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Efficacy of a Structured Psychoeducation Program in Enhancing Nomophobia Awareness: A Randomized Controlled Trial Among University Students

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Abstract: ***Introduction****: Nomo phobia, a growing behavioral addiction to mobile phones, poses significant challenges in today's digital age. This study explores the effectiveness of psycho education on enhancing college students' knowledge of Nomo phobia in selected colleges in Kolkata. The study aimed to identify the baseline knowledge of college students regarding Nomo phobia in both experimental and control groups, assess the effect of psycho education on knowledge levels through pre-test and post-test comparisons, and evaluate the association between students' pretest knowledge scores and selected demographic variables.* ***Methodology****: Utilizing a quasi experimental design, the research employed a stratified random sampling technique to assign 120 undergraduate students (60 in the experimental group and 60 in the control group). Data were gathered using self-administered structured questionnaires. Knowledge scores were analyzed through descriptive and inferential statistics.* ***Results****: The findings indicated a significant increase in mean post-test knowledge scores among the students in experimental group, with a mean difference of 9.80 [t(59) = 24.74, p ≤ 0.05)]. A comparable significant difference in post-test knowledge scores was observed when comparing the experimental group to the control group (mean difference 9.82; [t (118) = 26.72, p ≤ 0.05)]. Furthermore, demographic variables such as age, living conditions, monthly family income, duration of mobile phone usage, and daily time spent on mobile phones showed no statistically significant association with pre-test knowledge scores.* ***Conclusion****: The study underscores the effectiveness of psycho education in improving knowledge about Nomo phobia among college students. It highlights essential implications for nursing practice, education, administration, and further research in the field of behavioral addictions.*

Keywords: Nomo phobia, psycho education, behavioral addiction, mobile phone use, college students

1. Introduction

The evolution of technology has profoundly transformed human life, making it more flexible and efficient. In today's world, technology permeates daily existence, particularly among college students who frequently use platforms like Face book and Whats-app. While these tools offer social connectivity, students must also be aware of cultivating a healthy lifestyle and managing their digital habits, especially regarding exposure to violent content and sharing personal images.[1]

The use of mobile phones surged since the mid-1990s, with subscribers increasing from 12.4 million in 1990 to 500 million in 2000. By 2008, this number had grown to 3.3 billion, reaching 5.3 billion by the end of 2010. Mobile phone usage has become widespread, with projections suggesting adoption rates exceeding 95%.[2] The sociocultural impact of technology includes not only improved communication but also addressing psychological aspects such as boredom and loneliness. Additionally, it serves as a gateway to information technology for a wide range of users.

Nomo phobia, a term derived from "no mobile phone phobia," refers to the anxiety or fear individuals experience when they are unable to use their smart phones or when these devices are not readily available. The concept of Nomo phobia was first introduced in 2008, and researchers such as Lin et al. have categorized it as a form of situational phobia.[3]

Purpose of the study:
The purpose of this study was to investigate the effect of psycho education on knowledge of college students regarding definition, occurrence, causative factors, psychopathology, dimensions, physical, psychological signs-symptoms, effects, prevention, management and treatment of nomophobia.

Objectives of the study were

1) To identify the knowledge of college students regarding nomophobia before and after psycho-education among experimental and control group.
2) To determine the effect of psycho-education on knowledge by the difference on knowledge scores before and after psycho-education.
3) To find out the association between pretest knowledge scores of college students regarding nomophobia and selected demographic variables.

2. Methodology

Research approach and Research Design:
In order to achieve the objectives of the study, quantitative research approach and a quasi- experimental study design was adopted.

Sample: In the present study, stratified sampling technique was applied to select the sample, consisted with undergraduate students from selected colleges in Kolkata,

West Bengal, who satisfied specific inclusion criteria. The inclusion criteria included undergraduate girls students in semester-I, semester-III, semester-V of two selected colleges of Kolkata, were willing to participate and available during the study period. Additionally, students were required to be able to read, write, and understand at least one language, either English or Bengali. Conversely, students who were physically or emotionally unable to participate were excluded from the study. This selection process ensured a relevant and appropriate sample for assessing academic stress and self-esteem among the target population.

Table: Tools of the study

S. No	Variables	Tools	Techniques
1.	Demographic variables	SAQ (Self Administered Questionnaire)	Questioning
2.	Knowledge of college students regarding nomophobia	Structured Knowledge Questionnaire	Questioning

Operational definitions

- **Effect:** In this study, effect determines the extent to which psycho education has achieved desired result in improving knowledge of college students regarding nomophobia as measured by difference in pretest and post-test knowledge scores.
- **Psycho education:** In this study, it refers to the organized teaching strategies on nomophobia with the help audio-visual aids (power point presentation, chart, poster, handout) in the form of lecture cum discussion on definition, occurrence, causative factors, psychopathology, dimensions, physical and psychological signs, symptoms, effect, prevention, management and treatment of nomophobia.
- **Nomophobia:** In this study, nomophobia refers to psychological syndrome in which a person is afraid of being out of mobile or cell phone contact, manifested as feelings of anger, tension, depression, arguments, social isolation, lack of concentration and fatigue.

Assumptions

The study assumes that

- Nomophobia is a common problem among young generation.
- College students have fear of being out of mobile phone.
- College students may get rid of nomophobia if they have adequate knowledge.
- College students have the mental capacity to learn and understand the material being planned to administer.

Hypotheses

H1: After administration of psycho-education the mean post-test knowledge score of college students in experimental group is significantly higher than mean pretest knowledge score of control group as measured by Structured Knowledge Questionnaire at 0.05 level of significance.

Conceptual Framework: The conceptual framework for the present study was based on Ludwig Von Bertalanffy's open system theory approach to assess the knowledge of college students regarding nomophobia and to find out the effect of psycho-education on knowledge of college students regarding nomophobia.

Population

In the present study, population comprised of college students who were pursuing undergraduate courses.

Sample

In the present study, sample consisted of undergraduate college students in selected Colleges, Kolkata who were available during the data collection procedure.

Sample selection criteria

Inclusion criteria

College students of semester I, semester III and semester V

Exclusion criteria

College students who were not available during data collection time.

Sampling technique

In the present study, the sample selection was done by disproportionate stratified random sampling technique.

Procedure of data collection:

The final data collection procedure was conducted at Bhairab Ganguly College, Kolkata, and Brahmananda Keshab Chandra College, Kolkata, from January 8, 2024, to February 3, 2024. The process of data collection followed a structured approach to ensure accuracy and reliability.

Firstly, administrative permission was obtained from the Principals of both colleges. On the first day, the investigator met with the academic head of the college to initiate the process. Subsequently, meetings were held with the respective Heads of the Departments for each science subject to determine suitable dates and times for data collection, aligning with the class schedule. All students were informed in advance about the data collection schedule.

At the beginning of the process, the investigator introduced themselves and provided a brief explanation of the study's purpose. To ensure a proper sampling framework, the students' attendance registers, provided by the departmental heads, were used. The selection of participants was carried out based on predetermined sampling criteria.

A disproportionate stratification method was employed, with 20 students selected from each of Semester I, Semester III, and Semester V. A random sampling approach was applied within each stratum using a computer-generated random number table.

Before proceeding, the investigator obtained written consent from the students, assuring them of confidentiality. Each participant was assigned a code to maintain anonymity. Finally, demographic data was collected as part of the overall study procedure.

3. Results

The table 2 presents demographic variables comparing an experimental group and a control group, each consisting of

60 participants, for a total of 120 individuals. Regarding age distribution, 31 participants in the experimental group and 34 in the control group were aged 18-19 years, while 29 in the experimental group and 26 in the control group were aged 20-21 years. The sample was evenly distributed across academic semesters, with 20 participants from Semester I, Semester III, and Semester V in both groups.

Gender-wise, the experimental group had an equal split of 30 males and 30 females, whereas the control group had 35 males and 25 females. In terms of living arrangements, 50 participants in the experimental group and 47 in the control group were day scholars, while 10 from the experimental group and 13 from the control group were hosteler.

Examining family size, 50 participants in the experimental group and 41 in the control group belonged to families with 3-4 members, while 10 in the experimental group and 19 in the control group had 5-6 family members. Socioeconomic status, based on the B.G. Prasad Scale (2022), revealed that most participants were from the upper class (34 in the experimental group and 33 in the control group), followed by the upper middle class (19 in the experimental group and 16 in the control group). A smaller proportion belonged to the middle class (4 in the experimental group and 9 in the control group), lower middle class (3 in the experimental group and 2 in the control group), with no participants from the lower class.

Regarding mobile phone usage, the majority of participants in both groups used 1-2 mobile phones (54 in the experimental group and 56 in the control group), while a smaller number used more than two phones (6 in the experimental group and 4 in the control group). In terms of duration of mobile phone use, 39 participants in the experimental group and 41 in the control group had been using mobile phones for five years or less, whereas 21 in the experimental group and 19 in the control group had been using them for more than five years.

Table 2: Frequency and percentage distribution of students according to selected demographic variables in terms of age, gender, educational level, n=120(60_E+60_C)

Demographic Variables	Experimental Group		Control Group	
	Frequency	Percentage	Frequency	Percentage
Age in years				
18-19	3	1	3	4
20-21	2	9	2	6
Semester				
Semester I	2	0	2	0
Semester III	2	0	2	0
Semester V	2	0	2	0
Gender				
Male	3	0	3	5
Female	3	0	2	5
Place of living				
Day Scholar	5	0	4	7
Hosteller	1	0	1	3
Number of Family Member				
3- 4	5	0	4	1
5- 6	1	0	1	9
B.G. Prasad Scale 2022)				
I (Upper class) (Rs ≥ 8480)	3	4	3	3
II (Upper middle class) (Rs. 4240- 8479)	1	9	1	6
III (Middle class) (Rs. 2544- 4239)	0	4	0	9
IV (Lower middle class) (Rs. 1272- 2543)	0	3	0	2
V (Lower class) (Rs < 1272)	0	0	0	0
Number of Mobile Phones Used				
1- 2	5	4	5	6
> 2	0	6	0	4
Duration of Using Mobile Phone				
≤ 5 years	3	9	4	1
>5 years	2	1	1	9

The table number 3 presents the level of knowledge in both the experimental and control groups before and after the intervention, based on a possible score range of 0-26.

In the **experimental group**, no participants had a "Good" level of knowledge in the pre-test, but after the intervention, 47% achieved a "Good" score in the post-test. The percentage of students with a "Satisfactory" level of knowledge decreased from 17% in the pre-test to 13% in the post-test. Meanwhile, the number of students in the "Poor" category significantly reduced from 43% in the pre-test to 0% in the post-test.

In the **control group**, there was no improvement in knowledge levels. No participants scored in the "Good" category in either the pre-test or the post-test. The "Satisfactory" category remained unchanged, with 18% of students in both pre-test and post-test. Similarly, the "Poor" category remained constant, with 42% of participants scoring in this range both before and after the test.

This data suggests that the intervention had a significant positive impact on the knowledge levels of the experimental group, whereas the control group showed no improvement.

Table 2: Frequency and percentage distribution on knowledge score related to nomophobia among college students in experimental and control group, n=120(60_E+60_C)

Level of Knowledge	Range of Possible Score (0-26)	Experimental group		Control group	
		Pre-test fr(%)	Post-test fr(%)	Pre-test fr(%)	Post-test fr(%)
Good		00	47	00	00
Satisfactory		17	13	18	18
Poor		43	0	42	42

The table number 4 presents the post-test knowledge scores for both the experimental and control groups, along with statistical analysis results.

The **experimental group** had a mean post-test knowledge score of **20.82 ± 1.90**, while the **control group** had a significantly lower mean score of **11.00 ± 2.12**. The mean difference (MD) between the two groups was **9.82**, indicating a notable improvement in the experimental group.

An **independent t-test** was conducted to compare the post-test scores, yielding a **t-value of 26.72**, which is highly significant at **p ≤ 0.05** ($t_{0.05}(118) = 1.98$). This result suggests that the intervention had a statistically significant effect on improving knowledge in the experimental group compared to the control group.

Table 3: Mean, standard deviation, mean difference and independent 't' value of the post test knowledge scores of college students in experimental and control group, n= 120 (n_E=60; n_C= 60)

Knowledge Score	Mean ± SD	MD	Independent t-value	P-value
Experimental group	20.89 ± 1.59	9.82	26.72*	0.001
Control group	11.00 ± 2.12			

t0.05(df=118) =1.98, p<0.05

n_E= Experimental group. n_C= Control group

4. Conclusion

This study demonstrates the significant impact of psycho education in enhancing college students' knowledge about nomophobia. The results revealed a substantial improvement in post-test knowledge scores among students in the experimental group compared to the control group, emphasizing the effectiveness of targeted educational interventions. Furthermore, demographic factors such as age, living conditions, income, and mobile phone usage habits were not significantly associated with baseline knowledge levels, suggesting that nomophobia awareness gaps exist across diverse student populations.

These findings highlight the importance of integrating psycho education into academic and healthcare settings to address behavioral addictions like nomophobia. The study also underscores the need for further research on long-term behavioral changes resulting from such interventions. Implications extend to nursing practice, education, and policy making, reinforcing the role of structured awareness programs in mitigating the growing dependence on mobile phones among young adults.

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