



# International Journal of Advanced Psychiatric Nursing

E-ISSN: 2664-1356  
P-ISSN: 2664-1348  
[www.psychiatricjournal.net](http://www.psychiatricjournal.net)  
IJAPN 2024; 6(1): 13-18  
Received: 14-11-2023  
Accepted: 26-12-2023

**Anureet Kaur**  
B.Sc. Nursing 4th Year, Rayat  
Bahra College of Nursing,  
Mohali, Punjab, India

**Ashmeet Kaur**  
B.Sc. Nursing 4th Year, Rayat  
Bahra College of Nursing,  
Mohali, Punjab, India

**Harleen Randhawa**  
B.Sc. Nursing 4th Year, Rayat  
Bahra College of Nursing,  
Mohali, Punjab, India

**Sonali Katoch**  
B.Sc. Nursing 4th Year, Rayat  
Bahra College of Nursing,  
Mohali, Punjab, India

**Babita Sharma**  
Assistant professor, Rayat  
Bahra College of Nursing,  
Mohali, Punjab, India

**Dr. Deepika R Kumar**  
Professor, Director Principal,  
Rayat Bahra College of  
Nursing, Mohali, Punjab,  
India

**Corresponding Author:**  
**Anureet Kaur**  
B.Sc. Nursing 4th Year, Rayat  
Bahra College of Nursing,  
Mohali, Punjab, India

## A pre-experimental study to assess the effectiveness of structured teaching program (STP) on knowledge regarding caffeine addiction and its impact among students of Rayat Bahra College of nursing, Mohali

**Anureet Kaur, Ashmeet Kaur, Harleen Randhawa, Sonali Katoch, Babita Sharma and Dr. Deepika R Kumar**

DOI: <https://doi.org/10.33545/26641348.2024.v6.i1a.141>

### Abstract

**Introduction:** The vulnerability of students to caffeine addiction is heightened by factors such as academic stress, irregular schedules, and peer pressure, making it imperative to address this concern effectively. The widespread availability of caffeine-containing products, coupled with a lack of comprehensive public education about caffeine's potential risks, has contributed to its pervasive use. For many students, caffeine has become an everyday companion.

**Aim:** The aim of this study was to assess the effectiveness of a structured teaching program (STP) on caffeine addiction and its impact among students of Rayat Bahra College of Nursing, Mohali.

**Methods:** A quantitative research design with one group pre-test and post-test was chosen for the study. Total 100 students were selected by using convenience sampling technique. Self-structured questionnaire and structured teaching programme were used for data collection and analysis was done by using descriptive, inferential statistics.

**Results:** The study findings revealed that in the Pre-test knowledge score distribution was on the basis of poor knowledge, average knowledge and good knowledge. In Pre-test 16% adolescents had poor knowledge, 75% had average knowledge whereas only 9% had good knowledge regarding caffeine addiction. It shows that majority of respondents had average knowledge during Pre-test regarding caffeine addiction. In Post-test 97% had good knowledge and only 3% had average knowledge regarding caffeine addiction.

**Conclusions:** The findings of the study showed that post -test knowledge score was greater than pre-test knowledge score regarding caffeine addiction among students. Hence, structured teaching program was effective. Our findings highlight the needs for more intensive efforts to improve knowledge of the students.

**Keywords:** Caffeine addiction, structured teaching program students, knowledge, students

### Introduction

Caffeine, a widely consumed psychoactive substance found in various beverages and products, has become an integral part of modern society. Its stimulant properties are often sought after by individuals seeking increased alertness and productivity, particularly among students facing the rigors of academic life <sup>[1]</sup>. However, the escalating prevalence of caffeine consumption among students has raised concerns about its potential consequences, including addiction and the subsequent impact on physical and mental well-being <sup>[2]</sup>.

Caffeine addiction, characterized by a compulsive craving and dependency on caffeine containing substances, has been recognized as a growing issue among the student population <sup>[3]</sup>. While moderate caffeine consumption may offer short-term cognitive benefits, excessive intake can lead to a range of adverse effects, including sleep disturbances, anxiety, cardiovascular issues, and impaired academic performance. The vulnerability of students to caffeine addiction is heightened by factors such as academic stress, irregular schedules, and peer pressure, making it imperative to address this concern effectively <sup>[4]</sup>.

The widespread availability of caffeine-containing products, coupled with a lack of comprehensive public education about caffeine's potential risks, has contributed to its pervasive use. For many students, caffeine has become an everyday companion, relied upon to combat fatigue, boost concentration, and meet the demands of a fast-paced academic

lifestyle [5]. One essential aspect of addressing caffeine addiction is recognizing the profound impact it has on students' academic performance. As they strive for excellence in their studies, students are confronted with immense pressure and competition. It is within this context that caffeine, initially embraced as a means to enhance productivity, can paradoxically hinder their achievements [6]. The jittery restlessness resulting from caffeine addiction may lead to decreased focus and a decline in cognitive functioning. These consequences, when left unaddressed, can significantly compromise not only individual academic pursuits but also the overall educational experience [7].

### Need of the study

Caffeine addiction represents a challenge that necessitates not only academic exploration but also practical solutions. With caffeine being an integral part of contemporary culture, it is crucial to appreciate the various facets of this issue and its significance within the educational landscape [8].

One essential aspect of addressing caffeine addiction is recognizing the profound impact it has on students' academic performance. As they strive for excellence in their studies, students are confronted with immense pressure and competition. It is within this context that caffeine, initially embraced as a means to enhance productivity, can paradoxically hinder their achievements. The jittery restlessness and sleep disturbances resulting from caffeine addiction may lead to decreased focus and a decline in cognitive functioning. These consequences, when left unaddressed, can significantly compromise not only individual academic pursuits but also the overall educational experience [9].

In conclusion, the need for this study was paramount in today's educational and societal context. It is a timely response to a pressing issue with far-reaching consequences [9]. By investigating caffeine addiction among students and evaluating the efficacy of structured teaching programs, this research offers a pathway to better academic outcomes, improved mental health, and the cultivation of informed, health-conscious individuals who can make choices that benefit not only themselves but society as a whole [10].

### Problem Statement

A pre-experimental study to assess the effectiveness of structured teaching program (STP) on knowledge regarding caffeine addiction and its impact among students of Rayat Bahra College of Nursing, Mohali

### Objectives of the study

1. To develop tool to assess the existing level of knowledge regarding caffeine addiction and its impact among students of Rayat Bahra College of Nursing, Mohali.
2. To develop and implement the structured teaching program regarding caffeine addiction and its impact among students of Rayat Bahra College of Nursing, Mohali.
3. To assess and compare pre-test and post-test knowledge score regarding caffeine addiction and its impact among students of Rayat Bahra College of Nursing, Mohali.
4. To find the association of level of knowledge with selected socio demographic variables.
5. To disseminate the findings.

### Hypothesis of the study

**H<sub>1</sub>:** There will be significant difference between pre-test and post-test level of knowledge scores regarding knowledge of caffeine addiction.

**H<sub>2</sub>:** There will be significant association of pre-test level knowledge score with selected socio demographic variables.

### Operational Definitions

**Caffeine:** Caffeine is a plant-based alkaloid which stimulates the central nervous system of anyone who consumes it. It was derived from boiling certain leaves, bark and seeds in hot water. Its chemical name is 1, 2, 3 trimethyl xanthine. It's considered as the most commonly used psychoactive drug in the world!

**Addiction:** Fear a compulsive, chronic, physiological or psychological need for a habit forming substance, behavior, or activity having harmful physical, psychological, or social effects and typically causing well-defined symptoms (such as anxiety, irritability, tremors, or nausea) upon withdrawal or abstinence

**Students:** In this study, there were nursing students of Rayat Bahra College of Nursing, Mohali.

**Structured teaching:** It is a methodological and scientific approach to provide structure to develop predictability in their life, in short and simple facilitated manner.

### Methodology

#### Research Approach

In the view of the problem a Quantitative research approach was chosen for the present study in order to assess the effectiveness of structured teaching program (STP) on caffeine addiction and its impact among students of Rayat Bahra College of Nursing, Mohali.

#### Research Design

A pre-experimental research design was considered to be appropriate for the present study to assess effectiveness of structured teaching program (STP) on caffeine addiction and its impact among students.

#### Research Setting

The present study was conducted at Rayat Bahra College of Nursing, Mohali, Punjab.

#### Study Population

The target population of the present study was nursing students studying in Rayat Bahra College of Nursing, Mohali, Punjab

#### Sample and Sampling Technique

**Sample:** Nursing students of Rayat Bahra College of Nursing, Mohali, Punjab.

**Sample size:** A total sample of 100 nursing students of Rayat Bahra College of Nursing were selected.

**Sampling technique:** The subjects were selected on the basis of inclusion and exclusion criteria and sample were selected according to the convenience.

**Eligibility criteria****Inclusive criteria**

1. Students of Rayat Bahra College of Nursing, Mohali
2. Student who was present at the time of data collection.

**Exclusive criteria**

1. Students who was not willing to participate.

**Selection of tool**

The tool was formulated according to the need of the study and consisted of:

- **Section A:** Socio Demographic Variables
- **Section B:** Self Structured Questionnaire
- **Section C:** Structured Teaching Program

**Section A: Socio demographic variables**

This section consists of information about demographic variables such as Age, Gender, Religion, Residence of student, educational status of parents, and Occupation of parents.

**Section B: Self structured questionnaire**

The data was collected through Self Structured questionnaire. It consists of 30 questions and the total score was 30. This instrument was used to identify the knowledge regarding caffeine addiction and its impact among students.

**Section C: Structured teaching program**

This part consists of structured teaching program on caffeine addiction. Teaching was given with the use PowerPoint presentation.

**Reliability of tool**

Reliability of tool was calculated by Split Half method.

**Ethical considerations**

Study approval was taken from ethical committee of Rayat

Bahra College of Nursing, Mohali, Punjab. Keeping in mind the legal rights of the study subjects, only those who were willing to participate were included in the study. Written informed consent was taken from each study subject after explaining them about study, its objectives and its benefits. Confidentiality was maintained throughout the study.

**Pilot study**

Pilot study was conducted in the month of October. Pilot study was conducted to ensure the feasibility of the study and reliability of the tool. The required changes were made in tool. It was conducted on GNM 1<sup>st</sup> year at Rayat Bahra college of Nursing, Mohali, Punjab. Also, it was found that study was feasible and tool was reliable to carry out final study.

**Procedure of data collection**

The data collection for the study was carried out from including 100 subjects. A formal permission was obtained from the Director Principal of Rayat Bahra college of Nursing, Mohali, Punjab. Study procedure was explained to the study subjects prior to the data collection. They were assured that their responses would be kept confidential and will be used only for research purpose. The demographic profile was filled by investigator by using convenient sampling technique.

**Data analysis**

Analysis of data was done in accordance with the objectives. Statistical analysis was performed using SPSS18 and excel 2010 software. Descriptive statistics was performed for sample characteristics (frequency, percentage, mean, standard deviation). The inferential statistics (paired T test) was performed. Data was presented in the forms of tables, charts, diagrams and bar graphs, p value at 0.05 was considered statistically significant.

**Table 1:** Frequency and percentage distribution of students (n=100)

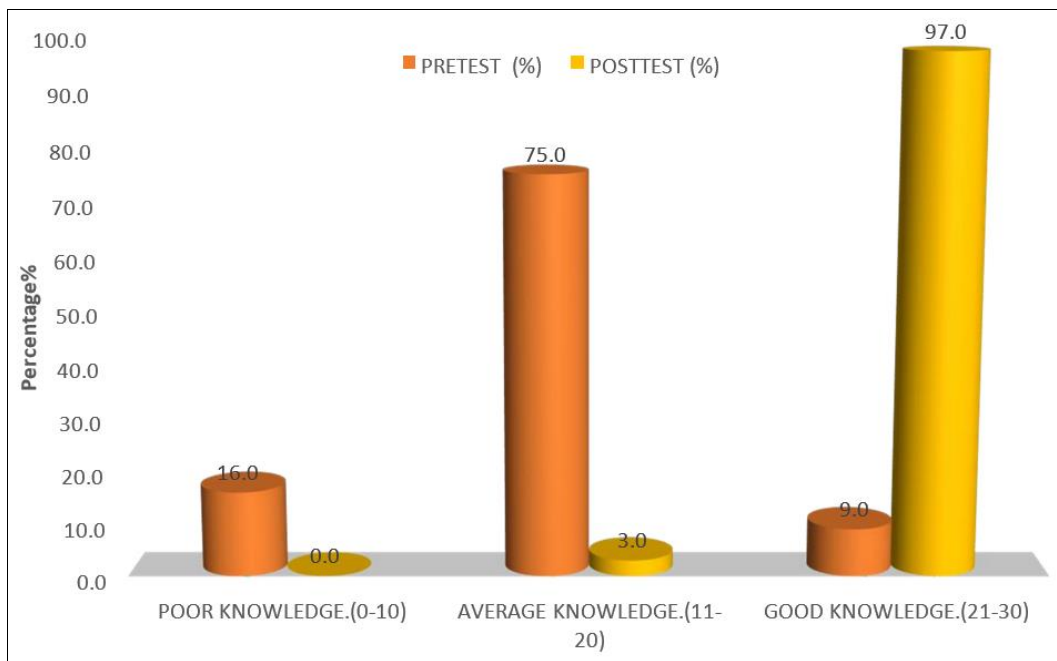
Variables	Options	Frequency (f)	Percentage (%)
Age	<18 years	50	50.0%
	18-19 years	35	35.0%
	20-22 years	11	11.0%
	≥23 years	4	4.0%
Gender	Male	42	42.0%
	Female	58	58.0%
Religion	Hindu	42	42.0%
	Sikh	51	51.0%
	Muslim	6	6.0%
	Christian	1	1.0%
	Other	0	0.0%
Residence of student	Home	43	43.0%
	Hostel	50	50.0%
	With relatives	5	5.0%
	P.G./Flat	2	2.0%
Education status of father	No formal education	3	3.0%
	Primary	44	44.0%
	Secondary	38	38.0%
Education status of mother	Graduation and above	15	15.0%
	No formal education	14	14.0%
	Primary	36	36.0%
	Secondary	35	35.0%
Occupation of father	Graduation and above	15	15.0%
	Self Employed	33	33.0%
	Government job	36	36.0%

Occupation of mother	Private job	2	2.0%
	Any Other	29	29.0%
	Home Maker	81	81.0%
	Self Employed	3	3.0%
	Government job	15	15.0%
	Any Other	1	1.0%

Table 1. Reveals frequency and percentage distribution of students according to different demographic variables

**Table 2:** Comparison of frequency & percentage distribution of pre-test and post-test level of knowledge

Criteria measure of knowledge score		
Score level (n= 100)	Pre-Test f (%)	Post-Test f (%)
Poor knowledge (0-10)	16(16%)	0(0%)
Average knowledge (11-20)	75(75%)	3(3%)
Good knowledge (21-30)	9(9%)	97(97%)
Maximum Score=30 Minimum Score=0		



**Fig 1:** Criterion Measures

Table -2: depicts that in Pre-test majority of study subjects had Average knowledge 75 (75.0%) whereas in Post-test majority of students had good knowledge 97(97.0%).

Hence, findings indicate that the knowledge was increased after intervention

**Table 3:** Table showing association of level of Pre-test knowledge score regarding caffeine addiction and its impact with their selected demographic variables

Association of knowledge scores with selected socio-demographic variables.									
Variables	Options	Good Knowledge	Average	Poor Knowledge	Chi Test	P Value	DF	Table Value	Result
Age	<18 years	3	39	8	4.16 7	0.654	6	12.592	Not Significant
	18-19 years	5	25	5					
	20-22 years	1	7	3					
	≥23 years	0	4	0					
Gender	Male	1	30	1	8.34 8	0.015	2	5.991	Significant
	Female	8	45	5					
Religion	Hindu	5	32	5	8.59 0	0.198	6	12.592	Not Significant
	Sikh	2	38	1					
	Muslim	2	4	0					
	Christian	0	1	0					
	Other	0	0	0					
Residence of student	Home	0	34	9	21.3 58	0.002	6	12.592	Significant
	Hostel	9	38	3					
	With relatives	0	2	3					

	P.G./Flat	0	1	1					
Education status of father	No formal education	2	1	0	23.041	0.001	6	12.592	Significant
	Primary	3	37	4					
	Secondary	1	26	1					
	Graduation and above			1					
Education status of mother	No formal education	2	12	0	6.052	0.417	6	12.592	Not Significant
	Primary	4	27	5					
	Secondary	2	24	9					
	Graduation and above	1	12	2					
Occupation of father	Self Employed	2	26	5	12.638	0.049	6	12.592	Significant
	Government job	3	22	1					
	Private job	0	2	0					
	Any Other	4	25	0					
Occupation of mother	Home Maker	6	61	1	3.513	0.742	6	12.592	Not Significant
				4					
	Self Employed	1	2	0					
	Government job	2	11	2					
	Any Other	0	1	0					

Table -3 reveals that there is significant association between gender, Residence of student, Education status of father and Occupation of father of the respondents and level of knowledge.

**Discussion**

The findings of the present study revealed that overall Post-test mean knowledge score (27.78) was higher than the Pre-test mean knowledge score (15.51) of students regarding knowledge of caffeine addiction. These findings of knowledge score reveal that there was a substantial increase in the knowledge after the implementation of Structured Teaching Program. These findings of the present study were similar to the previous study to improve the knowledge regarding caffeine addiction through education intervention. These findings support other studies conducted by Khan Maryam and Aslam Naeem (2020) [11] Conducted a qualitative study having sample of 30 cigarette smoker students. Furthermore, the findings of the study showed that the addiction is higher among the individual who were older in this sample. The findings were also supported by Choi Jinkyung (2020) [12] Conducted a descriptive study Selfreported questionnaires were distributed on campus to students The results of exploratory factor analysis showed the motivations for caffeinated beverage consumption were alertness, taste, mood, socialization, health benefits, and habit. The motivations for consuming each caffeinated beverage product were different. The findings were also supported by Suhag Narender (2017) [13] conducted both exploratory as well as descriptive research technique were used to gain the background information and recent trends on consumption of caffeinated beverages, this study shows that the students were able to identify the beverages containing caffeine or its content in the commonly consumed beverages.

**Conclusion**

The findings of the study showed that post -test knowledge score was greater than pre- test knowledge score regarding

caffeine addiction. It reveals that structured teaching program was effective. Our findings highlight need for more intensive efforts to promote proper knowledge regarding caffeine addiction. In the Pre-test knowledge score distribution is on the basis of Poor knowledge, Average knowledge and good knowledge. In Pre-test 16% students had Poor knowledge, 75% had average knowledge whereas only 9% had good knowledge of caffeine addiction. In Post-test 97% had good knowledge and only 3% had average regarding caffeine addiction.

**Recommendations**

- The study can be replicated with large sample to generalize the findings.
- The study can be done in different settings.
- Studies can be conducted by using different health educational methods such as lectures.
- The same study can be done with an experiment research approach having a control group.
- The same study can be done on different sample

**Acknowledgement**

First and foremost, we would like to thank Lord Almighty for his abundant blessing he shows on us for accomplishing this task.

Our research project has never become successful without the coordinated efforts of members involved. The satisfaction and pleasure that accompanies the successful completion of any task would be incomplete without the mention of the people who made it possible.

We want to express our incredible thanks to all those who inspired us and rendered their valuable support to us for completing this study.

We express our sincere heartiest gratitude to Prof. (Dr.) Deepika R. Kumar, Director Principal, Rayat Bahra College of Nursing, Mohali, Punjab. It is a great privilege to have benefitted from her excellent teaching skills, sagacious guidance, help, keen interest and encouragement all through our research period.



We would like to thank our guide Mrs. Babita Sharma, Assistant Professor, Rayat Bahra College of Nursing, Mohali, Punjab for her guidance, critical suggestions and support from the beginning till end for completion of this work.

We would also like to thank our teachers who have contributed their valuable suggestions. Grateful acknowledgement is extended to all experts invalidating the tool.

We own our deepest affection to our parents for their boundless prayers, moral support and constant encouragement during the course of the study.

We would like to conclude with lots of appreciation for all those who have directly or indirectly helped us in successful completion of the thesis.

### Conflict of Interest

Not available

### Financial Support

Not available

### References

1. Rudolph E, *et al.* Caffeine intake from all sources in adolescents and young adults in Austria. *European Journal of Clinical Nutrition*. 2014;68(7):793-8.
2. Ruxton CHS. The suitability of caffeinated drinks for children: a systematic review of randomised controlled trials, observational studies and expert panel guidelines. *Journal of Human Nutrition and Dietetics*. 2014;27:342-357.
3. Mitchell DC, *et al.* Beverage caffeine intakes in the U.S. *Food and Chemical Toxicology*. 2014;63:136-142.
4. Branum AM, *et al.* Trends in caffeine intake among U.S. children and adolescents. *Pediatrics*. 2014;133(3):386-393.
5. Byrne EM, *et al.* A genome-wide association study of caffeine-related sleep disturbance: confirmation of a role for a common variant in the adenosine receptor. *Sleep*. 2012;35(7):967-75.
6. Denden S, *et al.* Gender and ethnicity modify the association between the CYP1A2 rs762551 polymorphism and habitual coffee intake: evidence from a meta-analysis. *Genetic and Molecular Research*. 2016;15(2).
7. Renda G, *et al.* Genetic determinants of blood pressure responses to caffeine drinking. *American Journal of Clinical Nutrition*. 2012;95(1):241-248.
8. Mets MA, *et al.* Effects of coffee on driving performance during prolonged simulated highway driving. *Psychopharmacology*. 2012;222(2):337-42.
9. EFSA. Scientific Opinion on the Safety of Caffeine. *EFSA Journal*. 2015;13(5):4102.
10. Nehlig A. Effects of coffee/caffeine on brain health and disease: What should I tell my patients? *Practical Neurology*. 2016;16(2):89-95.
11. Khan M, Aslam N. Prevalence of Caffeine Intake among Cigarette Smokers: Directing Caffeine Use Disorder among Pakistani Population. *Pakistan Journal of Medical Research*. 2020;59(1):15–21. Available from: <https://pjmr.org.pk/index.php/pjmr/article/view/60>
12. Choi J. Motivations Influencing Caffeine Consumption Behaviors among College Students in Korea:

- Associations with Sleep Quality. *Nutrients*. 2020;12(4):953. <https://doi.org/10.3390/nu12040953>
13. Suhag N. Volume 2; Issue 4; July 2017; Page No. 486-491.

#### How to Cite This Article

Kaur A, Kaur A, Randhawa H, Katoch S, Sharma B, Kumar DR. A pre-experimental study to assess the effectiveness of structured teaching program (STP) on knowledge regarding caffeine addiction and its impact among students of Rayat Bahra College of nursing, Mohali. *International Journal of Advanced Psychiatric Nursing* 2024; 6(1): 13-18.

#### Creative Commons (CC) License

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.