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## Burnout among Nursing Students: A Comparative Analysis of Annual versus Semester Academic Systems

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### Article Details

### ABSTRACT

**Keywords:** Burnout, Burnout among Nursing Students, Academic System

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Burnout is a developing problem in the context of nursing education, impacting the mental health and academic performance of nursing students. This study observes burnout of nursing students enrolled in annual and semester systems at a private college in Lahore, Pakistan. Objective: To compare the burnout ratio among nursing students taking annual and semester academic systems. Methods: A comparative cross-sectional study design of 139 nursing students was adopted at Rashid Latif Nursing College, Lahore, based on stratified random sampling. Burnout was measured by Burnout Assessment Tool – Student version. The data were analyzed by utilizing SPSS version 23.0. Results: Symptoms of burnout were found in both groups. Over 75% Annual system students indicated symptoms of burnout like frequent physical and emotional exhaustion, lack of concentration, and emotional detachment. Although 67% of semester system students demonstrated burnout as high mental exhaustion rates, they indicated lower rates of emotional and intellectual burnout than their annual system counterparts. Pearson correlation coefficient ( $r = -0.103$ ,  $p = 0.436$ ) did not show a statistically significant difference in burnout levels between the two systems. Conclusion: Burnout in student nurses is widespread, but the academic system structure is not significantly linked to burnout rates. Resilience training, mental health support, mentoring, and emotion regulation programs should be prioritized as institutional responses in all academic formats to combat burnout.

## **BACKGROUND**

Burnout is a psychological problem characterized by depersonalization, emotional tiredness, and decreased personal accomplishment (Kong et al., 2023; Nisa et al., 2022). As nursing is a challenging field, students must manage medical conditions while delivering compassionate care. Complicated coursework, long clinical hours, patient care, financial strains, and juggling personal obligations all contribute to their academic burnout. Students used to deal with these difficulties by understanding the effects of burnout and coping mechanisms are crucial because they can result in worry, low motivation, and weariness (Kumaret al., 2024; Khalfan et al., 2023).

Nursing students worldwide, including Spain, are exposed to burnout syndrome, with rates escalating over time, with first-year students showing 20% prevalence compared to 50% among final-year students, underscoring the cumulative impact of stressors. Interventions like mindfulness programs and peer support networks reveal a 15–30% reduction in burnout symptoms like emotional exhaustion, cynicism, and reduced academic efficacy (Gómez-Urquiza et al., 2023; Noreen et al., 2023).

In Iran, burnout is common among nursing students; the total prevalence of burnout among nursing students is 46%, with mild burnout at 26.1%, moderate burnout at 47.7%, and severe burnout at 22.5%. There was a positive association between academic semesters and average levels of burnout; as the number of academic semesters increased, so did student burnout. The high prevalence of burnout among nursing students can have an impact on their academic performance, raise dropout rates, and reduce the quality of care offered in the future (Arian et al., 2023).

Nursing students in China had a pooled burnout prevalence of 23.0% (95% CI= 15.6–30.5%). It is the combined result of 21 studies. The prevalence of emotional weariness, depersonalization, and decreased personal accomplishment was 47.1, 32.2, and 43.5 percent, respectively. The main characteristics linked with burnout were age, grade workload, academic satisfaction, incivility experience, sleep quality, physical activity, self-efficacy, and personality traits (Kong et al., 2023).

Among Indian nursing students, 61.7% indicated high academic burnout, 62% expressed high emotional fatigue, and 65% reported little interest. Second-year students reported reduced degrees of burnout (18.4%) and mental exhaustion (19.9%). Furthermore, both first- and second-year students showed substantial disengagement, with 18% of these cohorts affected

(Prakash et al., 2023). In Pakistan, 80.6% of nursing students had moderate and 14.1% had high academic stress. The study also identifies a significant association between academic year and age and academic stress ( $p=0.006$ ) and ( $p=0.033$ ) (Bibi et al., 2024).

## OBJECTIVE

- To compare the levels of burnout experienced by nursing students enrolled in annual and semester academic systems.

## HYPOTHESIS

(H<sub>0</sub>): There is no significant difference in burnout levels among nursing students of annual and semester academic systems.

(H<sub>1</sub>): There is substantial difference in burnout among nursing students of the annual and semester academic systems.

## METHODS AND MATERIAL

This comparative study carried out to assess burnout among nursing students in annual and semester academic system from October 2024 and April 2025. The study sample was calculated by using Open Epi version 3.0 with the total population of 139 students including 79 annual and 60 semester nursing students at Rashid Latif College of Nursing Lahore, Pakistan. Nursing students enrolled in either the annual or semester academic system included in the study but students excluding on academic leave. Burnout Assessment Tool for Students (BAT-S) questionnaire consisted of 5- point Likert scale reliable questionnaire adapted (Carmona-Halty et al., 2024) with options: always (5 points), often (4 points), sometimes (3 points), Rarely (2 points), and Never (1 point) and further divided into three dimensional subgroups including Exhaustion (3 items), Mental Distance (3 items), Cognitive Impairment (3 items), Emotional Impairment (3 items). The reliability for the overall scale is (Cronbach's  $\alpha = 0.870$ ). The confidentiality of all data was maintained and participants remained anonymous during the study. The data was analyzed using mean, standard deviation and correlation with the statistical package for social sciences (SPSS) version 23.0.

## RESULTS

TABLE 1: DEMOGRAPHIC INFORMATION

Academic System	Gender	Frequency	Age	Frequency
<b>Annual Students</b>				
	Male	33 (42%)	20 years or below	34 (56%)
	Female	46 (58%)	21–25	26 (44%)
			More than 25 years	0 (0%)
	<b>Total</b>	<b>79 (100%)</b>	<b>Total</b>	<b>79 (100%)</b>
<b>Semester Students</b>				
	Male	30 (50%)	20 years or below	27 (45%)
	Female	30 (50%)	21–25	33 (55%)
			More than 25 years	0 (0%)
	<b>Total</b>	<b>60 (100%)</b>	<b>Total</b>	<b>60 (100%)</b>

The table 1 shows 79 participants of annual system (100%) 33 males (42%) and 46 females (58%) and belonged to the age group of 21–25 years. As well as the semester nursing students gender distribution in a sample of 60 indicates 30 male and 30 female participants 50%. The larger proportion of the respondents, that is, 34 people (56%), were below the age of 20, while the rest of the participants, 26 people (44%), were in the age range 21–25 years.

TABLE 2: BURNOUT IN ANNUAL NURSING STUDENTS

Sr.	Items	Never	Rarely	Sometime	Often	Always
<b>no</b>						
<b>Exhaustion</b>						
1	Due to my studies, I feel mentally exhausted	8%	15%	37%	22%	18%

2	After a day working on my study, I find it hard to recover my energy	6%	18%	35%	21%	20%
3	While working on my studies, I feel physically exhausted	10%	19%	31%	19%	21%
<b>Mental Distance</b>						
4	I struggle to find any enthusiasm for my studies	3%	22%	33%	18%	24%
5	I feel a strong aversion towards my studies	10%	15%	37%	17%	21%
6	I'm cynical about the importance of my studies	6%	17%	38%	15%	24%
<b>Cognitive Impairment</b>						
7	When I am working on my studies, I have trouble staying focused	8%	14%	34%	21%	23%
8	When I am working on my studies, I have trouble concentrating	4%	12%	46%	22%	16%
9	I make mistakes	5%	24%	35%	25%	11%

	while working on						
	my studies						
	because I have						
	my mind on						
	other things						
<b>Emotional Impairment</b>							
10	I feel unable to	6%	17%	35%	17%	25%	
	control my						
	emotions						
11	I do not	14%	16%	33%	14%	23%	
	recognize myself						
	in the way I react						
	emotionally						
12	I may overreact	8%	22%	35%	15%	20%	
	unintentionally						

Table 2 show beginning with mental fatigue, 8% of the nursing students indicated never being mentally fatigued by their studying, 15% seldom, 37% at times, 22% frequently, and 18% always, a fact that 40% of the students suffer from frequent mental fatigue. In terms of recovery after studying, 6% reported never having trouble regaining their energy after studying, 18% seldom, 35% at times, 21% frequently, and 20% always, which means that more than 40% frequently have trouble feeling energized again after studying. As for physical fatigue, 10% of students said they never get physically tired during studying, 19% seldom, 31% occasionally, 19% frequently, and 21% always, further indicating that more than a third 40% get this often. Emotional disengagement was seen in the reaction to the statement "I struggle to find any enthusiasm for my studies," where 3% said never, 22% said rarely, 33% said sometimes, 18% said often, and 24% said always feeling this way with almost half of the students reporting a frequent lack of interest.

The phrase "I feel a strong aversion towards my studies" indicates that 10% never experienced aversion, 15% seldom, 37% occasionally, 17% frequently, and 21% always, meaning that 38% of the students frequently experience aversion to their studies. When questioned about cynicism, 6% reported that they were never cynical about their studies, 17% seldom, 38% occasionally, 15% frequently, and 24% always, indicating that 39% have frequent doubts

regarding the relevance of their studies.

In terms of cognitive difficulties, the "When I am working on my studies, I have trouble staying focused" item reveals 8% never, 14% rarely, 34% sometimes, 21% often, and 23% always, so almost 44% experience attention problems often. With "I have trouble concentrating" also, 4% never do, 12% rarely, a large 46% sometimes, 22% often, and 16% always, which reflect that attention difficulties were extremely prevalent among these students. As for errors due to distraction, 5% of students never made mistakes because they were thinking about other things, 24% rarely, 35% sometimes, 25% often, and 11% always, with over one-third admitting to frequent errors due to divided attention. Emotional regulation was another challenge for the statement "I feel unable to control my emotions," 6% responded never, 17% rarely, 35% sometimes, 17% often, and 25% always, suggested that more than 40% regularly experienced emotional instability.

For self-perception, 14% of the students said never to feeling strange about their own emotional responses, 16% rarely, 33% sometimes, 14% often, and 23% always indicated that 37% of students feel out of character emotionally very often. Finally, when answering the statement "I may overreact unintentionally," 8% responded never, 22% rarely, 35% sometimes, 15% often, and 20% always, indicated that 35% felt frequent emotional overreactions. Overall, 8% never, 18% rarely, 35% sometimes, 19% often and 20% always annual nursing students experienced burnout symptoms of burnout. 75% of annual system nursing students experienced burnout symptoms.

**TABLE 3: BURNOUT IN SEMESTER NURSING STUDENTS**

Sr.	Items	Never	Rarely	Sometimes	Often	Always
<b>no</b>						
<b>Exhaustion</b>						
1	Due to my studies, I feel mentally exhausted	16%	16%	52%	11%	5%
2	After a day working on my study, I find it hard to recover my	10%	18%	39%	10%	23%

	energy					
3	While working on my studies, I feel physically exhausted	7%	28%	37%	16%	12%
<b>Mental Distance</b>						
4	I struggle to find any enthusiasm for my studies	3%	17%	43%	12%	25%
5	I feel a strong aversion towards my studies	21%	16%	25%	23%	15%
6	I'm cynical about the importance of my studies	16%	13%	32%	13%	26%
<b>Cognitive Impairment</b>						
7	When I am working on my studies, I have trouble staying focused	13%	13%	40%	12%	22%
8	When I am working on my studies, I have trouble concentrating	15%	18%	33%	20%	14%
9	I make mistakes while working on my studies because I have my mind on other things	13%	23%	29%	15%	20%



Emotional Impairment						
10	I feel unable to control my emotions	15%	18%	45%	12%	10%
11	I do not recognize myself in the way I react emotionally	20%	23%	36%	10%	11%
12	I may overreact unintentionally	23%	20%	25%	18%	14%

Table 3 show information of on students' self-reported experiences with burnout symptoms firstly "Because of my studies, I am mentally worn out" show that 16% of the students never felt mentally worn out, another 16% hardly ever did, 52% sometimes did, 11% often, and 5% always, which meant that more than two-thirds of the students (68%) feel mentally fatigued at least some of the time and more than 15% do so often. To "After a day working on my study, I find it hard to recover my energy," 10% never had trouble, 18% seldom, 39% sometimes, 10% often, and a remarkable 23% always.

As for physical tiredness, in "While working on my studies, I feel physically exhausted," 7% never felt tired, 28% seldom, 37% occasionally, 16% often, and 12% always indicating that almost two-thirds of them had this problem to some extent. When asked if they "struggle to find any enthusiasm for studies," 3% said never, 17% seldom, 43% occasionally, 12% often, and 25% always.

For the item "I feel a strong aversion towards my studies," 21% never feel aversion, 16% hardly ever, 25% occasionally, 23% frequently, and 15% always so that more than 60% have unpleasant feelings about their studies sometimes, and 38% frequently. A similar pattern emerged in "I'm cynical about the importance of my studies," where 16% never, 13% rarely, 32% sometimes, 13% often, and 26% always felt cynical.

Cognitive challenges were prevalent as well. In the declaration "When I am working on my studies, I have trouble staying focused," 13% never, 13% seldom, 40% sometimes, 12% often, and 22% always experience difficulty concentrating. Similarly, "When I am working on my studies, I have trouble concentrating" reported 15% never, 18% rarely, 33% sometimes, 20% often, and 14% always.

On the subject of mistakes through distraction, for "I make mistakes when doing my studies

because I have something else on my mind," 13% of students never do, 23% hardly ever, 29% sometimes, 15% frequently, and 20% always. In terms of emotional self-regulation, the response "I feel unable to control my emotions" indicated that 15% never, 18% rarely, 45% sometimes, 12% often, and 10% always.

Within the emotional self-awareness category, "I do not know myself as I respond emotionally" finds 20% never, 23% seldom, 36% sometimes, 10% often, and 11% always. Finally, the statement "I may overreact without realizing it" found 23% never, 20% seldom, 25% sometimes, 18% often, and 14% always, with almost 60%. Overall, 15% of semester nursing students never encountered any symptom of burnout, but 18% rarely, 36% sometimes, 15% often and 16% always. Conclusively, 67% of semester nursing students experienced burnout symptoms at least sometimes or frequently.

**TABLE 4: CORRELATION OF ANNUAL AND SEMESTER ACADEMIC SYSTEM**

Correlation		Annual	Semester
Annual	Pearson Correlation	1	-.103
	Sig. (2-tailed)		.436
	N	79	60
semester	Pearson Correlation	-.103	1
	Sig. (2-tailed)	.436	
	N	60	60

In the correlation table 4, Pearson's correlation coefficient showed -0.103; a very weak negative relationship, the two systems of academia there was a nonsignificant and very weak correlation. In terms of its value, it exceeded the level 0.05 threshold ( $p = 0.436$ ). With 79 students in the annual system and 60 students in the semester system, analysis indicated that achievement in one academic system was not closely linked with achievement in the other. These findings led to the inference that variability in academic format had no meaningful effect on students, and burnout is presumably a function of variables other than the instructional modality.

## DISCUSSION

The participants of current study were evenly distributed in gender (annual 42% male, 58% female; semester 50% male, 50% female) and age (annual all 21-25 years; semester 55%  $\leq 20$  years, 45% 21-25 years). Where, meta-analyzed 34 studies with 9,554 students (Hernández-Mariano et al., 2024). (Wei et al., 2021) examined 17 studies to investigate the effect of burnout on psychological health and academic achievement. (Batista et al., 2021) worked with 301

undergraduate nursing students, while (Hwang and Kim 2022) worked with 171 female nursing students in South Korea. (Wang et al., 2019) in China surveyed 1,139 full-time nursing students to study academic burnout and self-concept. (Ghods et al., 2023) conducted a mixed-methods study, where 91 students were involved in the quantitative stage and 13 in qualitative interviews. Likewise, (Sebastian et al., 2024) studied burnout in 237 female nursing students in Bangalore. 92 undergraduate nursing students evaluated with 30.4% males and 69.6% females, having a mean age of 24.1 years ( $SD \pm 1.6$ ) in Pakistan (Awan et al., 2025).

Comparison of two academic systems found Pearson correlation value -0.103, which is a very weak negative relationship. In terms of its value, it exceeded the level 0.05 threshold ( $p = 0.436$ ). Meta-analysis found 35% burnout among nursing students, 40% emotional weariness, 23% depersonalization, and 30% low individual achievement. Also found similar or even greater emotional and motivational strain 45% struggled with emotions, 43.3% lacked excitement, and 26.7% questioned the value of their education (Hernández-Mariano et al., 2024). Conversely, the meta-analysis illustrates the impact of burnout on performance, (Wei et al., 2021). A significant burnout (16.2%) and traditional (30.2%) nursing courses ( $p = 0.004$ ), so the curriculum design affects burnout and academic satisfaction. Even though suggest that the structure of the curriculum be changed to avoid fatigue (Batista et al., 2021).

There was a strong correlation between burnout and psychological aspects, especially anxiety ( $r = 0.5$ ), among South Korean nursing students. Depression and anxiety 44% of burnout in non-experienced participants, while stress and satisfaction 33% in experienced participants. Emotional and experiential aspects contribute significantly to burnout (Hwang & Kim, 2022). The Chinese study revealed that nursing students' academic burnout was moderate, mean of  $2.77 \pm 0.53$ , and about 50% of the students had moderate levels of burnout (Wang et al., 2019). Burnout among Iranian nursing students was found to be variable from one semester to another, particularly between the second and the fourth, whereas gender and marriage had no effect on it. Interventions such as relaxation, social support, and training in resilience were emphasized to enhance participation and reduce burnout (Ghods et al., 2023). A Bangalore found two clusters of burnout higher disengagement and higher exhaustion and concluded that burnout differs across student types and needs to be addressed through targeted interventions such as counseling and mentoring (Sebastian et al., 2024). Study in Sindh, Pakistan, assessed stress, anxiety, and depression undergraduate nursing students and found that the majority had normal psychological well-being, although female students were found to be more vulnerable

(Awan et al., 2025).

## LIMITATIONS

- The research was done in a single institution, which can restrict the implications of the results to other nursing colleges or regions.
- It was mostly based on quantitative information, without the qualitative approach that would allow more insight into the individual experiences of students with burnout.
- Variables like clinical exposure, socioeconomic status, or life events were not fully investigated, and they could also affect burnout.
- The research studied only semester and annual systems, not other structures like trimester or modular systems that could influence burnout differently.

## CONCLUSION

The study thoroughly analyzed burnout prevalence among nursing students in annual and semester academic systems. The results indicated that burnout is evident in both systems, with higher overall burnout rate 75% among annual system students than among semester system students 67%. In spite of this seeming disparity, the Pearson correlation coefficient ( $r = -0.103$ ,  $p = 0.436$ ) addresses that the correlation between annual and semester academic system and burnout is not statistically significant. This signifies that although burnout is little more prevalent among yearly system students, the variation cannot be directly credited to the system of academics. The weak negative correlation indicates a minimal trend for lower burnout in semester systems, but it has no statistical significance to hold any conclusive assertion.

## FUTURE RECOMMENDATIONS

- Develop programs for emotional regulation, resilience building, and self-concept development in addition to academic preparation.
- Enhance the accessibility of nursing curricula to counseling services, stress-management workshops, and peer-support groups
- Implement continuous emotional support systems (e.g., mentorship, mindfulness training) across all academic systems (annual/semester).
- Incorporate modules of well-being in nursing education on self-care and coping strategies.
- Investigate the interaction of cultural, institutional, or clinical training factors with burnout outside academic systems.

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