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ASSOCIATION OF BREAKFAST SKIPPING WITH ACADEMIC PERFORMANCE AMONG UNDERGRADUATE NURSING STUDENTS

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Abstract

Background: *Breakfast is a critical meal for cognitive function, energy, and academic performance. Skipping breakfast has been associated with impaired attention, memory, and learning outcomes, particularly among university students.*

Objective: *To examine the association between breakfast skipping and academic performance among undergraduate nursing students.*

Methodology: *A descriptive cross-sectional study was conducted among 93 undergraduate nursing students at Isra School of Nursing, Hyderabad, between August and November 2025. Convenience sampling was applied. Data were collected using a structured questionnaire. Data were analyzed using SPSS version 26. Descriptive statistics were computed for all variables. Fisher's Exact Test was used to assess associations between breakfast habits and academic performance indicators. A p-value of <0.05 was considered statistically significant.*

Results: *Among the 93 participants, 23.8% were Breakfast Skippers, 16.2% were Irregular Skippers, and 60% were Non-Skippers. Non-Skippers demonstrated higher self-perceived academic performance (APS) compared to Breakfast Skippers and Irregular Skippers, and breakfast skipping was significantly associated with APS (Fisher's Exact Test, $p = 0.048$). In contrast, no significant association was found between breakfast habits and CGPA (Fisher's Exact Test, $p = 0.083$). The most frequently reported reasons for skipping breakfast included lack of time (34.4%) and not feeling hungry in the morning (25.8%).*

Conclusion: *Regular breakfast consumption is associated with improved self-perceived academic performance (APS) among undergraduate nursing students. Although breakfast habits did not significantly influence cumulative grade point average (CGPA), non-skippers tended to demonstrate better academic outcomes. These findings highlight that APS reflects daily cognitive engagement and concentration. In contrast, CGPA represents cumulative achievement, emphasizing the importance of consistent breakfast intake to support students' cognitive functioning and self-perceived academic competence.*

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INTRODUCTION

Breakfast is considered a critical meal that supplies essential nutrients and energy to start the day, supporting both physical and cognitive functioning [1]. Regular breakfast consumption has been associated with improved attention, memory, and overall academic performance, whereas skipping breakfast can impair concentration and learning capacity [1, 2]. The prevalence of breakfast skipping among university students is increasing globally, often influenced by academic workload, lifestyle habits, and personal preferences.[3] Research indicates that students who skip breakfast frequently are at higher risk of fatigue, poor memory retention, and lower academic achievement [4]. Moreover, socio-demographic factors such as gender, age, and socioeconomic status may affect breakfast habits and subsequently influence learning outcomes [5]. Emerging evidence indicates that habitual breakfast skipping may have long-term implications for cognitive health. A recent Mendelian randomization study established a causal link between skipping breakfast and reduced cognitive performance, as well as an increased risk of neuropsychiatric conditions such as attention deficit disorders and depression [6]. Large population-based studies have also shown that students who frequently skip breakfast demonstrate significantly lower achievement in standardized literacy and numeracy tests, even after controlling for socioeconomic factors [7]. Research among university students in Bangladesh has revealed that over 60% of students skip breakfast, with strong associations to demographic factors, poor sleep quality, fatigue, and unhealthy dietary patterns, all of which can compromise academic performance.[8, 9] Thus, the present study aims to examine the association of breakfast skipping with academic performance among undergraduate nursing students and examine how socio-demographic factors influence breakfast habits.

MATERIAL AND METHODS

A descriptive cross-sectional study was conducted among undergraduate nursing students enrolled in the 2nd, 3rd, and 4th years at Isra School of Nursing, Isra University, Hyderabad, between August and November 2025. First-year students were excluded to ensure participants had completed at least one academic semester. The sample size was calculated using Raosoft online sample size calculator, considering the total population of nursing students, a 95% confidence interval, and a 5% margin of error, resulting in a required sample of 93 students. Participants were selected through convenience sampling. Data were collected using a structured, self-administered questionnaire comprising demographic information, breakfast consumption habits, and academic performance. Breakfast habits were categorized as Breakfast Skippers (1–3 days/week), Irregular Skippers (4–5 days/week), and Non-Skippers (6–7 days/week). Academic performance was assessed through the Academic Performance Scale (APS) and students' last semester cumulative grade point average (CGPA). Administrative approval was obtained from the Principal of Isra School of Nursing, and written informed consent was secured. Confidentiality and anonymity were maintained throughout the study. Data were analyzed using SPSS version 26. Descriptive statistics (frequencies, percentages) summarized participant characteristics and breakfast habits. Associations between breakfast consumption and academic performance were examined using Fisher's Exact Test, with statistical significance set at $p < 0.05$.

RESULTS

A total of 93 undergraduate nursing students participated in the study. The majority were female (74%), while males accounted for 26% (Figure 1). The age distribution showed that 43% of students were 22–26 years old, 36.6% were 27–29 years old, and 20.4% were above 29 years old. Participants were equally distributed across 2nd, 3rd, and final years (33.3% each). Regarding residency, 35.5% were hostellers, 43% rented homes, and 21.5% lived in personal homes. Socioeconomic status indicated that 51.9% belonged to the lower class, 29% to the middle class, and 19.1% to the upper class (Table 1). Analysis of breakfast consumption revealed that 23.8% of students were Breakfast Skippers, 16.2% were Irregular Skippers, and 60% were Non-Skippers (Table 2). Regarding academic performance based on CGPA, 64.3% of students achieved an Excellent grade (3.5–4.0) and 35.7% achieved a Good grade

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(2.5–3.49); no student fell in the Satisfactory range (<2.49) (Table 3). Self-reported academic performance (APS) indicated that Non-Skippers scored higher than Breakfast Skippers and Irregular Skippers. Breakfast skipping was significantly associated with APS (Fisher's Exact Test, p = 0.048), suggesting that regular breakfast intake supports better self-perceived academic performance (Table 4). In contrast, no statistically significant association was observed between breakfast consumption and CGPA (Fisher's Exact Test, p = 0.083), indicating that breakfast habits did not significantly influence objective academic grades (Table 5). The most commonly reported reasons for skipping breakfast were lack of time (34.4%) and not feeling hungry in the morning (25.8%) (Table 6).

Figure 1: Figure 1: Gender distribution of participants

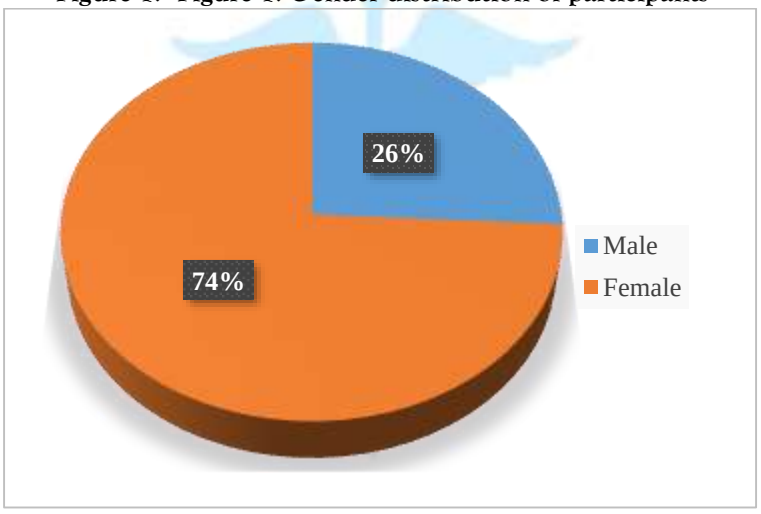


Figure 1 shows that the majority of participants were female, constituting 74% of the sample, while males accounted for 26%.

Table 1. Demographic Characteristics of Participants (n = 93)

Characteristic	Category	Frequency (n)	Percent (%)
Age (years)	22–26	40	43.0
	27–29	34	36.6
	>29	19	20.4
Gender	Male	24	26.0
	Female	69	74.0
Year of Study	2nd	31	33.3
	3rd	31	33.3
	Final	31	33.3
Residency	Hosteller	33	35.5
	Rented Home	40	43.0

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	Personal Home	20	21.5
Socioeconomic Status	Lower	48	51.9
	Middle	27	29.0
	Upper	18	19.1

Table 2: Breakfast Skipping Categories (n=93)

Breakfast Skipping Category	Frequency (n)	Percentage (%)
Breakfast Skipper (1–3 days/week)	22	23.8
Irregular Skipper (4–5 days/week)	15	16.2
Non-Skipper (6–7 days/week)	56	60.0
Total	93	100

Table 3: Academic Performance of Students Based on CGPA (n = 93)

CGPA Category	Frequency (n)	Percentage (%)
Excellent (3.5–4.00)	60	64.3
Good (2.5–3.49)	33	35.7
Satisfactory (<2.49)	0	0
Total	93	100

Table 4: Association of Breakfast Skipping with Self-Reported Academic Performance (APS)

APS Category	Breakfast Skipper n (%)	Irregular Skipper n (%)	Non-Skipper n (%)	Total n (%)	P-Value (Fisher's Exact)
Excellent Performance	15 (16.1)	10 (10.8)	25 (26.9)	50 (53.8)	0.048*
Good Performance	7 (7.5)	5 (5.4)	14 (15.1)	26 (28.0)	
Moderate Performance	2 (2.2)	2 (2.2)	2 (2.2)	6 (6.5)	
Failing Performance	1 (1.1)	0 (0)	0 (0)	1 (1.1)	
Total	25 (26.9)	17 (18.3)	41 (44.1)	93 (100)	

Table 5: Association of Breakfast Skipping with CGPA (n = 93)

CGPA Category	Breakfast Skipper n (%)	Irregular Skipper n (%)	Non-Skipper n (%)	Total n (%)
Excellent (3.5–4.0)	5 (5.4)	7 (7.5)	48 (51.6)	60 (64.5)
Good (2.5–3.49)	17 (18.3)	8 (8.6)	8 (8.6)	33 (35.5)
Satisfactory (<2.49)	0 (0)	0 (0)	0 (0)	0 (0)
Total	22 (23.7)	15 (16.1)	56 (60.2)	93 (100)

Table 6: Reasons for Not Eating Breakfast (n = 93)

Reason	Frequency (n)	Percentage (%)
Lack of time	32	34.4
Don't feel hungry in the morning	24	25.8
No one prepares breakfast	12	12.9
Trying to lose weight	5	5.4

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The family doesn't eat breakfast	8	8.6
Dietary restrictions	3	3.2
No food available	4	4.3
No specific reason	5	5.4
Total	**93**	**100**

DISCUSSION

In the present study, 23.8% of undergraduate nursing students were breakfast skippers, 16.2% were irregular skippers, and 60% were non-skippers. These results indicate that the majority of students maintained regular breakfast habits, which aligns with some regional studies reporting that over half of students consume breakfast daily, although prevalence rates vary widely across countries due to cultural and lifestyle differences [10, 11]. Students who regularly consumed breakfast demonstrated higher self-reported academic performance (APS) compared to breakfast skippers, and breakfast skipping was significantly associated with APS (Fisher's Exact, $p = 0.048$). This finding is consistent with global evidence, including a meta-analysis of observational studies, which reported that breakfast skipping is significantly associated with poorer academic performance [12]. Similarly, a cross-sectional study among Malaysian university students reported that habitual breakfast skippers had lower cognitive function and academic outcomes compared to regular breakfast consumers, supporting our findings[13].

Although Cumulative Grade Point Average (CGPA) did not show a statistically significant association with breakfast habits (Fisher's Exact, $p = 0.083$), the trend of higher APS scores among non-skippers reflects the potential impact of regular breakfast consumption on students' daily cognitive engagement and self-perceived academic competence. Population-level studies have shown that habitual breakfast skippers exhibit reduced cognitive and emotional engagement at school, suggesting that breakfast may enhance students' daily academic functioning beyond measurable grades [4]. The primary reasons for skipping breakfast in our study were lack of time (34.4%) and not feeling hungry in the morning (25.8%), which is consistent with findings from low- and middle-income countries, where students frequently report fatigue, irregular sleep patterns, and academic pressures as barriers to regular breakfast consumption [9, 14]. These findings suggest that regular breakfast consumption supports cognitive function, attention, and self-perceived academic performance among undergraduate students. Although CGPA was not statistically significant, APS results align with regional and international evidence. Promoting consistent breakfast intake may enhance cognitive engagement and academic outcomes, particularly for students facing time or lifestyle constraints.

CONCLUSION

The study concluded that regular breakfast consumption is associated with improved self-perceived academic performance (APS) among undergraduate nursing students. While breakfast habits did not significantly influence cumulative grade point average (CGPA), non-skippers demonstrated a trend toward better academic outcomes. The difference between APS and CGPA highlights that APS reflects students' subjective perception of daily cognitive engagement, concentration, and performance, whereas CGPA represents cumulative academic achievement over semesters. These findings emphasize the importance of promoting consistent breakfast intake to support students' daily cognitive functioning, attention, and self-perceived academic competence.

CONFLICT OF INTEREST: None

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