DEPRESSION AMONG NURSING STUDENTS IN INDONESIA: PREVALENCE AND ASSOCIATIONS WITH AGE AND LEVEL OF NURSING EDUCATION: NATIONAL SURVEY

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ABSTRACT

Background: Depression is more prevalent among nursing students than in the general student population, largely due to academic demands and the pressures of clinical practice. In Indonesia, evidence on demographic factors associated with depression among nursing students, such as age and level of nursing education, remains limited. This study aimed to examine the associations between age and educational level and the occurrence of depression among nursing students in Indonesia.

Methods: A cross-sectional study was conducted with 690 nursing students recruited from 30 provinces across Indonesia. Participants were selected using convenience and snowball sampling. Data were collected via an online questionnaire that included demographic characteristics and the Beck Depression Inventory (BDI), Indonesian version.

Results: The findings revealed that 21.01% of nursing students experienced depressive symptoms. The mean age of the respondents was 21 years old, and the majority were enrolled in a Bachelor's degree program in Nursing (61.5%). Statistical analysis indicated no significant association between age and depression status (p = 0.611), and a significant association was identified between educational level and depression (p = 0.023), with students enrolled in the regular Bachelor of Nursing program demonstrating a higher prevalence of depression.

Conclusion: Depression remains a significant mental health problem among nursing students in Indonesia. Age was not associated with depressive symptoms, but education level emerged as a factor associated with depression. These findings highlight the need for increased psychological support and education-specific intervention strategies to prevent and reduce depression among nursing students.

Keywords: age, depression, education, Indonesia, nursing

INTRODUCTION

Mental health problems among university students have become a critical issue that demands attention from multiple stakeholders, including educational institutions and policymakers. A recent meta-analysis reported a high prevalence of mental health problems among university students, with 10% experiencing borderline personality disorder, 73% depression, 85% anxiety, 87% sleep disturbances, and 20% reporting having had suicidal ideation (Paiva et al., 2025). These findings highlight that university students represent a particularly vulnerable population in terms of mental health.

Compared with the general population, the prevalence of mental health problems among university students tends to be higher (Alhemedi et al., 2023). University students face various stressors, including heavy academic demands, high family expectations, fear of failure, and

limited social support, which increase their vulnerability to depression (Kandasamy et al., 2025). Among university students, nursing students constitute a group with an increased vulnerability to mental health problems. Evidence indicates that nursing students are more likely to experience mental health issues, particularly depression, compared to students from other academic disciplines within the same age group (Ciezar Andersen et al., 2024). A study umbrella review reported that approximately 29% of nursing students experience depression (Efstathiou et al., 2025). Similar findings have been reported across different countries, with prevalence rates of 30% in Los Angeles (Jardon & Choi, 2024), Saudi Arabia, 50.5 % (Alreshidi, 2025), and 28.7% in China (Zeng et al., 2019). In Indonesia, a local study found that depression was present in 41.6% of nursing students (Tarigan et al., 2025), suggesting a comparatively higher prevalence than that reported in several other settings. Depression has substantial consequences for overall health, including feelings of worthlessness, impaired thinking and concentration, reduced self-care, changes in appetite, sleep disturbances, and suicidal ideation (Santangelo et al., 2019). In the context of healthcare delivery, depression among nursing students may negatively affect communication skills, reduce engagement in the nursing care process, and ultimately compromise the quality of patient care (Aloufi et al., 2021).

Previous studies have identified several demographic factors associated with depression among nursing students, including gender (Santangelo et al., 2019; Ye et al., 2025), marital status, employment, and economic conditions (Santangelo et al., 2019), as well as the academic year (Nway et al., 2023). However, research specifically examining the role of age and nursing education level in relation to depression remains limited. In Indonesia, although several studies have explored depression among nursing students, these investigations have largely been conducted at the local level and do not yet provide a national perspective (Kurniawan et al., 2024; Satria Fitriawan et al., 2023; Tarigan et al., 2025). The factors examined in previous Indonesian studies include support systems (Kurniawan et al., 2024), gender, and academic year (Tarigan et al., 2025). Studies that specifically investigate the association between age and different levels of nursing education, such as diploma (D3), regular bachelor's (S1), post-baccalaureate (S1), and professional nursing programs, are still missing.

Examining these two factors is essential to provide a more comprehensive understanding of which groups of nursing students are at greater risk of depression. The findings of this study may inform nursing education institutions in developing more targeted mental health prevention and intervention strategies, such as mentoring programs for early-year students or tailored psychosocial support across different educational levels. Therefore, this study aims to analyze the relationship between age and level of nursing education with the occurrence of depression among nursing students in Indonesia.

RESEARCH METHOD

This study employed a cross-sectional design to examine the relationship between depression and age, as well as academic semester, among nursing students in Indonesia. A combination of convenience sampling and snowball sampling techniques was used to recruit participants. Convenience sampling was conducted by appointing research coordinators in each province or major island across Indonesia, who assisted in distributing the questionnaire to eligible nursing students. Snowball sampling was implemented by asking nursing lecturers to disseminate the questionnaire to their colleagues in other provinces, thereby expanding the recruitment network. Data was collected using an online questionnaire administered through

Google Forms (g-form). The questionnaire consisted of two parts. The first part collected demographic information, including age, gender, level of nursing education, campus location, and the presence of depressive symptoms. The second part utilized the Beck Depression Inventory (BDI) Indonesian version, which has been culturally adapted and validated for use in the Indonesian population (Sari et al., 2025). The Indonesian BDI consists of 18 items, each rated on a 0–3 Likert scale, with higher scores indicating greater severity of depressive symptoms. Construct validity testing demonstrated good model fit (CMIN/DF = 2.628; GFI = 0.901; AGFI = 0.871; RMSEA = 0.067; CFI = 0.914; TLI = 0.900; IFI = 0.915). The instrument also showed excellent internal consistency, with a Cronbach's alpha coefficient of 0.914 (Sari et al., 2025). These findings indicate that the Indonesian version of the BDI has strong validity and reliability. In this study, the occurrence of depression was categorized into two groups: non-depressed and depressed. The cut-off point applied was set at a score of 14.5 (Sari et al., 2025).

Eligible participants were nursing students enrolled in Diploma III (D3) Nursing, Bachelor's and post-baccalaureate of Nursing (S1), and Professional Nurse (Ners) programs who were actively registered at their institutions at the time of data collection. Students who were on academic leave were excluded from studying. Data collection was carried out in August 2025. The required sample size was calculated using G*Power, which indicated a minimum sample of 690 respondents. Participants were recruited from 30 provinces in Indonesia, ensuring broad geographical representation.

Data analysis included univariate and bivariate analyses. Univariate analysis was performed to describe the characteristics of each variable using frequencies and percentages, including gender, age, academic semester, level of nursing education, campus location, and level of depression. Bivariate analysis was conducted to examine the associations between age and academic semester with depressive symptoms among nursing students. This study employed the Mann–Whitney test to analyze the association between age and the occurrence of depression, and the chi-square test to assess differences in depression occurrence across educational levels. Ethical approval for this study was obtained from The Health Research Ethics Committee of the Faculty of Health and Pharmacy, Bani Saleh University (No. Ec.178/KEPK/FKF-UBS/VIII/2025).

RESULTS

Table 1 shows the demographic characteristics of the sample in this study. The samples included 690 nursing students from 30 provinces across Indonesia. Most participants were female (85.2%), with a mean age of 20.99 years. Most students were enrolled in the regular Bachelor of Nursing (S1) program (61.5%), identified as Muslim (84.3%), and 21.01 % were classified as depressed.

Table 1. Demographic Characteristic

Characteristic	M ± SD	Frequency (%)
Gender		
Man		102 (14.8)
Woman		588 (85.2)
Age	20.99 ± 3.426	
Religion		
Islam		582 (84.3)
Catholicism		25 (3.6)
Protestantism		73 (10.6)

Characteristic	M ± SD	Frequency (%)
Other		1 (0.1)
Education in Nursing		
Associate degree		154 (22.1)
Bachelor		429 (61.5)
Post-baccalaureate		22 (3.2)
Professional nurse program		85 (12.2)
State of depression		
No depression		545 (78.99%)
Depression		145 (21.01%)

Table 2 shows the association between age and depression status among nursing students. The Mann–Whitney U test indicated that there was no significant difference in age scores between nursing students classified as depressed and those classified as non-depressed (Mann–Whitney U = 38,441, Z = -0.509, p = 0.611, p > 0.05).

Table 2. Association Between Age and Depression Status Among Nursing Students

	Age
Mann-Whitney	38441.000
Z	-.509
Asymp. Sig. (2-tailed)	.611
p-value> 0.05	

Table 3 shows the association between educational level and depression status among nursing students. The Chi-square analysis revealed a significant association between the level of nursing education and the occurrence of depression among students ($\chi^2 = 9.537$, df = 3, p = 0.023, p < 0.05). These results suggest that the educational level currently pursued by students may influence differences in depression status within this population.

Table 3. Association Between Educational Level and Depression Status Among Nursing Students

Variable	X^2 (Chi square)	Df	p value
Level education x depression	9.537	3	0.023*
p-value < 0.05			

DISCUSSION

According to data from the World Health Organization (WHO), approximately 6.1% of the Indonesian population experiences depression (WHO, 2022). Meanwhile, the Indonesian Health Survey (Survei Kesehatan Indonesia [SKI]) in 2023 reported a lower prevalence of 1.4% in the general population, with a slightly higher prevalence of 2% among young people (Kemkes, 2023). The prevalence of depression identified in this study (21.01% among nursing students) is substantially higher than the national averages reported for both the general population and young people in Indonesia.

This finding aligns with previous studies demonstrating that depression among nursing students ranges from 8.4% to 57.4% (Andargeery, 2024; Facioli et al., 2020; McDermott et al., 2022; Sonmez et al., 2023). Furthermore, several studies conducted in Indonesia at a more localized institutional level have reported even higher prevalence rates, ranging from 40.4% to 41.6% (Kurniawan et al., 2024; Satria Fitriawan et al., 2023; Tarigan et al., 2025). The

comparatively lower prevalence found in this study may be attributed to differences in study scope, sampling methods, and geographic coverage, as this research involved a national sample across multiple provinces.

This study further explored demographic variables associated with depression among nursing students in Indonesia, focusing specifically on age and level of nursing education. The findings indicate that age was not significantly associated with depression ($p > 0.05$). This lack of association may be explained by the relatively homogeneous age distribution of nursing students, which limits variability and reduces the likelihood of detecting significant differences in depression levels based on age alone.

Within the Indonesian nursing education context, most students fall within the developmental stages of late adolescence to early adulthood, periods characterized by relatively similar psychosocial profiles. Individuals in these stages commonly experience overlapping developmental tasks, including identity formation and the pursuit of independence, as they transition from adolescence into adulthood (Arini, 2021; Nadiah et al., 2021). Consequently, other factors may exert a stronger psychological influence on depressive symptoms than chronological age itself.

In contrast, the level of nursing education was found to be significantly associated with depression ($p < 0.05$). This study revealed that students enrolled in regular Bachelor of Nursing (S1) programs exhibited higher rates of depression compared to those in Diploma III (D3) Nursing, non-regular Bachelor programs, and Professional Nurse (Ners) programs, with 61.5% of depressed students originating from the regular S1 pathway.

This finding can be explained by the distinctive characteristics of each educational program. Regular S1 nursing students are typically in the early phase of higher education and undergoing the transition from late adolescence to early adulthood, while simultaneously facing intensive academic demands for the first time. The curriculum at this level is generally more complex, with a higher number of courses and credit hours compared to other nursing education tracks. Additionally, students at this stage are being prepared for upcoming clinical practice in hospital and community settings, which may further contribute to psychological strain. These combined academic and transitional pressures can increase vulnerability to depression, particularly among students with limited coping strategies or insufficient social support.

Conversely, students from D3 nursing programs, non-regular S1 programs, and professional nurse (Ners) programs tend to follow curricula with fewer credit hours and a more focused structure. Previous studies reported depression prevalence rates of 16.9% among D3 nursing students (Winasis et al., 2020) and 45.61% among professional nurse students (Indahsari & Oktaviana, 2025). Another plausible explanation is that students in non-standard and professional programs often possess prior academic or clinical experience, which may enhance resilience and coping abilities (Lombu & Setiawan, 2016). These students are generally more familiar with the nursing environment, have more realistic expectations regarding academic and clinical demands, and demonstrate greater emotional readiness to manage learning-related stressors. This prior exposure may explain the lower levels of depression observed in these groups. Moreover, professional nurse students have already passed the initial academic adaptation phase, allowing them to approach intensive clinical demands with stronger psychological preparedness.

CONCLUSION

This study demonstrates that the prevalence of depression among nursing students in Indonesia remains a significant mental health concern requiring serious attention. The findings indicate that age is not significantly associated with depression, likely due to the relatively homogeneous age range of nursing students. In contrast, the level of nursing education shows a significant association with depression, with regular Bachelor of Nursing students experiencing higher levels of depressive symptoms compared to students in other educational pathways. These results highlight that academic demands, transitional challenges, and educational pressures at specific levels of nursing education may contribute to increased vulnerability to depression. This study is part of a series of research projects supported by the Directorate of Research and Community Service, Directorate General of Research and Development, Ministry of Higher Education, Science, and Technology of Indonesia (Grant number: 016/LL10/DT.05.00/PL/2025). This study has a limitation in that data collection in this study was conducted online, which may have affected data quality, as the researchers could not directly monitor the accuracy of responses. Therefore, future studies should develop strategies to ensure data quality even when data are collected online.

RECOMMENDATIONS

It is recommended that nursing education institutions provide comprehensive mental health support services, including routine psychological screening, counseling, and structured mentoring programs for students exhibiting depressive symptoms or other mental health concerns. Additionally, fostering a supportive learning environment and a healthy academic culture is essential to help nursing students navigate their educational journey more effectively, both academically and psychologically. Bachelor of Nursing students are prioritized for mental health support due to their longer duration of study compared to other nursing education levels.

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