RELATIONSHIP BETWEEN SKIPPING BREAKFAST, ACADEMIC PERFORMANCE AND BMI AMONG NURSING STUDENTS

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ABSTRACT

The existing study performed was to find the relationship between skipping breakfast, academic performance and BMI among 60 nursing students in selected college of Nursing, Bathinda. Objectives under this study were: to assess the skipping breakfast habits among nursing students by using skipping breakfast assessment sheet, assess the academic performance of nursing students by using academic performance sheet, assess the BMI of nursing students, find the relation between skipping breakfast, academic performance and BMI among nursing students, find out the association between skipping breakfast with their selected socio-demographic variables. A descriptive research design was adopted for the study. Population for the study taken was GNM 1st, 2nd and 3rd year students. The study results found that maximum 42 (70%) students were skipping breakfast and 18 (30%) students were not breakfast skippers. Most of 41(68.33%) students were having common reason for skipping breakfast was lack of time. There was a significant association between skipping breakfast with grade and BMI. There was a significant association of skipping breakfast with educational status of mother, area of residence and type of family at p-0.05.

Key words: Skipping breakfast, Academic performance, BMI, Nursing Students.

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INTRODUCTION

Breakfast is taken as an important dietary source of nutrients which provides energy during the day as necessary.¹ In students, the eating of breakfast is proportional to many definite outcomes like maintenance of body weight and regular attending of classes.² In addition to, all kind of positive effects like enthusiasm, energy level, interest, mental alertness, happiness and determination rises crossly in the morning to noon time and is much more raised in habitual breakfast eaters.³ It also increases the ability to focus and lessen the level of failures in attention and cognition during the day especially in the case of multitasked work.⁴

Young adults are those who aged 18-30 years⁵ have a bit of maximum rates of meal skipping as compared to other age groups as said by Australian Bureau of Statistics.⁶ Data from the American National Health and Nutrition Examination Survey (NHANES) 2011-12 proposed that 33% of young adults do not consume breakfast on daily basis.⁷

Researchers didn't know exactly what the link between two is, but they believed that there can be many factors behind it. For one, skipping breakfast can cause overeating rest for the day, which may lead to weight gain and may increase the risk of heart disease. However, it is also possible that skipping breakfast can have adverse effects in the body like reduce insulin sensitivity.⁸

The prevalence of skipping breakfast has increased in age group of < 25 years and it will decline with the increase in age.⁹

When you skip your breakfast 12 things will happen to your body which includes greater risk of having heart disease, more likely to acquire diabetes, may increase weight, metabolism may slow down, may get stupid, get irritable, lose the energy, breath go down, cortisol level may raise, can develop chronic inflammation, have more cravings rest for the day and period may get worse.¹⁰

BMI provides a simple numeric measure which allows health professionals to discuss weight problems more objectively with their patients. BMI was designed to be used as a simple means of classifying average sedentary (physically inactive) populations, with an average body composition.¹¹

For young adults, the current value recommendations are as follows: Person having BMI lower than 18.5kg/m² suggests underweight, BMI with 18.5-25 kg/m² indicates normal weight, BMI from 25-30kg/m² indicates overweight and more than 30kg/m² suggests obese.¹²

PROBLEM STATEMENT

A study to assess the relationship between skipping breakfast, academic performance and BMI among nursing students in selected college of nursing, Bathinda.

OBJECTIVES

1. To assess the skipping breakfast habits among nursing students by using skipping breakfast assessment sheet.
2. To assess the academic performance of nursing students by using academic performance sheet.
3. To assess the BMI of nursing students.
4. To find the relation between skipping breakfast, academic performance and BMI among nursing students.
5. To find out the association between skipping breakfast with their selected socio-demographic variables.

MATERIALS AND METHOD

Research approach: Quantitative research approach was adopted for this study.

Research design: The research design used for this study was descriptive research design.

Research setting: The study was conducted in college of nursing, Adesh University, Bathinda.

Population: Population for the study taken was GNM 1st, 2nd and 3rd year students.

Sample size: Total sample size was 60 students.

Sampling technique: Sample was selected by using non-probability purposive sampling technique.

CRITERIA FOR SAMPLE SELECTION

Inclusive criteria:

1. Male and female Nursing students aged 18 to 23 were asked to participate in the study.
2. Students who are willing to participate in the study.
3. Students who are available and cooperative at the time of data collection.

Exclusive criteria:

1. Students who are on leave and sick during the time of data collection.
2. Students with any hormonal problems.

DEVELOPMENT OF TOOL

Section A: includes Socio-demographic variables such as Age (in years), Gender, Class, Monthly Family income, Educational status of father, educational status of mother, area of residence and type of staying.

Section B: includes skipping breakfast assessment sheet which contains 7 questions which was used to assess skipping breakfast habits.

Section C: includes academic performance assessment sheet. It was divided into 2 parts:

1. Class assessment level which was used to assess the student's academic performance in the class which contains 27 questions and every question is rated on three point Likert scale. Answers of the students were recorded, scored, and then summed together. It was categorized into three levels as follows: - (1) indicates low, (2) indicates moderate, (3) indicates high class level.
2. GPA (Grade Point Average): this section aimed to assess GPA of the nursing students, which included the following score average:

Grade	Score
A	90% ≤ 100%
B	75 % < 90%
C	60 % < 75%
D	50 % < 60%
E	<50%

Section D: Body mass index (BMI) measurement: this part aimed to assess the nursing students BMI according to classification of WHO.

Classification	Category (kg/m ²)
Underweight	Lower than 18.5
Normal weight	18.5-24.9
Overweight	25-29.9
Obese	More than 30

Method of data collection: A tool prepared after review of literature, collection of experts view. After development of tool, it was given to GNM students in the class. Appropriate time was given to the students to fill up the tool. Tool reliability was checked with cronbach's alpha test was 0.80.

Statistical analysis: Data was analyzed by using SPSS software package version 20.0. Data was analysed by frequency and percentage distribution. Chi-square test was used to study the association between two variables.

Section I**TABLE-I**

Frequency and Percentage distribution of socio-demographic variables of GNM students.

N=60

S.No.	Socio-demographic variables	f	%
1.	Age (in years)		
	a) 18-19	30	50
	b) 20-21	22	36.67
	c) 21-23	08	13.33
2.	Gender		
	a) Male	17	28.33
	b) Female	43	71.67
3.	Class		
	a) GNM 1 st Year	25	41.67
	b) GNM 2 nd Year	15	25
	c) GNM 3 rd Year	20	33.33

4.	Family Income (in months)		
	a) 10,001-20,000	10	16.67
	b) 20,001-30,000	22	36.67
	c) ≥30,001	28	46.67
5.	Educational status of father		
	a) No formal education	12	20
	b) High school	04	6.67
	c) Senior Secondary	20	33.33
	d) Graduation and above	24	40
6.	Educational status of mother		
	a) No formal education	28	46.67
	b) High school	04	6.67
	c) Senior Secondary	18	30
	d) Graduation and above	10	16.67
7.	Area of residence		
	a) Rural	34	56.67
	b) Urban	26	43.33
8.	Type of staying		
	a) Day-scholar	32	53.33
	b) Hosteller	28	46.67

Majority of 30 (50%) students were from 18-19 years age group, maximum 43 (71.67%) students were females, 25 (41.67%) students were from GNM 1st year class, 28 (46.67%) students family monthly income was ≥20,001, 24 (40%) students father were graduate and above, 28 (46.67%) mothers were having no formal education, 34 (56.67%) students belongs to rural area, 32 (53.33%) students were day scholars.

RESULTS:

Section II

Assess the frequency distribution of skipping breakfast habits among nursing students by using skipping breakfast assessment sheet.

Table II **N=60**

Items	n	%
Students skipping breakfast		
Skip(4 times or more per week)	42	70
Not skip(less than 4times per week)	18	30
	No.	%
Reasons for skipping breakfast meal*		
Haven't time	41	68.33
Not hungry	26	43.33
Fear of increase weight	10	16.67
Don't like breakfast foods	9	15
Students family skip breakfast	8	13.33
Students friends skip breakfast	7	11.67
Breakfast not available	10	16.67
Lack of appetite	12	20
Effect of skipping breakfast meal on students*		
Feel hungry	35	58.33
A headache	38	63.33
Stomachache	13	21.67
Feel tired	17	28.33
Not have energy	19	31.67
Feel grumpy	2	3.33
Have trouble paying	4	6.67
Decrease attention in class	15	25
Benefits of eating breakfast*		

Increase energy	43	71.67
Wakes up	14	23.33
Increase attention	20	33.33
Gaining good grades	7	11.67
Have a better mood	10	16.67
Improve health	20	33.33
Helps in try new foods	5	8.33
Increase activity	10	16.67
Students favorite food		
Fast food	38	63.33
Traditional food	22	36.67
How often do students take tea or coffee per a day?		
Never	5	8.33
1-2 times	17	28.33
3 - 4 times	34	56.67
5- 6 times	4	6.67
Above	0	0
How often do students drink/ soft drinks per day?		
Never	8	13.33
1-2 times	10	16.67
3 - 4 times	36	60
5- 6 times	6	10
Above	0	0

* Students response more than one time.

Table 2 depicted frequency distribution of skipping breakfast habits among nursing students. More than two-third 42 (70%) students were skipping breakfast and 18 (30%) students were not skipping their breakfast. Regarding reasons for skipping breakfast meal, it was found that about two third 41(68.33%) were not having enough time to eat, followed by 26 (43.33%) were skipping breakfast because they were not feeling hungry. Regarding effect of skipping breakfast meal found that about two-third 38 (63.33%) were having headache followed to this 35(58.33%) were feeling hungry. Regarding benefits of eating breakfast most of 43 (71.67%) eating breakfast increases energy. In addition to students favourite food 38 (63.33%) students had fast foods. Regarding how often do students take tea or coffee/day, more than half 34 (56.67%) were taking tea/coffee 3-4 times a day. Regarding how often do students take soft drink per day 36 (60%) were drinking 3-4 times a day.

Fig 1: Pie diagram showed skipping breakfast habits among nursing students

Assess academic performance of nursing students by using academic performance sheet.

Table 3		N-60
Academic performance level	n	%
Class assessment level		
Low	22	36.67
Moderate	30	50
High	8	13.33
Grade point average		
A	3	5
B	21	35
C	31	51.67
D	2	3.33
E	3	5

Table 3 displayed frequency distribution regarding academic performance of nursing students. It was revealed that half of 30 (50%) students had moderate academic performance in class while assessing class assessment level, More than half 31 (51.67%) students were under grade-C (60 - <75%)

Assess the BMI of nursing students.

Table-4 N-60			
BMI	Category (kg/m ²)	n	%
Underweight	Lower than 18.5	6	10
Normal weight	18.5-24.9	22	36.67
Overweight	25-29.9	25	41.67
Obese	More than 30	6	10

Table 4 revealed that near to half 25 (41.67%) were overweight, followed by one third 22 (36.67%) were having normal weight.

Find the relation between skipping breakfast, academic performance and BMI among nursing students.

Table-5					N-60		
Academic performance level	Student skipping breakfast				df	χ2	p-value
	Skip breakfast (42)		Not skip breakfast (18)				
	n	%	n	%			
Class assessment level							
Low (22)	19	45.23	3	16.67	2	10.5195	0.0051
Moderate (30)	21	50	9	50			S
High (8)	2	4.76	6	33.33			
Grade point average							
A (3)	0	0	3	16.67			
B (21)	16	38.09	5	27.77	4	9.6013	0.0476
C (31)	21	50	10	55.56			S
D (2)	2	4.76	0	0			
E (3)	3	7.14	0	0			
BMI	Student skipping breakfast				df	χ2	p-value
	Skip breakfast (42)		Not skip breakfast (18)				
	n	%	N	%			
Underweight (≤18.5)	13	30.95	4	22.22			
Normal weight (18.5-24.9)	12	28.57	12	66.67	3	8.5294	0.0361
Overweight (25-29.9)	14	33.33	2	11.11			S
Obese (≥30)	3	7.14	0	0			

Table 5 displayed that there was statistical significant relationship between skipping breakfast and academic performance at $p=0.05$. In addition to, there was statistical significant relationship between skipping breakfast and BMI at $p=0.05$.

Association between skipping breakfast with their selected socio-demographic variables.

Table-6					N-60		
Socio-demographic variables	Students Skipping breakfast				df	χ2	p-value
	Skip breakfast (42)		Not skip breakfast (18)				
	n	%	n	%			
Age (in years)						0.9271	0.6290
a) 18-19	20	47.61	10	55.55	2		NS
b) 20-21	17	40.47	5	27.77			
c) 21-23	5	11.90	3	16.67			
Gender						6.5703	0.0103
a) Male	16	38.09	1	5.55	1		S
b) Female	26	61.90	17	94.44			
Class						0.1270	0.9385
a) GNM 1 st Year	18	42.85	7	38.89	2		NS
b) GNM 2 nd Year	10	23.80	5	27.78			
c) GNM 3 rd Year	14	33.33	6	33.33			
Family Income (in months)						1.0915	0.5793
a) 10,001-20,000					2		NS
b) 20,001-30,000	6	14.28	4	22.22			
c) ≥30,001	17	40.47	5	27.78			
	19	45.23	9	50			
Educational status of father						3.8095	0.2827
a) No formal education	7	16.67	5	27.78	3		NS
b) High school							
c) Senior Secondary	3	7.14	1	5.56			
d) Graduation and above	12	28.57	8	44.44			
	20	47.61	4	22.22			
Educational status of mother						8.2993	0.0401
a) No formal education	19	45.23	9	50	3		S
b) High school							
c) Senior Secondary	1	2.38	3	16.67			
d) Graduation and above	12	28.57	6	33.33			
	0	0	0	0			
Area of residence						4.6671	0.0306
a) Rural	20	47.61	14	77.78	1		S
b) Urban	22	52.38	4	22.22			
Type of staying						4.1327	0.0420
a) Day-scholar	26	61.90	6	33.33	1		S
b) Hosteller	16	38.09	12	66.67			

Table 6 highlighted the relationship between skipping breakfast and socio-demographic variables of the nursing students. There was a significant association between educational status of mother, area of residence and type of staying and skipping breakfast at $p=0.05$.

DISCUSSION:

The first objective was to skipping breakfast habits among nursing students by using skipping breakfast assessment sheet. The results were found to be maximum 42 (70%) students were skipping breakfast and 18 (30%) students were not skipping their breakfast. Most of 41(68.33%) students were having common reason for skipping breakfast was lack of time. There was a significant association between skipping breakfast with grade and BMI. The similar study was conducted by **Devi Sarungbam Sarju et al.**¹³ to assess the effect of breakfast skipping on college performance and its nutritional status among Bsc nursing students. Results were 51 (70.8%) of the nursing students were skipping breakfast whereas 21 (29.2%) nursing students didn't skip their breakfast. Lack of time was utmost reason for skipping breakfast among breakfast skipper and non-skipper. There was a significant association between skipping breakfast with grade at p-0.05.

CONCLUSION:

Breakfast skipping significantly affects a number of parameters like academic performance, attendance, nutritional status etc. skipping breakfast affects both nutritional status and academic performance. There was a significant association between skipping breakfast with grade and BMI as well as educational status of mother, Area of residence and type of staying at p-0.05. Finally, nursing students should take breakfast because it has many others benefits to eat. Students should eat breakfast daily especially when they are going to hospitals.

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