



**OSPE -A STEP TOWARDS IMPLEMENTATION OF COMPETENCY BASED
UNDERGRADUATE CURRICULUM IN BIOCHEMISTRY DEPARTMENT DR BABA
SAHEB AMBEDKAR MEDICAL COLLEGE,ROHINI SECTOR 6 DELHI 110085**

Clinical Biochemistry

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ABSTRACT

Background: Competency based undergraduate curriculum stresses on objectivity, uniformity, validity and reliability of the assessment tools since assessment drives learning. Undergraduate medical examination is undergoing extensive re-evaluation with new core educational objectives being demanded. Consequently, new exam systems have also been designed to test the objectives. Objective structured practical examination (OSPE) is one of them. **Objectives:** To introduce OSPE as a method of assessment of practical skills and learning and to determine student satisfaction regarding the OSPE. Furthermore, to explore the faculty perception of OSPE as a learning and assessment tool. **Materials and Methods:** The firstyear 125 M.B.B.S students of 2019-20 batch of DR BSA Medical College, Rohini Delhi, were the subjects for the study. OSPE was organized and conducted on "Identification of Unknown Abnormal Constituents in Urine." A questionnaire on various components of the OSPE was administered to get the feedback Statistical Analysis: Percentage graphs & Student's t test using MS Excel were used. **Results:** There was statistically significant different OSPE shows P- value less than 0.001 and students feedback shows 75% students says in less time period, we can assess more without bias, 48% says OSPE is better method to assess skill, 45% says OSPE reduces subjectivity in assessment 57% says OSPE is good to assess knowledge, skill, Attitude teachers Feedback shows 75% says that OSPE is difficult to implement and 100 % says OSPE measured practical skill better and 75% says OSPE require Time, effect & space, 100 % says OSPE is good to assess knowledge, skill, Attitude **Interpretation & Conclusion:** Our study concludes that. OSPE eliminated examiner bias by integration of cognitive, psychomotor and affective domains. Therefore OSPE can be introduced as Formative Assessment & Summative Assessment. Student feedback reflects that such assessment helps them to improve as it is effective both as teaching and evaluation tool

KEYWORDS

INTRODUCTION

Competency-based medical education (CBME) involves the attainment of observable abilities by students in a time independent, learner-centered manner. [1]. In new curriculum proposed by NMC in year 2019, Medical education underwent a new change with center instructive goals being characterized. [2] So the aim was to train graduates efficiently to take care of the health needs of the society, where educators have the responsibility for development of new assessment methods or procedures that fairly evaluates student's achievements and yields accurate results.

The OSPE is a good assessment method which evaluates student ability to perform or skill in a structural manner assesses competency, based on objective testing through direct observation. It is comprised of several "stations" in which examinees are expected to perform a variety of practical tasks within a specified time period against criteria formulated to the practical skill, thus demonstrating competency of skills and/or attitudes. OSPE has been used to evaluate those areas most critical to perform by students, such as the ability to obtain/interpret data, solve the problem, teach, and communicate [5]

Objective Structured Practical Examination (OSPE) was developed in 1975 and later modified by Harden and Gleeson in 1979. [3,4] Despite the fact that, through OSPE one gets a reasonable idea of the extent of achievement of each student in every practical skill related to a particular discipline; It can be used for formative and summative evaluation. In view of this, [5] we tried in our department the system of OSPE for the assessment of practical & skill in the subject. Students usually learn only the material on which they are assessed. [6]

We undertook this study to evaluate whether OSPE could be a method of learning and assessment of practical skills in biochemistry and to determine student satisfaction regarding the OSPE as a method of assessment of laboratory exercises and to assess the faculty perception of OSPE as a learning and assessment tool.

Objectives:

To introduce OSPE as a method of assessment of practical skills and learning and to determine student perception regarding the OSPE. Furthermore, to explore the faculty perception of OSPE as a learning and assessment tool.

MATERIALS AND METHODS:

The firstyear 125 M.B.B.S students of 2019-20 batch of DR BSA Medical College, Rohini Delhi, were the subjects for the study. OSPE was organized and conducted on "Identification of Unknown Abnormal Constituents in Urine." A questionnaire on various components of the OSPE was administered to get the feedback Statistical Analysis: Percentage graphs & Student's t test using MS Excel were used.

1. OSPE : Test for Reducing Sugars: Benedict's Test Max Marks 5
 - A] Test tube filled with 5ml of Benedict's Reagent (1)
 - B] Added 8 drops of Urine (1)
 - C] Test tube boiled and cooled (1)
 - D] Solution mixed while observing the colour (1)
 - E] Student able to interpret the test (1)
2. OSPE Test for Bile Salts: Max Marks 5
 - A] Taken 2 Test tubes for Test (Urine) and Control (Water) and labelled properly (2)
 - A] Test tubes filled 3/4th with test and control (1)
 - B] Sprinkled a little dry sulphur powder in each test tube (1)
 - C] Student able to interpret the test (1)

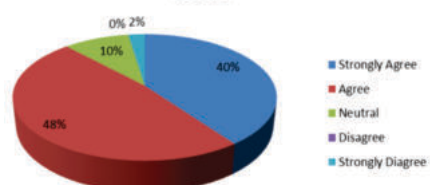
RESULTS

There was statistically significant different OSPE shows P- value less than 0.001 and students feedback shows 75% students says in less time period, we can assess more without bias, 48% says OSPE is better method to assess skill, 45% says OSPE reduces subjectivity in assessment 57% says OSPE is good to assess knowledge, skill, Attitude teachers Feedback shows 75% says that OSPE is difficult to implement and 100 % says OSPE measured practical skill better and 75% says OSPE require Time, effect & space, 100 % says OSPE is good to assess knowledge, skill, Attitude

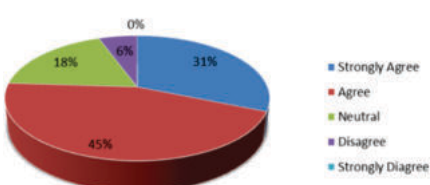
Student Feedback



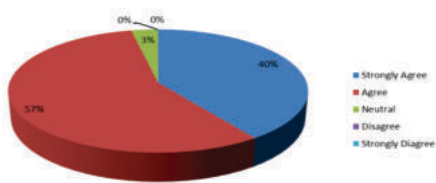
OSPE is good method to assess skill better



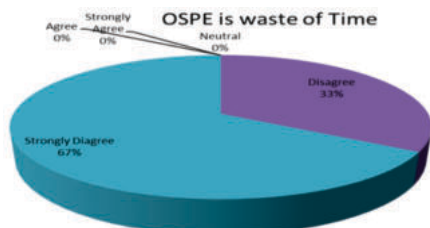
OSPE reduces subjectivity in assessment



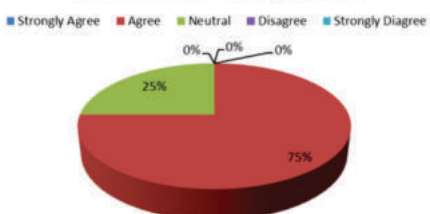
OSPE is good method to assess all there learning domain (Knowledge, skill, Attitude)



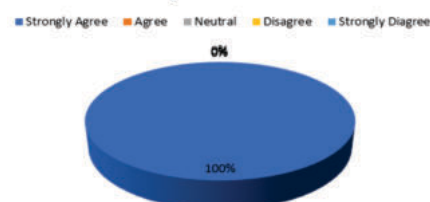
Teachers Feedback



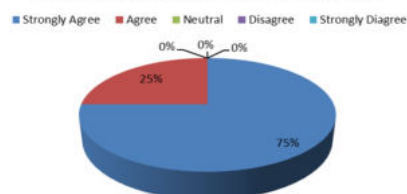
OSPE is difficult to implement



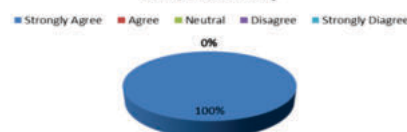
Measured practical skill better



OSPE require time effect and space



OSPE is good method to assess all there learning domain (Knowledge, skill, Attitude)



DISCUSSION

This particular study was aimed to understand the acceptability of the OSPE among students as a way of learning and as a tool for assessing their practical skills. The above study conducted at Dr BSA medical college, Rohini Delhi at Biochemistry Department. The majority of students perceived that OSPE was a fair method of assessing their practical and theoretical knowledge and also had a well designed structure because of its accurately constructed checklist pattern which helped them navigate smoothly through the steps thus helping them know their weaknesses in practical examination making OSPE a better examination method and a learning stimulus which was in accordance with studies done by Newble D.I. [7]

Regarding the content of the OSPE, they felt that the exam process covered the appropriate knowledge area and assessed their relevant practical skills. Because all the students were exposed to similar questions they felt that the checklist system is a fair and unbiased method. This also stimulated the critical thinking ability of the students which was welcomed by the students. Similar response was acquired from study done by Duffield et al.[8] Students felt that there was adequate time at the question stations but needed more time at procedure stations which is in accordance with study done by Pinaki Wani et al.[10] Overall, they felt OSPE was a more satisfying experience and suggested for more OSPE sessions in future. They felt that OSPE sessions can help them to manage time more efficiently, in preparing for university examinations and alleviate the fear of examination. Some of the suggestions given by the students were "OSPE helped us to know our mistakes and prevent it in the future, OSPE created interest in the subject and should be conducted at regular intervals." A vast majority of students enjoyed OSPE because of its objectivity, more student assessment in less time, and uniformity. Majority of faculty felt that such exercises need to be given more frequently. However, 100% of faculty agreed upon the use of OSPE in both formative and summative evaluations. Evaluated marks of question station and check list of procedure station were made available to the students, who appreciated what they achieved and identified where they need to improve. Feedback given by students was constructive and showed high acceptance. [9] Majority of students appreciated orientation toward OSPE, syllabus and relevance of questions asked. 90% students found that the manner in which the assessment was conducted was fair and well structured. 62% students felt that OSPE was a better and more useful than a conventional examination. More than 50% of students felt that this exercise decreased their chances of failing in the university examinations, as it gave them more confidence in facing the exams more preparedness. Most of the Faculty felt that OSPE should be made part of university examinations which shows that this process carries its own merit and can be measured on par as of same importance if not less than traditional practical examinations. From the students' point of view the OSPE was acceptable and generated wide appreciation. Feedback from the students indicated that students were in favor of the OSPE. The feedback provided scope for improvement. This study reveals the importance of the role of students in developing new assessment tool. The study provided scope for refining the method. Our results agree with the earlier findings that a single type of assessment alone does not meet all the criteria for evaluating student performance. It also helps teachers to think about innovative methods of teaching and evaluation to improve the relevance of biochemistry and to modify question

format to improve relevance and comprehension of questions in the succeeding exams.[12] During the OSPE mistakes done by the students at the procedure station were duly noted down and the students were debriefing was done at the end of each session, which was welcomed by the students because this debriefing made them aware of the common mistakes done by them, similar response from students was appreciated by Pierre et al.[11]

INTERPRETATION & CONCLUSION:

Our study concludes that. OSPE eliminated examiner bias by integration of cognitive, psychomotor and affective domains. Therefore OSPE can be introduced as Formative Assessment & Summative Assessment. Student feedback reflects that such assessment helps them to improve as it is effective both as teaching and evaluation tool. Ninety-nine percent of students believed that OSPE helps them to improve and 81% felt that this type of assessment fits in as both learning and evaluation tools. Faculty feedback reflected that such assessment tested objectivity, measured practical skills better, and eliminated examiner bias to a greater extent

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