current study, 66.7 % of students and 60% of lecturers believe that OSPE should be used as the technique of evaluation in community medicine now onward. Study done in Maharashtra by Vijay H Mate *et al* noted that all the faculty involved in conducting OSPE was in favour of converting the practical examination into the OSPE format [13].

In present study only 20% of faculty member agreed that OSPE is easier to pass and score better in comparison to traditional viva voce. While 55.6% of students believe that OSPE is easier to pass and score better in comparison to traditional viva voce.

Only 22.3% of student agrees that the OSPE is better in comparison to Viva voce while none of the faculty member agree that the OSPE is better in comparison to Viva voce. Present finding different than the study done in Maharashtra by Vijay H Mate *et al* noted that all the faculty members considered OSPE better than traditional or conventional pattern of practical examination [13].

If the number of stations is raised, 55 % of students and 60 % of faculties believe OSPE will be more difficult and time-consuming. This is a significant challenge that must be considered. OSPE, according to nearly 60% of faculty, can reduce the variability of examiners and patients to a substantial extent. The outcomes of this study matched those of a study conducted by Vijay Mate *et al*, in which 60% of faculty members felt that OSPE can remove inter examiner bias [13].

Taking into consideration all this positive aspect we also need to keep in mind the other factors like if the number of stations increased that will increase the total duration of activity and make it very lengthy. If the topics included in station not well distributed from the course that can decrease the effectiveness. There is also the potential of observer fatigue [12,14]. All these limitations also need to be taken into consideration while planning the OSPE for the evaluation of students. Overall OSPE is a kind of method that if planned well it will give you good result.

Conclusions

This study shows that in comparison to Traditional Practical Examination, OSPE was more effective as inter examiner variation and bias were removed. Also OSPE was found fairer compared to traditional viva voce examination as a method of assessment. More over the students were assessed with the same set of

questions, thus eliminating any bias in the difficulty level.

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