

STRESS UNDER SCRUTINY: COPING STRATEGIES AMONG UNDERGRADUATE NURSING STUDENTS FACING OBJECTIVE STRUCTURED CLINICAL EXAMINATIONS (OSCE).

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ABSTRACT

Background: Objective Structured Clinical Examinations (OSCEs) are widely used to assess clinical competence in nursing education. However, they are often accompanied by high levels of stress, which can negatively impact students' performance and learning outcomes. Understanding the coping strategies used by students is crucial for improving academic support systems and promoting mental well-being.

Aim: This study aimed to assess the stress levels and coping strategies among undergraduate nursing students during OSCEs in selected nursing colleges in Swat, Pakistan.

Methods: A cross-sectional quantitative design was adopted. The study was conducted among 274 nursing students selected through Raosoft sample size calculation from a population of 950 students. Data were collected using a validated structured questionnaire with a Content Validity Index (CVI) of 0.88 and a Cronbach's Alpha of 0.84. The questionnaire was self-administered and included demographic data, stress assessment, and coping strategies. Data were analyzed using SPSS version 27 with descriptive and inferential statistics.

Results: The majority of students reported moderate to high stress levels during OSCEs. Problem-focused coping strategies were used by 42.7% of students, emotion-focused strategies by 38.1%, and avoidance coping by 19.2%. A significant correlation was found between higher stress levels and the use of emotion-focused and avoidance coping strategies ($p < 0.05$). Senior students demonstrated slightly better coping mechanisms compared to juniors.

Conclusion: Nursing students experience considerable stress during OSCEs and often resort to less effective coping strategies. Interventions aimed at stress reduction and coping skill enhancement are essential in nursing education.

Keywords: OSCE, nursing students, stress, coping strategies, clinical education, cross-sectional study.

INTRODUCTION

One of the common assessment techniques used in medical and nursing education is known as Objective Structured Clinical Examination (OSCE), a form of assessment that in a systematic and standardized way

tests the clinical efficiency of students (Vincent et al., 2022). In this case, stress and coping mechanisms are response mechanisms on both physical and cognitive levels to the apparent challenge or threat and

behavioral and cognitive actions taken to respond to the respective stressor, respectively (Ovsiannikova et al., 2024). The problem that undergraduate nursing learners may face during OSCEs is significant pressure caused by the fact that preparing and passing the OSCE are high-stakes processes, novel testing conditions, and performance examinations (Bondarchuk et al., 2024). Working in such conditions may cause various emotional reactions, and it is vital to know how students tackle the pressure.

Many studies have reported the great prevalence of stressful conditions in nursing students when they were undergoing OSCEs. The level of stress reported in different regions and institutions differs, but some studies show that more than 60% to 80% of students will be moderately and severely stressed during clinical assessments (O'Byrne et al., 2021). This pressure has been associated with issues like the time pressure, fear of failure, unconfidence and unfamiliarity with the clinical scenarios being presented. Stress prevents the work of students, decreases the efficiency of learning, and exhibits a detrimental influence on the psychological well-being unless it is managed (Chaabane et al., 2021).

Moving between classroom and clinical implementation with the help of the OSCEs represents a crucial point in the education of nursing students. In contrast to written exams, OSCEs require technical skills to be observed in real time, effective communications, and decisions (Montgomery et al., 2021). Performing well in a high-intensity environment subject to a timer can be exhausting, and more so when the students have no access to clinical work or sufficient practice (Yates, 2022).

The coping strategies are extremely important to the way students react to the stress that OSCEs result in. The strategies may include problem-oriented (preparation and practice) and emotion-oriented (relaxation techniques, social support) (Rousseau et al., 2025). The success of using these coping mechanisms greatly determines not only academic achievements but also self-esteem and motivation of students as well as their overall persistence in the profession (Alshareef, Giga, & Fletcher, 2025).

The existing literature has proposed a linkage between the quality of coping traits and reduced anxiety as well as an increased confidence of the students to perform better in OSCE environment. Nonetheless, the nature and effect of coping mechanisms differs according to personality, prior

experience, and support offered by the institution (Zhou, 2024). The level of perception and response of students may also be due to cultural and scholarly experiences during examination of clinical cases (Hosseini et al., 2025).

In certain education settings, poor preparation of OSCEs, feedback, and access to the simulation labs add to the stress levels (Daniels et al., 2021). In addition, there are no psychological support services available to students who are subjected to clinical assessments which aggravates the situation. These gaps of institutional nature imply the necessity of specific interventions and reformations of nursing education systems (Chaabane et al., 2021).

The purpose of the study is to understand the possible coping strategies chosen by the undergraduate nursing students to deal with OSCE-related stress, determine the patterns of perceiving the stress, and provide the evidence-based recommendations to the nursing educators and institutions. Studying these dynamics is key to developing an optimal academic situation in which clinical competence can be promoted without undermining the mental health of the students.

Methodology

A Cross-Sectional quantitative study design was used to study the level of stress and the coping mechanism used by undergraduate nursing students on Objective Structured Clinical Examination (OSCE). Samples were obtained using many nursing colleges found in the Swat region of Pakistan to ensure that the study was as wide and as representative as possible especially in getting students of various institutions of learning.

The total population consisted of 950 undergraduate nursing students. This study had a sample size that was determined based on the Raosoft Sample Size Calculator. All the undergraduate nursing students resembling colleges in Swat amounted to 950. The required sample size was determined at 95% confidence level, 5% margin error and 50 % response distribution. On these parameters, we obtained the minimum sample size of 274 people. This made the results to be statistically representative of the target population. To collect the information, a validated structured questionnaire was chosen, with Content Validity Index (CVI) equaling 0.88 and Cronbach Alpha reliability coefficient equaling 0.84, which allows concluding about its high level of reliability and validity in the assessment of both stress and coping strategies in clinical academic practice.

Data Collection Procedure

Data have been obtained with the help of a self-administered questionnaire at the chosen students. The instrument had three parts demographic information, stress levels when taking OSCEs and coping strategies the students applied. Trained research assistants were used to distribute the questionnaire manually to the colleges participating once permission was sought by the institution. Instructions were provided to the participants and they were assured that they had the freedom to withdraw any moment without causing any academic penalty. Students giving informed consent only were incorporated in the study.

Data Analysis Procedure

Data that were collected were entered in to the Statistical Package for Social Sciences (SPSS) version 27 software. Demographic data and stress levels were summed up with the help of descriptive statistics like frequencies, percentages, standard deviation, and means. The relationship between stress levels and coping strategies during OSCEs was subjected to inferential statistical Pearson correlation coefficient test.

There was a statistical significance when the p-value was less than 0.05.

Ethical Considerations

The study has been approved by the Institutional Review Board (IRB) of Zalan College of nursing, Swat. Informed consent forms with the description of the purpose, procedures, benefits, and risks of the study were given to all the participants. Participation was voluntary by all means and the anonymity and confidentiality were taken to the extreme. No identifiable person was captured and the information was only intended to be as academic and research purposes.

Results and analysis

Demographic Characteristics of Participants

The study included 274 undergraduate nursing students, with a majority being male (77.4%) and the rest female (22.6%). Participants were fairly distributed across academic years, with the highest proportion in the 3rd year (32.8%). The mean age of students was 21.7 years with a standard deviation of ± 1.85 . This demographic profile ensured diverse representation across gender and academic progression [Table 1].

Table 1: Demographic Characteristics of Participants

Variable	Frequency (n)	Percentage (%)
Gender		
Male	212	77.4%
Female	62	22.6%
Academic Year		
1st Year	50	18.2%
2nd Year	70	25.5%
3rd Year	90	32.8%
4th Year	64	23.5%
Age (in years)	Mean = 21.7	SD = ± 1.85

Stress Levels During OSCEs

The findings revealed that more than half of the students (51.5%) experienced moderate stress during OSCEs, while 29.5% reported severe stress levels. Only 19.0% of the participants experienced mild stress. The overall mean stress score was 27.85 with a standard deviation of ± 5.62 , indicating a generally elevated stress response among nursing students facing OSCEs [Figure 1].

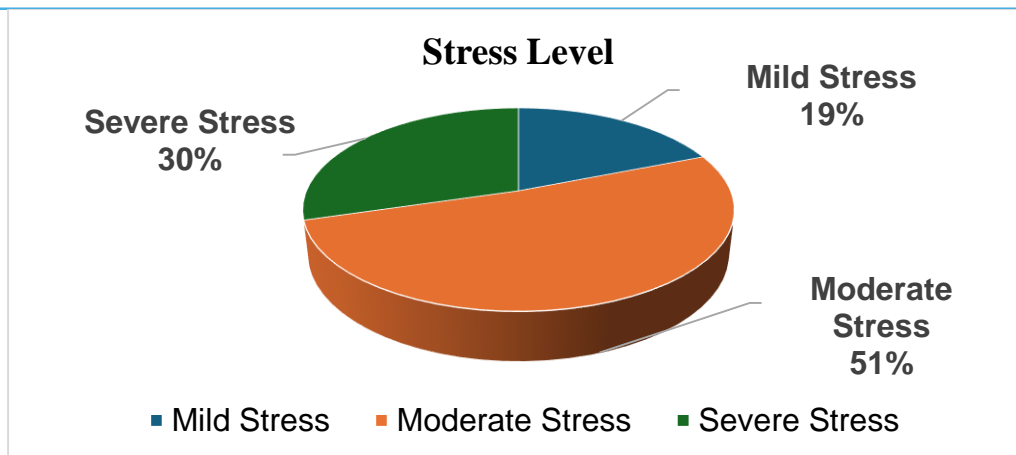


Figure 1: Stress Levels During OSCEs

Coping Strategies Used by Students

The results showed that nursing students primarily relied on problem-focused coping strategies, with the highest mean score of 3.42 (± 0.78), indicating an active approach to managing stress. Emotion-focused coping was the second most used strategy, with a

mean score of 3.08 (± 0.84). Avoidance coping was the least utilized strategy, with a lower mean score of 2.71 (± 0.91), suggesting that students preferred constructive methods over avoidance during OSCE-related stress [Table 2].

Table 2: Coping Strategies Used by Students

Coping Strategy Category	Mean Score	Standard Deviation
Problem-focused coping	3.42	± 0.78
Emotion-focused coping	3.08	± 0.84
Avoidance coping	2.71	± 0.91

Relationship Between Stress Levels and Coping Strategies

The correlation analysis revealed a statistically significant negative moderate correlation between problem-focused coping and stress levels ($r = -0.31$, $p = 0.002$), indicating that students who employed problem-focused strategies experienced lower stress. Emotion-focused coping showed a weak positive

correlation with stress ($r = +0.14$, $p = 0.068$), which was not statistically significant. In contrast, avoidance coping was strongly and positively correlated with stress levels ($r = +0.45$, $p = 0.000$), suggesting that higher use of avoidance strategies was associated with greater stress among nursing students during OSCEs [Table 3].

Table 3: Relationship Between Stress Levels and Coping Strategies

Coping Strategy	r-value	p-value	Interpretation
Problem-focused	-0.31	0.002	Negative moderate correlation
Emotion-focused	+0.14	0.068	Weak positive (NS)
Avoidance	+0.45	0.000	Strong positive correlation

Discussion

This study was based on the idea to evaluate the stress experience and coping mechanisms among nursing students at the university level, which was performed during Objective Structured Clinical Examinations (OSCEs). The results showed that most Study participants have a moderate and high level of stress with the significantly high use of avoidance and

emotion-focused coping strategies. These findings are also corroborated by existing evidence provided by Daniels et al. (2021), who also claimed that nursing students were actually feeling high levels of stress when they were being clinically assessed. This highlights the stressful atmosphere that OSCEs engender, especially in the case of students who are

either unprepared or who feel nervous when dealing with performance-evaluation.

Relatively, our results align with previous studies (Sanchez-Conde and Clemente-Suarez, 2021) that reported OSCEs, or practical exams, as cases that provoke acute stress in nursing students. Such results can be compared with the usage of avoidance coping in our study and indicate that students tend to seek temporary relief of emotions, instead of focusing on the stressor itself. Nevertheless, on the contrary, Hosseini et al. (2025) study revealed that problem-focused coping was more expected among nursing students and especially those who had already passed the earlier semesters. Such a difference can be explained by the various factors in terms of academic readiness, support by the educational institution, or the place of the tests in the academic schedule.

Moreover, our research showed that there is a great correlation between avoidance coping style and the amount of stress with which it is connected, whereas problem-focused coping style correlates negatively with stress. Chan et al. (2023) found similar results since the authors reported that students with problem-focused approaches are more likely to cope with academic stress. This difference leads to the necessity of the specific stress management training as a part of the curriculum in order to promote the adaptive coping styles.

The gender difference in the perception of stress was not a significant parameter in our research, but contrary to some of the previous results. As an example, Braier-Lorimer and Warren-Miell (2022) found that female nursing students experienced more stress and stated that it was caused by emotional sensitivity and increased academic expectations. Nevertheless, our results indicate that OSCEs related stress could be equally perceived by both sexes within the specified environment because of similar academic demands and grade requirements dictated by the format of such examinations.

It should be also noted that emotion-focused coping has not been strongly correlated with stress in our research yet, it was included as one of the strategies that are frequently employed. This suggests that there might be dependency on self-soothing measures including talking to a friend or utilizing recreations, which will only ease the situation as opposed to combating the academic stressor itself. Conversely, Kassabry (2023) stated that test anxiety can be limited through emotional control and mindfulness as it is quite an efficient practice, and these skills should be taught in nursing studies.

A limited implementation of the institution-based interventions and psychological preparation programs, perhaps, is one of the reasons why avoidance coping is so predominant in our study. The sampled colleges might have fewer preparatory materials as compared to the international institutions where the simulation labs and the OSCE preparation workshops are common. Such a deficiency in the preparatory support can compel the students to resort to less effective coping strategies. As they concentrated on, academic support mechanisms are important in determining coping behaviors and stress management outcomes in students (Hussain, Ullah, and Ullah 2025).

Lastly, these results add to the accumulating literature that states evidence-based interventions are needed within nursing education. It is extremely important that educational institutions not only assess academic achievement on the basis of OSCEs, but also estimate and improve psychological preparation of the students. Filling in these gaps, in turn, may translate into decreased stress and improved coping between future nurses, followed by their improved clinical competence and their ability to treat patients.

Conclusion

The researchers found out that undergraduate nursing students demonstrated moderate-high level of stress during the Objective Structured Clinical Examination (OSCEs) and a substantial percentage were using avoidance and emotion-focused coping reactions. The strength of the results dictated by the use of validated instruments and a representative sample is still outweighed by the patterns observed concerning the coping behavior that indicates that many students might not have effective strategies to work through the examined stress-related to exams. Another finding in the results was that there was a significant relationship between the level of stress and application of maladaptive coping mechanisms, which may have some significant implications on the academic performance and well-being of students. The results indicate the significance of covering psychological preparedness and academic training in the process of education of nursing staff.

Recommendations

1. **Integrate Stress Management Programs:** Nursing colleges should incorporate structured stress management and resilience-building programs into their curricula, including relaxation techniques,

cognitive-behavioral training, and mindfulness sessions.

2. Enhance OSCE Preparation: Institutions should provide simulation-based practice and preparatory workshops to build students' confidence and reduce performance anxiety associated with OSCEs.

3. Promote Adaptive Coping: Faculty and counselors should educate students on the benefits of problem-focused coping strategies and provide them with practical tools to implement them effectively.

4. Regular Psychological Support: Establishing counseling services within nursing colleges can help students seek support when overwhelmed and develop long-term coping strategies.

5. Peer Support Mechanisms: Encouraging the formation of peer support groups or mentoring systems can provide students with shared learning experiences and emotional reassurance during stressful academic periods.

6. Further Research: Future studies should explore interventions tailored to reduce stress and improve coping skills, especially across different academic years and regions to generalize findings.

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