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RESEARCH ARTICLE

PEER MENTORSHIP, WELLBEING AND ACADEMIC PERFORMANCE OF NURSING STUDENTS: A SINGLE-CENTER PROSPECTIVE STUDY IN AN EASTERN NIGERIA FEDERAL INSTITUTION

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Abstract

Background: Mentorship is widely recognised as a key strategy for supporting academic success and professional development in nursing education. In resource constrained settings, peer mentorship has emerge d as a feasible alternative to faculty-led models, yet empirical evidence on its combined academic and psychological associations remains limited in Nigeria.

Aim: This study examined the associations between a structured peer mentorship programme on psychological wellbeing (anxiety, depressio n, and stress) and academic performance among nursing students in a federal institution in eastern Nigeria.

Methods: A prospective single-centre study design was adopted. Psychological wellbeing was assessed among 93 nursing students using validated instruments—the Generalised Anxiety Disorder Scale (GAD-7), Patient Health Questionnaire (PHQ-9), and University Stress Scale (USS)—before and after participation in a peer mentorship programme. Academic performance outcomes were analysed for 108 peer-mentored students and compared with examination scores from previous non-mentored cohorts. Paired samples t-tests, McNemar tests, and independ ent samples t tests were used for data analysis, with statistical significa nce set at $p < .05$.

Results: Peer mentorship was associated with significantly improved academic performance, with the peer-mentored cohort achieving higher mean examination scores than previous non-mentored cohorts ($p < .01$). Psychological wellbeing outcomes were mixed. Although anxiety and depression scores showed slight, non significant reductions followi ng the intervention, perceived stress levels increased significantly post-intervention ($p = .013$). Categorical analyses revealed no statistically significant changes in anxiety or depression severity, while a higher proportion of students reported stress levels predictive of psychological distress after mentorship.

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Conclusion: Structured peer mentorship appears to be an effective academic support intervention for nursing students in resource-constrained educational contexts. However, its impact on psychological wellbeing is limited and may be accompanied by increased perceived stress. Integrating targeted psychosocial support and mental health training into peer mentorship programmes may enhance their overall effectiveness. These findings provide context-specific evidence to inform mentorship policy and practice in nursing education in Nigeria and similar settings.

Introduction: -

Mentorship has long been recognised as a fundamental component of professional development in nursing education, serving as a structured mechanism for academic guidance, psychosocial support, and professional socialisation of students [Jokelainen et al., 2011]. Historically, mentorship in nursing evolved from informal apprenticeship models into more formalised educational strategies designed to bridge the gap between theoretical instruction and clinical practice [Arinze et al., 2026]. In contemporary nursing education, mentorship is increasingly viewed as a critical support system that enhances students' learning experiences, confidence, and readiness for professional practice [Myall et al., 2008].The growing complexity of nursing education, coupled with rising academic demands and emotional stressors, has heightened the need for effectual mentorship programmes. Nursing students frequently encounter stress related to academic workload, clinical exposure, and adaptation to professional expectations, which can negatively affect both academic performance and psychological wellbeing [Labrague, 2013]. Evidence from previous studies highlights that students who lack adequate mentorship are more vulnerable to anxiety, stress, poor academic outcomes, and attrition [Pulido-Martos et al., 2012]. As such, mentorship has been positioned as a protective intervention that promotes resilience, academic engagement, and emotional stability among nursing students [Levett-Jones &Lathlean, 2008].

Peer mentorship has emerged as a particularly relevant model within nursing education, especially in resource-constrained settings. Unlike traditional faculty-led mentorship, peer mentorship involves students at more advanced stages providing academic and psychosocial support to junior colleagues. This model has been shown to enhance approachability, reduce power differentials, and foster a supportive learning environment [Stone et al., 2013]. In contexts where faculty shortages and high workloads limit the feasibility of one-to-one faculty mentoring, peer mentorship offers a cost-effective and scalable alternative [WHO, 2016].In Nigeria, nursing education institutions continue to face systemic challenges, including limited staffing, high student enrolment, and inadequate student support structures [Kolbugri et al., 2024]. These challenges are further compounded by increasing mental health concerns among students, with reports of elevated stress, anxiety, and depressive symptoms during training [Ibrahim et al., 2013]. Despite the acknowledged importance of mentorship, its implementation across Nigerian nursing institutions remains inconsistent, with considerable variation in structure, intensity, and outcomes [Okoronkwo et al., 2013]. Moreover, empirical evidence examining the combined effect of peer mentorship on both academic performance and student wellbeing within Nigerian nursing education remains limited.

While existing studies have explored mentorship broadly, there is a paucity of prospective empirical research focusing specifically on peer mentorship and its measurable outcomes in single-institution contexts especially in resource-constrained parts of the world such as Nigeria. Most available evidence is either cross-sectional or focused predominantly on academic outcomes, with less attention given to psychological wellbeing indicators such as stress, anxiety, and depression, all of which are directly linked to academic productivity [Sambunjak et al., 2006]. This gap limits the ability of educators and policymakers to design evidence-based mentorship programmes that address both academic and psychosocial needs of nursing students.Against this backdrop, the present study investigates the impact of a structured peer mentorship programme on the wellbeing and academic performance of nursing students in a federal institution in eastern Nigeria. It seeks to raise curiosity towards finding other viable and realistic alternatives to the regular lecturer-student designs, to address global issues like brain-drain while ensuring standards of learning do not depreciate. Adopting a prospective design and utilising validated measures of psychological wellbeing alongside academic performance data, this study contributes context-specific empirical evidence to inform mentorship practice, policy, and programme development within nursing education.

Research Objectives: -

The major aim of this study is to examine the associations between structured a peer mentorship programme, psychological wellbeing and academic performance of nursing students in a federal institution in eastern Nigeria.

The specific objectives of the study are to:

1. Assess changes in psychological wellbeing (anxiety, depression, and stress) among nursing students before and after participation in a peer mentorship programme.
2. Compare the academic performance of nursing students exposed to peer mentorship with that of previous non-mentored cohorts within the same institution.
3. Evaluate the associations between peer mentorship, nursing students' academic adjustment and psychosocial support in resource-limited settings.

Materials and Methods: -

Study Design - This study adopted a prospective single-centre study design to evaluate the associations between structured peer mentorship programme, psychological wellbeing and academic performance of nursing students. A prospective approach was considered appropriate to allow assessment of changes in wellbeing outcomes before and after the mentorship intervention, as well as comparison of academic performance with previous non-mentored cohorts [Creswell &Creswell, 2018].

Study Setting - The study was conducted at a federal nursing education institution located in eastern Nigeria. The institution offers undergraduate nursing training and admits students from diverse socio-economic backgrounds. Like many nursing institutions in low- and middle-income countries, the study setting is characterised by high student enrolment, limited academic staff, and constrained student support services, which informed the adoption of a peer mentorship model [WHO, 2020].

Study Population and Participants - The study population comprised undergraduate nursing students enrolled at the institution during the study period. Students who participated in the peer mentorship programme constituted the intervention group. Academic performance data from previous cohorts who did not participate in any formal mentorship programme were used as comparator data for assessing academic outcomes.

Sample size– Sample size was set using Taro Yamane's formular for sample size determination which have been found to be suitable for survey research and finite population (Uakarn et al., 2021). Since the study design was a single-arm trial which requires smaller sample size (Wang et al., 2025), the sample size was further reduced by eliminating participants who did not meet the selection criteria, optimised for an attrition rate of 10%, yielding a final sample size of 108.

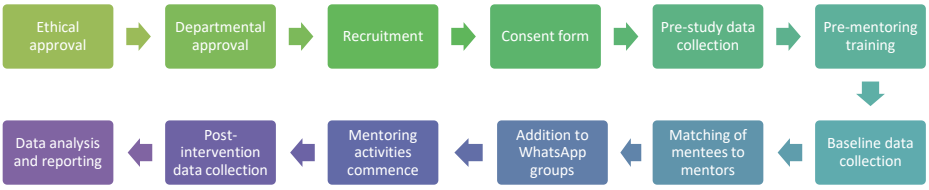
Eligible participants were nursing students who:

- were officially registered in the institution,
- consented to participate in the study, and
- completed both baseline and post-intervention wellbeing assessments.

Students with incomplete questionnaire responses were excluded from the final analysis.

Description of the Peer Mentorship Intervention - The peer mentorship programme was structured such that senior nursing students served as mentors to junior students. Mentors were selected based on academic standing and willingness to participate. Each mentor was assigned a small group of mentees and provided academic guidance, emotional support, and informal counselling throughout the intervention period.Mentorship activities included regular meetings, academic discussions, examination preparation support, and informal peer engagement. The programme was coordinated within the institution and implemented alongside routine academic activities [Topping 1996].

Figure 1: Illustration of the overall research procedure for the study.



Following the acquisition of necessary approvals, participant recruitment for both mentees and mentors was initiated. Recruitment efforts employed a hybrid approach, combining online and physical methods. This included broadcast messages disseminated to students' WhatsApp groups via course representatives, as well as the distribution of flyers through the same channels. However, the primary recruitment method was virtual, relying predominantly on repeated broadcast messages sent via course representatives. Interested students were directed to a secure Google Form to provide informed consent and preliminary contact information essential for communication. The Google Form featured an interactive design, participants who withheld consent at any stage were redirected out of the form, while those who provided full consent proceeded to complete the biodata section (Harrison et al., 2025).

Upon conclusion of the recruitment phase, the Google Form was closed. All recruited mentees were subsequently informed about the pre-mentoring training program. This training was delivered as a pre-recorded video, encompassing all critical information points outlined in the intervention package. Mentees confirmed completion of the training video by submitting a one-paragraph summary via text message (Young et al., 2021).

For mentors, an additional contract form was distributed via Google Forms for their signature prior to engagement in the mentorship program. This contract formalized the conditions for receiving the announced scholarship token disbursed towards their tuition as a token of appreciation for their contributions (Banwell et al., 2019).

Baseline data collection commenced following the training activities. Subsequently, all mentees were matched with their respective mentors and integrated into dedicated WhatsApp groups established and supervised by the researcher.

Data Collection Instruments - Psychological wellbeing was assessed using validated self-report instruments:

- Generalised Anxiety Disorder Scale (GAD-7) to measure anxiety symptoms,
- Patient Health Questionnaire (PHQ-9) to assess depressive symptoms, and
- University Stress Scale (USS) to evaluate perceived stress levels among students.

Academic performance was assessed using end-of-year examination scores, obtained from institutional academic records. These scores were used to compare the performance of the peer-mentored cohort with that of previous non-mentored cohorts.

Data Collection Procedure - Baseline wellbeing data were collected from participants prior to commencement of the peer mentorship programme. Post-intervention data were collected at the end of the mentorship period using the same instruments. Academic performance data for the peer-mentored cohort and comparator cohorts were extracted after completion of the academic session.

Data Analysis - Data wasanalysed using appropriate statistical methods. Continuous variables were summarised using means and standard deviations, while categorical variables were presented as frequencies and percentages.

- Paired-samples t-tests were used to assess changes in wellbeing scores before and after the mentorship intervention.
- McNemar tests were applied to examine changes in categorical wellbeing classifications.
- Independent samples t-tests were used to compare academic performance between the peer-mentored cohort and previous non-mentored cohorts.

Statistical significance was set at $p < .05$.

Ethical Considerations - Ethical approval for the study was obtained fromthe research ethics committee of the University of Nigeria Teaching HospitalItukuOzlla, Enugu - NHREC/05/01/2008B-FWA00002458-1RB00002323. Participation was voluntary, and informed consent was obtained from all participants. Confidentiality and anonymity were maintained throughout the study by using coded identifiers and restricting access to study data [World Medical Association, 2013].

Results: -

Participant Characteristics: -

Following data cleaning, a total of 93 nursing students who completed both baseline and post-intervention psychological wellbeing assessments appropriately were included in the well-being analysis. Academic performance analysis included 108 peer-mentored students, whose examination scores were compared with those of non-mentored cohorts from previous academic sessions.

Participants represented different levels of undergraduate nursing training. All respondents completed the study instruments fully and were included in the final analysis.

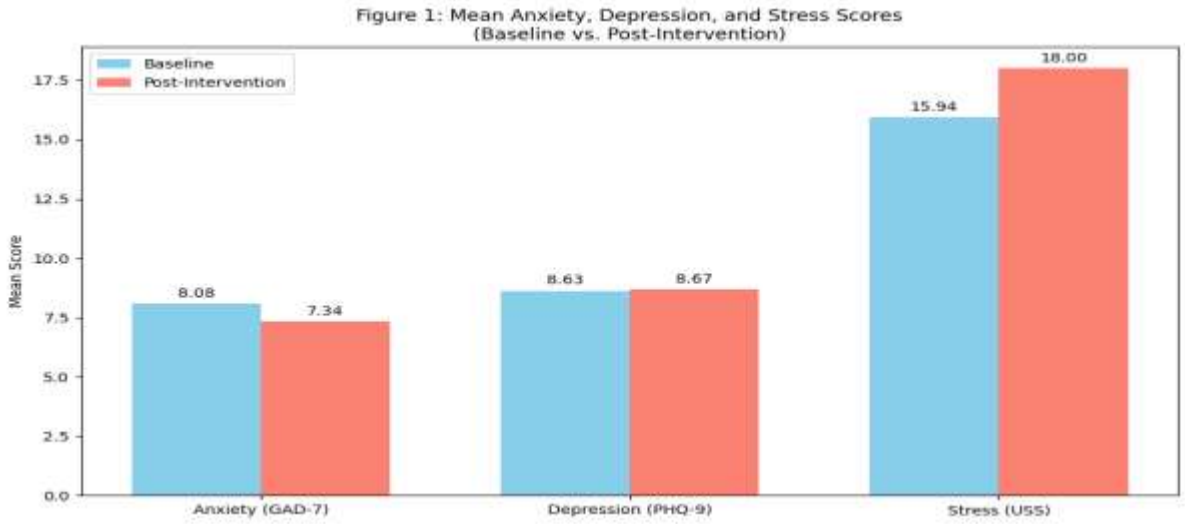
Associations between Peer Mentorship and Psychological Wellbeing: -

Table 1 presents changes in anxiety, depression, and stress scores before and after participation in the peer mentorship programme.

Outcome Measure	Baseline Mean ± SD	Post-Intervention Mean ± SD	Mean Difference	Test Statistic	p-value
Anxiety (GAD-7)	8.08 ± 5.84	7.34 ± 6.00	0.60	t = 1.25	.215
Depression (PHQ-9)	8.63 ± 6.89	8.67 ± 6.97	0.25	t = −0.39	.694
Stress (USS)	15.54 ± 9.45	18.00 ± 9.96	−2.46	t = −2.52	**.013**

Mean anxiety scores showed a non-significant reduction following the intervention (baseline: 8.08 ± 5.84; post-intervention: 7.34 ± 6.00; p = .215). Similarly, no statistically significant change was observed in depressive symptoms (baseline: 8.63 ± 6.89; post-intervention: 8.67 ± 6.97; p = .694). In contrast, perceived stress scores increased significantly following the mentorship programme (baseline: 15.54 ± 9.45; post-intervention: 18.00 ± 9.96; p = .013), indicating higher reported stress levels after participation.

Figure 2. Line chart or clustered bar chart showing mean anxiety, depression, and stress scores at baseline and post-intervention.



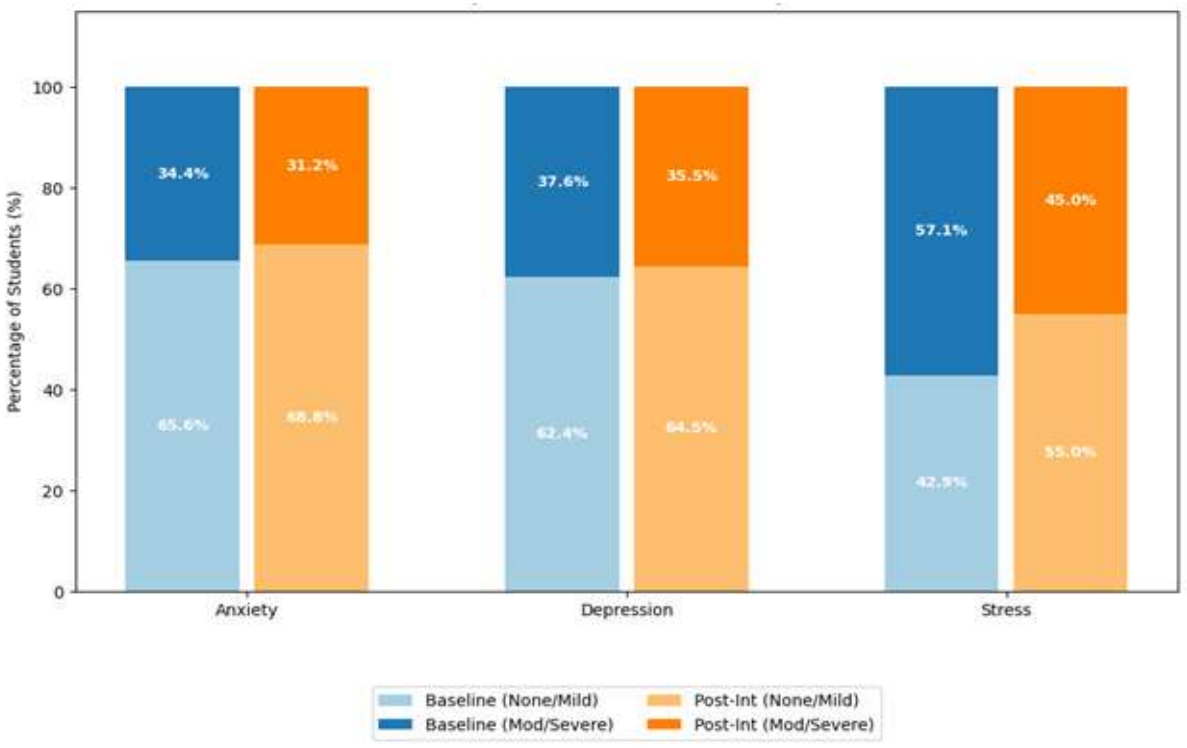
Distribution of Psychological Wellbeing Categories: -

Table 2 summarises the categorical distribution of anxiety, depression, and stress levels before and after the intervention.

Outcome Level	Baseline n (%)	Post-Intervention n (%)	Test Used	p-value
Anxiety			McNemar	.660
None/Mild	61 (65.6)	64 (68.8)		
Moderate–Severe	32 (34.4)	29 (31.2)		
Depression			McNemar	.908
None/Mild	58 (62.4)	60 (64.5)		
Moderate–Severe	35 (37.6)	33 (35.5)		
Stress			McNemar	.121
Normal	41 (44.1)	31 (33.3)		
Predictive of distress	52 (55.9)	62 (66.7)		

The proportion of students with moderate-to-severe anxiety decreased slightly from 34.4% at baseline to 31.2% post-intervention, although this change was not statistically significant (p = .660). Similarly, moderate-to-severe depressive symptoms decreased marginally from 37.6% to 35.5%, with no significant difference observed (p = .908). Conversely, the proportion of students with stress levels predictive of psychological distress increased from 55.9% at baseline to 66.7% post-intervention, though this categorical shift did not reach statistical significance (p = .121).

Figure 3. Stacked bar chart showing proportions of wellbeing categories (none/mild vs moderate–severe) at baseline and post-intervention.



Academic Performance Outcomes: -

Table 3 compares academic performance between the peer-mentored cohort and previous non-mentored cohorts.

Group	n	Mean Score (%) ± SD	Mean Difference	Test Statistic	p-value
Peer-mentored cohort	108	58.58 ± 11.07			
2022/2023 cohort (non-mentored)	324	54.30 ± 10.73	4.28	t = −2.56	**< .001**
Peer-mentored cohort	108	58.58 ± 11.07			
2021 cohort (non-mentored)	321	54.86 ± 10.24	3.72	t = −3.20	**.001**

Peer-mentored students achieved a significantly higher mean examination score (58.58 ± 11.07) compared with the 2022/2023 non-mentored cohort (54.30 ± 10.73; p< .001). A similar statistically significant difference was observed when compared with the 2021 non-mentored cohort (54.86 ± 10.24; p = .001).These findings indicate that participation in the peer mentorship programme was associated with improved academic performance relative to cohorts without structured mentorship.Hence peer mentorship was associated with significant academic performance gains among nursing students. However, its impact on psychological wellbeing was mixed, with no significant improvements observed in anxiety or depression and a significant increase in perceived stress following the intervention.

Discussion: -

This study examined the associations between structured peer mentorship programme, psychological wellbeing and academic performance among nursing students in a federal institution in eastern Nigeria. The findings indicate that peer mentorship was associated with significant improvement in academic performance, while changes in psychological wellbeing were mixed, with no significant reductions in anxiety or depression and a significant increase in perceived stress following the intervention.The improvement in academic performance observed among peer-mentored students suggests that peer mentorship can function as an effective academic support mechanism within nursing education. Mentorship relationships likely facilitated academic guidance, study collaboration, and access to experiential knowledge shared by senior students. These forms of peer-assisted learning are known to enhance academic engagement and self-efficacy, which may translate into improved examination performance [Bandura, 1997]. In resource-constrained educational environments where faculty mentorship opportunities are limited, peer mentorship provides a practical and scalable strategy for strengthening academic outcomes.

The academic performance findings also support the broader view that structured mentorship programmes can promote academic adjustment and persistence among nursing students. Senior students serving as mentors may help mentees navigate academic expectations, examination preparation, and time management demands, thereby reducing uncertainty associated with professional training [Vygotsky, 1978]. The observed performance differences between the peer-mentored cohort and previous non-mentored cohorts reinforce the value of structured peer-support interventions in nursing education settings.Incontrast to the academic findings, the psychological wellbeing outcomes were less consistent. Anxiety and depression scores showed slight reductions following the mentorship programme, although these changes were not statistically significant. This suggests that while peer mentorship may offer emotional reassurance and social support, it may not be sufficient on its own to produce measurable changes in clinical indicators of psychological wellbeing over a relatively short intervention period [Dyrbye et al., 2006]. Psychological wellbeing is influenced by multiple academic, social, and personal factors, and mentorship alone may not address all sources of emotional distress experienced by nursing students.

Interestingly, perceived stress scores increased significantly following participation in the mentorship programme. One possible explanation is that increased academic engagement and awareness of professional expectations during mentorship interactions may heighten students' perception of academic responsibility and performance pressure (Shuler et al., 2021). As mentees become more academically involved and exposed to expectations discussed by mentors, they may report higher levels of perceived stress even while performing better academically. This pattern has been reported in studies where academic support interventions improved performance but coincided with increased workload awareness or performance expectations [Misra & McKean 2000].Another explanation relates to the demanding nature of nursing education itself. Clinical exposure, academic workload, and professional socialisation may intensify during the period in which mentorship programmes are implemented, thereby influencing stress levels independently of mentorship effects. Peer mentorship may help students cope with

academic challenges without necessarily reducing perceived stress associated with professional training [Gibbons, 2010]. This distinction between academic support and psychological stress reduction is important when designing mentorship programmes in nursing education.

The findings highlight the need to integrate psychosocial support training into peer mentorship programmes. While peer mentors can provide academic guidance and informal emotional support, structured training in mental health awareness, stress management, and supportive communication may strengthen the wellbeing impact of mentorship initiatives. Institutional counselling services and student support systems could also complement peer mentorship to address psychological wellbeing more effectively [Stallman, 2010].The study contributes to the growing body of empirical evidence on mentorship in nursing education within low- and middle-income contexts. By using a prospective design and validated wellbeing measures, the study provides context-specific insights into how peer mentorship influences both academic and psychological outcomes among nursing students. The findings reinforce the importance of structured mentorship programmes while also highlighting their limitations when implemented without integrated mental health support.

Conclusion: -

This study examined the impact of a structured peer mentorship programme on the psychological wellbeing and academic performance of nursing students in a federal institution in eastern Nigeria. The findings demonstrate that peer mentorship is associated with significant improvement in academic performance, highlighting its value as an academic support strategy in nursing education, particularly within resource-constrained institutional environments.
However, the influence of peer mentorship on psychological wellbeing was less consistent. While anxiety and depression scores showed slight reductions following the intervention, these changes were not statistically significant. Perceived stress levels increased significantly after participation in the mentorship programme, suggesting that mentorship alone may not be sufficient to address the psychological demands associated with nursing education. These findings indicate that peer mentorship programmes may be more effective in supporting academic outcomes than in directly improving psychological wellbeing.Hence the study contributes empirical evidence supporting the role of peer mentorship as a practical and scalable intervention for enhancing academic performance among nursing students. At the same time, it underscores the importance of integrating structured psychosocial support into mentorship programmes to achieve more comprehensive student wellbeing outcomes.

Limitations: -

Participant attrition was identified as a limitation duringthe study. While efforts were made to maintain engagement, some participants did not complete the post-intervention data collection. Despite this reduction in the final sample size, the study's statistical power remained robust, as the final exceeded the required threshold (n=60) determined by the initial power analysis.
Additionally, the use of a pre- and post-intervention comparison without a control group limits the ability to attribute observed changes solely to the programme. Potential confounding factors—such as maturation, history effects, or the Hawthorne effect—cannot be entirely ruled out (Wang et al., 2025). Consequently, while improvements in academic performance were observed, they may have been influenced by unmeasured variables like student motivation or concurrent institutional support."

Recommendations: -

Based on the findings of this study, the following recommendations are proposed:
Institutional Practice - Nursing education institutions should formalise peer mentorship programmes as part of their academic support systems. Clearly defined mentorship structures, mentor–mentee pairing processes, and regular monitoring mechanisms can improve programme effectiveness and sustainability.Mentor Preparation and Training - Peer mentors should receive basic training in communication skills, academic guidance strategies, and mental health awareness. Such preparation may enhance mentors' ability to support mentees both academically and emotionally.
Student Support Integration - Peer mentorship programmes should be complemented by institutional student support services, including counselling and stress management interventions, to address psychological wellbeing more comprehensively.Policy development educational administrators and nursing education regulators should consider incorporating mentorship frameworks into institutional policies to ensure continuity and consistency in mentorship implementation across training institutions.

Future Research: -
Further studies should:

- examine long-term effects of peer mentorship on student wellbeing,
- include multi-institutional samples for broader generalisability, and
- compare peer mentorship with faculty-led or hybrid mentorship models.

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