

Initiation of Prescription Medications and Substances Among Graduate Nursing and Health Science Students: A Scoping Review and Plan for Evidence-Based Practice Intervention

Hallie Evans, DNP¹, Jennifer R Majumdar, PhD^{2,3}, Elizabeth Wilkes, DNAP⁴, Susan P McMullan, PhD⁵

Authors: 1. Middle Tennessee School of Anesthesia, Madison, TN, USA | 2. Division of Nursing Science, Memorial Sloan Kettering Cancer Center, New York, NY, USA | 3. Hunter-Bellevue School of Nursing, City University of New York, New York, NY, USA | 4. Augusta University College of Nursing, Augusta, GA, USA | 5. University of Alabama at Birmingham School of Nursing, Birmingham, AL, USA

Background:

Graduate nursing and health science students face immense pressures as they navigate demanding academic and clinical training programs.¹ Balancing rigorous coursework, high-stakes clinical training, and personal obligations often results in widespread mental health challenges, including stress, anxiety, and depression.² These mental health challenges, compounded by academic and clinical demands, create a high-risk environment for maladaptive coping mechanisms.

To manage these pressures, many students turn to substances such as prescription medications, over-the-counter drugs, alcohol, caffeine, and even illicit substances. Substance use is often linked to stress, academic pressure, and vulnerabilities like pre-existing mental health conditions or poor social support. This scoping review explores the substances used, factors contributing to their initiation, and institutional influences, aiming to inform strategies that enhance student well-being and academic success.

Research Questions:

1. What types of prescription medications, over-the-counter agents, and other substances are initiated by graduate nursing and health science students during their programs?
2. What are the predisposing personal and academic factors associated with the initiation of these substances?
3. What school-related factors contribute to the use of substances in this population?

Search Strategy:

The search included four major databases—PubMed, CINAHL, EMBASE, and Cochrane Review—for studies published between 2013 and 2024. Search terms included combinations of keywords such as “prescription medication,” “substance use,” “graduate nursing students,” “mental health,” and “stress.” Grey literature, bibliographies, and citation searches were also examined. All identified articles were imported into Covidence for systematic review management.

Key Themes:

1. Mental Health Concerns:

- o High prevalence of anxiety (14-66%), depression (17-40%), and stress (up to 80%).
- o Sleep disturbances and poor dietary habits were common.
- o Gender differences were noted, with female students reporting higher anxiety and depression and male students more likely to engage in substance use.

2. Substance Use Patterns:

- o Prescription medications (e.g., antidepressants, stimulants) were commonly used to manage stress and anxiety.
- o Alcohol and caffeine were frequently used as coping mechanisms, with some reports of illicit drug use.
- o Medical residents exhibited concerning patterns, including accidental overdoses and suicide linked to substance use.

3. Academic Stressors:

- o Intense workloads, negative clinical experiences, and poor faculty feedback were significant contributors to stress.
- o First-year students reported higher anxiety levels compared to later years, highlighting the transitional stress of starting graduate programs.
- o Didactic-phase students faced greater mental fatigue than clinical-phase students.

Conclusions:

This scoping review emphasizes the need for systemic changes to address the mental health challenges and substance use behaviors among graduate nursing and health science students. Key recommendations include:

1. Enhanced Institutional Support:

- o Develop robust mental health services, including accessible counseling and stress management programs.
- o Incorporate wellness initiatives into curricula and clinical rotations.

2. Targeted Interventions:

- o Provide mentorship and resilience training to help students navigate academic and clinical pressures.
- o Offer workshops on coping strategies, time management, and self-care.

3. Future Research:

- o Investigate the long-term implications of substance use and mental health challenges.
- o Explore demographic and cultural differences to develop tailored support systems.

Methods:

This scoping review followed the **Arksey and O'Malley**³ framework and adhered to the **PRISMA-ScR guidelines**⁴ for systematic reviews. The review focused on identifying the incidence, predictors, and associated factors of substance use among graduate nursing and health science students and medical residents during their training programs.

Inclusion/Exclusion Criteria:

- Inclusion: U.S.-based studies in English focusing on nursing and health science graduate students, medical students, and residents who initiated substance use during their programs.
- Exclusion: Studies focusing on students already using substances before starting their programs or conducted outside the U.S.

Data Extraction and Analysis:

Data were extracted based on study design, sample size, population demographics, types of substances used, and key findings. Themes were synthesized using a data extraction framework aligned with the research questions.

Insights:

The studies highlighted a critical need for targeted interventions to address the mental health and substance use challenges faced by these students. Institutional factors such as curriculum design, workload, and support systems played a significant role in influencing these behaviors.

Key Takeaways for the Nurse Anesthesia Educator:

1. Recognize Mental Health Challenges:

- o Acknowledge the high levels of stress, anxiety, and depression among students.
- o Normalize mental health discussions to reduce stigma.

2. Monitor for Risk Factors:

- o Identify signs of stress and potential substance use, such as sleep disturbances or academic struggles.

3. Integrate Wellness into the Curriculum:

- o Include mindfulness, stress management, and resilience-building activities.
- o Promote healthy coping mechanisms like exercise and time management.

4. Provide Mentorship and Support:

- o Foster mentor-mentee relationships and offer safe spaces for students to share concerns.
- o Train faculty to recognize and address student stressors.

5. Enhance Learning Environments:

- o Offer timely, constructive feedback and ensure reasonable workloads.
- o Reduce stressors tied to clinical and academic demands.

6. Facilitate Early Interventions:

- o Provide accessible mental health resources and clear support pathways.
- o Develop policies to address substance use risks proactively.

7. Prepare Students for Clinical Practice:

- o Teach adaptive coping strategies to sustain well-being beyond graduation.
- o Emphasize the impact of mental health on professional performance and patient safety.

Results:

Out of 941 initial citations, 26 studies were included after screening 655 abstracts and 80 full-text articles. The studies spanned various healthcare disciplines, including nursing, physical therapy, speech-language pathology, and pharmacy. Sample sizes ranged from 37 to 381,614 participants.

References

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