



Masoumeh Foladovandi¹,
Shirin Ghazi², Masoumeh
Abdi¹, Shahin Salarvand^{3,4}
¹Social Determinants of
Health Research Center,
Aligoudarz School of
Nursing, Lorestan University
of Medical Sciences,
Khorramabad, Iran
²Education Development
Center (EDC), Lorestan
University of Medical
Sciences, Khorramabad,
Iran
³Hepatitis research center,
Nursing and Midwifery
Faculty, Lorestan university
of Medical Sciences,
Khorramabad, Iran

⁴Hepatitis Research Center,
Nursing and Midwifery
Faculty
4 km on the Khorramabad-
Boroujerd Road
Khorramabad, 6814993165
Iran

Tel: +989130891145
E-mail:
salarvand60@gmail.com

Examining the Impact of MOCK OSCE on Test Anxiety and clinical Performance of First-Term Nursing Students in the OSCE Exam

Background: The Objective Structured Clinical Examination (OSCE) is a commonly used method for assessing clinical skills among nursing students. However, it often induces anxiety, which can affect student performance. This study aims to examine the effect of a simulated OSCE (MOCK OSCE) on reducing test anxiety and improving performance in nursing students during the OSCE. **Method:** This quasi-experimental study was conducted on 65 first-year nursing students at Aligoudarz Nursing School during the 2023-2024 academic years. Using a census sampling method, students were randomly assigned to two groups: an intervention group, which participated in a MOCK OSCE program (including test scenarios, feedback, and practical exercises), and a control group, which continued with the regular curriculum. Test anxiety was measured before and after the intervention using the Sarason Test Anxiety Scale, and OSCE performance scores were evaluated with standardized checklists. Data were analyzed with paired t-tests, independent t-tests, and ANOVA using SPSS version 23.

Results: The results showed a significant decrease in test anxiety scores within the intervention group before and after the simulated OSCE ($p < 0.001$, $R = -0.91$). Additionally, performance scores in the final OSCE were higher for the intervention group than the control group ($R = 0.59$, $p < 0.05$). However, test anxiety did not have a substantial impact on performance within this study ($p < 0.05$, $R = -0.23$).

Conclusion: Implementing simulated OSCEs may help reduce test anxiety and enhance nursing students' performance in the final OSCE. Incorporating this approach is recommended as part of the assessment program for nursing students.

Keywords: Anxiety, Performance, Nursing Students, OSCE

دراسة تأثير MOCK OSCE على قلق الاختبار والأداء السريري لطلاب التمريض في الفصل الدراسي الأول في امتحان OSCE

الخلفية: يعد الفحص السريري المنظم الموضوعي (OSCE) طريقة شائعة الاستخدام لتقييم المهارات السريرية بين طلاب التمريض. ومع ذلك، فإنه غالبًا ما يسبب القلق، مما قد يؤثر على أداء الطلاب. تهدف هذه الدراسة إلى دراسة تأثير محاكاة منظمة الأمن والتعاون في أوروبا (MOCK OSCE) على تقليل قلق الاختبار وتحسين الأداء لدى طلاب التمريض خلال فترة منظمة الأمن والتعاون في أوروبا.

الطريقة: أجريت هذه الدراسة شبه التجريبية على 65 طالبًا من طلاب التمريض في السنة الأولى في مدرسة عليغودارز للتمريض خلال العام الدراسي 2023-2024. باستخدام طريقة أخذ عينات التعداد، تم تقسيم الطلاب بشكل عشوائي إلى مجموعتين: مجموعة التدخل، التي شاركت في برنامج MOCK OSCE (بما في ذلك سيناريوهات الاختبار، والتغذية الراجعة، والتمارين العملية)، ومجموعة المراقبة، التي استمرت في المنهج الدراسي العادي. تم قياس قلق الاختبار قبل وبعد التدخل باستخدام مقياس سارسون لقلق الاختبار، وتم تقييم درجات أداء منظمة الأمن والتعاون في أوروبا باستخدام قوائم مرجعية موحدة. تم تحليل البيانات باستخدام اختبارات t المقترنة، واختبارات t المستقلة، وANOVA باستخدام SPSS الإصدار 23.

النتائج: أظهرت النتائج انخفاضًا كبيرًا في درجات قلق الاختبار ضمن مجموعة التدخل قبل وبعد محاكاة منظمة الأمن والتعاون في أوروبا ($P < 0.001$, $R = -0.91$). بالإضافة إلى ذلك، كانت درجات الأداء في منظمة الأمن والتعاون في أوروبا النهائية أعلى بالنسبة لمجموعة التدخل من المجموعة الضابطة ($R = 0.59$, $P < 0.05$). ومع ذلك، لم يكن لقلق الاختبار تأثير كبير على الأداء ضمن هذه الدراسة ($R = -0.23$, $P < 0.05$).

الاستنتاج: قد يساعد تنفيذ محاكاة منظمة الأمن والتعاون في أوروبا في تقليل قلق الاختبار وتحسين أداء طلاب التمريض في منظمة الأمن والتعاون في أوروبا النهائية. يوصى بدمج هذا النهج كجزء من برنامج التقييم لطلاب التمريض.

الكلمات المفتاحية: القلق، الأداء، طلاب التمريض، منظمة الأمن والتعاون في أوروبا

بررسی تأثیر MOCK OSCE بر اضطراب آزمون و عملکرد بالینی دانشجویان پرستاری ترم یک در آزمون OSCE

زمینه و هدف: OSCE یکی از روش های شایع ارزیابی مهارت های بالینی دانشجویان پرستاری است. اما این آزمون باعث ایجاد اضطراب در دانشجویان می شود که می تواند بر عملکرد آن ها تأثیر بگذارد. هدف این مطالعه بررسی تأثیر OSCE شبیه سازی شده بر اضطراب در آزمون و عملکرد دانشجویان پرستاری در OSCE است.

روش: این مطالعه نیمه تجربی بر روی 65 دانشجوی ترم اول پرستاری دانشکده الیگودرز در سال های 1403-1402 انجام شد. نمونه گیری به صورت تمام شمار بود. دانشجویان به طور تصادفی ساده به دو گروه تقسیم شدند: گروه مداخله که برنامه OSCE شبیه سازی شده (سناریوهای آزمون، بازخورد، و تمرین عملی) را دریافت کرد و گروه کنترل که برنامه عادی را گذراند. اضطراب آزمون قبل و بعد از مداخله با پرسشنامه اضطراب ساراسون و نمرات عملکرد در آزمون OSCE نهایی با چک لیست های استاندارد اندازه گیری شد. داده ها با آزمون های آماری تی زوجی، تی مستقل و آنالیز واریانس (ANOVA) در نرم افزار SPSS تحلیل شدند.

یافته ها: تفاوت معناداری در نمره اضطراب آزمون گروه مداخله قبل و بعد از OSCE شبیه سازی شده وجود داشت ($p < 0.001$, $R = -0.91$). همچنین نمرات عملکرد دانشجویان گروه مداخله در آزمون OSCE نهایی از گروه کنترل بیشتر بود ($R = 0.59$, $p < 0.05$). با این وجود نمره اضطراب آزمون تأثیر قابل توجهی بر عملکرد دانشجویان در این مطالعه نداشت ($R = -0.23$, $p < 0.05$).

نتیجه گیری: برگزاری آزمون های OSCE شبیه سازی شده می تواند به کاهش اضطراب آزمون و بهبود عملکرد دانشجویان پرستاری در آزمون OSCE نهایی کمک کند. استفاده از این روش در برنامه ارزیابی دانشجویان پرستاری پیشنهاد می شود.

واژه های کلیدی: اضطراب، عملکرد، دانشجوی پرستاری، OSCE

OSCE امتحان میں پہلی مدت کے نرسنگ طالب علموں کی ٹیسٹ پریشانی اور طبی کارکردگی پر MOCK OSCE کے اثرات کا جائزہ

پس منظر: آبجیکٹیو کلینیکل ایگزامینیشن (OSCE) نرسنگ طلباء میں طبی مہارتوں کا اندازہ لگانے کے لیے عام طور پر استعمال ہونے والا طریقہ ہے۔ تاہم، یہ اکثر بے چینی پیدا کرتا ہے، جو طالب علم کی کارکردگی کو متاثر کر سکتا ہے۔ اس مطالعہ کا مقصد امتحانی اضطراب کو کم کرنے اور OSCE کے دوران نرسنگ طلباء میں کارکردگی کو بہتر بنانے پر نقلی (MOCK OSCE) کے اثر کا جائزہ لینا ہے۔

طریقہ: یہ نیم تجرباتی مطالعہ 2023-2024 تعلیمی سالوں کے دوران علی گدارز نرسنگ اسکول میں نرسنگ فرسٹ ایئر کے 65 طلباء پر کیا گیا۔ مردم شماری کے نمونے لینے کا طریقہ استعمال کرتے ہوئے، طلباء کو تصادفی طور پر دو گروہوں میں تقویض کیا گیا: ایک مداخلتی گروہ، جس نے MOCK OSCE پروگرام میں حصہ لیا (بشمول ٹیسٹ کے منظرنامے، تاثرات، اور عملی مشقیں)، اور ایک کنٹرول گروہ، جو باقاعدہ نصاب کے ساتھ جاری رہا۔ مداخلت سے پہلے اور بعد میں ٹیسٹ کی اضطراب کی پیمائش سارسن ٹیسٹ اینگریڈیٹ اسکیل کا استعمال کرتے ہوئے کی گئی تھی، اور OSCE کی کارکردگی کے اسکورز کو معیاری چیک لسٹوں کے ساتھ جانچا گیا تھا۔ SPSS ورژن 23 کا استعمال کرتے ہوئے ٹیبا کا تجزیہ پیئرڈ ٹی ٹیسٹ، آزاد ٹی ٹیسٹ، اور انووا کے ساتھ کیا گیا۔

نتائج: نتائج نے مصنوعی (p OSCE ($R = -0.91$, $p < 0.001$) سے پہلے اور بعد میں مداخلت گروہ کے اندر ٹیسٹ کے اضطراب کے اسکور میں نمایاں کمی ظاہر کی۔ مزید برآں، فائنل OSCE میں کارکردگی کے اسکور مداخلت گروہ کے لیے کنٹرول گروہ ($R = 0.59$, $p < 0.05$) سے زیادہ تھے۔ تاہم، ٹیسٹ کی بے چینی کا اس مطالعے کے اندر کارکردگی پر کوئی خاطر خواہ اثر نہیں پڑا ($R = -0.23$, $p < 0.05$)۔

نتیجہ: نقلی OSCEs کو لاگو کرنے سے ٹیسٹ کی پریشانی کو کم کرنے اور OSCE کے فائنل میں نرسنگ طلباء کی کارکردگی کو بڑھانے میں مدد مل سکتی ہے۔ نرسنگ طلباء کے لیے تشخیصی پروگرام کے حصے کے طور پر اس نقطہ نظر کو شامل کرنے کی سفارش کی جاتی ہے۔

مطلوبہ الفاظ: پریشانی، کارکردگی، نرسنگ طلباء، OSCE

INTRODUCTION

Assessment is a crucial and integral part of learning in any educational program and forms the basis for decision-making in academic and executive activities (1). Assessment is key to identifying students' strengths and weaknesses, enhancing their skills and knowledge through continuous feedback. It improves learning quality, helps refine curricula, and prepares students for success. In clinical settings, evaluating medical and nursing students ensures quality care, adherence to standards, and boosts confidence for complex situations (2).

Miller's educational objectives classify learning into four levels. The Objective Structured Clinical Examination (OSCE) evaluates students' performance at each level, whether in simulated or real settings (3). Given the nature of medical sciences, including nursing, conducting practical OSCE exams is essential (4). The OSCE standardizes the assessment of medical students' clinical skills through stations with clinical scenarios and standardized checklists, enhancing clinical education and offering precise feedback (5). Using the OSCE for nursing assessment effectively evaluates clinical skills. It enables students to apply evidence-based skills, lets instructors address performance issues, and assesses cognitive, affective, and psychomotor domains in a realistic simulated setting (6).

The OSCE assesses visual, practical, and professional behaviors of nursing students, proving to be a reliable, valid, and comprehensive method that enhances performance and prepares them for clinical settings (7). The OSCE offers key benefits like comprehensive clinical skill assessment, realistic simulation, and high reliability, with stress-free skill enhancement through immediate feedback. However, it has drawbacks such as high costs, time consumption, resource demands, and potential stress for students (8). Anxiety may stem from facing unfamiliar environments, fear of failing or underperforming, high expectations, and numerous tasks. Evaluator pressure and interactions with patients or simulations can also contribute significantly to student anxiety (9). One of the methods for controlling anxiety in nursing students during the OSCE is holding preparation sessions (10) and practicing with MOCK OSCEs (11). Research shows that anxiety and stress impair concentration and memory, potentially hindering students' ability to demonstrate skills. Additionally, anxiety can increase clinical errors and reduce task performance efficiency (12). Studies show that OSCE-related anxiety is linked to the exam's timing, complexity, required techniques, and procedural confusion. Factors like exam duration, question difficulty, and unclear evaluation methods also increase student anxiety (13). The MOCK OSCE is a structured simulation preparing students for real OSCE conditions by using exercises similar to the actual exam. Conducted by senior students, it aims to enhance performance, readiness, and reduce anxiety through self-assessment and immediate feedback (14). MOCK OSCEs offer numerous benefits, including familiarizing students with OSCE procedures, enhancing clinical skills in realistic settings, and boosting confidence. Repeated practice reduces anxiety, provides

immediate feedback, and creates a comprehensive learning environment for better exam preparedness (15).

Studies have shown that the use of MOCK OSCE not only enables students to familiarize themselves with the process and structure of the OSCE exam, but also provides an opportunity to practice and enhance clinical skills in a low-stress, realistic environment (16). This practice instills greater confidence in students when facing the actual exam, preparing them to perform better and more effectively in real-life situations (17). Furthermore, the MOCK OSCE offers a chance for immediate feedback and performance improvement, which assists students in identifying and addressing their weaknesses, ultimately allowing them to approach the main exam with greater confidence and skill (18).

Given the psychological challenges associated with OSCEs, particularly test anxiety observed among medical and nursing students, this study aimed to reduce exam-related anxiety and improve nursing students' performance in structured clinical examinations. Additionally, the present researchers found no similar study conducted in Iran through their search.

METHODS

Design and Setup of the Study

This quasi-experimental study, conducted over two academic years at the Aligudarz School of Nursing, involved 65 first-semester nursing students. Participants were divided into two groups using a census approach, with simple random assignment to either a control group (33 students from the 2023) and an intervention group (32 students from the 2024). The inclusion criteria for student participants were being a first-year nursing student enrolled in the Principles and Techniques of Nursing course, while the exclusion criteria included excessive absences and prior first aid training. For the evaluator students, the inclusion criteria involved being second-year or higher, active participation, informed consent, high course scores, and good physical/mental health, with exclusion based on absence, ethical/professional lapses, improper evaluation duties, lack of focus, and communication difficulties (Figure 1).

The study utilized a demographic questionnaire (age, gender, grade point average or GPA) and the Sarason Test Anxiety Questionnaire, administered before the Mock OSCE and OSCE. The Sarason questionnaire, a 37-item validated self-report tool with strong psychometric properties (Cronbach's alpha 0.88), categorized anxiety levels as mild (≤ 12), moderate (13-20), or severe (≥ 21) (19). Standardized ministry checklists evaluated student performance, focusing on decision-making and procedural skills, with a passing score of 14/20. A satisfaction survey with Likert-scale and open-ended questions gathered feedback on the MOCK OSCE. Ethical approval was obtained, and informed consent was collected, ensuring a reliable assessment of the intervention's impact on anxiety, performance, and satisfaction.

Implementation phase

The researchers enrolled all first-semester nursing students and the research team into a virtual group, explaining the

study's purpose, duties, and regulations, and obtaining written informed consent. Ethical approval was secured, and the Deputy Dean of Education and Nursing Department Head were informed to ensure coordination. A faculty journal club was organized to introduce the concept and benefits of MOCK OSCE as an educational tool. A call was issued to recruit student examiners, with two per station to improve coordination, scoring accuracy, and ensure replacements. A virtual group provided training, facilitated information exchange, and addressed ambiguities, with in-person meetings if needed. Comprehensive training and coordination ensured a standardized, high-quality MOCK OSCE experience for both examiners and students.

The training for student evaluators involved designing scenario-based stations, reviewing topics, and learning to complete standard checklists for scoring. At this stage, the OSCE station topics were not finalized, as the focus was on training essential evaluation skills. These sessions familiarized students with the evaluation process, improving both MOCK OSCE quality and the educational experience. The exam process was then explained, including finalizing exam specifications, checklists, passing thresholds, and ensuring proper assessment. Lastly, the course plan for first-semester examinees was shared, with two exam dates set: one for MOCK OSCE and one for OSCE. The comprehensive training aimed to deliver a standardized and high-quality MOCK OSCE experience. First-semester students received detailed instructions on the structure and timing of the MOCK OSCE

and OSCE exams, reducing anxiety and building confidence. To maintain confidentiality, exam topics were given to evaluators one week in advance, who ensured fairness by keeping them secret. The scenarios were finalized by 3-4 nursing experts, including instructors and department heads, with content validity ratios (CVR) above 76.0 and content validity indices (CVI) over 86.4. A day before, briefing meetings with organizers were held to ensure readiness and smooth execution. The exam process details, roles, and responsibilities were thoroughly reviewed to ensure clarity and effective coordination, improving both exam quality and student satisfaction. The Sarason Test Anxiety Questionnaire was administered before the MOCK OSCE to identify students needing psychological support and assess the exam's impact on their mental state. This planning allowed the researchers to enhance the MOCK OSCE experience and provide support where necessary. The questionnaire was administered again before the OSCE to compare anxiety levels between the MOCK OSCE, the final OSCE, and a control group from the previous year without MOCK OSCE. Both groups had similar educational settings and faculty. A satisfaction survey with 10 Likert-scale and 3 open-ended questions assessed student feedback, highlighting strengths, weaknesses, and suggestions for improvement. This thorough evaluation provided key insights for optimizing the MOCK OSCE and OSCE experiences.

The OSCE exam was conducted according to the course plan and past procedures to maintain uniformity and standardize

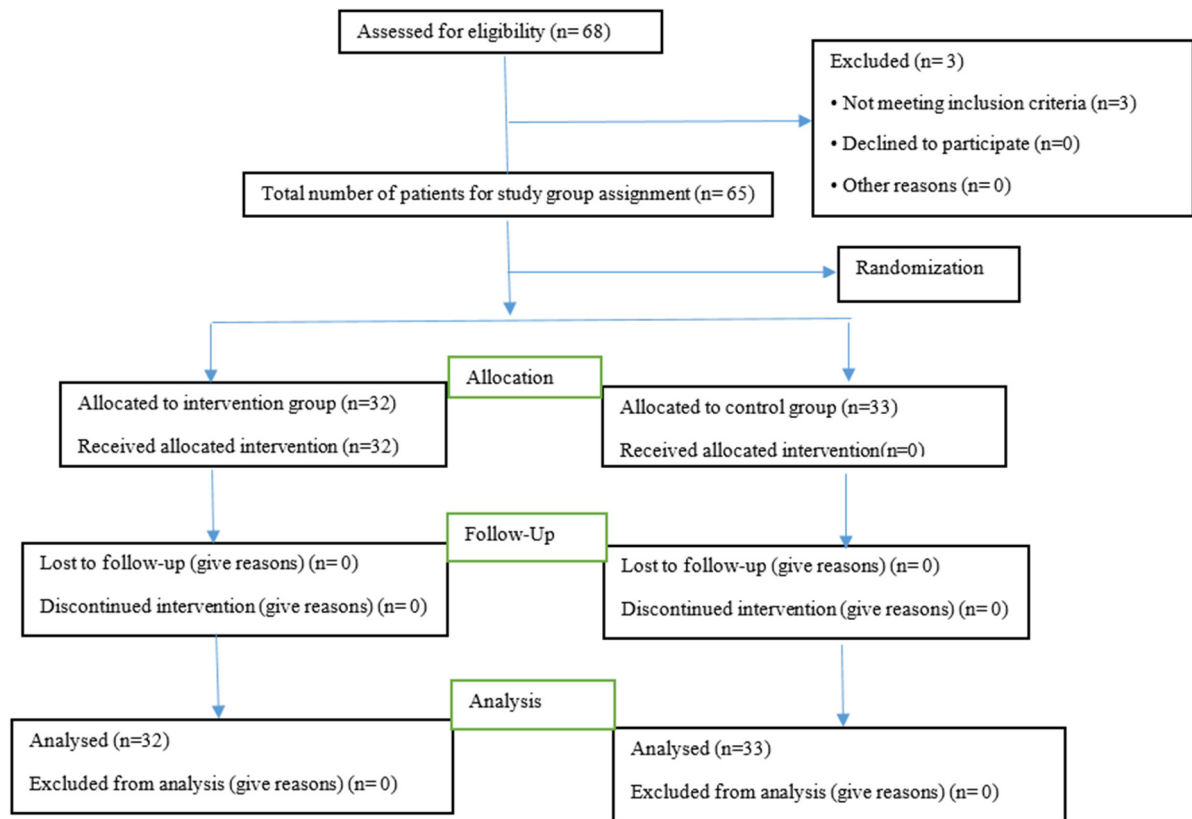


Figure 1. Flow chart of participant enrollment, allocation and data analysis

the assessments, which improved the accuracy and validity of the results. Coordination sessions were held with the OSCE organizers to ensure similarity with the MOCK OSCE. The exam was planned for 7 clinical skills stations (vital signs, drug preparation/calculation, injections, oxygen therapy, suction, dressing, and nutritional therapy) based on necessity and expert input. Each station had a standard checklist and student-made scenarios (Each station lasts 9 minutes). The student examiner would present a scenario, perform the procedure, and answer the examiner's questions related to the scenario. This approach was intended to assess the students' practical skills and clinical decision-making in a standardized and consistent manner across all participants. Students' practical grades were based on standard checklists. The MOCE OSCE and OSCE exams were conducted in a clinical skills lab. One supervisor coordinated student movement between stations and announced timing. Another supervisor quarantined and monitored students' communication devices on the MOCK OSCE day. Before both exams, students were briefed on rules, guidelines, objectives, procedures, and station order. Measures were taken to ensure exam integrity, including quarantining students, dividing them into groups, using separate entrances, issuing entry cards, and strictly adhering to station time limits. Fair treatment of students, confidentiality of scores, and voluntary participation were monitored. After exams, students anonymously completed a satisfaction survey about the course's strengths, weaknesses, and their satisfaction level. Opinions did not affect scores. Statistical analysis using descriptive methods and independent t-tests was conducted with SPSS 23 software.

RESULTS

The findings of the demographic characteristics of the students showed that the two groups were homogeneous and had no statistically significant difference. There were 16 men (50%) and 16 women (50%) in the intervention group, and 16 men (51.51%) and 16 women (48.49%) in the control group. Additional information is provided in Table 1.

The paired t-test results showed a statistically significant difference in the test anxiety scores before and after the MOCK OSCE implementation in the intervention group. In other words, the intervention led to significant changes in the mean test anxiety score. Furthermore, the correlation coefficient of -0.60 in the intervention group indicated a strong negative correlation, suggesting that the intervention was effective in decreasing test anxiety. Table 2 presents the comparison of the mean test anxiety scores before and after the intervention.

The independent t-test results showed a significant difference in the mean test anxiety scores between the intervention and control groups. The MOCK OSCE implementation in the intervention group led to a significant decrease in the mean test anxiety score compared to the control group. The strong negative correlation coefficient of -0.91 indicates a very strong inverse relationship between the test anxiety score and the MOCK OSCE implementation in the intervention group. Additionally, the moderate positive correlation coefficient of 0.59 suggests that the MOCK OSCE implementation is associated with improved performance scores in the intervention group (Table 3).

Table 1. Frequency distribution of demographic characteristics in two intervention and control groups

Variable	Grouping	Intervention group (N = 28) Mean ± SD	Control(N = 28) Mean ± SD
Age	18 < x ≤ 22	19.78±1.36	20.18± 1.76
GPA	16.5 ≤ x	18.56±0.79	18.13±08

Table 2. Comparison of the Mean Test Anxiety Scores Before and After the MOCK OSCE in the Intervention Group

Variable	MOCK OSCE Stage	Mean (SD)	p-Value	Correlation Coefficient
Test Anxiety	Before Intervention	24.80 (2.93)	0.05 < p	R= -0.60
	After Intervention	18.25 (2.99)		

Table 3. Comparison of Mean Test Anxiety Scores and Student Performance in the Intervention and Control Groups After the MOCK OSCE

Variable	Group	Mean (SD)	t	df	p-Value	Correlation Coefficient
Test Anxiety	Intervention Group	18.25 (2.99)	-15.73	63	1 < 0.00p	R=-0.91
	Control Group	27.76 (4.02)				
Performance	Intervention Group	17.92 (2.0)	2.53	63	0.014 < p	R=0.59
	Control Group	16.81 (1.26)				

The statistical tests did not show a significant relationship between age and gender with the mean test anxiety score and the mean performance score. However, the GPA had a significant relationship with the mean test anxiety score and the mean performance score of the students in both the control and intervention groups ($p < 0.05$).

The results of the study show that test anxiety does not have a significant impact on test performance. It is important to note that these results are based on the available data and may be influenced by various factors. Further research is needed to achieve more robust conclusions ($p < 0.05$, $R = -0.23$).

The results indicated that 93.75% of the students were satisfied with participating in the MOCK OSCE prior to the actual OSCE.

DISCUSSION

The present study aimed to investigate the effect of the MOCK OSCE on test anxiety and the performance of first-semester nursing students in the OSCE exam. The results of this study showed that the implementation of the MOCK OSCE can lead to a decrease in test anxiety and an improvement in the performance of first-semester nursing students in the OSCE exam.

In this study, the comparison of test anxiety scores before the "MOCK OSCE" and the actual OSCE exam in the intervention group showed a significant difference and a strong inverse relationship between the "MOCK OSCE" implementation and the mean anxiety scores ($P \leq 0.05$). Consistent with previous findings (11, 16, 17, 20), familiarizing students with the exam process and structure through simulation, repeated practice, and constructive feedback increased their self-confidence and preparedness. This enhanced readiness led to a substantial reduction in their anxiety during the actual OSCE exam, resulting in an inverse relationship between the "MOCK OSCE" and anxiety scores. Furthermore, this practical experience helped students improve their clinical skills and theoretical knowledge in a less stressful environment, ultimately boosting their confidence and performance in the main exam.

The findings of the present study showed a significant difference in the mean test anxiety score between the intervention and control groups, with a strong inverse relationship between the implementation of the MOCK OSCE and the reduction in test anxiety. Existing research has consistently demonstrated that conducting a mock OSCE is an effective strategy for alleviating the anxiety of nursing students during the final practical assessment exams (11, 16, 17, 20). This can be explained from the perspective of stress management. The mock OSCE provides students with the opportunity to practice and develop effective coping mechanisms for the potential challenges they may encounter in the actual exam. By confronting these challenges in a simulated environment, students can identify and strengthen their strategies for controlling anxiety and emotions, enabling them to better manage their stress during the real assessment. Furthermore, participating in the mock OSCE and receiving feedback enhances students' self-confidence in taking the main exam, which also contributes to the

reduction of their anxiety levels. Consequently, the implementation of the mock OSCE is recognized as an effective approach for managing the stress and anxiety of nursing students in practical examinations.

Another key finding was that the implementation of the MOCK OSCE was associated with improved performance scores among the intervention group. This observation is consistent with the findings of Coe et al. (2022) and LEE et al. (2018) (18, 20), though the results of Alsaif et al. (2022) did not align with our study (16). The mock OSCE appears to help students become familiar with the potential challenges of the main exam, allowing them to practice and strengthen their skills under conditions closely resembling the real assessment. This practical experience instills greater self-confidence in the students, positively impacting their performance. Additionally, the prior practice and preparation help students manage their stress and anxiety more effectively, further contributing to improved outcomes in the final OSCE. Furthermore, the moderate positive correlation observed between the performance score and the implementation of the mock OSCE suggests that such practice exams can be an effective educational strategy for improving students' performance in the main OSCE. This correlation indicates that the mock OSCE, as a useful tool for preparation and practical experience, has significantly influenced the enhancement of students' clinical skills and final outcomes. However, student performance is also affected by other important factors, such as content mastery, individual stress and anxiety management, and other individual and contextual elements independent of the mock OSCE. Therefore, while the mock OSCE is an effective strategy, it cannot solely account for all the changes in student performance, and other influential factors must also be considered. Overall, the moderate correlation demonstrates that the mock OSCE is an effective educational tool, but it is just one of the determinants of students' final performance.

Students' GPA had a significant correlation with their mean test anxiety and performance scores in both control and intervention groups. This can be explained by the changes in the university environment, including study methods, teaching styles, expectations, and assessment approaches, which impact first-year students' academic performance and anxiety levels.

The results showed that the relationship between the reduction in the test anxiety score and the performance score after the MOCK OSCE in the intervention group was weak and negative. The results of the study by Alsaif et al. in 2022 were consistent with the present study (16), but some other studies contradict our findings (21, 22). In other words, The reduction in test anxiety in the intervention group did not significantly affect students' performance scores. This may be because performance in practical exams like the OSCE depends on factors beyond anxiety, such as clinical knowledge, practical skills, experience, and adaptability to test conditions. Even with reduced anxiety, if students lack strong practical skills or sufficient experience, their scores may not improve. Thus, while lowering anxiety is important, enhancing clinical skills and experience is equally crucial for performance improvement. The study results indicated high participant satisfaction with

the implementation of the MOCK OSCE. Sample feedback from participating students included reports of reduced anxiety, improved readiness, greater familiarity with the OSCE structure, immediate feedback, enhanced clinical skills, and identification of areas needing improvement.

Regarding the limitations of the study, the relatively small sample size may make it difficult to generalize the results to a larger population. Additionally, the existing differences in the initial knowledge and skills of the students (based on the students' personal commitment to study and practice), which may result in varying levels of initial preparedness, could have influenced the results. Furthermore, other psychological and environmental factors that can affect students' anxiety and performance may not have been controlled for in the study. These limitations could provide suggestions for future research.

CONCLUSION

Implementing MOCK OSCE exams can help nursing students reduce test anxiety and enhance their performance on the final OSCE. This approach allows students to familiarize themselves with the OSCE environment and process, as well as practice their skills in a setting similar to the actual exam. Moreover, peer feedback during these practice sessions

enables students to identify their strengths and weaknesses, enabling them to improve. Incorporating this method into the nursing evaluation program is recommended to better prepare students for the final OSCE exam.

Ethical Considerations

Ethical issues including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc. have been completely observed by the authors. The study obtained ethical approval (IR.LUMS.REC.1402.233) from Lorestan University of Medical Sciences. Participants were informed about the project's goals, and written consent was collected.

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Conflicts of interest: Nothing to declare

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