

Original Research Article

Assessment of Enhancement in Surface Marking Knowledge by using OSPE Checklist as a Tool in Small Group Teaching Sessions in Surface Anatomy**Dr. Meenakshi Parthasarthy¹, Dr. Sowmya S.², Dr. Shradha Iddalgave³, Kotakonda Priyanka⁴**¹Professor & HOD, Department of Anatomy, Shri Atal Bihari Vajpayee Medical College and Research Institute, Bengaluru, Karnataka, India.²Associate professor, Department of Anatomy, Shri Atal Bihari Vajpayee Medical College and Research Institute, Bengaluru, Karnataka, India.³Assistant professor, Department of Anatomy, Shri Atal Bihari Vajpayee Medical College and Research Institute, Bengaluru, Karnataka, India.⁴Tutor, Department of Anatomy, Shri Atal Bihari Vajpayee Medical College and Research Institute, Bengaluru, Karnataka, India.**Correspondence Author**

Kotakonda Priyanka, Tutor, Department of Anatomy, Shri Atal Bihari Vajpayee Medical College and Research Institute, Bengaluru, Karnataka, India.

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ABSTRACT**Background**

The Objective Structured Practical Examination (OSPE) under NMC norms is a standard additional part of practical assessment of surface anatomy used both in formative and summative assessments. The strength of the enhancement of knowledge pertaining to surface marking in anatomy by exposing the students to the structured check list can improve the skills in the students.

Methods

The study was conducted in the department of Anatomy, SABVMCRI. 1st year MBBS students of total 150 in the surface anatomy studies. 75 exposed group given surface marking learning sessions with the check list teaching with OSPE and 75 non exposed group underwent traditional teaching method of learning surface Anatomy. The mean marks obtained by the students by conventional and OSPE method was analysed by a paired student T test. A well-structured questionnaire was administered to the same students and a feedback was taken about the process of OSPE. KRT Knowledge retention test after 2 months was taken into consideration for calculation.

Results

The scores were calculated for all the competencies and the mean values compared and the differences of both exposed and non exposed was found to be statistically significant ($p < 0.005$). Analysis of the 5 point likerts scale revealed that the students could understand the knowledge of surface marking better with OSPE than that of traditional method.

Conclusion

Knowledge and scoring enhancement is better in students trained to learn surface marking with OSPE checklist method than that of traditional surface learning method.

Keywords: EG -Exposed Group, NEG- Non-Exposed Group, OSPE-The Objective Structured Practical Examination, KRT Knowledge Retention Test, CBME competency Based Medical Education.

INTRODUCTION

In the field of medical education, the utilization of effective teaching methods is crucial in enhancing the learning experience of students. One of the alternate technique is the use of Objective Structured Practical Examination (OSPE) check lists in small group teaching sessions focused on surface anatomy. Under NMC norms OSPE stations in Assessments are mandatory. The traditional

method of learning the surface marking anatomy needed an streamlined structural learning updating. Hence an attempt was made to expose the structured learning of surface anatomy by using OSPE and its outcomes were compared with the outcomes of traditional learning. The enhancement of knowledge was scored for statistical analysis and for the further conforming the conclusion.

AIM

This quasi-experimental study aims to evaluate the impact of employing OSPE check-lists as a tool to enhance surface marking knowledge in small group settings.

OBJECTIVES

- To estimate the effectiveness of the facilitated teaching for a the Small group related to surface Anatomy by using OSPE exposure and its evaluation.
- To estimate the perception of the I year MBBS students on the facilitated teaching in surface anatomy.
- To estimate the effectiveness of the facilitated teaching on long term retention of knowledge gained during the facilitated sessions using OSPE exposure and its evaluation

Need for the study: To enhance student-centric structured surface marking T-L-methodology using OSPE

MATERIAL AND METHODS

The present cross sectional study was conducted on 150 first year MBBS students of Batch 2021-2022 of SABVMCRI Bangalore.

The students were randomly divided into 2 groups of 75 students in each group as exposed (EG) and non exposed groups (NEG). 10 CBME based surface marking anatomy competencies were selected for the sessions of OSPE stations. A checklist was prepared pertaining to the each competency. The exposed group was a small group of 15 students and was given surface marking learning sessions with the check list teaching whereas simultaneously the unexposed group underwent traditional teaching method of learning surface marking in Anatomy. Both the groups were subjected to surface marking in the competencies using OSPE (objective structured practical examination) method for evaluation. The scores obtained was analyzed using appropriate statistical methods. Perceptions of students pertaining to use of OSPE T- L method of Surface Marking in anatomy was captured using questions with response on a 5 point Likerts scale. The assessment procedure was repeated after 3 month to assess the degree of retention of knowledge related to the above topics.

Inclusion Criteria

Phase -1 MBBS students 2021-22 Batch from SABVMCRI were considered for the study.

Exclusion Criteria

- Students who do not attend all the sessions was excluded from the study
- Students who do not give consent to the study were eliminated from the study

Statistical analysis

Quantitative Analysis

- Comparison of average difference between EG and NEG scores with mean-+SD and p-value calculated.
- Paired t-test and chi square test to compare scores above and below standard.

Qualitative Analysis

- The mean of 5 points on likerts calculated
- The retention test values was compared with the main test values

RESULTS

The results of the comparison of marks obtained in assessment after exposure to traditional T-L method of surface marking in anatomy against the assessment after exposing the students to OSPE checklist method training are presented in Table 1. The mean scores of NEG was 46.18, while the mean scores of EG was 82.67. The results of the study indicated a significant improvement of mean enhanced scores of 36.34 in surface marking knowledge among participants who were exposed to the OSPE checklist during small group teaching sessions.

This enhancement was evident in their performance in the test compared to the control group, showcasing the effectiveness of using structured checklists in facilitating learning outcomes. The Knowledge retention tests after 2 months mean scores was 75.24 remains almost nearing the same scores that of fresh exposure.

The scores obtained by the students in tradition T-L method was comparatively less when compared to the scores obtained through OSPE. This difference was found to be statistically significant ($p < 0.005$).

Sl. No	Competencies	NEG	EG	Knowledge gained	Retention
1	Axillary artery	45.4	90.5	45.1	81.8
2	Brachial artery	43.13	84.79	41.66	73.2
3	Saphenous Opening	46.12	88.07	41.95	77.6
4	Flexor retinaculum	44.18	88.12	43.94	78.10
5	Parotid gland	46.22	88.07	41.85	76.52
6	Thyroid gland	47.58	59.47	11.89	68.20
7	Stomach	48.46	79.95	31.49	70.2
8	Lung	46.72	84.57	37.85	79.5
9	Heart	46.29	74.78	27.08	67.38
10	Central sulcus	47.7	88.4	40.6	79.74
	Total	416.18	826.72	363.41	752.24
	Mean &SD	46.18 1.62	82.67 9.42	36.34 10.28	75.24 5.14

Table 1: Average Scores recorded in the groups

Sl.no.	Question	Agreed(%)	Disagreed (%)	Neutral(%)	Strongly agreed (%)	Strongly disagreed (%)
1.	Whether OSPE explanation was satisfactory	20	2	20	56	2

2.	Whether OSPE checklist structured explanation was satisfactory	13	6	11	68	2
3.	Was OSPE conduction test useful	15	3	14	66	2
4.	Was the time allotted for each station sufficient	16	4	13	67	0
5.	Were you aware of the check list and stations completely	10	3	12	70	5
6.	Was OSPE useful to remember the surface marking anatomy points	18	3	6	69	4
7.	Was exposure to OSPE useful in the presentatio, attitude and communication during your assessment	9	2	9	80	0
8.	Was OSPE useful in practical assessment	15	3	6	75	1
9.	Thus OSPE increase the chance of passing with goodmarks	17	0	6	77	0
10.	Would you recommend your friends to practice Surface marking revision with OSPE check list	19	0	5	70	6
	Total	152	26	102	698	22
	Percentage	15.2	2.6	10.2	69.8	2.2

Table 2: The results of the students perception

69.8 % of the students strongly agreed that the OSPE is well structured and useful tool for training the Phase-1 MBBS students in performing the ospe assessments in anatomy surface marking. 10 % of students were neutral with both and opted for both method while 2.6 % students disagreed with the option of ospe method. A well structured whereas only 6% of students strongly disagreed that it was well structured.

DISCUSSION

The findings of this study highlight the value of incorporating interactive and structured tools such as the OSPE check-list in small group teaching sessions. By providing a systematic framework for students to assess and improve their surface anatomy knowledge, educators can support a more engaging and effective learning environment. The cross section study allowed for a comprehensive evaluation of the impact of utilizing the OSPE check-list, offering valuable insights

for future educational practices.

In 2012,¹ Ravichandran et al., explained the observation of a significant variation in the overall marks obtained by students in both methods. The mean marks obtained by conventional method were 26.63 + 8.19 (out of 50 marks) and the mean marks obtained in OSPE method was 36.53 + 3.60 (out of 50 marks). The difference was statistically significant. In our studies the marks obtained in both the methods was statically significant.

In 2016,² Rajiv Ranjan et al., explained the proficiency of OSPE as a tool of evaluation.^{2,3} and even the role of OSPE as an adapt method for practical evaluation is proven in different subjects and settings. 150 students were assessed through this study and an improvement was observed in the mean marks obtained as it was higher in the OSPE (~14) as compared to TPE maximum marks were 20. When put to statistical analysis using paired t-test the difference is found to be statistically significant as the p value is 0.000. In our studies the OSPE scores were higher and p value is < 0.005

In 2004³ Mathews L. et al., studied the OSPE in a Likert type 10 pointer which includes students perception towards the OSPE method of assessment where a positive response for OSPE approach and implementation. In our studies the studies perceptions were favoring OSPE approach.

Praveen Singh et al,⁹ noted that OSPE/OSCE type of assessment was well accepted by first year medical students. Similarly in our study also OSPE was well accepted by the students.

CONCLUSION

In conclusion, the use of the OSPE check-list in small group teaching sessions has demonstrated a positive impact on enhancing surface marking knowledge among medical students. By integrating such tools into educational practices, the facilitators can bring out a structured small group T-L method. This study emphasize the importance of innovative teaching strategies in promoting student success in the field of medical education.

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