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Academic Burnout: A Comparative Study between Nursing and Medical Students in South Kalimantan, Indonesia

Agotamiento Académico: Un Estudio Comparativo Entre Estudiantes de Enfermería y Medicina en Kalimantan del Sur, Indonesia

Dhian Ririn Lestari[1ab*], Risma Dwi Rahmawati[2b], Devi Rahmayanti[3b], Ah Yusuf[4a], Rizki Fitryasari PK[5a], Taufik Hidayat[6c], Alfian Nur[7b]

SUMMARY

Introduction: *Healthcare students typically manage rigorous coursework, intensive study schedules, extensive skill training, and growing responsibilities. Academic burnout, characterized by chronic stress and exhaustion, commonly affects students in high-demand fields such as medicine and nursing. The main outcome of this study was to compare levels of academic burnout between nursing and medical students.*

Methods*: A cross-sectional study used stratified sampling. From a population of 707 students, 168 were selected as the sample, consisting of 84 nursing students and 84 medical students. Participants were actively enrolled in 2024 and admitted in the academic years 2021 (6th semester), 2022 (4th semester), and 2023 (2nd semester), with a relatively equivalent distribution of course credit loads (SKS) per semester between the two programs (21-23 SKS). The researchers controlled for covariates that could affect the results for age, sex, and academic year across the two groups. Covariate control is achieved by conducting a propensity score analysis (PSA) using a binary logistic regression model. Academic burnout among students was measured using the Maslach Burnout Inventory (MBI), and data were analyzed using the Mann-Whitney U test to compare burnout scores across groups.*

Results: *The mean burnout scores for nursing ($\bar{x}$ = 28.69) and medical students ($\bar{x}$ = 29.30) were comparable across emotional exhaustion, cynicism, and professional efficacy indicators. The p-value from the Mann-Whitney U test indicated no statistically significant difference in burnout scores between nursing and medical students. Overall, levels of academic burnout were comparable between the two groups.*

Conclusion: *Academic burnout was equally prevalent among nursing and medical students, with no significant differences in the severity of burnout. Differences in the backgrounds of the two groups of nursing and*

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ORCID: 0000-0002-1866-3078[1]
ORCID: 0009-0004-6392-9965[2]
ORCID: 0009-0009-9990-829X[3]
ORCID: 0000-0002-6669-0767[4]
ORCID: 0000-0002-7164-2997[5]
ORCID: 0009-0005-9286-5443[6]
ORCID: 0009-0008-7691-2037[7]

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[a] Faculty of Nursing, Universitas Airlangga, Surabaya, Indonesia.
[b] School of Nursing, Faculty of Medicine and Health Sciences, Universitas Lambung Mangkurat, Banjarbaru, Indonesia.
[c] Nursing Profession Study Program, College of Health Sciences, Intan Martapura, Banjar, Indonesia.

*Corresponding Author: Dhian Ririn Lestari
E-mail: dhian.ririn.lestari-2024@fkp.unair.ac.id

medical students, such as gender, age, and academic year, affect their levels of burnout. This highlights the need for targeted interventions and support systems to address burnout in both groups.

Keywords: *Academic, burnout, medical, nursing, student.*

RESUMEN

Introducción: *Los estudiantes de profesiones de la salud a menudo enfrentan cursos muy exigentes, como horarios de estudio intensivos, capacitación extensa en habilidades y mayores responsabilidades. El agotamiento académico, marcado por el estrés crónico y el agotamiento, que comúnmente afecta a los estudiantes en campos de alta demanda, como los de medicina y enfermería. El objetivo principal de este estudio fue comparar los niveles de agotamiento académico entre estudiantes de enfermería y de medicina.*

Métodos: *Se realizó una investigación transversal comparativa empleando una técnica de muestreo estratificado. De una población de 707 estudiantes, se seleccionó una muestra de 168, conformada por 84 estudiantes de enfermería y 84 de medicina. Los participantes se inscribieron activamente en 2024 y fueron admitidos en los años académicos 2021 (sexto semestre), 2022 (cuarto semestre) y 2023 (segundo semestre), con una distribución relativamente equivalente de la carga de créditos de los cursos (SKS) por semestre entre ambos programas (21-23 SKS). Los investigadores incluyeron variables de control, covariables que pueden afectar los resultados, como edad, sexo y año académico, entre dos grupos. Covariar el control de variables mediante el análisis de la puntuación de propensión (PSA) en una prueba de regresión logística binaria. El agotamiento académico de los estudiantes se midió mediante el Inventario de Agotamiento de Maslach (MBI), y los datos se analizaron mediante la prueba U de Mann-Whitney para evaluar las diferencias en los puntajes de agotamiento entre los grupos.*

Resultados: *Las puntuaciones medias de burnout para estudiantes de enfermería ($\bar{x}$ = 28,69) y de medicina ($\bar{x}$ = 29,30) fueron comparables entre sí en los indicadores de agotamiento emocional, cinismo y eficacia profesional. El valor p obtenido de la prueba U de Mann-Whitney no mostró diferencias estadísticamente significativas en la puntuación de agotamiento entre estudiantes de enfermería y de medicina. En general, los niveles de agotamiento académico fueron similares en ambos grupos.*

Conclusión: *El agotamiento académico fue igualmente prevalente entre los estudiantes de enfermería y de medicina, sin diferencias significativas en su gravedad. La diferencia en los antecedentes académicos entre los dos grupos, enfermería y medicina, así como en el género, la edad y los años académicos, incide en sus niveles de agotamiento. Esto resalta la necesidad de intervenciones específicas y de sistemas de apoyo para abordar el agotamiento en ambos grupos.*

Palabras clave: *Académico, agotamiento, médico, enfermería, estudiante.*

INTRODUCTION

Academic burnout has become a critical issue in health professions education, particularly for students in medical and nursing programs (1,2). Research findings suggest that approximately 37.2 % of individuals in medical education report substantial burnout (3). At the same time, a recent studies in Indonesia report that between 35 % and 35.5 % of medical students experience moderate to severe academic burnout symptoms, driven by factors such as academic overload, intensive clinical demands, and high professional expectations (4,5). Among nursing students, the prevalence of academic burnout ranges from 16.8 % experiencing severe to 74.1 % experiencing moderate, with major contributors including psychologically taxing clinical rotations, heavy coursework, and limited social support structures (6,7). Medical and nursing students experience significant stress due to the overlap between their academic coursework and clinical practice. Analyzing the components that contribute to academic burnout, including anxiety, depression, and stress, paired with developing practical approaches, is key to advancing the mental wellness of nursing students (8).

Research consistently demonstrates that both medical and nursing students are susceptible to academic burnout due to a complex interplay of factors, including demanding coursework, intensive clinical responsibilities, and heightened performance expectations. Findings reveal that medical scholars often face heightened instances of academic burnout relative to students in other disciplines, mainly attributed to the mix of a rigorous educational program and the challenges posed by clinical practice (3). Similarly, nursing students endure persistent stress as a consequence of a challenging curriculum, obligatory clinical

engagements, and the exigent preparation for national licensure examinations (8). Comprehensive systematic reviews have established that academic burnout significantly undermines the well-being of nursing students, with emotional exhaustion emerging as one of the most pronounced and detrimental effects (9). In addition, others revealed that nursing students frequently endure academic burnout stemming from the intense academic responsibilities and the stress linked to clinical training (8). There are notable similarities between medical and nursing students, particularly regarding the sources and symptoms of academic burnout. Direct comparative studies have produced inconsistent results, often influenced by differences in local curricula, credit loads, institutional support systems, and student demographics (10,11).

The impact of academic burnout on medical students' education includes declines in both physical and mental well-being, reduced academic achievement, and fewer employment opportunities (12). The impact of clinical practice experiences on the prevalence of burnout among nursing students has been explicitly examined, indicating that those who encountered less advantageous clinical experiences reported elevated levels of burnout (8). The implementation of coping mechanisms is crucial when endeavoring to manage the stress and anxiety encountered by nursing students daily (13). Despite the growing body of literature on burnout, more research is needed to develop tailored strategies to mitigate burnout across diverse nursing and medical education contexts.

METHODS

Study Design

This investigation utilized a cross-sectional approach, which constitutes an observational research methodology wherein data is gathered at a singular temporal juncture (14). The principal aim of this methodology was to evaluate the interrelationships among various factors, with particular emphasis on academic burnout, across diverse student cohorts. The cross-sectional approach is particularly significant for this research, as it provides a detailed picture of burnout levels across medical and nursing student populations and supports a comparative evaluation of these two cohorts.

Population, Samples, and Sampling

The cohort for this investigation comprised 707 active students enrolled in the medical and nursing disciplines at Universitas Lambung Mangkurat in Indonesia during the 2024 academic year. To obtain a comprehensive depiction of the student population, data were collected across three distinct academic years: 2021 (6th semester), 2022 (4th semester), and 2023 (2nd semester). A detailed analysis of academic credit distributions showed that nursing students took 21 credits in the second semester, 22 in the fourth, and 22 in the sixth semester, while on the other hand, medical students took credits per each semester ranging from 18-24 credits with specific students took 21 credits in the second semester, 23 in the fourth, and 21 in the sixth semester

To support direct comparison, both groups shared similar academic structures and curricular intensities. Still, demographic and contextual factors, such as age, gender, and variation in the number of credits each semester, may differ and warrant consideration in the analysis. Detailed demographic data, including age distribution, gender ratio, and credits each semester, were collected to enable subgroup analyses and assess potential influences on burnout levels.

Eligibility for participation included being an active student in the specified semesters of the medical or nursing program during the sampling period. Students were excluded if they were on academic leave, had not completed the required credits for their academic year, or had reported prior psychiatric diagnoses that could confound the assessment of burnout. These inclusion and exclusion criteria were carefully applied to maintain comparability and enhance the rigor of group comparisons.

This study used proportional stratified sampling to select participants. This technique splits the population into distinct layers, identified here by academic year (2021, 2022, and 2023), and then randomly selects participants from each layer. Such an approach guarantees that each academic cohort is sufficiently represented. The cohort comprised 84 individuals engaged in

medical research and 84 studying nursing, for a total of 168 students. This sample size was determined to provide adequate statistical power to detect differences in burnout levels between the two distinct groups. The variables in this study include students' demographic information (cohort year, gender), as well as academic burnout levels.

Instruments

To evaluate academic burnout, the research employed the Maslach Burnout Inventory (MBI), a well-established, empirically validated instrument for quantifying burnout levels (15). The MBI has been widely used in various academic settings, including medical (16) and nursing (17) students, making it an appropriate instrument for this study. This tool was developed and adapted into the Indonesian version (18). The MBI-SS consists of three indicators: Exhaustion, Cynicism, and Professional Efficacy. A reliability test of this scale was conducted on 208 students in Jakarta during the 2015-2016 academic year. The questionnaire contains 15 items: 9 are favorable and 6 are unfavorable. Each item is scored on a scale from 0 to 6, where: 0 (Never), 1 (Almost Never), 2 (Rarely), 3 (Sometimes), 4 (Often), 5 (Very Often), 6 (Always). The scale is designed to assess three indicators: Exhaustion 5 questions), Cynicism 4 questions), and Professional Efficacy 6 questions. To obtain the total score on this instrument, participants' item-level scores are summed. The final results are categorized according to the scoring criteria: scores 0-39 indicate low academic burnout, and scores 40-78 indicate high academic burnout. This tool provides valuable insights into the academic burnout levels among students, based on the three key indicators of exhaustion, cynicism, and professional efficacy (19). The validity test score of the Maslach Burnout Inventory-Student Survey (MBI-SS) is 0.211-0.753, and its reliability score is 0.913 (19).

Procedure

The study procedure for this cross-sectional research on academic burnout among students: a comparative study in medical and nursing involved the two following steps were participant selection from students the medical and nursing programs, enrolled in 2024, were selected through stratified random sampling from the 2021, 2022, and 2023 cohorts namely in the 6th, 4th, and 2nd semesters, with a relatively similar number of course credits (SKS) across each semester. A cumulative cohort comprising 84 medical students and 84 nursing students engaged in a research study. After participant selection, data were collected, during which participants were asked to complete the Maslach Burnout Inventory-Student Survey (MBI-SS), an established instrument used to assess burnout across three dimensions: emotional exhaustion, cynicism, and professional efficacy. The survey was administered anonymously to ensure unbiased responses. Participation in the study was entirely voluntary, and the students were duly informed that they retained the right to withdraw from the research at any time without incurring any penalties. To ensure confidentiality, no personal identifiers were collected, and the data were anonymized to maintain privacy.

Data Analysis

Before data analysis, the researchers controlled for covariates that could affect the results for age, sex, and academic year across the two groups. Covariate control is achieved by conducting a propensity score analysis (PSA) using a binary logistic regression model. The matching process (matched) between the two groups of respondents was performed using nearest-neighbor matching without replacement, based on the propensity score. The data has been balanced, and a comparative test was be conducted.

The gathered data were analyzed using the Mann-Whitney U test to compare burnout levels between medical and nursing student cohorts. Descriptive statistics were also computed to provide an overview of burnout prevalence and intensity across both groups. SPSS software was used for analysis.

Ethical Clearance

This study was reviewed and approved by the Health Research Ethics Committee of the

regional board of the Indonesian National Nurses Association (DPD PPNI), Banjarbaru, South Kalimantan Province, Indonesia, ensuring that it adhered to all ethical guidelines for research involving human participants. Ethical approval was granted under the certification number Ethical Clearance DPD PPNI Kota Banjarbaru (No. 053/EC/KEPK-DPDPPNI/VII/2024), confirming that the study met the required ethical standards.

RESULTS

Table 1. Demographic characteristics of the participants.

Characteristics	Nursing student		Medical student	
	n	%	n	%
Age (year)				
18	5	6.0	21	25.1
19	31	36.9	31	36.9
20	27	32.1	16	46.1
21	19	22.6	15	22.6
22	2	2.4	1	1.3
Gender				
Male	16	19	30	35.7
Female	68	81	54	64.3
Academic cohort year				
2021	27	32.2	29	34.5
2022	29	34.5	29	34.5
2023	28	33.3	26	31
Study load (credits) per semester				
6th semester (2021)	22	-	21	-
4th semester (2022)	22	-	23	-
2nd semester (2023)	21	-	21	-

The age distribution of nursing students differs slightly from that of medical students. The age group of 19-20 years predominates among nursing students, while the 18-19-year age group is more prevalent among medical students (Table 1). Gender distribution shows No. significant differences, with females comprising the majority of respondents in both nursing and medical programs. Additionally, the cohort year (year of admission) of respondents reveals no significant differences across academic years between nursing and medical students. The comparison of course credits per semester revealed a relatively similar distribution between the nursing and medical education programs.

A high level of burnout among nursing students is most prevalent among 19- and 20-year-olds, with the highest incidence at 21 (Table 2). There is a notable disparity in burnout levels, with female scholars experiencing more intense burnout than their male peers, especially evident in the 2021 and 2022 cohorts. Among medical students, high levels of burnout are observed across nearly all age groups. The highest incidence of burnout is seen in the 18 and 19-year age groups, with females again predominating over males. Regarding cohort year, the highest burnout rate was observed in the 2022 cohort (16.6 %), followed by the 2023 cohort (7.1 %).

Table 2. Cross-table of characteristics and burnout rate of participants.

Characteristics	Burnout							
	Nursing student				Medical student			
	Low		High		Low		High	
	n	%	n	%	n	%	n	%
Age (year)								
18	5	6.0	0	0	15	17.9	6	7.1
19	28	33.3	3	3.6	21	25.0	10	11.9
20	24	28.5	3	3,6	12	14.2	4	4.8
21	14	16.7	5	6	11	13.0	4	4.8
22	2	2.3	0	0	0	0	1	1.2
Gender								
Male	14	16.7	3	3.6	21	25	9	10.7
Female	59	70.2	8	9.5	28	33.3	16	19
Academic cohort year								
2021	22	26.2	5	6	24	28.5	5	6
2022	24	28.5	5	6	15	17.8	14	16.6
2023	27	32.1	1	1.2	20	23.8	6	7.1

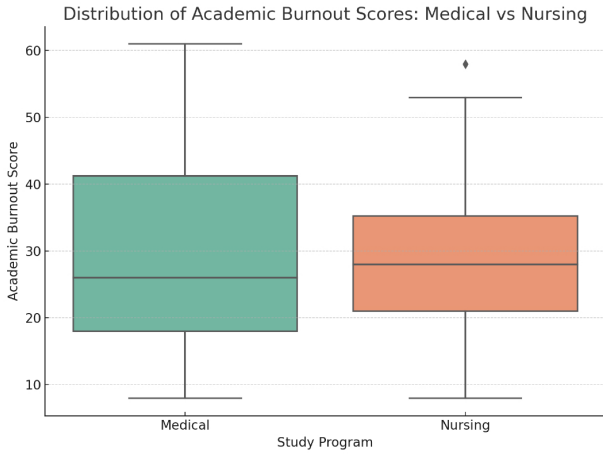

Figure 1. Distribution score of academic burnout. This figure displays the academic burnout score distribution between the medical and nursing study program.

Academic burnout, as shown in Figure 1, has an interquartile range (IQR) of 0.5, indicating the middle 50 % of scores across the medical and nursing study programs. The line in the box shows the median value (50th percentile) of the burnout score, that is, the middle value that divides the data into two equal parts. The vertical line shows the maximum and minimum values within 1.5 times the IQR of the box. The maximum value for medical students was 61, and for nursing students, 58, while the minimum value for both groups was 8. Values outside this range are considered outliers and are shown as separate points. Outlier points outside the whiskers indicate data with a very different score from the majority of the data. Figure 1 shows a medical program with a broader range of burnout scores, indicating greater variation in burnout rates among medical students. The nursing program has a narrower distribution with a slightly lower median, suggesting that burnout scores are more consistent among nursing students. Figure 1 provides the variability and central tendency (median) of burnout scores for both programs, as well as whether any students have extreme levels of burnout compared to the majority.

Each respondent in the intervention group was then matched with a respondent from the control group using nearest-neighbor matching without replacement based on the closest propensity score. After the matching process, the balance of covariates between the groups was rechecked using independent t-tests and Chi-Square tests, and no significant differences were observed ($p > 0.05$). The balanced data was then used for

Table 3. Burnout Score and Dimensions of the participants.

Burnout	Nursing student		Medical student		p-value
	$\bar{X} \pm SD$	Min-Max	$\bar{X} \pm SD$	Min-Max	
Exhaustion	15.58 ± 5.71	2 – 35	15.75 ± 6.13	5 – 29	0.856
Cynicism	3.95 ± 3.83	0 – 16	4.35 ± 4.71	0 – 17	0.866
Professional efficacy	9.36 ± 5.19	0 – 20	9.20 ± 5.71	0 – 19	0.809
Burnout	28.69 ± 10.65	8 – 58	29.30 ± 13.70	8 – 61	0.817

the main analysis, which tested the difference in results between the intervention and control groups.

The assumption of normality for the dataset was evaluated using the Shapiro-Wilk test, which indicates that the data deviate from normality if the p-value is less than 0.05. In the quest to examine the techniques, a non-parametric independent two-sample test, specifically the Mann-Whitney U test, was utilized. The analysis indicated a p-value greater than 0.05, implying no statistically significant difference in burnout levels between nursing and medical students. Similarly, the results for each burnout indicator, exhaustion, cynicism, and professional efficacy, also showed no significant differences.

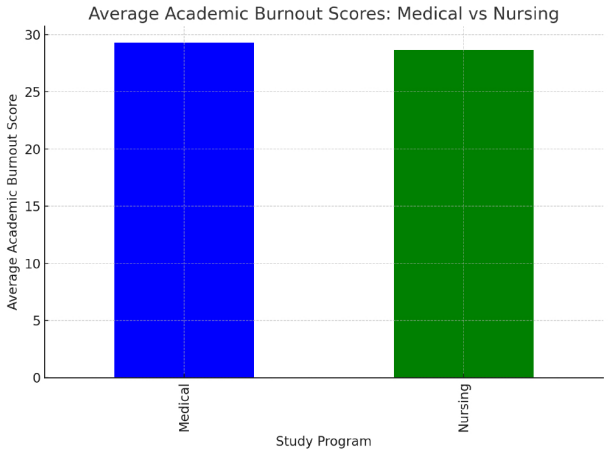

Figure 2. Average academic burnout scores. This figure displays the estimated marginal means of the academic burnout score between the medical and nursing study program.

In general, the mean burnout scores of nursing and medical students are highly similar (Table 3). This is evidenced by the nearly indistinguishable mean scores: $\bar{x}$ = 28.69 for nursing students and $\bar{x}$ = 29.30 for medical students, as well as by the scores for each of the three dimensions (exhaustion, cynicism, and professional efficacy), which are comparable (Table 3 and Figure 2). Alternatively, the standard deviation scores differ significantly: medical students have a higher standard deviation (SD = 13.70) than nursing students (SD = 10.65). The findings imply that burnout rates among medical students are broader than those among nursing students. This inference is supported by the spectrum of minimum and maximum values, in which medical students show a wider range of scores. Concurrently, this indicates that the highest burnout scores are predominantly found among medical students; however, this cohort also includes individuals with the lowest burnout scores.

DISCUSSION

The outcomes of this research provide key insights into the prevalence and range of academic burnout among students in the nursing and medical sectors. Although both cohorts of students demonstrate comparable mean burnout scores (28.69 for nursing students versus 29.30 for medical students), notable discrepancies are observed in other dimensions of the findings, particularly the standard deviations, which highlight the variability in burnout levels across the groups.

Burnout Distributions by Age and Gender

The analysis of demographics by age distribution indicates a marginal disparity between the two cohorts. Most nursing scholars are in the 19-20 age group, while medical scholars predominantly fall in the 18-19 age range. This observation may be elucidated by the divergent lengths of the respective academic programs, in which medical students generally begin their education earlier or progress at a different pace than nursing students. Although these age discrepancies are minimal, they can affect the stressors each cohort encounters, as younger individuals in more rigorous programs may experience varying degrees of stress and burnout compared with their older peers. In this context, a recent investigation conducted among nursing students reveals that merely 15 % exhibit normative levels of cognitive distortions, with younger students being disproportionately impacted by this phenomenon (20).

With respect to gender, no substantial differences were found, as females predominate in both groups. Previous research corroborates this conclusion, demonstrating a larger frequency of burnout among female students in several academic sectors, notably in medicine (21) and nursing (9). Female students frequently employ emotion-focused coping strategies more than their male counterparts, whereby such approaches typically provide ephemeral alleviation of stress, yet often fail to engender a change in the situational context, specifically the resolution of the underlying stressor, which may exacerbate the prevalence of burnout (22).

Burnout Levels and Variability

Regarding burnout levels, nursing students experienced the most pronounced burnout during the ages 19-20, with a peak at age 21. This observation is consistent with findings from other scholarly investigations indicating an increase in stress and burnout as students' progress through their academic trajectories, particularly in disciplines that require extensive clinical practice, such as nursing (17). This finding is consistent with theoretical models such as the Demands–Resources Model, which posits that burnout emerges when the pressures of academic and clinical demands exceed the resources available for coping (7,23). These age groups often coincide with initial and advanced clinical exposures in the curriculum, placing students in demanding patient-care settings with heightened expectations despite limited experience, emotional maturity, and professional skills (24,25). The novelty and complexity of these environments, along with a lack of robust social or institutional support, can intensify emotional exhaustion and stress. The pronounced burnout observed among younger nursing students may also be linked to the emotional demands of clinical placements, in which they frequently encounter heightened expectations in patient care environments (26). The journey through these clinical placements might be very demanding due to the complexities of practical execution, the novelty of different surroundings, and the emotional burdens of patient interactions (27).

Among medical students, burnout was prevalent across nearly all age groups, with the highest levels recorded among those aged 18-19. These results corroborate earlier investigations, revealing that medical students frequently encounter burnout early in their academic journey owing to the rigorous nature of their curricula (28). The broader range of burnout scores observed among medical students, as indicated by a greater standard deviation, suggests that while some students experience profound burnout, others exhibit more effective stress management. This variability may be affected by a multitude of personal determinants, encompassing mechanisms of coping, frameworks of social support, and distinct personality traits (29). The phenomenon of burnout was prevalent among medical students across nearly all age groups, except for those aged 22. This observation is in alignment with research that suggests the cumulative pressures of academic and clinical obligations intensify as student progress through their educational programs, particularly in fields with a pronounced clinical focus, such as nursing and medicine (30). The cohort year also played a significant role in this trend, as burnout was most pronounced among the 2022 cohort for both groups.

Comparison Between Nursing and Medical Students

The average burnout scores for nursing ($\bar{x}$ = 28.69) and medical students ($\bar{x}$ = 29.30) were strikingly similar; however, the larger standard deviation among medical students indicates greater variability in their burnout experiences. This disparity may be attributed to differences in academic and program-specific contexts, such as heavier credit loads per semester, variation in clinical practice hours and the nature of clinical exposure, larger class sizes or differing student-to-instructor ratios, and diverse curriculum structures or assessment formats within the medical program compared to nursing (9,10,31). This observation underscores the need for more targeted interventions for students experiencing significant levels of burnout, particularly in the medical profession, where stressors are often more intense and diverse.

The Mann-Whitney U test, used to compare burnout ratings, showed no significant difference between nursing and medical students. After statistical analysis, the mean burnout scores for nursing students (M = 28.69) and medical students (M = 29.30) were comparable across the dimensions of emotional exhaustion, cynicism, and professional efficacy. The Mann-Whitney U test produced a p-value of 0.850, demonstrating no statistically significant difference in overall burnout scores between the two groups. These findings indicate that the prevalence and intensity of academic burnout are comparable between nursing and medical students. It suggests that although their average burnout scores are similar, how burnout is experienced and varies differ. The broader range of burnout scores among medical students, as evidenced by the elevated standard deviation, suggests that while some medical students effectively manage the stressors of their program, others experience significant burnout. This observation corroborates the premise that medical education can lead to substantial emotional and physical exhaustion, particularly in the early years of study (32).

Although aggregate burnout levels did not differ significantly, the academic context in each program may contribute to distinct student experiences. In nursing, burnout often results from emotional exhaustion related to clinical practice and exposure to demanding patient care environments (9). For medical students, burnout is more frequently attributed to the academic rigor and pressure of intensive curricula (10). Additional stressors, such as exposure to illness and mortality, moral distress during clinical rotations, and the challenge of upholding professional standards, can influence burnout risk for both groups (31). In addition, although there was no statistically significant difference between the two cohorts, the evidence suggests that the reasons for burnout may be unique to nursing and medical students. Nursing students may predominantly encounter burnout as a consequence of emotional exhaustion stemming from clinical practice (11), whereas medical students might experience burnout primarily due to the academic demands imposed by their curriculum (33). Distinct stressors and predictors encompass exposure to illness and mortality, moral distress, and violations of professionalism, which necessitate moral courage to navigate and may contribute to burnout concerns among both nursing and medical students (34).

Limitations of the Study

The main challenge of this analysis is linked to its cross-sectional framework. Although it offers a snapshot of burnout levels at a given moment, it precludes analysis of longitudinal trajectories and the variables that may influence the emergence of burnout over an extended period. Longitudinal investigations would yield more profound insights into how burnout develops as students progress through their academic trajectories.

In addition, although the Maslach Burnout Inventory (MBI) has gained notable popularity, it may not capture all facets of burnout, particularly those relevant to healthcare and nursing occupations. Subsequent research might consider incorporating supplementary instruments or qualitative methodologies to capture a broader spectrum of burnout experiences and coping strategies.

The analysis relied on self-reported data from participants, potentially introducing biases

such as social desirability or inaccurate self-assessments of their burnout experience. The incorporation of objective metrics or direct observations of stressors within clinical or academic environments could facilitate a more nuanced understanding.

Finally, this study did not address potential confounding factors beyond those mentioned, such as academic ability, depth of learning, learning methods, evaluation methods, socioeconomic status, and other contextual variables. These factors could influence burnout levels and the observed similarities between medical and nursing students; future research should systematically measure and adjust for these variables through multivariable analyses or matched study designs.

CONCLUSIONS

The results indicate that academic burnout is comparably widespread among nursing and medical students, with no statistically significant differences in its intensity. In summary, this investigation posits that although nursing and medical students experience similar levels of academic burnout, medical students exhibit greater variability in burnout intensity. Yet both demographics face substantial risks of burnout, particularly among younger individuals and women. The results underscore the need for holistic interventions to mitigate burnout in these demanding professional arenas. Subsequent research should examine the longitudinal consequences of burnout and the efficacy of interventions specifically tailored to address the distinctive needs of nursing and medical students.

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Conflict of interest

The authors declare no conflict of interest in conducting this study. All necessary permissions and ethical approvals were obtained, and respondents were provided with sufficient information regarding the study's purpose and procedures.

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