

ASSESSMENT OF SATISFACTION LEVEL OF PHARMACY STUDENTS REGARDING THE OSPE SYSTEM INTRODUCED IN THE CONSTITUENT COLLEGE OF PUBLIC SECTOR UNIVERSITY IN THE PROVINCE OF SINDH. PAKISTAN

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ABSTRACT:

Background: From the traditional education moving towards advancement and its main focus is to identify the needs of learners for improvement in basic competencies especially in healthcare professionals'. The aim of this study is to gauge the level of satisfaction among pharmacy students regarding the newly introduced Object Structure Practical Examination system implemented at the college during the current academic year.

Method: the cross-sectional study was completed in three months at college of Pharmacy, LUMHS Jamshoro Sindh. It includes 268 pharmacy students of 2nd year to final year through random sampling especially who fulfill the criteria of inclusion and exclusion. The written consent form subjects taken as voluntary participation.

Result: a total 268 participants with 100% response, 93 were males and 175 females, between 20 to 25 years old with mean age 24.2 years. Overall the students of pharmacy were satisfied regarding curricular activities. 21.26% participants dissatisfied with the behavior of supporting staff at OSPE center along that participant's belief that this will increase transparency in assessment system.

Conclusion: In summary, this study effectively achieves the objectives outlined in the study protocol, which aimed to evaluate the satisfaction and concerns of Pharmacy students regarding curricular activities within the largest public sector medical university in Sindh, Pakistan. It offers insights derived from a public sector medical university.

Key Words: Assessment, Satisfaction, Pharmacy Students

INTRODUCTION:

The objective structured practical examination (OSPE) is a common assessment method in medical, pharmacy, and healthcare education, used to evaluate students' practical skills and clinical competencies. This approach was developed in the early 1970s as an assessment tool based on the Objective Structured Clinical Examination (OSCE) concept introduced by Harden and Gleeson. OSPE is a standardized assessment tool that offers clear advantages over traditional assessment methods. It entails the direct observation of students' performance at predetermined stations (1-4). Students move through all the assigned stations, consistently carrying out the tasks specified at each station. Every student adheres to a uniform sequence while transitioning between stations. These stations can be classified into two distinct categories: "procedure stations," in which the examiner oversees the student's performance, and "question stations," where there is no direct observation, and solely a written response is expected(5, 6).

The conventional practical exams have limitations as they do not encompass the entire subject matter, and there is a lack of

consistency in patient assignments. This method suffers from shortcomings concerning the reliability and validity of assessments. Additionally, there exists the possibility of introducing bias and subjectivity into the evaluation process(4, 7). In contrast, OSPE serves as a valuable instrument for distinguishing between high-achieving individuals and those with less favorable performance. Students exhibit a higher level of comfort in this assessment and tend to achieve better scores. This approach serves as a source of motivation, stimulation, and inspiration, demanding the utilization of advanced cognitive abilities(8, 9). A notable advantage of OSPE is its capability to improve students' aptitude for integrating knowledge and skills, thereby supporting their progression toward becoming adept healthcare professionals(10, 11).

This system proves to be a more effective means of appraising skills in fundamental sciences. It allows instructors to observe the challenges encountered by students during assessments and aids in the identification of learners who may require additional support in their education (12). The review of existing literature strongly endorses the

adoption of an OSPE as a potent and efficient means of assessing students' practical abilities. However, every institution should assess the suitability and practicality prerequisites before implementing it(12, 13). By exploring these studies, it is possible to delve into various aspects related to student satisfaction with OSPE systems in pharmacy education settings, including factors influencing their perceptions, overall effectiveness in enhancing learning outcomes, potential challenges faced during its implementation process, as well as strategies for improving overall student experience and engagement within this assessment framework.

MATERIALS AND METHODS:

This cross-sectional study was conducted at the College of Pharmacy, Liaquat University of Medical and Health Sciences in Jamshoro, Sindh, Pakistan, spanning a three-month period from November 2022 to January 2023. The study included a total of 268 undergraduate pharmacy students, ranging from 2nd-year professionals to final-year Pharm. D students, who were selected through random sampling, in accordance with predefined inclusion criteria.

The primary aim of this study was to gauge the level of satisfaction among pharmacy

students regarding the newly introduced Object Structure Practical Examination system implemented at the college during the current academic year.

Participants who met the following criteria were eligible for inclusion in the study:

Obtaining informed consent from university students for their voluntary participation.

Inclusion of participants of all ages and genders who completed the provided questionnaires.

Enrolling all students from the College of Pharmacy except for first-year students, as they were not subjected to the existing examination system.

Initially, the study objectives were thoroughly explained to all participants, and their informed consent was obtained. Complete confidentiality was assured to the participants. They were then asked to complete a pretested questionnaire consisting of 24 closed-ended questions. The purpose of this questionnaire was to evaluate the students' satisfaction level with their current method of assessment. Student satisfaction was assessed using a 5-point Likert scale, where 1 indicated 'very unsatisfied,' 2 denoted 'unsatisfied,' 3 represented 'neutral,' 4 indicated 'satisfied,' and 5 signified 'very satisfied.'

Students from non-pharmacy programs such as non-medical, nursing, DPT, MBBS, BDS, and IBET were excluded from the study. Data collected were entered into SPSS version 22 for analysis, and the analysis involved the use of frequencies, group means, and standard deviation. Descriptive statistics were employed to assess various variables within the study.

RESULTS:

The study encompassed a total of 268 pharmacy students across all professional levels, excluding first-year students, chosen through random sampling, resulting in a 100% response rate. Among the 268 respondents, 93 were males (34.7%), and 175 were females (65.29%), falling within the age range of 20 to 25 years, with a mean age of 24.2 years. The male-to-female ratio (1:2) reflected the gender distribution at the participating colleges, and Table 1 provides a comprehensive overview of the demographic characteristics of the participants.

The primary objective of the research was to gauge overall satisfaction among students regarding curricular activities at their colleges. To achieve this, a graded system ranging from very unsatisfied to very satisfied was employed for assessing responses. Notably, there was no significant

difference in the views on satisfaction among pharmacy students from different colleges, prompting the presentation of results collectively without further stratification. For simplicity, the satisfaction rate was also depicted using a Likert scale, encompassing categories such as very unsatisfied, unsatisfied, neutral, satisfied, and very satisfied.

The findings indicated that a substantial portion of participants 57(21.26%) felt dissatisfied with the behavior of supporting staff at the OSPE (Objective Structured Practical Examination) center. Similarly, a majority expressed dissatisfaction with the relevance of questions posed by internal examiners to their course 55(20.52%) and the efficacy of the system in achieving learning objectives 52(19.40%).

A significant number of students 106 (39.55%) believed that static stations adequately covered questions related to their course outline. Moreover, a majority 111(41.41%) were very satisfied with the communication style of external examiners during interactive sessions. Conversely, there was a notable desire for improvement in the communication skills of internal examiners during interactive sessions, as indicated by 102(38.05%) of participants.

Regarding the OSPE system, 82(30.59%) of respondents believed it would contribute to better results in the future. Additionally, 75(27.98%) of students regarded the current method of conducting the OSPE as a fair means of assessment. They highlighted its effectiveness in eliminating bias present in the previous viva system and enhancing practical skills through regular assessments. Furthermore, a considerable proportion of students 85(31.71%) favored the belief that

the OSPE system promotes fairness and transparency in examinations. Others 79(29.47%) expressed the view that the system enables non-discrimination among students, and a significant portion 99(36.94%) believed it allows students to achieve better marks.

The study also gathered students' suggestions for improving the current system and their perspectives on the future, as detailed in Table 2.

Table no 1: Demographic characteristics of participants.

S #	Gender	No. of subjects	frequency
	Mean age (year ± S.D)	24.2 ± 1.3	
1	Male	93	34.7%
2	Female	175	65.29%

Table no 2: Students views regarding their curricular activities

		Very unsatisfied	Unsatisfied	Neutral	Satisfied	Very satisfied
1.	How satisfied are you with the new OSPE system introduced at the college?	10(3.73)	12(4.47)	87(32.46)	65(24.25)	94(35.07)
2.	Do you feel whether the OSPE system is effective in enhancing the knowledge of students regarding specific course(s)?	19(7.08)	22(8.2)	91(33.95)	82(30.59)	54(20.14)
3.	What do you think, how well is the teacher involved in conducting the lab?	12(4.47)	42(15.67)	47(17.53)	98(36.56)	69(25.74)
4.	How well do you understand the pattern of new OSPE system?	9(3.35)	5(1.86)	72(26.86)	85(31.71)	97(36.19)
5.	How satisfied are you with the policy of new OSPE system?	22(8.20)	35(13.05)	49(18.28)	68(25.37)	94(35.07)

6.	How satisfied are you with your previous experience of old practical exam system?	10(3.73)	27(10.07)	47(17.53)	53(19.77)	131(48.88)
7.	Do you feel that older examination system is better than the new one?	27(10.07)	49(18.28)	66(24.62)	71(26.49)	55(20.52)
8.	Does this system allow students to gain better marks?	4(1.49)	12(4.47)	85(31.71)	99(36.94)	68(25.37)
9.	Does this system enable non-discrimination among the students?	0	32(11.94)	92(34.32)	65(24.25)	79(29.47)
10.	Does this system help in promoting fairness and transparency in the examination?	33(12.31)	49(18.28)	74(27.61)	85(31.71)	27(10.07)
11.	What do you feel that questions at the static stations were related to your course?	20(7.46)	15(5.59)	65(24.25)	80(29.85)	88(32.83)
12.	To what extent, do you feel that questions at the static stations were related to your course?	24(8.95)	19(7.08)	44(16.41)	75(27.98)	106(39.55)
13.	What do you feel that questions asked by the External examiner were related to your course?	11(4.10)	33(12.31)	74(27.61)	90(33.58)	60(22.38)
14.	To what extent, do you feel that questions asked by the External examiner were related to your course?	15(5.59)	22(8.20)	66(24.62)	82(30.59)	83(30.97)
15.	What do you feel that questions asked by the Internal examiner were related to your course?	08(2.98)	55(20.52)	39(14.55)	86(32.08)	80(29.85)
16.	To what extent, do you feel that questions asked by the Internal examiner were related to your course?	12(4.47)	45(16.79)	66(24.62)	71(26.49)	74(27.61)
17.	How satisfied are you with the environment of the exam hall during OSPE?	55(20.52)	29(10.82)	88(32.83)	42(15.67)	54(20.14)

18.	How satisfied are you with the way of communication of External Examiner during interactive sessions?	15(5.59)	26(9.70)	55(20.52)	64(23.88)	111(41.41)
19.	How satisfied are you with the way of communication of Internal Examiner during interactive sessions?	22(8.20)	15(5.59)	102(38.05)	63(23.50)	66(24.62)
20.	How satisfied are you with the way of communication of Supporting staff during OSPE?	57(21.26)	49(18.28)	111(41.41)	33(12.31)	18(6.71)
21.	How satisfied are you with the facilities provided you during OSPE?	40(14.92)	34(12.68)	81(30.22)	24(8.95)	89(33.20)
22.	What do you feel, do this system helps to gain better results?	26(9.70)	39(14.55)	50(18.65)	71(26.49)	82(30.59)
23.	What do you feel, do this system help in achieving the learning outcomes?	33(12.31)	52(19.40)	71(26.49)	55(20.52)	57(21.26)
24.	What do you feel, do this system help in providing the practical approach to individual students?	26(9.70)	44(16.41)	52(19.40)	71(26.49)	75(27.98)

DISCUSSION:

Education system contains multiple assessment criteria including written tests, theory viva and practical's whereas, in medical education objective structured practical examination (OSPE) has importance to assess the learning level of healthcare providers (2). Previously, most of medical education was based on simulation technique and assessment. Due to advancement in medical profession and changing trends towards patient's safety

improvement, the paradigm transferred to need assessment and skills performance (14).

The majority of participants in current study were female 65.29% and 34.7% males with 1:2 gender ratios with mean age score 24.2 ± 1.3 . Similar data was presented in Sweden study, where majority of participants were females 80.5% among biomedical laboratory science students but the response rate was 50% with mean age score 24.4 ± 4.76 (15).

The present study reveals dissatisfaction of participants for the behavior of supporting staff at OSPE (21.26%), asked irrelevant question of internal examiner (20.52%), and system effectiveness was only (19.40%) for achieving learning objectives. Same findings were reported that learners were not agreed that OSPE is easy process for assessment (14).

In progress (39.55%) participants respond static stations adequately covered questions from course outline and (41.41%) were very satisfied with external communication style. Alike findings were identified among 4 different competencies like sample collection, general and specific laboratory skill and quality assurance, their result range from 44.1% to 95.9% for the single stations and 68.9% for all locations (16).

Our study highlight (30.59%) responders believe that OSPE system will improve outcome in future. But (27.98%) supported previous assessment system. Karnataka identified reported OSPE as better learning method for learners, 61% agreed that it is regulate the participants self-learning, 56% said it will help in quick memorization and retention, 58% agreed that OSPE is help in finding the basic needs of learning, and 61% reported for enhancement in clinical decision making (17). Another research

reported (94.40%) OSPE as a good learning experience for the learners (18).

In the present study (36.94%) responders believes to obtain good marks in OSPE, (31.71%) participants hoped it will be fair and transparent and (29.47%) responders believed that discrimination will be over by OSPE. Similar finding were observed with greater than 70% marks of OSPE and shows much satisfaction of students⁴. Furthermore, a study reported 95% participants favored in checklist method is impartial and about 50% strongly agreed in uniform technique which decrease the preference or chance of luck. Several studies expressed OSPE assessment as positive tool among medical students (18).

CONCLUSION:

In summary, this study effectively achieves the objectives outlined in the study protocol, which aimed to evaluate the satisfaction and concerns of Pharmacy students regarding curricular activities within the largest public sector medical university in Sindh, Pakistan. It offers insights derived from a public sector medical university, and thus, caution should be exercised in generalizing the findings to private colleges, where circumstances may differ. Additionally, the study acknowledges limitations in the questionnaire design for certain questions,

presenting an avenue for improvement in future research.

Nevertheless, the study carries significant implications for policymakers, offering valuable insights to guide future strategies and planning. It sheds light on the challenges and contentment levels of students with their curriculum at the grassroots level. The results underscore the importance of incorporating updated

REFERENCES:

1. Pizarro BS, Aguilar AF, López MC, Negri V, Gascón MA, Andrino MB, López SM, Vázquez CA. Perception and impact on learning quantitative analysis of the objective structured practical evaluation (ospe) methodology in laboratory practices. InEDULEARN21 Proceedings 2021 (pp. 6848-6855). IATED.
2. Shenwai MR, Mardikar P, Joshi N, Joshi RN. Introducing Objective Structured Practical Examination as a formative assessment tool for phase I medical professionals in Physiology. National Journal of Physiology, Pharmacy and Pharmacology. 2020 Jul 31;10(8):619-.
3. Chongloi N, Thomas P, Ara M, Deepak KK. Attitudes of undergraduate nursing students toward objective structure practical examination: An exploratory study.

revisions into the Pharmacy curriculum, ensuring that future Pharmacy professionals are equipped to play a meaningful role in research and development. This research serves as a foundation for informed decision-making and underscores the need for ongoing efforts to address student concerns and enhance the quality of Pharmacy education.

International journal of nursing sciences. 2017 Jan 10;4(1):68-72.

4. Vijayalakshmi K. *Effectiveness of Objective Structured Practical Examination (OSPE) over Traditional Practical Examination (TPE) in Psychiatric Nursing on the Performance and Satisfaction of Nursing Students* (Doctoral dissertation, Rajiv Gandhi University of Health Sciences (India)).
5. Siddaram S, Anil S. A comparative analysis between objective structured clinical examination (OSCE) and conventional examination (CE) as Formative Evaluation Tool. Int J Nurs Educ. 2018 Jul;10:102-5.
6. Mamatha SD, Kanyakumari DH. Objective structured practical examination/objective structured clinical examination as assessment tool: Faculty perception. National Journal of Physiology,

Pharmacy and Pharmacology. 2018 Oct 31;8(11):1577-.

7. Gowri TL, Janaki V. Study on objective structured practical examination OSPE in Histo anatomy for I Mbbs and comparison with traditional method. Indian journal of Applied Research. 2016;6(2):136-9.

8. Jaswal S, Chattwal J, Kaur J, Gupta S, Singh T. Assessment for learning with objectively structured practical examination in biochemistry. International Journal of Applied and Basic Medical Research. 2015 Aug;5(Suppl 1):S71.

9. Mard SA, Ghafouri S. Objective structured practical examination in experimental physiology increased satisfaction of medical students. Advances in Medical Education and Practice. 2020 Sep 29:651-9.

10. Rajkumar KR, Prakash KG, Saniya K, Sailesh KS, Vegi P. OSPE in anatomy, physiology and biochemistry practical examinations: perception of MBBS students. Indian J Clin Anat Physiol. 2016 Oct;3(4):482-4.

11. Dymek J, Kowalski T, Gołda A, Polak W, Skowron A. The first objective structured practical examination (OSPE) in pharmacy teaching in Poland: designing, implementing and assessing the results.

Indian Journal of Pharmaceutical Education and Research. 2020;54(3).

12. Radhika G, Dara AK, Varalaxmi KP, Bhavani C. Perceptions of the introduction of objective structured practical examination (OSPE)/objective structured clinical examination (OSCE): A pilot study carried out in Government Medical College, Ananthapuramu, Andhra Pradesh, India. Journal of Dr. NTR University of Health Sciences. 2015 Jul 1;4(3):145-9.

13. Rai N, Nair SK. Evaluation of perception regarding feasibility of introducing objective structured practical examination (OSPE) in the department of anatomy. Indian J Clin Anat Physiol. 2019;6:315-20.

14. Brethis CS, Mohammed TR, Manoharan p. Effectiveness of mannequins in imparting clinical skills among phase ii mbbs students at skills lab in acs medical college and hospital chennai.

15. Hultgren C, Lindkvist A, Curbo S, Heverin M. Students' performance of and perspective on an objective structured practical examination for the assessment of preclinical and practical skills in biomedical laboratory science students in Sweden: a 5-year longitudinal study. Journal of Educational Evaluation for Health Professions. 2023;20.

16. Dewan GA, Antip TM, Danbok BD, Dalyop TP, Lassa BM, Sokdima GS. Implication of objectively structured practical examination in teaching and learning of medical laboratory science.

17. Akka K, Prabhushetty V, Tenglikar P, Mendagudali RR. Assessment of cognitive and psychomotor change following competency based learning among interns in a medical college of karnataka. *Int J Acad Med Pharm.* 2023;5(4):1650-3.

18. Sharma A, Tahilramani H, Misra M, Somani S, Tak A. Objective structured practical examination as a tool of assessing practical skills in clinical physiology: Perceptions of medical students and faculty. *Scripta Medica.* 2022;53(1):13-20.