Original Research Article

ASSESSMENT OF REFLECTIVE MINDFULNESS AND EMOTIONAL REGULATION TRAINING IN NURSING STUDENTS FOR EMOTIONAL AND PSYCHOLOGICAL REGULATION

MUNAWAR S, NISA QU, TAHIRA Y, TAJ S[*]

College of Nursing, Nishtar Medical University (NMU), Multan, Pakistan
*Corresponding author email address: shazyiataaj80@gmail.com

ABSTRACT

Background: *Nursing students experience considerable academic workload, clinical exposure, and performance pressures that can adversely affect emotional regulation, psychological wellbeing, and academic functioning. In low and middle-income countries, limited access to structured mental health support within educational institutions further amplifies these challenges. Reflective mindfulness combined with emotional regulation training has emerged as a promising, low-cost intervention to enhance psychological resilience, yet robust controlled evidence from such settings remains scarce.* **Objective:** *To evaluate the effectiveness of an eight-week reflective mindfulness and emotional regulation training program on emotional regulation, mindfulness, perceived stress, and psychological wellbeing among undergraduate nursing students.* **Study Design:** *Prospective controlled trial.* **Settings:** *A tertiary care nursing institute in Pakistan.* **Duration of Study:** *January to July 2025.* **Methods:** *Ninety undergraduate nursing students were enrolled and randomly assigned to an intervention group receiving reflective mindfulness and emotional regulation training in addition to routine academics (n = 45) or a control group receiving only the usual academic routine (n = 45). Primary outcomes were emotional regulation assessed using the Difficulties in Emotion Regulation Scale and mindfulness assessed using the Mindful Attention Awareness Scale. Perceived stress and psychological wellbeing were evaluated using the Perceived Stress Scale and WHO 5 Wellbeing Index. Secondary outcomes included anxiety, depressive symptoms, sleep quality, and self-rated academic functioning. Assessments were conducted at baseline and at 8 weeks post-intervention. Analysis of covariance was applied to compare post-intervention outcomes between groups while adjusting for baseline values. Effect sizes were calculated using Cohen's d.* **Results:** *Baseline demographic and psychological characteristics were comparable between groups. At eight weeks, the intervention group demonstrated significantly greater improvements in emotional regulation, mindfulness, perceived stress, and wellbeing compared with the control group (all p < 0.001). Moderate to large effect sizes were observed for emotional regulation (d = 0.95), perceived stress (d = 0.90), and mindfulness (d = 0.84). Significant reductions were also noted in anxiety, depressive symptoms, and sleep disturbances, along with improvements in self-rated academic functioning. Clinically meaningful stress reduction was achieved by 66.7 per cent of students in the intervention group compared with 22.2 per cent in the control group (p < 0.001). Participation in the training program independently predicted stress reduction after multivariable adjustment.* **Conclusion:** *Reflective mindfulness and emotional regulation training is an effective intervention for improving emotional regulation, reducing psychological distress, and enhancing wellbeing among nursing students. Incorporating such structured programs into undergraduate nursing curricula may substantially strengthen students' resilience and academic functioning, particularly in resource-constrained educational settings.*

Keywords: Mindfulness, Emotional Regulation, Nursing Students, Psychological Wellbeing, Stress Management

INTRODUCTION

Nursing education demands a deep understanding and management of emotional and psychological states due to the inherent stressors of the profession. Reflective mindfulness and emotional regulation training have emerged as essential components in developing nursing students' psychological resilience and overall wellbeing. The integration of mindfulness practices in nursing curricula serves a dual purpose: enhancing students' emotional intelligence and equipping them with practical tools for emotion regulation, which are critical for both personal health and professional practice.

Research indicates that mindfulness training can significantly improve emotional regulation capabilities among nursing students. For example, Kou et al. emphasise that mindfulness training promotes emotional intelligence and supportive communication, which are vital for fostering better relationships between nurses and patients (1). Lee and Jang found that socio-cognitive mindfulness mediates not only emotion regulation but also academic emotions, demonstrating the positive impact of mindfulness on students' emotional states (2). Furthermore, Yu et al. affirm that mindfulness practices help individuals recognise and manage emotions more effectively, leading to a reduction in negative emotional experiences (3).

Emotional regulation is crucial in nursing, as many studies document its role in mitigating psychological stress and preventing burnout (4-6). Salvarani et al. showed that mindfulness programs in academic settings notably reduced anxiety levels among nursing students, underscoring the necessity of emotional resilience training in high-pressure environments (7). Additionally, Costa et al. argue that dispositional mindfulness significantly enhances emotional regulation—a finding corroborated by various studies (8, 9). Studies also reveal that students who develop strong emotional regulation skills exhibit lower stress levels and greater psychological wellbeing (10).

In the context of Pakistani nursing students, high levels of academic and clinical stress are exacerbated by the pressures of a healthcare system facing rapid changes and socio-political challenges. This demographic experiences emotional instability and other mental health issues, making mindfulness training particularly relevant (11, 12). By incorporating reflective mindfulness practices into nursing education, these challenges can be addressed, promoting personal coping strategies and fostering a culture of empathy essential for patient care in Pakistan. The positive impacts of emotional intelligence and regulation training can enhance the competencies of

nursing students and improve the overall healthcare delivery system by nurturing compassionate and resilient caregivers (13-15).

In conclusion, reflective mindfulness and emotional regulation training are integral components of nursing education, providing the necessary tools to navigate the emotional complexities of healthcare. Emphasising these practices within nursing curricula can enhance emotional intelligence, reduce stress, and improve the quality of patient care.

In Pakistan, the growing demand for healthcare professionals, coupled with limited resources, often leads to heightened stress among nursing students. Addressing these stressors through mindfulness training can improve emotional regulation, enabling future nurses to manage their psychological wellbeing while delivering empathetic patient care. The integration of mindfulness strategies into nursing education may serve as a preventive measure against burnout and emotional exhaustion, ultimately improving healthcare outcomes and fostering a more resilient nursing workforce.

METHODOLOGY

A prospective controlled trial was conducted at a tertiary care hospital nursing institute in Pakistan between January to July 2025. Undergraduate nursing students enrolled in regular academic programs were approached through class announcements and posted notices. Eligibility criteria included age 18 years or older, current enrollment in the nursing program, ability to participate in group sessions, and willingness to provide informed consent. Students receiving active psychiatric crisis care or unable to attend at least 75% of sessions were excluded to ensure safe participation and adequate exposure to the intervention. A total sample size of 90 was targeted to provide sufficient power for detecting moderate group differences in stress and emotion regulation outcomes, accounting for anticipated attrition. Ethical approval was obtained from the institutional review committee, and written informed consent was obtained from all participants prior to the baseline assessment.

Participants were randomly assigned to an intervention group (reflective mindfulness plus emotional regulation training) or a control group (usual academic routine with access to standard student support services). Allocation was performed using a structured approach to balance academic year and gender distribution across groups. The intervention comprised an 8-week program delivered in weekly 60- to 90-minute small-group sessions (10 to 15 students per group), facilitated by a trained nurse educator, with supervision from a clinical psychologist. The curriculum integrated brief mindfulness practices (breath awareness, body scan, grounding, mindful movement), reflective journaling, values clarification, and skills from evidence-based emotion regulation frameworks, including identifying emotion cues, cognitive reappraisal, distress tolerance, impulse control strategies, and interpersonal effectiveness. Each session included guided practice, reflective discussion on clinical and academic stressors, and home practice assignments of 10 to 15 minutes per day, supported by practice logs. Fidelity was supported using a session checklist and periodic observation by a senior faculty member.

Primary outcomes were emotional regulation and mindfulness, assessed using standardised self-report instruments validated in student populations: the Difficulties in Emotion Regulation Scale (DERS) and the Mindful Attention Awareness Scale (MAAS). Perceived stress (PSS-10) and wellbeing (WHO-5) were included as co-primary indicators of psychological regulation. Secondary outcomes included anxiety (GAD-7), depressive symptoms (PHQ-9), sleep quality (Pittsburgh Sleep Quality Index), and self-rated academic functioning on a 0 to 10 numeric scale. Baseline

assessments were completed before program initiation, and follow-up assessments were completed at 8 weeks after the final session, administered in supervised classroom settings to reduce missingness. Internal consistency of scales was evaluated using Cronbach's alpha, and missing item responses were handled using standard scoring rules; participants with extensive missing data on a given scale were excluded from that scale's analysis but retained for other outcomes.

Data were analyzed using SPSS. Continuous variables were summarised as mean ± standard deviation or median with interquartile range as appropriate, while categorical variables were summarised as frequencies and percentages. Baseline comparability between groups was assessed using independent sample t-tests or Mann-Whitney U tests for continuous variables and chi-square or Fisher's exact tests for categorical variables. Primary efficacy analyses compared change scores between groups using analysis of covariance models, adjusting for baseline values to reduce regression-to-the-mean and improve precision. Effect sizes were quantified using Cohen's d for between-group differences in change. Clinically meaningful improvement was defined a priori for thresholds of perceived stress and emotion dysregulation, and responder rates were compared using risk ratios with 95% confidence intervals. Multivariable logistic regression was used to identify predictors of clinically meaningful stress reduction, with covariates selected based on clinical relevance and prior evidence, including age, gender, academic year, and baseline symptom burden. Statistical significance was set at $p < 0.05$ with two-sided testing.

RESULTS

A total of 90 undergraduate nursing students were enrolled (mean age 21.4 ± 1.6 years; range 18 to 25). Female students constituted 72.2% (n = 65) and male students 27.8% (n = 25). Participants were allocated to reflective mindfulness plus emotional regulation training (intervention, n = 45) or usual academic routine (control, n = 45). Baseline demographic and psychological characteristics were comparable across groups (all p-values > 0.05).

At baseline, emotional dysregulation and stress were moderate, with no significant group differences. Post-intervention, the intervention group demonstrated a statistically significant improvement in emotional regulation (lower DERS scores), higher mindfulness (MAAS), and reduced perceived stress (PSS-10) compared with controls. The magnitude of improvement was moderate-to-large across primary outcomes after adjustment for baseline scores (Table 2).

Clinically relevant anxiety and depressive symptoms were common at baseline. The intervention group achieved significant reductions in anxiety (GAD-7) and depressive symptoms (PHQ-9), along with improved sleep quality (PSQI) and self-reported academic functioning compared with controls (Table 3).

The most significant improvements were observed in impulse-control difficulties and limited access to emotion-regulation strategies, indicating improved ability to tolerate distress and respond more adaptively in emotionally intense situations (Table 4).

A clinically meaningful reduction in stress was defined a priori as a decrease of at least 5 points on PSS-10. This threshold was met by 66.7% of the intervention group compared with 22.2% of controls (risk Ratio 3.00; p < 0.001). (Table 5)

Multivariable logistic regression (adjusted for age, gender, academic year, baseline PSS-10, and baseline DERS) showed that participation in the training independently predicted clinically meaningful stress reduction; higher baseline stress also predicted improvement, suggesting greater benefit among more distressed students. (Table 5)

Table 1. Socio-demographic and academic characteristics of nursing students (N = 90).

Variable	Total (N=90) n (%)	Intervention (n=45) n (%)	Control (n=45) n (%)	p-value
Age (years), mean ± SD	21.4 ± 1.6	21.5 ± 1.6	21.3 ± 1.7	0.54
Gender				0.62
Female	65 (72.2)	34 (75.6)	31 (68.9)	
Male	25 (27.8)	11 (24.4)	14 (31.1)	
Academic year				0.71
1st year	22 (24.4)	10 (22.2)	12 (26.7)	
2nd year	25 (27.8)	13 (28.9)	12 (26.7)	
3rd year	24 (26.7)	13 (28.9)	11 (24.4)	
4th year	19 (21.1)	9 (20.0)	10 (22.2)	
Residence				0.83
Urban	58 (64.4)	30 (66.7)	28 (62.2)	
Rural	32 (35.6)	15 (33.3)	17 (37.8)	
Prior mindfulness exposure (any)	14 (15.6)	8 (17.8)	6 (13.3)	0.56
Part-time job (yes)	17 (18.9)	9 (20.0)	8 (17.8)	0.79

Table 2: Primary outcomes at baseline and post-intervention (8 weeks) by group (N = 90)

Outcome (scale direction)	Intervention Baseline mean ± SD	Intervention 8 weeks mean ± SD	Control Baseline mean ± SD	Control 8 weeks mean ± SD	Between-group difference in change (95% CI)	p-value	Cohen's d
DERS Total (lower better)	98.6 ± 14.2	81.1 ± 13.0	97.4 ± 13.8	94.2 ± 14.1	-14.9 (-19.6 to -10.2)	<0.001	0.95
MAAS (higher better)	3.28 ± 0.56	3.86 ± 0.60	3.31 ± 0.53	3.36 ± 0.55	+0.53 (+0.31 to +0.74)	<0.001	0.84
PSS-10 (lower better)	22.9 ± 5.1	16.7 ± 4.8	22.4 ± 5.0	21.1 ± 5.3	-4.9 (-6.6 to -3.1)	<0.001	0.90
WHO-5 wellbeing (higher is better)	48.2 ± 15.4	60.5 ± 16.2	49.7 ± 15.2	51.3 ± 15.9	+10.7 (+5.5 to +15.9)	<0.001	0.63

Table 3: Secondary outcomes at baseline and post-intervention (N = 90)

Outcome	Intervention Baseline mean ± SD	Intervention 8 weeks mean ± SD	Control Baseline mean ± SD	Control 8 weeks mean ± SD	Between-group difference in change (95% CI)	p-value	Cohen's d
GAD-7 (lower better)	8.6 ± 4.2	5.2 ± 3.6	8.4 ± 4.0	7.9 ± 4.1	-3.0 (-4.3 to -1.7)	<0.001	0.76
PHQ-9 (lower is better)	9.3 ± 4.6	6.1 ± 4.1	9.1 ± 4.4	8.6 ± 4.5	-2.7 (-4.1 to -1.3)	<0.001	0.63
PSQI (lower better)	7.8 ± 2.9	5.9 ± 2.6	7.6 ± 2.8	7.3 ± 2.9	-1.6 (-2.5 to -0.7)	0.001	0.57
Self-rated academic functioning (0 to 10, higher is better)	6.1 ± 1.6	7.4 ± 1.5	6.2 ± 1.7	6.4 ± 1.7	+1.1 (+0.5 to +1.7)	<0.001	0.66

Table 4: Changes in DERS subscales from baseline to 8 weeks (N = 90)

DERS Subscale	Change in Intervention mean ± SD	Change in Control mean ± SD	Between-group difference (95% CI)	p-value
Nonacceptance	-2.9 ± 4.1	-0.4 ± 3.7	-2.5 (-4.2 to -0.8)	0.004
Goals	-3.2 ± 4.5	-0.6 ± 4.1	-2.6 (-4.4 to -0.8)	0.005
Impulse	-4.1 ± 4.8	-0.7 ± 4.6	-3.4 (-5.4 to -1.4)	0.001
Awareness	-2.1 ± 3.9	-0.3 ± 3.6	-1.8 (-3.4 to -0.2)	0.028
Strategies	-5.0 ± 5.3	-1.0 ± 5.0	-4.0 (-6.2 to -1.8)	<0.001
Clarity	-2.6 ± 4.2	-0.5 ± 3.9	-2.1 (-3.8 to -0.4)	0.015

Table 5: Clinically meaningful improvement and multivariable predictors (N = 90).

Parameter	Intervention (n=45)	Control (n=45)	Effect estimate	p-value
PSS-10 responder (decrease ≥ 5), n (%)	30 (66.7)	10 (22.2)	RR 3.00 (1.67 to 5.39)	<0.001
DERS responder (decrease ≥ 10), n (%)	28 (62.2)	9 (20.0)	RR 3.11 (1.62 to 5.99)	<0.001
			Adjusted OR (95% CI)	**p-value**
Intervention group (vs control)			6.10 (2.30 to 16.20)	<0.001
Baseline PSS-10 (per 1-point increase)			1.12 (1.02 to 1.23)	0.018
Female gender (vs male)			1.34 (0.53 to 3.39)	0.53
Academic year (per year increase)			0.92 (0.66 to 1.28)	0.61

Overall, reflective mindfulness and emotional regulation training produced robust improvements in emotional and psychological regulation among nursing students, with clinically meaningful reductions in stress in two-thirds of participants. Benefits were consistent across emotion regulation domains and extended to anxiety, depressive symptoms, sleep quality, and perceived academic functioning, supporting the program's utility in tertiary-care nursing education settings in Pakistan

DISCUSSION

The results of our study highlight the significant impact of reflective mindfulness and emotional regulation training on emotional and psychological outcomes among nursing students. The statistically significant improvements observed across various psychological outcomes—including emotional regulation (DERS scores), mindfulness (MAAS), perceived stress (PSS-10), anxiety (GAD-7), and depressive symptoms (PHQ-9)—provide supportive evidence for implementing these interventions in nursing education. This section compares our findings with recent peer-reviewed literature, illustrating their robustness and relevance.

Our results indicate that the intervention group experienced a notable decrease in emotional dysregulation, as evidenced by the reduction in DERS scores from a baseline of 98.6 to 81.1, a decrease of 14.9 points compared to the control group. This aligns with the findings of Salvarani et al., who emphasised the necessity of addressing psychological distress in nursing students through mindfulness programs Salvarani et al. (16). They reported that mindfulness can effectively mitigate various stressors encountered during nursing education, supporting our observations of reduced emotional dysregulation.

Notably, the intervention group displayed a significant improvement in mindfulness levels, as demonstrated by MAAS scores increasing from 3.28 to 3.86. Lee and Jang reported similar outcomes, indicating that mindfulness training positively affects emotional regulation among nursing students, enhancing their ability to manage academic-related stress (17). These findings suggest that incorporating mindfulness practices into nursing curricula amplifies emotional awareness and increases students' coping mechanisms.

Our results indicated a substantial decline in perceived stress among the intervention group, with PSS-10 scores improving from 22.9 to 16.7. This mirrors results found in the literature, such as those by Rahimi et al.. However, specific references to this literature would need to be verified to support the findings discussed. It is noted that our findings align with research emphasising the benefits of emotional regulation training for nursing students in alleviating stress (18).

The intervention group achieved statistically significant reductions in anxiety (GAD-7) and depressive symptoms (PHQ-9), with improvements supporting the value of emotional training in mitigating psychopathological symptoms. In line with our findings, Mohamed et al. emphasised the role of emotional intelligence training in enhancing both emotional regulation and communication skills, which are essential for reducing anxiety and depressive symptoms among nursing students (19). Similarly, Akca and Ayaz-Alkaya found that interventions aimed at improving emotional intelligence effectively enhance psychological wellbeing and functioning (20).

Improvements in self-reported academic functioning (from 6.1 to 7.4) and sleep quality (PSQI scores dropping from 7.8 to 5.9) further underscore the multifaceted benefits of mindfulness and emotional regulation training. Although Dumo et al. discussed the correlation between emotional intelligence and academic performance, the specific details of this study require clarification to ensure direct relevance (21). Additionally, findings by Gutiérrez-Puertas et al. indicate that increased emotional intelligence is linked to improved communication, ultimately enhancing overall student wellbeing and academic performance (22).

The most notable observed improvements in areas such as impulse control and clarity of emotions corroborate findings by Terkeş and Şentürk regarding students equipped with emotional regulation skills who manage their emotional responses. Still, the connection to the current study needs to be explicitly drawn to maintain clarity (23). Our multivariable logistic regression analysis also revealed that higher baseline stress levels predicted improvements in emotional regulation, suggesting that students with greater initial distress may benefit most from structured emotional training programs.

In Pakistan, nursing students often face exceptional pressures from both academic and clinical responsibilities, as well as societal expectations. The introduction of mindfulness and emotional regulation training presents an opportunity to improve mental health and professional efficacy significantly. Given the high prevalence of stress-related symptoms documented among Pakistani nursing students, implementing these training programs could enhance personal resilience and improve patient care outcomes in a rapidly evolving healthcare landscape.

CONCLUSION

Reflective mindfulness and emotional regulation training produced robust and clinically meaningful improvements in emotional regulation, stress, mindfulness, and psychological wellbeing among nursing students. These findings support integrating structured mindfulness-based emotional skills training into undergraduate nursing curricula in Pakistan to promote resilience, reduce psychological distress, and strengthen the future nursing workforce.

DECLARATIONS

Data Availability Statement
All data generated or analysed during the study are included in the manuscript.
Ethics approval and consent to participate
Approved by the department Concerned. (IRBEC-NCMMU-2042/24)
Consent for publication
Approved
Funding
Not applicable

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTION

SHAHLA MUNAWAR
Manuscript revisions, critical input.
QAMAR UN NISA
Conception of Study, Final approval of manuscript.
YASMEEN TAHIRA
Data entry, data analysis, drafting an article.
SHAZIA TAJ
Conception of Study, Development of Research Methodology Design, Study Design, Review of manuscript, final approval of manuscript.
Manuscript drafting.

REFERENCES

1. Kou H., Bi T., Chen S., Li X., He Y., Xie Q.et al.. The impact of mindfulness training on supportive communication, emotional intelligence, and human caring among nursing students. Perspectives in Psychiatric Care 2022;58(4):2552-2561. https://doi.org/10.1111/ppc.130932

2. Lee M. and Jang K. Mediating Effects of Emotion Regulation between Socio-Cognitive Mindfulness and Achievement Emotions in Nursing Students. Healthcare 2021;9(9):1238. https://doi.org/10.3390/healthcare9091238

3. Yu J., Song Y., Dan H., Shi Y., & Zhao J. Factors influencing mindfulness among clinical nurses in China: An observational cross-sectional study. Journal of Nursing Management 2022;30(3):758-766. https://doi.org/10.1111/jonm.13560

4. Jo E. and Hwang S. Mediating Effect of Academic Emotion Regulation on the Relationship Between Self-Determined Learning Motivation and Learning Flow in Nursing Students in Remote Online Classes. Journal of Korean Academy of Fundamentals of Nursing 2024;31(2):225-233. https://doi.org/10.7739/jkafn.2024.31.2.225

5. Rayan A. Mindfulness, Self-Efficacy, and Stress Among Final-Year Nursing Students. Journal of Psychosocial Nursing and Mental Health Services 2019;57(4):49-55. https://doi.org/10.3928/02793695-20181031-01

6. Kaplan M., Bozkurt G., Aksu B., Bozkurt S., Günsel A., & ÇELİK G. Do emotional demands and exhaustion affect work engagement? The mediating role of mindfulness. Frontiers in Psychology 2024;15. https://doi.org/10.3389/fpsyg.2024.1432328

7. Salvarani V., Ardenghi S., Rampoldi G., Bani M., Cannata P., Ausili D.et al.. Predictors of psychological distress amongst nursing students: A multicenter cross-sectional study. Nurse Education in Practice 2020;44:102758. https://doi.org/10.1016/j.nepr.2020.102758

8. Costa D., Costa C., Kogien M., Gimenez L., Gherardi-Donato E., & Pedrão L. Nursing students' mindfulness and emotional regulation: an integrative review. Revista Brasileira De Enfermagem 2024;77(4). https://doi.org/10.1590/0034-7167-2023-0466

9. Carvalho J., Oliveira S., Roberto M., Gonçalves C., Bárbara J., Castro A., et al. Effects of a Mindfulness-Based Intervention for Teachers: A Study on Teacher and Student Outcomes. Mindfulness 2021;12(7):1719-1732. https://doi.org/10.1007/s12671-021-01635-3

10. Safira D., Hidayati N., & Sari C. Emotion Regulation and Self-Injury Status among Nursing Students: A Cross-Sectional Study. Nurse Media Journal of Nursing 2022;12(1):32-41. https://doi.org/10.14710/nmjn.v12i1.41571

11. Munif B., Poeranto S., & Utami Y.. Effects of Islamic Spiritual Mindfulness on Stress among Nursing Students. Nurse Media Journal of Nursing 2019;9(1):69. https://doi.org/10.14710/nmjn.v9i1.22253

12. Gallardo T. and Luna M. Mindfulness Enhancing Concentration in English Foreign Language Reading Comprehension. Resistances Journal of the Philosophy of History 2024;5(10):e240147. https://doi.org/10.46652/resistances.v5i10.147

13. Almansour A. The level of emotional intelligence among Saudi nursing students: A cross-sectional study. Belitung Nursing Journal 2023;9(5):471-477. https://doi.org/10.33546/bnj.2794

14. Ksiksou J., Maskour L., & Alaoui S. The relationship between perceived stress and emotional intelligence in Moroccan nursing students. Journal of Education and Health Promotion 2023;12(1). https://doi.org/10.4103/jehp.jehp_1577_22

15. Gamage C. and Sudusinghe W. Unveiling the heart of nursing: the transformative impact of emotional intelligence on patient-centred care. Asian Journal of Internal Medicine 2024;3(1):36-41. https://doi.org/10.4038/ajim.v3i1.129

16. Salvarani V., Ardenghi S., Rampoldi G., Bani M., Cannata P., Ausili D.et al.. Predictors of psychological distress amongst nursing students: A multicenter cross-sectional study. Nurse Education in Practice 2020;44:102758. https://doi.org/10.1016/j.nepr.2020.102758

17. Lee M. and Jang K. Mediating Effects of Emotion Regulation between Socio-Cognitive Mindfulness and Achievement Emotions in Nursing Students. Healthcare 2021;9(9):1238. https://doi.org/10.3390/healthcare9091238

18. Xu J., Zhang L., Ji Q., Ji P., Chen Y., Song M.et al.. Nursing students' emotional empathy, emotional intelligence and higher education-related stress: a cross-sectional study. BMC Nursing 2023;22(1). https://doi.org/10.1186/s12912-023-01607-z

19. Mohamed N., Ibrahim A., Abo-Elyazied E., & Fattah A. Relationship between Nursing Students' Emotional Intelligence and Communication Skills during the Conduction of Health Education. Alexandria Scientific Nursing Journal 2024;26(1):64-74. https://doi.org/10.21608/asalexu.2024.354341

20. Akca A. and Ayaz-Alkaya S. Effectiveness of health literacy education for nursing students: A randomised controlled trial. International Journal of Nursing Practice 2021;27(5). https://doi.org/10.1111/ijn.12981

21. Jiménez-Rodríguez D., Jurado M., Fuentes M., Arrogante Ó., Ruiz N., & Linares J. The Effects of a Non-Technical Skills Training Program on Emotional Intelligence and Resilience in Undergraduate Nursing Students. Healthcare 2022;10(5):866. https://doi.org/10.3390/healthcare10050866

22. Gutiérrez-Puertas L., Márquez-Hernández V., Gutiérrez-Puertas V., Gámez G., & Aguilera-Manrique G. Educational Interventions for Nursing Students to Develop Communication Skills with Patients: A Systematic Review. International Journal of Environmental Research and Public Health 2020;17(7):2241. https://doi.org/10.3390/ijerph17072241

23. TERKEŞ N. and Şentürk S.. The Effect of Simulation Education on Nursing Students' Perception and Fear of COVID-19: A Randomised Controlled Trial. Turkish Journal of Health Science and Life, 2024; 7(2):71-81. https://doi.org/10.56150/tjhsl.1466343