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Effectiveness of Objective Structured Clinical Examination Training Related to Attitude and Satisfaction Level among Nursing Faculty Members

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ABSTRACT

The Objective Structured Clinical Examination (OSCE) is a standardized method used to objectively assess nurses' clinical competencies through simulated stations that evaluate skills such as communication, history-taking, physical examination, and clinical procedures. **Objectives:** To determine the effects of OSCE training related to attitude and satisfaction level among nursing faculty members. **Methods:** The study design was a pre- and post-quasi-experimental study without a control group. 56 participants were recruited through a purposive sampling technique from six private nursing institutes over three months, from June to August 2023. Attitude level was measured on a valid and reliable Likert scale consisting of 18 questions, and satisfaction level was measured on a valid and reliable Likert scale consisting of 30 questions. Data were analyzed through SPSS version 24.0. Paired t-test was applied to compare pre- and post-mean differences, chi-square test for assessing the association among demographic variables, and ANOVA was utilized to compare the institutes. **Results:** Out of the 56 participants, 36 were male, and 20 were female. After the intervention, significant mean differences were seen in both attitude and satisfaction levels, with a mean difference of 46.45 ± 6.798 to 80 ± 6.048 for the attitude level at (p<0.001) and 78.88 ± 10.364 to 134.43 ± 11.483 for the satisfaction level at (p<0.001). **Conclusions:** The effectiveness of OSCE training is found to be significant among faculty members related to attitude and satisfaction level.

INTRODUCTION

The nursing education has experienced significant changes over time, especially due to the incorporation of technology in teaching and learning activities. But whether soft skills have been improved at the same rate through training and development is not clear. Soft skills that include communication, time management, and teamwork are not as tangible as technical competencies, yet they are critical to nursing practice, which, in fact, is a people-oriented occupation[1]. The induction process also checks these soft skill components through the Objective Structured Clinical Examination (OSCE) that measures psychomotor skills in a test setting, thus removing the risk to actual patients [2]. OSCE makes sure that the involved persons are given systematic training that equips them to be knowledgeable and effective caregivers [3]. Common forms of traditional clinical assessment, like viva voice exams, do little to test cognitive knowledge (know) and are time-saving, and do not need more personnel or hassling preparations. Nonetheless, these procedures have low reliability, cannot be easily standardized, and tend to leave trainees unhappy with the methods and means of evaluation [4]. Although much has been written about technical and organizational components of the administration of the OSCE, there has been little focus on faculty perceptions. The main role of nurse educators is to measure the clinical competence of students, and OSCE

allows examiners to objectively identify the level of skills in students using standardized checklists [5]. Nursing students need to acquire clinical knowledge, skills, and professional attitudes to be practice-ready [6]. OSCE is recognized as an effective assessment tool that reflects real-life clinical situations, typically consisting of 10-25 stations focusing on various skills over 5-20 minutes each [7, 8]. Faculty attitudes towards OSCE are generally positive, supporting its implementation in nursing education to evaluate clinical competence [9]. As nursing education evolves, new assessment methods are necessary, although they can increase student anxiety [10]. Evidence suggests that new graduates often have theoretical knowledge but lack clinical skills, highlighting the need for effective evaluation strategies [11]. OSCE is considered a gold standard in clinical competency assessment, demonstrating positive outcomes in training qualified nurses for clinical roles, including in virtual and telemedicine assessments [12].

There is little data on the impact of OSCE training on the attitudes and satisfaction levels of nursing faculty members, despite the growing use of OSCE in nursing education as an effective evaluation tool. This emphasizes the need to investigate faculty perspectives in order to improve the implementation of OSCE in clinical education. The study aims to determine the effects of OSCE training related to attitude and satisfaction level among nursing faculty members.

M E T H O D S

The impact of OSCE training on nursing faculty attitudes and satisfaction was assessed using a pre- and post-quasi-experimental study design without a control group from June to August 2023. Six private nursing facilities in Karachi that are connected to the Pakistan Nursing Council participated in the study, I.e. The Horizon School of Nursing and Allied Health Sciences Karachi, Suvastu School of Nursing and Health Sciences Karachi, Karachi King's (K.K) School and College of Nursing Karachi, New Life College of Nursing Karachi, St. James Institute of Nursing and Health Sciences Karachi, and Jesus and Mary Institute of Nursing and Allied Sciences Karachi. The process of data collection occurred upon receiving formal permission by the Graduate Nursing Research Committee, Ethical Review Committee, and Board of Advanced Studies and Research of Ziauddin University, ERC: 6940423FHNUR, and by the participating institution. Informed consent was provided by all participants either in English or Urdu. The 130 nursing faculty members who taught courses where OSCE may be used were part of the target demographic, so initially, 80 faculty members gave their approval to participate voluntarily. Following eligibility screening based on inclusion and exclusion criteria, a final sample of 56

participants was chosen using G*Power analysis (95% confidence level, 80% power, effect size 0.5, with an additional allowance for attrition). The inclusion criteria for the selection of participants were faculty associated with the OSCE subject, one year of experience, and low to moderate attitude and satisfaction. Faculty members have a high attitude and satisfaction; faculty on leave and participants engaged in other interventions were excluded from the study. The data collection process was divided into three phases: (a) pre-intervention phase contain data collection through an attitude and satisfaction checklist, (b) intervention phase, contain 2 days education intervention, and © post-intervention phase contain same data collection checklist of attitude and satisfaction after 5 days of intervention. The study instrument consists of three components. Demographic characteristics were included. Attitude Level of Nursing Faculty Members (contains 18 items, which were rated from one to five on the Likert scale rang from strongly disagree (1) to strongly agree (5). The cutoff values were (Mild: 18 to 42), (Moderate: 43 to 66), and (High: 67 to 90), with a Cronbach alpha score of 0.87 [13]. Satisfaction Level of Nursing Faculty Members: Satisfaction Level of Nursing Faculty Members (contains 30 items, which were rated from one to five on the Likert scale, ranging from strongly disagree (1) to strongly agree (5). The cutoff values were (Mild: 30 to 70), (Moderate: 71 to 110), and (High: 111 to 150), with internal consistency for all the items ranging from 0.7 to 0.9 [8].

Data were analyzed were performed through IBM SPSS Statistics version 24.0. Demographic and study variables were summarized using descriptive statistics that comprised frequencies, percentages, means, and standard deviations. Paired t-tests were used to compare the pre- and post-intervention mean scores of attitudes and satisfaction. The associations between the demographics and the outcome measures were tested using chi-square tests, while one-way ANOVA was used to identify differences within the mean scores of institutes. The p-value was taken to be statistically significant at <0.005.

R E S U L T S

Table 1 outlines the demographic profile of the 56 Nursing faculty members in the study, predominantly male n–36 (64.3%) with females at n–20 (35.7%). The age distribution shows 28 (50%) of respondents in the 25-35 age group and 22 (39.3%) in the 36-45 age group, indicating a focus on early to mid-career professionals. In terms of education, 62.5% hold a post-RN BSN degree, while 12 (21.4%) have a Generic BSN and n–9 (16.1%) an MSN. Regarding professional experience, n–33 (58.9%) reported having 2-6 years of experience, suggesting a group that is relatively young yet experienced (Table 1).

Table 1: Demographic Characteristics of Study Participants

Variables	Category	n (%)
Gender	Male	36 (64.3%)
	Female	20 (35.7%)
Age (Years)	25–35	28 (50.0%)
	36–45	22 (39.3%)
	46–55	3 (5.4%)
	56–65	3 (5.4%)
Education Level	G-BSN	12 (21.4%)
	Post-RN BSN	35 (62.5%)
	MSN	9 (16.1%)
Experience (Years)	2–6	33 (58.9%)
	7–11	14 (25.0%)
	12–16	6 (10.7%)
	17–21	3 (5.4%)

The study reveals significant enhancements in both attitude and satisfaction among nursing faculty following OSCE training. Pre-training, 28.6% of participants demonstrated a mild attitude towards OSCE, while 71.4% had a moderate attitude. Post-training, 94.6% achieved a high attitude level, with a p-value of <0.001 indicating statistical significance. Satisfaction levels showed that 23.2% had mild satisfaction pre-training; post-training, 92.9% reported high satisfaction, also with a significant p-value of <0.001. Thus, OSCE training markedly improved faculty attitudes and satisfaction regarding assessment methods (Table 2).

Table 2: Pre- and Post-Intervention Attitude and Satisfaction Levels (n=56)

Variables	Level	Pre-Test, n (%)	Post-Test, n (%)	p-value
Attitude	Mild	16 (28.6%)	0 (0.0%)	<0.001
	Moderate	40 (71.4%)	3 (5.4%)	
	High	0 (0.0%)	53 (94.6%)	
Satisfaction	Mild	13 (23.2%)	0 (0.0%)	<0.001
	Moderate	43 (76.8%)	4 (7.1%)	
	High	0 (0.0%)	52 (92.9%)	

The average attitude score was significantly higher in the post-test at 80.00 mean score with a standard deviation of 6.05 compared to the pre-test, where the score was 46.45 with a standard deviation value of 6.79. Likewise, the average satisfaction level reflected a significant increase from 78.88 +10.36 to 134.43 +11.48 with an average of 55.55 points. Both changes were statistically significant

($p<0.001$), which proves that the intervention of OSCE training intervention was effective in improving the attitudes and satisfaction of faculty members (Table 3).

Table 3: Comparison of Mean Scores for Attitude and Satisfaction (Pre- vs post-intervention)

Variables	Pre-Test, Mean ± SD	Post-Test, Mean ± SD	Mean Difference	t (df =55)	95% CL	p-value
Attitude	46.45 ± 6.79	80.00 ± 6.05	33.55 ↑	29.30	31.24–35.86	<0.001
Satisfaction	78.88 ± 10.36	134.43 ± 11.48	55.55 ↑	32.80	52.15–58.95	<0.001

The results illustrate the association analysis that reflects pre-intervention attitude levels only with demographic data of the participant, utilizing the Chi-square test. Results indicated that faculty with 2–6 years of experience predominantly had moderate attitudes, while those with 7–11 years showed both mild and moderate attitudes. A statistically significant association was found between experience and attitude level (χ^2 (3) = 9.62, p<0.005). Education level also demonstrated significance, with most Post-RN BSN and MSN graduates displaying moderate attitudes (χ^2 (2) = 10.84, p<0.005). However, gender did not show a significant association with attitude levels (χ^2 (1) = 0.41, p>0.005). Thus, experience and education positively influenced attitudes, while gender did not affect them (Table 4).

Table 4: Pre-Intervention Attitude Levels Only with Demographic Data of the Participant

Variables	Category	Mild, n	Moderate, n	Total	χ^2 (df)	p-value
Experience (Years)	2–6	8	25	33	χ^2 (3) = 9.62	<0.005
	7–11	6	8	14		
	12–16	1	5	6		
	17–21	1	2	3		
Education Level	G-BSN	2	10	12	χ^2 (2) = 10.84	<0.005
	Post-RN BSN	11	24	35		
	MSN	0	9	9		
Gender	Male	36	0	36	χ^2 (1) = 0.41	>0.050
	Female	20	0	20		

OSCE training resulted in significant improvements in both attitude and satisfaction scores from pre-test to post-test, indicating its effectiveness. However, no significant differences were found between institutes in these scores, suggesting that the positive impact of the training is consistent across different institutions (Table 5).

Table 5: Comparison of Attitude and Satisfaction Levels Across Institutes (Pre- and Post-Test)

Variables	Attitude				Satisfaction			
	Pre-test	F (p-value)	Post-test	F (p-value)	Pre-test	F (p-value)	Post-test	F (p-value)
Suvastu	1.64 ± 0.49	1.24 (<0.300)	2.8 ± 0.36	1.52 (<0.200)	1.71 ± 0.46	0.604 (<0.700)	2.8 ± 0.36	1.52 (<0.200)
Horizon	1.92 ± 0.27		2.9 ± 0.27		1.77 ± 0.43		2.9 ± 0.27	
Jesus and Mary	1.70 ± 0.48		3.0 ± 0.00		1.70 ± 0.48		3.0 ± 0.00	
St James	1.67 ± 0.51		3.0 ± 0.00		1.67 ± 0.51		3.0 ± 0.00	
New Life	1.43 ± 0.53		3.0 ± 0.00		2.00 ± 0.00		3.0 ± 0.00	

Karachi Kings	1.83 ± 0.51		3.0 ± 0.00		1.83 ± 0.40		3.0 ± 0.00	

DISCUSSION

The study investigated the effects of OSCE training on the attitudes and satisfaction levels of nursing faculty in Karachi, comprising predominantly young members with a demographic of 64.3% males and 35.7% females, most aged 25–35 years. A significant majority held a post-RN BSN (62.5%) and had 2–6 years of teaching experience, indicating a moderately experienced faculty likely to be receptive to new assessment methods like OSCE. The pre-intervention data revealed that participants from Karachi's private nursing institutions had moderate scores in attitude (71.4%) and satisfaction (76.8%) towards Objective Structured Clinical Examinations (OSCE). This indicates a positive perception and awareness of structured clinical assessments, though it also highlights the need for improved confidence and skills. Comparative studies showed similar moderate perceptions in countries like Saudi Arabia, Sweden, the USA, and Canada, while studies from Ireland were more optimistic [14], and Iranian studies reflected anxiety over examination management [15, 16]. Overall, these results suggest that familiarity and systematic preparation significantly influence pre-OSCE perceptions. The post-intervention results indicate that OSCE training significantly improved faculty attitudes (94.6%) and satisfaction levels (92.9%), demonstrating its effectiveness in enhancing perceptions among nursing educators. This notable improvement from moderate pre-intervention scores underscores the value of OSCE training as a professional development strategy. Similar findings from studies in Spain, France, Egypt, and India corroborate these results, showing enhancements in OSCE scores and participant satisfaction [17-19]. However, a study in the USA raised ongoing concerns regarding clinical competence, examiner variability, and the psycho-dynamic aspects of OSCE environments [20]. The demographic analysis shows no significant gender differences in post-attitude or post-satisfaction levels, indicating the educational intervention's effectiveness for all [7]. OSCE interventions improve outcomes in student satisfaction and understanding, with research supporting that standardized scoring and systematic evaluations enhance attitudes towards OSCEs [21]. Furthermore, OSCEs offer higher confidence and clinical judgment compared to traditional methods [18]. Nurse educators face ongoing challenges that necessitate support from educational authorities to enhance teaching environments and opportunities for professional development [22].

The study highlighted limitations, such as the absence of a control group, a small sample size, and purposive sampling, which hinder the generalizability of results. Data sourced from six private nursing institutions in Karachi restricts applicability. Issues like a short intervention duration and reliance on self-reported questionnaires may have introduced biases. Future research should involve randomized controlled trials (RCTs) with larger sample sizes and probability sampling for enhanced reliability, covering both public and private institutions across various regions of Pakistan. A longer follow-up period is suggested to track the impact of OSCE training on faculty attitudes and satisfaction, alongside employing mixed methods to comprehensively assess faculty perceptions and investigate effects on student learning outcomes and clinical competence.

CONCLUSIONS

The study concluded on the basis of findings that OSCE training significantly improves the level of attitude and satisfaction among the nursing faculty members working in private institutions. Faculty experience and educational level influenced pre-intervention attitudes, while gender did not affect outcomes, suggesting professional background shapes baseline perceptions without hindering OSCE training effectiveness. The consistent improvements across institutions highlight the successful implementation of structured OSCE interventions as a viable faculty development strategy to enhance clinical assessment practices.

Authors' Contribution

Conceptualization: FH
Methodology: FH, SB
Formal analysis: SK
Writing and Drafting: FH, SB, SK
Review and Editing: FH, SB, SK

All authors approved the final manuscript and take responsibility for the integrity of the work.

Conflicts of Interest

All the authors declare no conflict of interest.

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