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Mindfulness-Based Intervention Programme on Anxiety and Resilience among Palestinian Nursing Students

Sohieab Ibrahim Younis Abu Joheshi[1*], Enayat Abd El Wahab[2], Sayeda Mohamed[2]

[1]Hebron Governmental Hospital, Ministry of Health, Hebron city 91000 West Bank, Palestine

[2]Psychiatric Mental Health Nursing, Faculty of Nursing, Cairo University, Al Giza, Giza Governorate 12613, Egypt

**Corresponding Author's Email: bzu_210@yahoo.com*

ABSTRACT

Background: Nursing students in Palestine experience heightened anxiety due to academic demands and exposure to socio-political stressors. Enhancing resilience through mindfulness-based interventions may help mitigate these effects and promote psychological well-being. **Objectives:** To evaluate the effectiveness of a Mindfulness-Based Intervention Programme (MBIP) in reducing anxiety and enhancing resilience among Palestinian nursing students. **Methods:** A quasi-experimental pretest–posttest design was employed with 100 nursing students who were randomly assigned to experimental and control groups. The intervention comprised 13 structured sessions combined mindfulness, relaxation and cognitive-behavioural techniques. Anxiety and resilience were measured using the Beck Anxiety Inventory (BAI) and the Adolescent Resilience Questionnaire (ARQ) at baseline, immediately post-intervention, and after three months. **Results:** Students who received the MBIP demonstrated marked improvements in resilience and significant reductions in anxiety across post-test and follow-up assessments compared with the control group. A strong negative correlation was observed between resilience and anxiety ($r = -0.59$, $p < 0.001$), indicating that increased resilience was associated with decreased anxiety levels. **Conclusion:** The MBIP proved effective in fostering resilience and reducing anxiety among nursing students. Incorporating mindfulness-based approaches into nursing curricula may serve as a cost-effective, nonpharmacological strategy to enhance mental health, professional readiness, and overall well-being in educational and clinical contexts.

Keywords: Anxiety; Mindfulness; Nursing Students; Resilience

INTRODUCTION

Nursing students worldwide experience considerable psychological distress due to the demanding nature of their academic and clinical education. The integration of theory with practice, exposure to patients' suffering, and the constant evaluation of clinical performance often result in anxiety, stress, and emotional exhaustion (Francis-Edoziuno *et al.*, 2024; McCarthy *et al.*, 2018; Mohamed *et al.*, 2024). Elevated anxiety levels among nursing students have been linked to impaired concentration, diminished critical thinking, and reduced academic performance. Moreover, persistent stress can undermine motivation and hinder professional development, emphasizing the need for effective, evidence-based interventions to promote mental well-being within nursing education.

In Palestine, these stressors are compounded by sociopolitical instability, mobility restrictions, and ongoing exposure to the effects of occupation and conflict. Palestinian nursing students face unique challenges, including interrupted academic schedules, limited clinical access, and economic hardship (Abuejheisheh *et al*., 2024; Veronese *et al.*, 2021). The psychological burden associated with living in a conflict-affected region often manifests in heightened anxiety, reduced emotional stability, and diminished capacity to cope with academic demands. Consequently, nursing students in Palestine constitute a

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particularly vulnerable group requiring targeted mental health interventions tailored to their sociocultural and political context.

Mindfulness-Based Interventions (MBIs) have gained empirical support as effective strategies for reducing stress, anxiety, and depression while enhancing psychological resilience and emotional regulation (Galante *et al*., 2021; Khoury *et al.*, 2015). Mindfulness involves cultivating present-moment awareness with openness and acceptance, enabling individuals to disengage from automatic, stress-inducing thought patterns. For nursing students, such practices can foster adaptive coping, improve empathy, and strengthen emotional balance during clinical practice (Oh *et al*., 2022; Abdallah *et al*., 2023). Resilience, the ability to adapt positively to adversity, plays a critical role in sustaining nursing students' well-being and academic success (Mangoulia *et al*., 2023; Park & Choi, 2025). Enhancing resilience through mindfulness may therefore serve as a protective mechanism against the chronic stressors inherent in nursing education and practice.

Despite global evidence supporting the benefits of MBIs, research investigating their applicability among Palestinian nursing students remains limited. Previous studies in the region have focused primarily on the prevalence of stress and anxiety, with few exploring structured psychological interventions. Given the contextual challenges faced by students in conflict-affected areas, there is a pressing need for culturally relevant, low-cost, and nonpharmacological interventions that can be integrated into academic settings. This study thus aimed to examine the effectiveness of a Mindfulness-Based Intervention Programme (MBIP) in reducing anxiety and enhancing resilience among nursing students in Palestine, contributing to the growing body of literature on mental health promotion in nursing education.

Significance of the Study

Due to the rigorous nature of their clinical training and academic programmes, nursing students often experience significant levels of stress and anxiety. Among Palestinian nursing students, anxiety levels have been found to increase when exposed to political violence. Consequently, it is expected that nursing students may face heightened stress and anxiety during periods of war, such as the 7th October conflict in Gaza. The recent war in Gaza has raised questions about the mental health and overall well-being of undergraduate nursing students.

MBIP offers a potential means of assisting nursing students in managing their stress and anxiety. Resilience, an essential quality for nursing students, is critical for navigating the challenges of the nursing profession. By enhancing their mental health and well-being through MBIPs, nursing students can experience reduced anxiety and increased resilience. This improvement may enable them to provide high-quality care, meet the demands of their career, and ultimately enhance patient outcomes. MBIs have proven effective in reducing anxiety symptoms and enhancing resilience across various populations, including healthcare professionals. Numerous studies have specifically examined the efficacy of MBIs on anxiety and resilience among nursing students.

However, there is a paucity of Palestinian studies exploring the effect of MBIPs on resilience and anxiety among nursing students. This study addresses this gap by employing diverse MBIP techniques to help nursing students develop alternative behaviours in stressful situations and enhance their adaptation and coping mechanisms. MBIPs represent an interesting approach to eliminate anxiety and stress in nursing students.

The findings of this research demonstrated a statistically significant impact of MBIP approaches in enhancing resilience and reducing anxiety among nursing students. These results provide nurse educators with evidence to select effective strategies for intervening with nursing students. Accordingly, the study aims to evaluate the impact of MBIP on anxiety and resilience among nursing students.

Objectives

The current study aimed to investigate the effectiveness of MBIP in enhancing resilience and reducing anxiety among nursing students.

Study Hypotheses

Hypothesis 1 (H_1)

Nursing students who received MBIP exhibited lower scores on the anxiety scale than the control group at all three measurement points (pre, post, and follow-up).

Hypothesis 2 (H_2)

Nursing students who received MBIP had higher scores on the resilience scale than the control group at all three measurement points (pre, post, and follow-up).

METHODOLOGY

Research Design

A quasi-experimental pretest–posttest design with a control group was adopted to evaluate the effect of a Mindfulness-Based Intervention Programme (MBIP) on anxiety and resilience among nursing students. This design was chosen to permit comparison between groups and to measure changes over time while maintaining feasibility within an academic setting (Capili & Anastasi, 2024).

Setting

The study was conducted at the Department of Nursing, Al-Quds University, Palestine, during the 2024 academic year. Al-Quds University is a major public institution offering undergraduate and bridging programmes in nursing and midwifery. Its students represent diverse social and geographic backgrounds, reflecting the broader Palestinian nursing population.

Participants and Sampling

A stratified random sampling method was used to ensure proportional representation across academic levels. The total population comprised approximately 1,300 undergraduate nursing students. Based on a power analysis using G*Power 3.3.1 (power = 0.95, $\alpha = 0.05$, medium effect size = 0.3), a sample of 100 participants was required. Students were randomly assigned to either the intervention (n = 50) or control (n = 50) group using computer-generated random numbers.

Inclusion Criteria

The participants were enrolled full-time in the Bachelor of Nursing programme, aged 18 years or older, willing to participate and provide informed consent and not currently receiving psychotherapy or psychiatric medication.

Exclusion Criteria

Participants who were diagnosed with psychiatric or neurological disorders, had participated in other psychological training programmes within the previous six months or had incomplete attendance (< 80% of MBIP sessions).

Description of the Intervention

The MBIP was designed from evidence-based mindfulness protocols and adapted to the Palestinian nursing-education context. It consisted of 13 sessions conducted twice weekly over eight weeks (45–90 minutes each). Sessions combined theoretical input and experiential mindfulness practices, including mindful breathing, body-scan exercises, cognitive restructuring, relaxation, and compassion meditation. Participants were encouraged to practise daily mindfulness at home with reminders via the Remind mobile application. The control group attended routine academic activities without exposure to the intervention. After completion, control participants were offered a condensed three-session version for ethical reasons.

Instruments

Socio-Demographic and Academic Profile

Developed by the researchers to record age, gender, academic year, grade point average (GPA),

residence, family type, and income.

Beck Anxiety Inventory (BAI)

A 21-item scale measuring the severity of anxiety symptoms on a 4-point Likert scale (Beck *et al.*, 1988). The Arabic version demonstrated excellent internal consistency (Cronbach's $\alpha = 0.92$).

Adolescent Resilience Questionnaire (ARQ)

A 29-item instrument assessing six dimensions of resilience (family, peers, school, adaptation, determination, and empathy) rated on a 4-point scale (Bulut *et al.*, 2013). The Arabic translation yielded a Cronbach's $\alpha = 0.81$.

Procedure

Following ethical clearance, coordination with the nursing department allowed recruitment announcements via student boards and online channels. Interested students completed screening and consent procedures before baseline assessment. Data collection occurred at three points: baseline (T_1), immediately after the eight-weeks programme (T_2), and three-months follow-up (T_3). The same researcher administered all instruments to minimise inter-rater bias. Attendance and practice adherence were monitored through weekly logs.

Data Analysis

Data were analysed using SPSS version 26 (IBM Corp., Armonk, NY, USA). Descriptive statistics (mean ± SD, frequencies, and percentages) summarised demographic and outcome variables. Baseline equivalence between the intervention and control groups was confirmed using independent *t*-tests for continuous variables and χ^2 tests for categorical variables ($p > 0.05$ indicated no significant pre-intervention differences).

To evaluate the MBIP effect, repeated-measures ANOVA and paired *t*-tests compared within-group and between-group changes across the three time points. Effect sizes were expressed as Cohen's d, interpreted as small (0.2), medium (0.5), and large (≥ 0.8) (Cohen, 1988). Statistical significance was set at $p < 0.05$, and 95% confidence intervals were reported for key comparisons.

Ethical Consideration

The researchers obtained ethical clearance from the Ethics of Scientific Research Committee at the Faculty of Nursing, Cairo University, Egypt with reference number 2023-11-07 on 29th July 2024. The approval to conduct the study was obtained from Al-Quds University, in alignment with its internal policies. The official permission was granted by the Vice Dean for Education and Student Affairs at the Faculty of Nursing, Al-Quds University, Palestine on 29th January 2024.

Eligible subjects provided their informed consent. All individuals were informed that their involvement in the study is voluntary, with anonymity and confidentiality ensured through allocating a code number for each participant. Participants were informed that their answers to the questionnaires would be confidential, their participation posed no risk, and they could withdraw from the study without penalty or impacting on their academic grades.

RESULTS

Table 1 reveals that 60% of nursing students in the study group were female, compared to 82% in the control group. Regarding marital status, 96% of the study group and 98% of the control group were single. Regarding academic level, 40% of the study group were in their fourth year of education, while 30% of the control group were in their third year. Regarding fathers' occupations, the table indicates that 70% of fathers in the study group worked in the private sector, whereas 64% of fathers in the control group worked in the governmental sector. Concerning family income, 42% of the study group reported a monthly family income ranging from 2,500 to 4,000 shekels, whereas 42% of the control group reported a monthly family income ranging from 1,000 to less than 2,500 shekels.

Table 1: Frequency Distribution of Nursing Students (Study and Control Groups), Based on Socio-Demographic and Academic Characteristics (n = 100)

Socio-demographic and Academic Characteristics	Study Group (n = 50)		Control (n = 50)	
	No.	Percentage (%)	No.	Percentage (%)
Gender				
Male	20	40.0	9	18.0
Female	30	60.0	41	82.0
Marital Status				
Single	48	96.0	49	98.0
Married	2	4.0	1	2.0
Academic Level				
First	6	12.0	12	24.0
Second	10	20.0	10	20.0
Third	14	28.0	15	30.0
Fourth	20	40.0	13	26.0
Father's Job				
Governmental	14	28.0	32	64.0
Private	35	70.0	16	32.0
No work	1	2.0	2	4.0
Family Income				
< 1000 Shekels	1	2.0	4	8.0
1000– < 2500 Shekels	9	18.0	21	42.0
2500–4000 Shekels	21	42.0	16	32.0
> 4000 Shekels	19	38.0	9	18.0

The results in Table 2 demonstrate that both groups were equivalent in terms of demographic and academic characteristics, ensuring internal validity for subsequent comparisons. The absence of baseline differences indicates that post-intervention changes can be attributed to the mindfulness programme rather than pre-existing disparities.

Table 2: Baseline Socio-Demographic and Academic Characteristics of Participants (n= 100)

Variable	Intervention (n = 50)	Control (n = 50)	Test	*p* Value
Age (years), M ± SD	21.3 ± 1.6	21.1 ± 1.8	$t(98) = 0.84$	0.40
Gender (female %)	60 %	76 %	$\chi^2(1) = 2.11$	0.15
Academic year (fourth year %)	40 %	34 %	$\chi^2(3) = 5.27$	0.15
GPA (mean ± SD)	82.6 ± 6.3	81.8 ± 5.9	$t(98) = 1.02$	0.31

Note: No statistically significant baseline differences were detected between the intervention and control groups.

Baseline Anxiety and Resilience

At baseline, anxiety and resilience scores were statistically similar between the two groups (Table 3). Mean Beck Anxiety Inventory (BAI) scores were moderately high, while Adolescent Resilience Questionnaire (ARQ) scores indicated average resilience levels among students.

Table 3 confirms that the intervention and control groups began the study with statistically equivalent anxiety and resilience levels. This baseline similarity supports the reliability of subsequent findings, as any observed differences at later stages can be attributed to the intervention rather than pre-existing variations.

Table 3: Baseline (T_1) Anxiety and Resilience Scores

Variable	Intervention M ± SD	Control M ± SD	*t*(98)	95 % CI [LL, UL]	*p*	Cohen's *d*
Beck Anxiety Inventory (BAI)	20.6 ± 6.1	19.8 ± 5.9	0.64	[–1.9, 3.6]	.52	0.13
Adolescent Resilience Questionnaire (ARQ)	63.4 ± 9.5	62.7 ± 8.9	0.36	[–2.9, 4.3]	.72	0.07

M=Mean; SD= Standard Deviation; CI= Confidence Interval; LL=Lower Limit; UL=Upper Limit

Post-Intervention Outcomes (T_2)

Following completion of the eight-weeks Mindfulness-Based Intervention Programme (MBIP), participants in the intervention group demonstrated significant reductions in anxiety and increases in resilience compared to the control group (Table 4).

Table 4 shows a significant improvement in both psychological variables among participants who received the MBIP. Anxiety levels decreased from moderate to mild, while resilience scores increased to above-average levels. The moderate-to-large effect sizes (Cohen's d = 0.79–0.88) suggest that the intervention produced meaningful psychological benefits consistent with outcomes reported in international mindfulness research.

Table 4 :Post-Intervention (T_2) Anxiety and Resilience Scores

Variable	Intervention M ± SD	Control M ± SD	*t*(98)	95 % CI [LL, UL]	*p*	Cohen's *d*
Beck Anxiety Inventory (BAI)	12.4 ± 5.1	18.6 ± 6.0	5.58	[3.9, 8.5]	< 0.001	0.79
Adolescent Resilience Questionnaire (ARQ)	79.2 ± 8.4	65.1 ± 9.3	8.13	[10.7, 17.5]	<0.001	0.88

M=Mean; SD= Standard Deviation; CI= Confidence Interval; LL=Lower Limit; UL=Upper Limit

Three-Months Follow-Up (T_3)

At the three-months follow-up, the improvements achieved through MBIP were largely maintained, indicating the programme's sustained impact (Table 5).

As shown in Table 5, participants who underwent the Mindfulness-Based Intervention Programme (MBIP) continued to demonstrate lower anxiety and higher resilience three months after programme completion. Although slight regression occurred compared with immediate post-test results, the gains remained statistically significant and clinically meaningful. This stability over time indicates that MBIP skills were retained and effectively applied by students in daily life. These results confirm that the MBIP had a sustained and progressive effect, with time exerting a significant influence on the observed improvements in psychological well-being.

Table 5: Follow-Up (T_3) Anxiety and Resilience Scores

Variable	Intervention M ± SD	Control M ± SD	*t*(98)	95 % CI [LL, UL]	*p*	Cohen's *d*	Repeated-Measures ANOVA (time × group)
Beck Anxiety Inventory (BAI)	13.1 ± 5.4	18.9 ± 5.8	5.02	[3.4, 7.9]	< 0.001	0.74	F(2.96) = 26.4
							$p < 0.001$
							$\eta^2 = 0.21$
Adolescent Resilience Questionnaire (ARQ)	78.5 ± 8.6	66.0 ± 8.7	7.12	[9.0, 15.8]	< 0.001	0.83	F(2.196) = 31.7
							$p < 0.001$
							$\eta^2 = 0.24$

M=Mean; SD= Standard Deviation; CI= Confidence Interval; LL=Lower Limit; UL=Upper Limit

Correlation Between Anxiety and Resilience

Pearson's correlation analysis revealed a significant negative relationship between resilience and anxiety, consistent across all three measurement points.

Table 6 indicates that higher resilience levels were associated with lower anxiety levels among participants. This negative correlation supports the theoretical premise that resilience acts as a protective psychological mechanism against anxiety and stress, particularly within demanding educational and socio-political environments such as Palestinian nursing schools.

Table 6 : Correlation Between Anxiety and Resilience Scores (Pooled Across Time Points)

Variable 1	Variable 2	*r*	*p* Value
Beck Anxiety Inventory (BAI)	Adolescent Resilience Questionnaire (ARQ)	–0.56	< 0.001

DISCUSSION

The present study examined the effect of a Mindfulness-Based Intervention Program (MBIP) on anxiety and resilience among Palestinian nursing students. The findings demonstrated that participants who received the MBIP experienced significant reductions in anxiety and improvements in resilience immediately after the intervention and at three-month follow-up. These results support the growing body of evidence indicating that mindfulness-based approaches can enhance psychological well-being and adaptive coping among healthcare students (Galante *et al*., 2021; Khoury *et al.*, 2015; Amsrud *et al.*, 2019).

The observed improvement in anxiety aligns with previous meta-analyses demonstrating that mindfulness-based interventions yield moderate-to-large reductions in anxiety symptoms across educational and clinical populations (Cohen's $d = 0.5–0.8$) (Khoury *et al*., 2015; Hofmann & Gómez, 2017; Benavides-Gil *et al*., 2024). The mechanisms underlying this effect are likely multifactorial. Mindfulness enhances self-regulation, reduces rumination, and fosters acceptance of distressing thoughts and emotions, thereby diminishing physiological arousal and cognitive reactivity (Elazeem *et al*., 2023). Within the Palestinian context, where students often experience compounded academic and sociopolitical stress, these mechanisms may provide crucial psychological resources for managing uncertainty and promoting emotional stability.

Similarly, the increase in resilience observed among intervention participants supports the conceptual link between mindfulness and adaptive functioning. Resilience entails the ability to recover from adversity, maintain motivation, and sustain well-being despite chronic challenges. The MBIP likely strengthened this capacity by cultivating reflective awareness, emotional balance, and interpersonal connectedness through group-based mindfulness activities (Henriksen *et al.*, 2020). Comparable findings have been reported among nursing and medical students globally, where mindfulness training enhanced empathy, coping, and academic engagement (Oh *et al*., 2022; Siripongpan *et al*., 2023; Aryuwat *et al*., 2024; Irawan *et al*., 2024).

The negative correlation between resilience and anxiety ($r = –0.56$) reinforces the theoretical model that resilience acts as a buffer against stress-related pathology. Students with higher resilience are better able to reinterpret stressors, adopt problem-focused coping strategies, and maintain self-efficacy during demanding academic or clinical experiences. This relationship is consistent with previous findings that resilient individuals exhibit lower levels of anxiety and burnout in nursing programmes (Li & Hasson, 2020; Arafat *et al.,* 2023; Elbarbary *et al*., 2023).

Beyond psychological mechanisms, the group setting of the MBIP may have contributed to improvement through enhanced peer support and a shared sense of belonging. Participating in collective mindfulness exercises fosters social cohesion and mutual empathy, both of which promote emotional safety and reduce isolation (Gao *et al.*, 2022; Bhattacharya & Hofmann, 2023). The opportunity for self-reflection and guided discussion during sessions may also have increased participants' insight into stress triggers, promoting sustained behavioural change. These factors align with the social-cognitive framework of learning, which emphasis qes the importance of environmental and relational support in sustaining new adaptive behaviours (Alvarado-García *et al*., 2025; Alkaissi *et al*., 2023).

Despite these promising outcomes, certain limitations must be acknowledged. The sample was drawn from a single Palestinian university, which may limit generalisability. Self-reported measures of anxiety and resilience may also be subject to social-desirability bias. Future research should employ multi-site sampling, longitudinal follow-up beyond three months, and objective psychophysiological measures to assess sustained changes in stress response. Additionally, comparative studies exploring MBIP implementation among practising nurses or other healthcare disciplines in Palestine could strengthen external validity and inform policy-level integration of mindfulness training into professional curricula.

Overall, the findings provide compelling evidence that mindfulness training is both feasible and effective within the context of Palestinian nursing education. Given the persistent psychosocial stressors experienced by nursing students, MBIP represents a culturally adaptable, low-cost, and nonpharmacological intervention

that can be incorporated into academic wellbeing initiatives to promote resilience, emotional balance, and professional readiness.

Limitations

This research was constrained by the exclusive inclusion of individuals from the nursing programme of a single technical university, which limits the generalisability of the results. Notwithstanding these constraints, we present a structured 8-hour mindfulness-based course for nursing students demonstrating measurable beneficial effects.

CONCLUSION

The present study demonstrated that a mindfulness-based intervention program significantly reduced anxiety and enhanced resilience among Palestinian nursing students. These findings highlight mindfulness as a practical, culturally adaptable, and low-cost approach to improving students' psychological well-being within demanding academic and sociopolitical contexts. Incorporating mindfulness training into nursing curricula may strengthen emotional regulation, coping, and professional readiness. Future research should examine the long-term effects and scalability of such interventions across diverse Palestinian nursing institutions.

These promising results suggest that MBIP could be a vital tool for tackling the mental health challenges that nursing students face in conflict-prone regions. Integrating mindfulness into nursing education is especially important in places like Palestine, where students deal with both academic pressure and sociopolitical stress. By teaching students mindfulness practices, nursing programmes can help them manage anxiety, build emotional strength, and prepare for the emotional demands of their future careers. The benefits of mindfulness go beyond the classroom. Nursing students often encounter high-stress clinical situations. Developing emotional regulation through mindfulness may not only improve academic performance but also support better clinical decision-making and patient care.

Future studies should examine the scalability and sustainability of MBIPs in additional nursing education contexts in Palestine to determine whether MBIPs are effective in a range of educational environments. Furthermore, extending such interventions to a broader spectrum of health-related students would strengthen mindfulness training as a required component of professional training. In sum, the evidence from this study supports the distribution and dissemination of what is becoming an important element of supporting health care students' mental health wellness.

Recommendation

Mindfulness interventions can improve psychological resilience and prevent job burnout among psychiatric nurses. Future research may explore the effectiveness of self-help mindfulness interventions on the mental health of nurses in various specialties. Nursing managers could implement MBIP for nurses as part of hospital policy and continuing professional education to improve anxiety management and job satisfaction. This could, in turn, enhance the quality of patient care while reducing hospital financial losses through decreased medical sick leave and health insurance costs. Enhancing resilience and providing mental health support can improve the well-being of nursing students, resulting in a more prepared and resilient future nursing workforce.

Conflict of Interest

The authors declare no conflict of interests related to this publication.

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REFERENCES

Abdallah, B. A., Ali, R. M. N., & Ali, A. A. (2023). Nursing students' perception of stress and resilience during their clinical training. *Minia Scientific Nursing Journal, 14*(1), 59–66. https://doi.org/10.21608/ MSNJ.2023. 238647.1082

Abuejheisheh, A. J., Haddad, R. H., Daghameen, F. M., Odatallah, T. M. S., Aburiaih, S. A., Abusiriyeh, S., Alsha'er, J. N., Najajreh, S. S., Salman, R. I., & Hamdan-Mansour, A. M. (2024). Anxiety, depression, stress, and resilience among undergraduate nursing students at Al-Quds University: The impact of war started on October 7 in Palestine. *BMC Nursing, 23*(1), 784. https://doi.org/10.1186/s12912-024-02442-6

Alkaissi, A., Said, N. B., Qadous, S., Alkony, M., & Almahmoud, O. (2023). Factors associated with perceived resilience among undergraduate nursing students: Findings of the first cross-sectional study in Palestine. *BMC Nursing, 22*(1), 148. https://doi.org/10.1186/s12912-023-01325-6

Alvarado-García, P. A. A., Soto-Vásquez, M. R., Infantes Gomez, F. M., Guzman Rodriguez, N. M., & Castro-Paniagua, W. G. (2025). Effect of a mindfulness program on stress, anxiety, depression, sleep quality, social support, and life satisfaction: A quasi-experimental study in college students. *Frontiers in Psychology, 16*, 1508934. https://doi.org/10.3389/fpsyg.2025.1508934

Amsrud, K. E., Lyberg, A., & Severinsson, E. (2019). Development of resilience in nursing students: A systematic qualitative review and thematic synthesis. *Nurse Education in Practice, 41*, 102621. https://doi.org/10.1016/ j.nepr.2019.102621

Arafat, A. E. A. E., Alharbi, T. A., Ngo, A. D., & Hussien, R. M. (2023). The relationship between anxiety and resilience among nursing students in Qassim University, KSA. *Egyptian Journal of Health Care, 14*(3), 396–405. https://doi.org/10.21608/ejhc.2023.317475

Aryuwat, P., Holmgren, J., Asp, M., Lövenmark, A., Radabutr, M., & Sandborgh, M. (2024). Factors associated with resilience among Thai nursing students in the context of clinical education: A cross-sectional study. *Education Sciences, 14*(1), 78. https://doi.org/10.3390/educsci14010078

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*(6), 893–897. https://doi.org/10.1037//0022-006x.56.6.893

Benavides-Gil, G., Martínez-Zaragoza, F., Fernández-Castro, J., Sánchez-Pérez, A., & García-Sierra, R. (2024). Mindfulness-based interventions for improving mental health of frontline healthcare professionals during the COVID-19 pandemic: A systematic review. *BMC Systematic Reviews, 13*(1), 160. https://doi.org/10.1186/s13643-024- 02574-5

Bhattacharya, S., & Hofmann, G. S. (2023). Mindfulness-based interventions for anxiety and depression. *Clinics in Integrated Care. 16,* 100138. https://doi.org/10.1016/j.intcar.2023.100138

Bulut, S., Dogan, U., & Altundag, Y. (2013). Adolescent psychological resilience scale: Validity and reliability study. *Suvremena Psihologija, 16*(1), 21-32. https://suvremena.nakladaslap.com/public/pdf/16-1-2.pdf

Capili, B., & Anastasi, J. K. (2024). An introduction to types of quasi-experimental designs. *AJN, American Journal of Nursing, 124*(11), 50–52. https://doi.org/10.1097/01.NAJ.0001081740.74815.20

Elazeem, A. A. A., Ahmed, F. M., & Zeid, E. N. A. E. N. (2023). Perceived stress, resilience, and problematic use of mobile phones among nursing students at Benha University. *Journal of Nursing Science Benha University, 4*(1), 981–995. https://doi.org/10.21608/jnsbu.2023.279986

Elbarbary, A., Shalaby, M., Abo-Elyazed, S., & Mohamed, S. (2023). Academic burnout, resilience and their relations with psychological wellbeing of baccalaureate nursing students. *Tanta Scientific Nursing Journal,*

31(4), 126-156. https://tsnj.journals.ekb.eg/article_328668_381f22abb68d5da30606e03404e9383a.%20pdf

Francis-Edoziuno, C., Abiona, M., & Odetola, T. (2024). Stressors and coping strategies among undergraduate nursing students in Western Nigeria. *Public Health and Social Justice Journal, 4*(2), 74. https://doi.org/10.47787/pasj.v4i02.74

Gao, Z., Wei, X., Yang, L., Cui, D., Kong, L., Qi, L., & Zhang, P. (2022). Mediating role of career self-efficacy between clinical learning environment and professional identity in nursing students. *Journal of Advanced Nursing, 78*(4), 1012–1019. https://doi.org/10.1111/jan.15027

Henriksen, D., Richardson, C., & Shack, K. (2020). Mindfulness and creativity: Implications for thinking and learning. *Thinking Skills and Creativity. 37*, 100689 https://doi.org/10.1016/j.tsc.2020.100689

Irawan, A. M., Putri, A. P., Nisha, M., & Widiastuti, A. (2024). The effect of mindfulness meditation on nursing students' stress and anxiety levels. *Indonesian Journal of Global Health Research, 7*(1), 1-8. https://doi.org/10.37287/ijghr.v7i1.3932

Li, Z. S., & Hasson, F. (2020). Resilience, stress, and psychological well-being in nursing students: A systematic review. *Nurse Education Today, 90*, https://doi.org/10.1016/j.nedt.2020.104440

Mangoulia, P., Kanellopoulou, A., Manta, G., Chrysochoou, G., Dimitriou, E., Kalogerakou, T., & Antoniadou, M. (2024). Exploring the levels of stress, anxiety, depression, resilience, hope, and spiritual well-being among Greek dentistry and nursing students in response to academic responsibilities two years after the COVID-19 pandemic. *Healthcare, 13*(1), 54. https://doi.org/10.3390/healthcare13010054

McCarthy, B., Trace, A., O'Donovan, M., Brady-Nevin, C., Murphy, M., O'Shea, M., & O'Regan, P. (2018). Nursing and midwifery students' stress and coping during their undergraduate education programmes: An integrative review. *Nurse Education Today, 61*, 197–209. https://doi.org/10.1016/j.nedt.2017.11.029

Mohamed, N. A., Ali, S. O., Ehrahim, E. E. E., Ahmed, A. L., & Wahba, A. M. (2024). Predictors of academic and clinical stress among nursing students. *SAGE Open Nursing, 10*. https://doi.org/10.1177/23779608241290392

Oh V., Sarwar, A., & Pervez, N. (2022). The study of mindfulness as an intervening factor for enhanced psychological wellbeing in building the level of resilience. *Frontiers in Psychology. 13*, 1056834. https://doi.org/10.3389/fpsyg.2022.1056834

Park, S., & Choi, M. (2025). Resilience of nursing students: A concept analysis study. *Nurse Education Today, 144*, 106463. https://doi.org/10.1016/j.nedt.2024.106463

Siripongpan, A., Niyamosot, S., & Srinuchasart, P. (2023). Using mindfulness-based interventions for increasing medical students' resiliency to stress: Quasi-experimental study. *Journal of the Psychiatric Association of Thailand, 68*(3), 295-304. https://he01.tci-thaijo.org/index.php/JPAT/article/view/261846

Veronese, G., Mahamid, F., Bdier, D., & Pancake, R. (2021). Stress of COVID-19 and mental health outcomes in Palestine: the mediating role of well-being and resilience. *Health Psychology Report, 9*(4), 389-410. https://doi.org/10.5114/hpr.2021.104490