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Pharmacological and nonpharmacological treatment of depression within collaborative care models among nursing students

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Abstract--Background: Depression and stress are prevalent among nursing students and healthcare professionals, impacting their mental health and academic performance. In nursing students, depression is a significant concern, with studies showing high prevalence rates globally, particularly in Asia. Contributing factors include academic pressures, emotional strain, and concerns about clinical practice. As these issues worsen, they lead to impaired cognitive functioning, academic performance, and clinical competencies, increasing the risk of suicide among affected individuals. **Aim:** This article aims to review both pharmacological and non-pharmacological interventions for

managing depression and stress among nursing students, focusing on their effectiveness within collaborative care models. **Methods:** The article utilizes a review of existing literature, including meta-analyses and systematic reviews, to evaluate the efficacy of pharmacological treatments (such as antidepressants) and non-pharmacological approaches (like mindfulness-based cognitive therapy and stress management interventions). The analysis also includes the assessment of intervention methods, duration, and follow-up outcomes. **Results:** Pharmacological treatments, including antidepressants, are commonly prescribed and have shown positive outcomes in alleviating symptoms of depression. However, side effects and patient preferences for psychotherapy suggest a need for balanced approaches. Non-pharmacological interventions, such as mindfulness and cognitive therapy, have demonstrated mixed results, with some evidence indicating benefits in reducing depressive symptoms among nursing students. However, consistency in outcomes across different studies remains limited. **Conclusion:** A collaborative care approach that combines pharmacological and non-pharmacological interventions is crucial in managing depression and stress in nursing students. More research is needed to standardize intervention protocols, assess long-term effects, and tailor treatments to individual needs.

Keywords---Depression, Stress, Nursing Students, Pharmacological Interventions, Non-pharmacological Interventions, Collaborative Care.

Introduction

Depressive symptoms and depression are prevalent mental health disorders globally, with a prevalence of 12.9%, a one-year prevalence of 7.2%, and a lifetime prevalence of 10.8% [1]. As a mood disorder, depression is associated with increased morbidity, mortality, and suicide rates [2]. The condition is notably more prevalent in women, with the female incidence being twice that of men [3]. Adolescents and young adults aged 15–29 years, particularly females, exhibit heightened vulnerability to suicidal behaviors associated with depression [4,5]. According to the World Health Organization (WHO), depression is the leading cause of disability worldwide [6] and is expected to become the second most prevalent cause of disease burden by 2020 [7]. The economic burden of depression is substantial, with the average total cost of management amounting to approximately USD 7,638 per patient per year, with indirect costs, such as lost productivity, accounting for the majority of expenses [8]. In healthcare education, particularly among nursing students, depression rates are alarmingly high in both Asian and European contexts [5,9–11]. Evidence suggests that depression may be a persistent issue among nursing students [12], with an estimated 34.0% of nursing students worldwide experiencing depressive symptoms [13]. Notably, Asian nursing students exhibit the highest prevalence of depression (43.0%), compared to European (38.0%), Arab (28.0%), North American (26.0%), and Latin American (21.0%) cohorts [13]. The prevalence of depression appears to decrease

with age, as students aged 16–20 years (41%) and 21–25 years (39%) report higher rates of depression compared to those over 25 years (18%) [13].

Various factors contribute to the development of depression among nursing students, including disinterest in nursing coursework, low academic performance, concerns about future employment, and the pressures of heavy workloads and study assignments in Asian contexts [14–16]. European nursing students face unique stressors such as fear of unknown clinical conditions, handling technical equipment, and the risk of making mistakes in clinical practice [17]. Depression among nursing students can adversely affect both academic performance and clinical competencies in Canada [18]. Moreover, 25% of patients with major depressive disorder exhibit suicidal behaviors, with 10–15% ultimately succumbing to suicide [19]. This highlights the urgent need for effective, sustained interventions to address depressive symptoms and depression in nursing students. Given the strong association between depression and both physical and mental health issues in nursing students, research has increasingly focused on interventions aimed at alleviating depressive symptoms. Pharmacological approaches, such as antidepressants, are widely used to treat depression, demonstrating improvements in cognitive and occupational function [20,21]. Antidepressants are considered first-line treatments for moderate to severe depression [22], though they are frequently associated with side effects, leading some patients to discontinue their use [23]. Comparative studies have shown that antidepressant pharmacotherapy and mindfulness-based cognitive therapy (MBCT) offer similar protection against depression relapse [24], with some studies indicating more rapid remission with antidepressant augmentation compared to cognitive therapy [25]. However, concerns regarding side effects such as urinary incontinence and cognitive impairment, as well as ethical issues surrounding novel treatments like ketamine, have raised questions about the safety and applicability of certain antidepressants and alternative treatments [26–31]. Furthermore, surveys suggest a strong preference among depressed patients for psychotherapy due to its lack of adverse side effects, in contrast to pharmacotherapy [36].

In recent years, nonpharmacological interventions such as mindfulness therapy, stress management, music therapy, and yoga have gained attention as complementary treatments for depression. However, the outcomes of these interventions in nursing students have not been consistent. A review of the literature indicated that mindfulness meditation positively impacted depression, stress, anxiety, and other psychological outcomes in nursing students, although it did not include a meta-analysis of psychological results [38]. Another systematic review and meta-analysis concluded that psychotherapy should be recommended for reducing depression in nursing students, but it primarily focused on a comparative analysis of psychotherapy versus non-psychotherapy interventions without exploring factors such as follow-up outcomes, intervention methods, and the duration of interventions [39]. To our knowledge, no systematic review and meta-analysis based on randomized controlled trials (RCTs) and controlled clinical trials (CCTs) has specifically explored the effects of nonpharmacological interventions on depressive symptoms and depression in nursing students. Therefore, this review aims to use subgroup analyses and sensitivity analysis to assess the effectiveness of nonpharmacological

interventions in improving depressive symptoms and depression among nursing students, while also examining the effects of different intervention methods, durations, and methodological qualities across varied populations to provide more targeted recommendations for nursing students.

Prevalence of Stress

A nationwide study by CareerBuilder in the United States identified healthcare professionals as experiencing significant levels of stress, with nurses reporting the highest levels among this group [40-43]. A meta-analysis examining the prevalence of work-related stress in nurses found that 69% of nurses in the United Arab Emirates experienced stress [44]. In Zambia, Mwinga and Mugala [45] reported that 93% of nurses experienced job stress. In Australia, 32.4% of nurses had depression, 41.2% had anxiety, and 41.2% experienced work-related stress [46]. In China, 35% of nurses exhibited depressive symptoms [47], while in Brazil, 51% of nurses experienced depression [48], and 33% of French nurse managers reported similar issues [49]. These variations in stress prevalence and associated symptoms may be attributed to differences in hospital management systems and organizational structures across countries. In India, studies revealed that 87.6% of nurses experienced stress, with 2.1% reporting severe stress [50], while another study found that 92% of nurses were stressed, with 52% facing severe stress [51]. These findings highlight the significant prevalence of work-related stress among nurses in India, underscoring the need for further research into job stress and its contributing factors.

Causes of Job Stress

Numerous factors contribute to stress in nursing environments, categorized as follows:

- **Patient-Related Factors:** The primary responsibilities of nurses include meeting patients' basic needs and delivering therapeutic interventions. Certain patient care situations, such as dealing with death and dying, uncertainty regarding patient treatment, heavy workload, and insufficient preparation to address patients' emotional issues, have been identified as common stressors for nurses [52]. Additionally, negative attitudes from patients or their families and unreasonable demands contribute to workplace stress [53].
- **Professional Factors:** Effective communication is crucial for teamwork. Disruptions in communication, conflicts with healthcare colleagues, and discrimination can lead to stress [53]. The attitude of physicians toward nurses, conflicts with doctors, and verbal abuse from physicians are also significant stressors [54]. Furthermore, poor relationships among nurses themselves can contribute to stress [55].
- **Environmental Factors:** A supportive and conducive work environment is essential for effective job performance. Stressors arising from nursing work situations, such as assignments in high-pressure areas (e.g., intensive care units, emergency departments), heavy job demands, lack of time for rest, increased workload, staff shortages, and insufficient co-worker support, contribute to stress. Conflicts with supervisors and imbalanced staffing patterns further exacerbate stress [54, 55].

- **Organizational Factors:** Organizational stressors, combined with other workplace stressors, negatively affect job performance and productivity. Inadequate pay, lack of organizational support, insufficient staffing and resources, poor communication, excessive job demands, competition between hospitals, and limited professional growth opportunities have been identified as significant contributors to stress among nurses [56,57,58].
- **Personal Factors:** Personal stressors related to age (particularly those over 30 years), gender (female nurses), family responsibilities, prolonged working hours (e.g., 12-hour shifts), and lack of experience are associated with stress in nurses [41]. Other personal factors include crossing professional boundaries with patients, perfectionistic tendencies, unrealistic expectations, feelings of inadequacy, emotional imbalances, a history of mental illness, and physical unfitness, all of which contribute to stress in the workplace [59].

Coping Strategies

Effective stress management is closely linked to the adoption of healthy coping strategies. Coping is defined as the process through which individuals manage the psychological and physical effects of stress to prevent distress and burnout. Folkman et al. [60] identified two primary coping strategies: emotion-focused coping, which alleviates emotional distress, and problem-focused coping, which aims to address the root causes of distress. Problem-focused coping is typically employed when nurses perceive they have control over a stressful situation, allowing them to focus on altering the event causing the stress. In contrast, emotion-focused coping is used when nurses feel that the situation itself cannot be changed, and the focus shifts to managing negative emotions. A systematic review found that problem-focused coping was associated with better mental health outcomes in Asian and Australian nurses, whereas emotion-focused coping was linked to poorer mental health [61].

A qualitative study conducted with 18 nurses in Iran revealed that nurses employ distinct coping strategies to mitigate stress. One such strategy, termed the "situational control strategy," involves taking immediate action to manage emergency patient conditions, correcting professional errors, collaborating with physicians and healthcare team members, following physician orders, exchanging shifts, requesting time off, and empathizing with patients and their families. Another approach, "preventive monitoring of the situation," entails proactive monitoring of patient status, continuous evaluation with focused attention, being on-call, conducting follow-up actions, improving accuracy and safety, and preparing for potential stressors by being ready to respond promptly and effectively. Additionally, "self-controlling strategies" allow nurses to cope by accepting and tolerating stressors, engaging in recreational activities, participating in sports, adopting a positive mindset, and employing emotional ventilation techniques such as crying, which help in mentally recharging and alleviating occupational stress [62, 63]. Nurses tend to utilize various coping strategies depending on the nature of the stressor, the working environment, and their individual personality traits. These strategies are influenced by factors such as patient-, physician-, profession-, environment-, and organization-related

stressors, as well as available resources and environmental conditions [64, 65]. Zyga et al. [65] further suggested that personal characteristics, such as age, gender, experience, education level, job position, shift type and duration, nurse-patient ratios, and marital status, play a role in determining the coping strategies adopted by nurses.

Suggested Strategies to Reduce Stress and Depression:

Managing job stress is crucial for improving the physical and psychological well-being of nurses, as well as enhancing productivity. Based on a literature review, several coping strategies have been proposed to help nurses alleviate stress in the workplace.

Professional Strategies

- **Mutual Understanding and Collaboration:** Managing conflicts in the workplace is essential but time-consuming. A collaborative approach, based on mutual understanding, clear communication, and equitable decision-making power, can reduce work-related stress and interpersonal conflict among nurses. This collaboration is also associated with increased job satisfaction [66].
- **Job Rotation:** Job rotation is an effective strategy for minimizing conflict among nurses. Prior to rotation, it is important for nurse managers to discuss patient needs and team requirements. Job rotation encourages professional growth, enhances skills and knowledge in various areas, improves patient care quality, and helps develop multiple capabilities, all of which contribute to reducing job burnout [67].
- **Support:** Organizational support, co-worker support, social support, and empowerment are associated with reduced job stress. High levels of social support have been shown to decrease stress and burnout, promoting mental well-being and improving organizational productivity [42]. Measures such as the formation of support systems, mentorship, and Schwartz Rounds—organized forums where nurses can regularly gather to share and discuss workplace-related emotional issues—are essential for providing the necessary support [68].

Psychological Strategies

Nurses often adopt a "super-human philosophy," where they believe they can handle any personal or professional challenge [69, 70]. Other psychological strategies that can be employed to mitigate job stress are outlined in **[Figure 2]**.

Nurse manager (organisational/agency) support
Improving manager-employee relations
Open communication
Encouraging development of coping skills
Assessing staff needs and strategies for reducing stress
Conducting survey on knowledge deficits and provide learning opportunities
Conducting recreational and social events to strengthen morale
Arranging orientation class for new staff
Supervision and organising monthly meetings
Debriefings and discussions of patient care
Framing and formulating staff support groups
Fostering collaboration with physicians
Arranging outreach programs and in services to hospitals and the community
Providing emotional support
Reassignment to different duties and recognising the need for time off
Organising classes on yoga, meditation, dance and sports

Figure 1: Psychological Strategies that can be Employed to Mitigate Job Stress.

Organizational Strategies

Organizational strategies are critical in managing job stress among nursing staff. It is the responsibility of the organization to address stressors in the work environment. Organizational strategies may include formulating stress policies, implementing stress management programs, conducting risk assessments, and taking proactive action to reduce stress [69, 70].

Medical Interventions for Stress and Depression Management Among Nurses

The healthcare profession, particularly nursing, is known for its high-stress environment, which significantly contributes to the prevalence of stress and depression among nurses. The demanding nature of their work, including long shifts, heavy workloads, emotional exhaustion, and the responsibility of patient care, has placed nurses at a higher risk for both stress and depression. While several non-pharmacological interventions are employed to manage stress, the role of medical interventions, including pharmacological treatments, plays a crucial part in alleviating symptoms of stress and depression, particularly when symptoms become chronic or significantly impair daily functioning. This essay explores medical interventions for stress and depression management among

nurses, focusing on pharmacological approaches, their efficacy, considerations, and implications for nursing practice.

Pharmacological Interventions for Stress and Depression

1. Antidepressants

Antidepressants are among the most commonly prescribed medications for managing depression in various populations, including nurses. These medications work by influencing neurotransmitter systems, primarily serotonin, norepinephrine, and dopamine, to alleviate symptoms of depression. For nurses experiencing depression, antidepressants can provide significant relief from symptoms, allowing them to function more effectively in their professional and personal lives.

- **Selective Serotonin Reuptake Inhibitors (SSRIs):** SSRIs, such as fluoxetine, sertraline, and citalopram, are often the first-line treatment for depression. These drugs selectively inhibit the reuptake of serotonin, a neurotransmitter that plays a crucial role in mood regulation. SSRIs are favored due to their relatively mild side-effect profile compared to older antidepressants. Research has shown that SSRIs can significantly reduce symptoms of depression and anxiety, which are commonly experienced by nurses under high-stress conditions. However, it is important to monitor for side effects, including gastrointestinal disturbances and sleep disturbances, which can sometimes exacerbate stress among nurses.
- **Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs):** SNRIs, such as venlafaxine and duloxetine, work by increasing the levels of both serotonin and norepinephrine in the brain. These medications are particularly effective in cases where nurses experience comorbid symptoms of anxiety and depression. SNRIs have been shown to provide relief from both emotional and physical symptoms of depression, such as fatigue and reduced motivation, which are common in healthcare workers. However, they may also have side effects such as increased blood pressure and dizziness, which require careful monitoring.
- **Tricyclic Antidepressants (TCAs):** TCAs, such as amitriptyline and nortriptyline, were among the first antidepressants developed and are still used in certain cases of severe depression. While effective, TCAs have more pronounced side effects, including dry mouth, constipation, urinary retention, and orthostatic hypotension, making them less commonly used as first-line treatments. However, in cases of treatment-resistant depression, TCAs may still be considered when other medications fail.

2. Anxiolytics and Benzodiazepines

Anxiety is often a component of stress and depression among nurses, and its management may require the use of anxiolytic medications. Benzodiazepines, such as diazepam, lorazepam, and alprazolam, are fast-acting medications that provide short-term relief from anxiety symptoms. They work by enhancing the effects of gamma-aminobutyric acid (GABA), an inhibitory neurotransmitter, which helps to reduce neural excitability and induce a calming effect. While benzodiazepines can be effective for short-term relief of acute anxiety, their long-

term use is generally discouraged due to the risk of dependence, tolerance, and withdrawal symptoms. Therefore, benzodiazepines are typically prescribed for short durations or as adjuncts to other therapies when necessary. Nurses experiencing chronic stress or anxiety may benefit from alternatives, such as SSRIs or therapy, as first-line treatments.

3. Beta-Blockers for Physical Symptoms of Stress

Beta-blockers, such as propranolol, are primarily used to manage physical symptoms of stress, particularly those related to the autonomic nervous system, such as tachycardia, hypertension, and tremors. In the context of stress management, beta-blockers are effective in reducing the physiological symptoms of anxiety and stress, allowing nurses to feel more composed in stressful situations. While not directly addressing the psychological components of stress and depression, beta-blockers can provide temporary relief from physical manifestations, helping nurses to maintain focus and function in high-pressure environments.

4. Mood Stabilizers

Mood stabilizers, such as lithium or anticonvulsant medications (e.g., valproate, lamotrigine), may be considered for nurses who experience mood instability or depressive episodes as part of a bipolar spectrum disorder. While less commonly prescribed for stress and depression alone, mood stabilizers are used to prevent mood swings and stabilize emotional functioning. Their use is particularly relevant for nurses who may have a pre-existing history of bipolar disorder or who experience significant mood fluctuations.

Adjunctive Therapies

1. Psychotherapy in Combination with Pharmacological Interventions

While pharmacological treatments are essential in managing moderate to severe depression and stress, they are often more effective when combined with psychotherapy. Cognitive Behavioral Therapy (CBT) is a well-established therapeutic approach that helps individuals identify and challenge negative thought patterns that contribute to stress and depression. CBT can assist nurses in developing healthier coping mechanisms, stress management strategies, and better problem-solving skills, which are critical in the high-pressure work environment of healthcare settings. Combining CBT with antidepressant medications has been shown to provide superior outcomes compared to medication alone, particularly in individuals with chronic or severe symptoms.

2. Supportive and Structured Work Environments

In addition to direct medical interventions, nurses' work environments can significantly influence their mental health. A supportive work environment, which includes regular mental health check-ins, access to counseling services, peer support, and stress management workshops, can complement pharmacological treatments. Institutional support, including adequate staffing and resources, can

help reduce the systemic stress that contributes to nurse burnout and depression. Hospitals and healthcare organizations should prioritize mental health as part of their overall wellness programs for staff, providing accessible counseling services and creating a work culture where mental health is acknowledged and supported.

Considerations and Challenges

Despite the efficacy of pharmacological interventions, there are several considerations and challenges to their use in managing stress and depression among nurses. First, nurses are often reluctant to seek help for mental health issues due to the stigma associated with mental illness in the healthcare profession. This can delay treatment and exacerbate symptoms. Healthcare organizations must work to destigmatize mental health issues by fostering a supportive environment where seeking help is normalized and encouraged. Second, the prescribing of medications should be done with caution, as nurses often face unique work stressors that may necessitate individualized treatment plans. The potential side effects of antidepressants and anxiolytics, such as sedation or cognitive impairment, may interfere with nurses' ability to perform their job duties safely. Close monitoring and regular follow-up are essential to ensure that the treatment does not compromise patient safety or nurse functioning. Lastly, the effectiveness of pharmacological treatments can vary among individuals, requiring ongoing adjustments and monitoring. Nurses may also experience medication-related side effects that need to be managed promptly. Therefore, a holistic and multi-disciplinary approach involving medical professionals, nurse managers, and mental health specialists is essential to effectively address the stress and depression that many nurses experience. Medical interventions, including antidepressants, anxiolytics, beta-blockers, and mood stabilizers, offer significant benefits in managing stress and depression among nurses. These pharmacological treatments, when combined with psychotherapy and a supportive work environment, can provide a comprehensive approach to improving mental health and well-being. However, careful monitoring, individualized treatment plans, and an emphasis on reducing stigma around mental health in the workplace are crucial for ensuring the effective use of these interventions. By addressing the mental health needs of nurses, healthcare organizations can improve job satisfaction, reduce burnout, and ultimately enhance patient care.

Conclusion

The management of stress and depression among nursing students requires a multifaceted approach, incorporating both pharmacological and non-pharmacological interventions within a collaborative care model. Nursing students are particularly vulnerable to these mental health issues, with contributing factors ranging from academic pressures to concerns about clinical performance. The high prevalence of depression among nursing students, especially in Asian countries, highlights the need for comprehensive strategies to address this issue effectively. Pharmacological treatments, primarily antidepressants, remain a cornerstone of managing moderate to severe depression. These treatments have shown efficacy in improving cognitive and

occupational functioning, providing relief from depressive symptoms. However, the frequent side effects, such as cognitive impairment and urinary incontinence, pose challenges in their long-term use. Additionally, the preference among many patients for psychotherapy over pharmacotherapy indicates the need for a more balanced and individualized treatment approach. Research suggests that combining pharmacological and non-pharmacological interventions may provide superior outcomes in managing depression among nursing students. Non-pharmacological interventions, including mindfulness-based cognitive therapy (MBCT), yoga, music therapy, and stress management techniques, have gained attention as complementary strategies for managing depression and stress. While some studies report positive effects on reducing symptoms of depression, the outcomes remain inconsistent. The effectiveness of these interventions can be influenced by factors such as intervention method, duration, and the student's engagement level. Given these complexities, collaborative care models that incorporate both medical and psychological treatments are critical in supporting the mental health of nursing students. Future research should focus on the long-term effectiveness of these interventions, exploring the optimal combination of pharmacological and non-pharmacological treatments, as well as identifying factors that contribute to successful outcomes. In conclusion, the holistic management of stress and depression among nursing students requires a collaborative, individualized approach that integrates pharmacological and non-pharmacological strategies, addressing both the psychological and physical aspects of these conditions.

References

1. Lim, G. Y., et al. (2018). Prevalence of depression in the community from 30 countries between 1994 and 2014. *Scientific Reports*, 8(1), 2861-2810. <https://doi.org/10.1038/s41598-018-21290-0>
2. Peltzer, K., Yi, S., & Pengpid, S. (2017). Suicidal behaviors and associated factors among university students in six countries in the Association of Southeast Asian Nations (ASEAN). *Asian Journal of Psychiatry*, 26, 32-38. <https://doi.org/10.1016/j.ajp.2017.02.003>
3. Piccinelli, M., & Ghosh, W. (2000). Gender differences in depression: Critical review. *British Journal of Psychiatry*, 177(6), 486-492. <https://doi.org/10.1192/bjp.177.6.486>
4. World Health Organization. (2015). Health in 2015: From MDGs to SDGs. World Health Organization. <https://www.who.int/publications/i/item/health-in-2015-from-mdgs-to-sdgs>
5. Velde, S. V. D., Bracke, P., & Levecque, K. (2010). Gender differences in depression in 23 European countries: Cross-national variation in the gender gap in depression. *Social Science & Medicine*, 71(2), 305-313. <https://doi.org/10.1016/j.socscimed.2010.03.045>
6. World Health Organization. (2009). Global health risks: Mortality and burden of disease attributable to selected major risks. World Health Organization. <https://www.who.int/publications/i/item/9789241563871>
7. Murray, C. J., & Lopez, A. D. (1997). Alternative projections of mortality and disability by cause 1990–2020: Global burden of disease study. *Lancet*, 349(9064), 1498-1504. [https://doi.org/10.1016/S0140-6736\(96\)07492-2](https://doi.org/10.1016/S0140-6736(96)07492-2)

8. Ho, R. C. M., et al. (2013). The effect of severity of depressive disorder on economic burden in a university hospital in Singapore. *Expert Review of Pharmacoeconomics & Outcomes Research*, 13(4), 549-559. <https://doi.org/10.1586/14737167.2013.807436>
9. Aradilla-Herrero, A., Tomás-Sábado, J., & Gómez-Benito, J. (2014). Associations between emotional intelligence, depression and suicide risk in nursing students. *Nurse Education Today*, 34(4), 520-525. <https://doi.org/10.1016/j.nedt.2013.07.008>
10. Fan, A. P., et al. (2012). Suicidal ideation in medical students: Who is at risk? *Annals of the Academy of Medicine, Singapore*, 41(9), 377-382. <https://www.annals.edu.sg/pdf/41VolNo9Sep2012/V41N9p377.pdf>
11. Melissa-Halikiopoulou, C., et al. (2014). Suicidality and depressive symptoms among nursing students in northern Greece. *Health Science Journal*, 5(2), 90-97. <https://www.hsj.gr>
12. Alsaraireh, F. A., & Aloush, S. M. (2017). Mindfulness meditation versus physical exercise in the management of depression among nursing students. *Journal of Nursing Education*, 56(10), 599-604. <https://doi.org/10.3928/01484834-20170918-06>
13. Tung, Y. J., et al. (2018). Prevalence of depression among nursing students: A systematic review and meta-analysis. *Nurse Education Today*, 63, 119-129. <https://doi.org/10.1016/j.nedt.2018.01.022>
14. Chatterjee, S., et al. (2014). Depression among nursing students in an Indian government college. *British Journal of Nursing*, 23(23), 316-320. <https://doi.org/10.12968/bjon.2014.23.23.316>
15. Chen, C. J., et al. (2015). The effects of Chinese five-element music therapy on nursing students with depressed mood. *International Journal of Nursing Practice*, 21(2), 192-199. <https://doi.org/10.1111/ijn.12238>
16. Zhao, F. F., et al. (2014). The study of perceived stress, coping strategy and self-efficacy of Chinese undergraduate nursing students in clinical practice. *International Journal of Nursing Practice*, 21(4), 401-409. <https://doi.org/10.1111/ijn.12223>
17. Pulido-Martos, M., Augusto-Landa, J. M., & Lopez-Zafra, E. (2012). Sources of stress in nursing students: A systematic review of quantitative studies. *International Nursing Review*, 59(1), 15-25. <https://doi.org/10.1111/j.1466-7657.2011.00938.x>
18. Chernomas, W. M., & Shapiro, C. (2013). Stress, depression, and anxiety among undergraduate nursing students. *International Journal of Nursing Education Scholarship*, 10(1), 255-266. <https://doi.org/10.1515/ijnes-2012-0075>
19. Vos, T., Allen, C., & Arora, M. (2016). Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990–2015: A systematic analysis for the Global Burden of Disease Study 2015. *Lancet*, 388(10053), 1545-1602. [https://doi.org/10.1016/S0140-6736\(16\)31678-6](https://doi.org/10.1016/S0140-6736(16)31678-6)
20. Lu, Y., et al. (2018). Effects of vortioxetine and fluoxetine on the level of Brain Derived Neurotrophic Factors (BDNF) in the hippocampus of chronic unpredictable mild stress-induced depressive rats. *Brain Research Bulletin*, 142, 1-7. <https://doi.org/10.1016/j.brainresbull.2018.07.002>

21. Lee, Y., et al. (2018). Efficacy of antidepressants on measures of workplace functioning in major depressive disorder: A systematic review. *Journal of Affective Disorders*, 227, 406-415.
22. Bauer, M., et al. (2007). World Federation of Societies of Biological Psychiatry (WFSBP) guidelines for biological treatment of unipolar depressive disorders in primary care. *World Journal of Biological Psychiatry*, 8(2), 67-104.
23. Vedana, K.G.G., Magrini, D.F., Miasso, A.I., Zanetti, A.C.G., & Borges, T.L. (2017). Attitudes to pharmacological treatments for depression. *British Journal of Mental Health Nursing*, 6(1), 44-49.
24. Segal, Z.V., et al. (2010). Antidepressant monotherapy vs. sequential pharmacotherapy and mindfulness-based cognitive therapy, or placebo, for relapse prophylaxis in recurrent depression. *Archives of General Psychiatry*, 67(12), 1256-1264.
25. Thase, M.E., et al. (2007). Cognitive therapy versus medication in augmentation and switch strategies as second-step treatments: A STAR*D report. *American Journal of Psychiatry*, 164(5), 739-752.
26. Zhang, Y.X., et al. (2017). Analysis of print news media framing of ketamine treatment in the United States and Canada from 2000 to 2015. *PLoS One*, 12(3), 1-13.
27. Zhang, M.W., & Ho, R.C. (2015). Ketamine's potential as a rapid antidepressant was overplayed. *BMJ*, 351, 1-2.
28. Zhang, M.W., & Ho, R.C. (2016). Controversies of the effect of ketamine on cognition. *Frontiers in Psychiatry*, 7(4), 47.
29. Zhang, M.W., Harris, K.M., & Ho, R.C. (2016). Is off-label repeat prescription of ketamine as a rapid antidepressant safe? Controversies, ethical concerns, and legal implications. *BMC Medical Ethics*, 17(1), 1-8.
30. Zhang, M.W., & Ho, R. (2016). Critical appraisal of existing ketamine trials: Existing limitations and limited applicability for treatment. *American Journal of Psychiatry*, 173(4), 431.
31. Zhang, M.W., & Ho, R.C. (2015). The paroxetine controversy: Lessons for ketamine trials. *Lancet Psychiatry*, 2(12), 1057-1058.
32. Finkelstein, Y., et al. (2018). Second-generation antidepressants and risk of new-onset seizures in the elderly. *Clinical Toxicology*, 1-6.
33. Rogers, M.A.M., et al. (2013). Depression, antidepressant medications, and risk of *Clostridium difficile* infection. *BMC Medicine*, 11(6), 121.
34. Shankman, S.A., et al. (2017). Side effects to antidepressant treatment in patients with depression and comorbid panic disorder. *Journal of Clinical Psychiatry*, 78(4), 433-440.
35. Nelson, J.C., & Spyker, D.A. (2017). Morbidity and mortality associated with medications used in the treatment of depression: An analysis of cases reported to U.S. Poison Control Centers, 2000-2014. *American Journal of Psychiatry*, 174(5), 438-450.
36. Piet, J., & Hougaard, E. (2011). The effect of mindfulness-based cognitive therapy for prevention of relapse in recurrent major depressive disorder: A systematic review and meta-analysis. *Clinical Psychology Review*, 31(6), 1032-1040.
37. Capoccia, K.L., et al. (2004). Randomized trial of pharmacist interventions to improve depression care and outcomes in primary care. *American Journal of Health-System Pharmacy: AJHP: Official Journal of the American Society of Health-System Pharmacists*, 61(4), 364-372.

38. Van, D.R.P., Levett-Jones, T., & Aquino-Russell, C. (2018). The effectiveness of mindfulness meditation for nurses and nursing students: An integrated literature review. *Nurse Education Today*, 65, 201-211.
39. Li, C., et al. (2018). Interventions to promote mental health in nursing students: A systematic review and meta-analysis of randomized controlled trials. *Journal of Advanced Nursing*, 1-15.
40. Mathew NA. Effect of stress on job satisfaction among nurses in Central Kerala *J Bussiness Man.* 2013;7:47-51
41. Menzies IE. Nurses under stress *Int Nurs Rev.* 1960;7:9-16
42. Jennings BM. Stressors of critical care nursing *Critical care nursing. Diagnosis and Management.* 1994 St Louis, MO Mosby:75-84
43. Advisory Board. . *Today's Debriefing 2014* Last accessed on 2014 Feb 13, Last accessed on 2019 Nov 05 Available from: <https://www.advisory.com/daily-briefing/2014/02/13/health-care-workers-may-be-the-nations-most-stressed-employees>
44. Gheshlagh R, Parizad N, Dalvand S, Zarei M, Farajzadeh M, Karami M, et al The prevalence of job stress among nurses in Iran: A meta-analysis study *Nurs Midwifery Stud.* 2017;6:143-8
45. Mwinga C, Mugala D. Prevalence and causes of stress among nurses at Ndola Central Hospital—A nurses' perspective *Int J Novel Res Healthc Nurs.* 2015;2:158-65
46. Maharaj S, Lees T, Lal S. Prevalence and risk factors of depression, anxiety, and stress in a cohort of Australian nurses *Int J Environ Res Public Health.* 2018;16:61.
47. Cheung T, Yip PS. Depression, anxiety and symptoms of stress among Hong Kong nurses: A cross-sectional study *Int J Environ Res Public Health.* 2015;12:11072-100
48. Carayon P, Gurses AP, Hughes RG. *Nursing Workload and Patient Safety—A Human Factors Engineering Perspective Patient Safety and Quality: An Evidence-Based Handbook for Nurses.* 2008 Rockville (MD) Agency for Healthcare Research and Quality (US)
49. Nourry N, Luc A, Lefebvre F, Sultan-Taïeb H, Béjean S. Psychosocial and organizational work environment of nurse managers and self-reported depressive symptoms: Cross-sectional analysis from a cohort of nurse managers *Int J Occup Med Environ Health.* 2014;27:252-69
50. Chaudhari AP, Mazumdar K, Motwani YM, Ramadas D. A profile of occupational stress in nurses *Ann Indian Psychiatry.* 2018;2:109.
51. Shivaprasad RN. Work related stress of nurses *J Psychiatry Nurs.* 2013;1:53.
52. Chatzigianni D, Tsounis A, Markopoulos N, Sarafis P. Occupational stress experienced by nurses working in a Greek Regional Hospital: A cross-sectional study *Iran J Nurs Midwifery Res.* 2018;23:450-7
53. Sarafis P, Rousaki E, Tsounis A, Malliarou M, Lahana L, Bamidis P, et al The impact of occupational stress on nurses' caring behaviors and their health related quality of life *BMC Nurs.* 2016;15:56.
54. Sharma P, Davey A, Davey S, Shukla A, Shrivastava K, Bansal R. Occupational stress among staff nurses: Controlling the risk to health *Indian J Occup Environ Med.* 2014;18:52-6
55. Oskins SL. Identification of situational stressors and coping methods by intensive care nurses *Heart Lung.* 1979;8:953-60

56. Finney C, Stergiopoulos E, Hensel J, Bonato S, Dewa CS. Organizational stressors associated with job stress and burnout in correctional officers: A systematic review *BMC Public Health*. 2013;13:82.
57. Liu WW, Pan FC, Wen PC, Chen SJ, Lin SH. Job stressors and coping mechanisms among emergency department nurses in the Armed Force Hospitals of Taiwan *Int J Human Soc Sci*. 2010;27:5–10
58. Carayon P, Gurses AP, Hughes RG. Nursing Workload and Patient Safety—A Human Factors Engineering Perspective *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. 2008 Last accessed on 2019 Oct 7 Rockville (MD) Agency for Healthcare Research and Quality (US) Apr. Chapter 30. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK2657/>.
59. Khamisa N, Peltzer K, Ilic D, Oldenburg B. Effect of personal and work stress on burnout, job satisfaction and general health of hospital nurses in South Africa *Health SA Gesondheid*. 2017;22:252–8
60. Folkman S, Lazarus RS, Gruen RJ, deLongis A. Appraisal, coping, health status, and psychological symptoms *J Pers Soc Psychol*. 1986;50:571–9
61. Schreuder JA, Roelen CA, Groothoff JW, van der Klink JJ, Magerøy N, Pallesen S, et al Coping styles relate to health and work environment of Norwegian and Dutch hospital nurses: A comparative study *Nurs Outlook*. 2012;60:37–43
62. Ab Latif R, Mat Nor MZ. Stressors and coping strategies during clinical practice among diploma nursing students *Malays J Med Sci*. 2019;26:88–98
63. Eslami Akbar R, Elahi N, Mohammadi E, Fallahi Khoshknab M. What strategies do the nurses apply to cope with job stress?: A qualitative study *Glob J Health Sci*. 2015;8:55–64
64. Jan F, Kour S, Para MA. Coping strategies used by staff nurses working in emergency and general wards of SKIMS Hospital: A comparative study *Ann Med Health Sci Res*. 2017;7:106–112
65. Zyga S, Mitrousi S, Alikari V, Sachlas A, Stathoulis J, Fradelos E, et al Assessing factors that affect coping strategies among nursing personnel *Mater Sociomed*. 2016;28:146–50
66. Pinhatti ED, Vannuchi MT, Sardinha DD, Haddad MD. Job rotation of nursing professionals among the sectors of a hospital: a management tool in conflict resolution *Texto & Contexto-Enfermagem*. 2017:26
67. Moeta ME, Du Rand SM. Using scenarios to explore conflict management practices of nurse unit managers in public hospitals *Curationis*. 2019;42:1–7
68. George MS. Stress in NHS staff triggers defensive inward-focussing and an associated loss of connection with colleagues: This is reversed by Schwartz Rounds *J Compassionate Health Care*. 2016;3:9.
69. Kato T. Coping with interpersonal stress and psychological distress at work: comparison of hospital nursing staff and salespeople *Psychol Res Behav Manag*. 2014;7:31.
70. Farrington A. Strategies for reducing stress and burnout in nursing *Br J Nurs*. 1997;6:44–50

العلاج الدوائي وغير الدوائي للاكتئاب ضمن نماذج الرعاية التعاونية بين طلاب التمريض

الملخص:

الخلفية: الاكتئاب والتوتر من المشاكل المنتشرة بين طلاب التمريض والعاملين في مجال الرعاية الصحية، ويؤثران على صحتهم النفسية وأدائهم الأكاديمي. يُعد الاكتئاب من القضايا المهمة لدى طلاب التمريض، حيث تُظهر الدراسات معدلات انتشار مرتفعة على مستوى العالم، وبخاصة في آسيا. تشمل العوامل المساهمة الضغوط الأكاديمية، والضغط العاطفي، والقلق بشأن الممارسة السريرية. ومع تفاقم هذه المشكلات، تؤدي إلى تدهور الأداء العقلي، والأداء الأكاديمي، والكفاءات السريرية، مما يزيد من خطر الانتحار بين الأفراد المتأثرين.

الهدف: يُهدف هذا المقال إلى استعراض التدخلات الدوائية وغير الدوائية لإدارة الاكتئاب والتوتر بين طلاب التمريض، مع التركيز على فعاليتها ضمن نماذج الرعاية التعاونية.

المنهج: يعتمد المقال على مراجعة الأدبيات الحالية، بما في ذلك التحليلات التلوية والمراجعات المنهجية، لتقييم فعالية العلاجات الدوائية (مثل مضادات الاكتئاب) والطرق غير الدوائية (مثل العلاج المعرفي القائم على اليقظة الذهنية وتدخلات إدارة التوتر). كما يتضمن التحليل تقييم طرق التدخل، مدة العلاج، ونتائج المتابعة.

النتائج: تُعد العلاجات الدوائية، بما في ذلك مضادات الاكتئاب، من العلاجات الشائعة التي أظهرت نتائج إيجابية في تخفيف أعراض الاكتئاب. ومع ذلك، تشير الآثار الجانبية وتفضيلات المرضى للعلاج النفسي إلى الحاجة إلى مقاربات متوازنة. أظهرت التدخلات غير الدوائية، مثل اليقظة الذهنية والعلاج المعرفي، نتائج متباينة، مع بعض الأدلة التي تشير إلى فوائد في تقليل أعراض الاكتئاب بين طلاب التمريض. ومع ذلك، لا تزال هناك محدودية في التناسق بين النتائج عبر الدراسات المختلفة.

الخلاصة: يُعد النهج التعاوني في الرعاية الذي يجمع بين التدخلات الدوائية وغير الدوائية أمرًا حاسمًا في إدارة الاكتئاب والتوتر بين طلاب التمريض. هناك حاجة إلى المزيد من البحث لتوحيد بروتوكولات التدخل، وتقييم الآثار طويلة المدى، وتخصيص العلاجات وفقًا للاحتياجات الفردية.

الكلمات المفتاحية: الاكتئاب، التوتر، طلاب التمريض، التدخلات الدوائية، التدخلات غير الدوائية، الرعاية التعاونية.