

Impact of breakfast habits on Physical Parameters and Academic Performance of Nursing Students

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Abstract

Background: Breakfast is an important meal of the day. Skipping Breakfast has become very prevalent among health science university students. Therefore, the present study was conducted to find the impact breakfast habits on the Body Mass Index (BMI), Haemoglobin and Academic performance.

Methodology: Eighty-one, first year undergraduate nursing students from the Nitte (deemed to be University), were taken for the study, after taking informed consent from them. Purposive sampling Technique was used to select the students. Students Breakfast habits were assessed by questionnaires, and haemoglobin (Hb) level was by lab investigation. Standard instruments were used to check the height and weight of the students.

Results: Revealed that the majority of the students (55.6%) skipped Breakfast. Also, the majority of them mentioned the reason for skipping Breakfast is lack of time, getting up late, not hungry, not interested in having Breakfast, and tasteless food. Beside, there was no significant difference found between BMI, Hb, and Academic Score in breakfast-skippers and non-skippers. Though the present study hasn't shown any impact of breakfast habits on physical parameters and academic performance, it may affect on total nutritional status of the students. So it's need of the hour to aware the students on the importance of regular Breakfast.

Keywords: Breakfast habits, BMI, Haemoglobin, Nursing Students, Academic Performance.

Introduction

Adolescence is a crucial period, where rapid growth and development takes place. Having a regular and balanced diet in this period will ensure healthy development¹. Breakfast is important meal of the day. Regular consumption of Breakfast is a part of a healthy

lifestyle. It should contribute around 20 to 30 percent of daily total energy needs^{2,3}. Studies revealed that eating healthy breakfast results in a total positive nutritional outcome of children⁴. Also, Breakfast with an adequate level of tryptophan will help to gain beneficial effects on mental health. The mechanism of action is the conversion of tryptophan into serotonin in the day time, which is a natural antidepressant and serotonin to melatonin at night induces good sleep⁵. Thus, it may positively affect the mental health, cognitive functions, and academics of young people³. On the Contrary, skipping Breakfast is associated with mood disorders, cognitive impairment, overweight and obesity, and health risk behaviours such as smoking, bullying.⁶⁻⁸

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Despite the known effect of Breakfast on physical and mental health, skipping Breakfast become prevalent

among adolescence^{6,9}. A systematic review conducted showed that Breakfast is frequently skipped meal compared to other meals, with the prevalence ranging from 5% to 83%¹⁰. Besides newspaper article in the new Indian express revealed that three out of four does not eat healthy Breakfast, and one out of four skip breakfast in India¹¹. Also, to support this, studies conducted in India revealed, breakfast skipping habits among school-going adolescents ranged from 30-50%¹².

The prevalence rate is even high among Health science University students. The study conducted in Malaysian Health Science University revealed that the majority of students consume Breakfast between one to three times per week¹³. The data from the Saudi Arabian College of Health Sciences showed, 38.7% of the students eat Breakfast three to four times a week and daily by 49.9%¹⁴. Also, a study from Ghana revealed that 72% of Medical students skip the meal¹⁵. The research conducted in Iran told that 71% of nursing students skip Breakfast¹⁶. Beside a study conducted in Haryana, India showed 78.2% of B.Sc Nursing students skip a meal¹⁷. The reason given towards skipping Breakfast was to lose weight, no time, waking up late, not having Breakfast to eat, and not hungry¹³.

As from the above review, it is clear that breakfast skipping habits are prevalent among health science university students. Also, these reviews have shown that it has a deleterious effect on cognitive functions; thus, it may lead to poor academic performance. As there are very few studies in the field of Nursing concerning breakfast habits, the present study is done to know the prevalence of Breakfast skipping among first-year nursing students and its effect on academic performance, BMI, and Hb level.

Method

A descriptive cross-sectional study was conducted to assess the breakfast habits and its impact on academic performance, BMI, and Hb level. After taking the informed consent total of 81 students of First Year B.Sc. Nursing was taken for the study. Purposive sampling technique was used to select the above students.

Data Collection Instruments: Initially, demographic characteristics of the participants such as age, gender, type of family, Residence, attendance, academic grade, diet preference, Height and weight,

frequency of having Breakfast per week were collected. Followed by reasons for skipping the Breakfast were assessed by checklist, which had 11 items. Five ml of blood was collected to determine the Haemoglobin level of students. Lab investigation was done at Justice K.S Hegde Hospital, Mangaluru. BMI was calculated by dividing weight in kg by the height in meters square. Classification of the BMI was made as per the WHO guidelines.

Statistical Analysis: Collected data were analyzed using SPSS software 22 version. Descriptive statistics such as frequency and the percentage was used to explain the demographic characteristics and to assess the reason for skipping Breakfast. An independent sample t-test was used to find the difference in the BMI, Hb, and academic marks of breakfast-skippers and non-skippers. P-value is < 0.05 level is considered significant.

Result

Socio-Demographic Characteristics: In the present study, among 81 students, the majority of them were females (77%) belongs to the age group 17 to 19 (77%). Most of them from the nuclear family (77%) and stays in the Hostel (74%). The majority of them were having a normal BMI range (63%) and Hb level (81%).

Table 1: Reason for skipping Breakfast (n=81)

Reason for skipping Breakfast	Frequency	Percentage
Lack of time	67	82.71
Anxiety	10	12.34
Nauseated	7	8.64
Getting up late	47	58.02
Not hungry	46	56.79
Food allergy	2	2.46
No interest	27	33.33
Over weight	7	8.64
Tasteless Food	47	58.02
Fasting	9	11.11

Among 81 students, the majority of them said the reason for skipping Breakfast is lack of time (82.71%), getting up late(58.02%), not hungry (56.79%), not interested in having Breakfast (33.33%), and tasteless food (58.02%). (Table 1).

Table 2: Difference in Hb level, BMI and Academic Marks of Breakfast skippers and Non-Skippers (n=81)

		N	Mean	Std. Deviation	Mean Difference	df	T value	Sig. (p-Value)	Std. Error Difference
Hb	Non Skippers	36	13.044	1.6263	-.0022	79	-.006	.995	.3763
	Skippers	45	13.047	1.7267					
BMI	Non Skippers	36	20.786	2.9076	.7196	79	1.063	.291	.6771
	Skippers	45	20.066	3.1203					
Academic Marks	Non Skippers	36	61.11	12.723	3.133	79	1.181	.241	2.653
	Skippers	45	57.98	11.139					

Independent sample t-test Df-degree of freedom, $p < 0.05$ is considered significant

An independent t-test showed that there is no significant difference in Hb level ($t = -0.006$, $p = 0.995$), BMI ($t = 1.063$, $p = 0.291$) and Academic marks ($t = 1.181$, $p = 0.241$) among Breakfast skippers and non-skippers. (Table 2)

Discussion

The present study shows that prevalence of Breakfast skipping in nursing students is 55.6% which is lower compared to the study conducted at in nursing college of Haryana (78.2%)¹⁷ and Iraq (71%)¹⁶. The reason could be a difference in the geographical area and batch of the students included in the study. Also, in the present study, only first-year students were taken.

In the present study, there is no significant difference found in the academic score, BMI and Hb between Breakfast skippers and non skippers. In contrast, Study in the USA, US and Jpan showed that skipping Breakfast associated with obesity¹⁸⁻²⁰. However, study conducted on Canadian adults revealed that skipping Breakfast is not associated with obesity²¹. Also, a study conducted in Denpasar, and review of literature conducted on breakfast habits and academic performance has shown the significant relation^{22,23}. In Contrary, A study conducted by Andiarna F(2018) and one more study by Amrin(2014) revealed that skipping Breakfast increases the risk of anaemia²⁴. The discrepancy in the result may be due to the geographical area, and cultural background. Also, the majority of the students were from the first year and stayed in the Hostel. Adjustment to the new type of food could be the reason for skipping Breakfast

Also, present study majority of the subject revealed the reason for skipping Breakfast as lack of time (82.71%), getting up late(58.02%), not hungry (56.79%), not interested in having Breakfast (33.33%) and tasteless food (58.02%). Which is similar to the study conducted by ALBashtawy M (2017), where children revealed

the reason for skipping Breakfast was no enough time, nothing to eat, not hungry, poor appetite²⁵.

In the present study, there are many limitations such as small sample size, including only first-year nursing students and self-reported questionnaires, which might have caused the response bias. The study could be conducted with a larger sample size to get an accurate result.

Conclusion

Despite knowing the ill effects of Breakfast skipping its prevalent even in health science students. Though present findings show there is no significant effect of skipping Breakfast on BMI, Hb, and academic performance, it may affect the total nutritional status of students in the later period. Therefore creating awareness among students on the importance of breakfast habits is necessary.

Ethical Clearance: Was taken from Institutional Ethics committee Nitte Usha Institute of Nursing Sciences (Ref. No. NUINS/CON/NU/IEC/2018-19).

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Conflict of Interest: Nil

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