

Effectiveness of the Instructional Module on Knowledge regarding Internet Addiction among B.Sc. Nursing Students

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Abstract:

Background: In the digital age, the internet has become a necessary part of daily life, especially among adolescents. While it offers numerous educational, social, and recreational benefits, excessive and unregulated internet use has raised significant concerns regarding its impact on mental health. Therefore, the present study aims to assess the effectiveness of the instructional module on knowledge regarding internet addiction among B.Sc Nursing students.

Materials and Methods: A quantitative research approach and a pre-experimental one-group pre-test-post-test research design were adopted for the study. The study was conducted among 40 B.Sc. nursing students selected through non-probability convenient sampling technique at the selected college of nursing, Lucknow. Data were collected using a self-structured questionnaire and an instructional module was delivered.

Results: The result reveals that in pre-test, the majority of the students 18(45%) had good knowledge, 14(35%) had excellent knowledge and 8(20%) had average knowledge about internet addiction. After the intervention, in post-test, 30(75%) had excellent knowledge, 10(25%) had good knowledge about internet addiction. Pre-intervention mean knowledge score was 5.63 ± 3.71 and after intervention, it was found to be 6.86 ± 2.66 , a change of 1.23 in knowledge score was observed, which was found to be statistically significant. The paired "t" value of 7.01 indicates the instructional module was effective in improving knowledge of internet addiction at the 0.05 significance level.

Conclusion: The study concluded that the instructional module was effective in increasing the knowledge regarding internet addiction among B.Sc. nursing students. It enhanced their awareness about causes, effects, and preventive measures.

Key Words: Effectiveness, Instructional module, Knowledge, Internet addiction, B.Sc. nursing students.

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I. Introduction

The term "internet addiction" (IA) describes a compulsive behaviour that is associated with any online activity and that disrupts everyday life and social interactions. "Problematic internet use," also known as internet addiction, refers to an individual's inability to control their internet usage, which is a serious global health concern(1). Excessive and uncontrolled use of the Internet can adversely affect an individual's social, psychological, and cognitive functioning. This phenomenon has been described using various terms, including problematic internet use, compulsive internet use, unhealthy internet use, internet dependency, and excessive internet use. Internet addiction is generally understood as a pattern of uncontrolled Internet use in which an individual spends an excessive amount of time online despite experiencing negative consequences in personal, social, academic, or occupational life. Over time, this persistent behavior may interfere significantly with the individual's daily functioning and overall well-being(2).

According to the 2024 meta-analysis report, 29% of medical students worldwide have internet addiction. In the general student population, studies show that around 7% to 25% of students are affected by internet addiction. Additionally, a large number of students, nearly 50% to 70%, are at risk due to mild or moderate internet use(3). Some studies have even reported that up to 98.8% of students show some level of internet addiction. 1.002 billion internet users were reported in India in 2025, including both rural and urban populations. Internet addiction is getting a lot of attention as the internet becomes an increasingly integral part of our lives. It was predicted that India would become the second leading country after China in internet usage(4).

In today's digital age, the internet has become an essential part of students' daily lives, especially for academic work, communication, and entertainment. Internet addiction (IA) has emerged as a potential problem in young people. Internet addiction is the most modern type of behavioural addiction(5). Research has identified

several socio-demographic, personal, and internet-related factors associated with internet addiction. These factors include male gender, being in the first four years of a study course, peer influence, online friendships and chat interactions, viewing obscene websites, online dating, online shopping, usual daily duration of internet use, and different modes of internet access. All these factors have been reported to be related to the development of internet addiction(6). However, excessive use that lead to internet addiction, affects physical health, mental well-being, and psychological and behavioural problems such as anxiety, depression, irritability, sleep disturbances, poor academic performance, and social withdrawal(7). In India, use of internet is enormous, especially in the young population. Hence, it was found necessary to study pattern of internet usage in young adults in Indian setting and its relationship with their mental and physical health(8). Nursing students, due to academic pressure, increasing digital exposure through smartphones and social media, and frequent internet use, may be at higher risk of developing unhealthy usage patterns. Since nursing students require both theoretical knowledge and practical skills, any negative impact on their health or learning ability can be serious. Therefore, it is important to educate students about healthy internet use and the risks of addiction(9). Instructional modules can be an effective way to improve knowledge and awareness, helping students develop better habits and maintain a balance between online and offline activities(10).

STATEMENT OF THE PROBLEM

Effectiveness of the instructional module on knowledge regarding internet addiction among B.Sc Nursing students.

OBJECTIVES OF THE STUDY

- To assess the knowledge regarding internet addiction among B.Sc Nursing students.
- To evaluate the effectiveness of the instructional module on knowledge regarding internet addiction.
- To find out the association between pre-test level of knowledge and socio-demographic variables.

HYPOTHESIS

H1-There will be a significant difference between mean pre-test and post-test knowledge among B.Sc Nursing students regarding internet addiction.

H2-There will be a significant association between mean pre-test knowledge and selected demographic variables among B.Sc Nursing students.

II. Material And Methods

Study Design: Pre-experimental one group pre-test post-test study design.

Study Location: At selected college of nursing, Lucknow Uttar Pradesh.

Study Population. All B.Sc nursing students who were enrolled in the specific year of the selected college of nursing, Lucknow, during the study period.

Sample size: 40 B.Sc. Nursing Students.

Sample size calculation: The sample size was estimated on the basis of a power analysis. The target population from which we conveniently selected our sample was considered as all B.Sc nursing students enrolled in current year. We assumed that the power of 80% and confidence level of 95%. The sample size actually obtained for this study was 40 B.Sc Nursing students.

Subjects & selection method: The study population was drawn from a selected college of nursing, Lucknow Uttar Pradesh. Subject were B.Sc. Nursing students initiated between 15th December to 31st December 2025.

Sampling Technique: Non-probability convenient sampling technique

Inclusion criteria:

1. B.Sc. nursing students only.
2. Present during the data collection period.
3. Knows the English language.
4. Willing to participate in the study.

Exclusion criteria:

1. B.Sc. nursing students who are not present at the time of the study.
2. Not willing to participate in the study.
3. Ill or unable to respond at time of data collection.
4. Students participated in a similar study.

Procedure methodology

After obtaining written informed consent, a self-structured questionnaire was administered to collect the data from recruited B.Sc. nursing students.

The validated tools for data collection were divided into 2 sections as follows:

Section A- Socio-demographical characteristics such as Age, Gender, Religion, Class, Type of Family, Education status of Father, Education status of Mother, Occupation of Father, Occupation of Mother, and Residence.

Section B - Interview schedule consisting of

Self-structured questionnaires were distributed. It consists of 20 multiple-choice questions. Each question had four options and each correct response carries score 1.

Scoring Criteria: Poor=1-5, Average=6-10, Good=11-15 Excellent=16-20.

Statistical analysis

Statistical analysis has been performed using MS Office- Excel. The data have been analysed in terms of the objectives of study using descriptive and inferential statistics. Chi-square test has been used to demonstrate the difference between study subject characteristics and level of significance selected for this study is $p \leq 0.05$.

III. Result

Section A: Findings related to sociodemographic characteristics of the samples

Table 1: Frequency and percentage distribution of socio-demographic characteristics among B.Sc. nursing students

N=40

S. No.	Socio-Demographic Variables		f	%
1	Age (in years)	17-18	3	7.5
		18-19	7	17.5
		19-20	12	30
		20-21	18	45
2	Gender	Male	15	37.5
		Female	25	62.5
3	Religion	Hindu	38	95
		Muslim	2	5
		Sikh	0	0
		Christian	0	0
4	Class	B.sc N 1 st year	25	62.5
		B.sc N 2nd year	1	2.5
		B.sc N 3 rd year	14	35
		B.sc N 4 th year	0	0
5	Type of family	Nuclear	23	57.5
		Joint	17	42.5
		Extended	0	0
6	Educational status of father	Primary education	7	17.5
		Secondary education	13	32.5
		Graduate and above	18	45
		No formal education	2	5
7	Educational status of mother	Primary education	8	20
		Secondary education	13	32.5
		Graduate and above	14	35
		No formal education	5	12.5
8	Occupation of father	Private job	7	17.5
		Government job	13	32.5
		Own business	18	45
		Other	2	5
9	Occupation of mother	Private job	10	25
		Government job	8	20
		Business women	13	32.5
		Homemaker	9	22.5
10	Family income	10,000-20,000/month	7	17.5
		20,000-30,000/month	4	10
		30,000-40,000/month	15	37.5
		More than 40,000/month	14	35.0
11	Place of residence	Rural	25	62.5
		Urban	15	37.5
12	Type of internet availability at home	Wi-fi	1	2.5
		Mobile data	39	97.5
13	Duration of internet use	Less than 2 hours	10	25
		2-4 hours	18	45
		4-6 hours	3	7.5
		More than 6 hours	9	22.5
14	Purpose of internet use	Study	35	87.5

15	Sources of preference for recreational activity	Entertainment	2	5
		Socialization	2	5
		Online service	1	2.5
		Listening to online music	7	17.5
		Using internet	15	37.5
		Reading books	6	15
		Playing	12	30

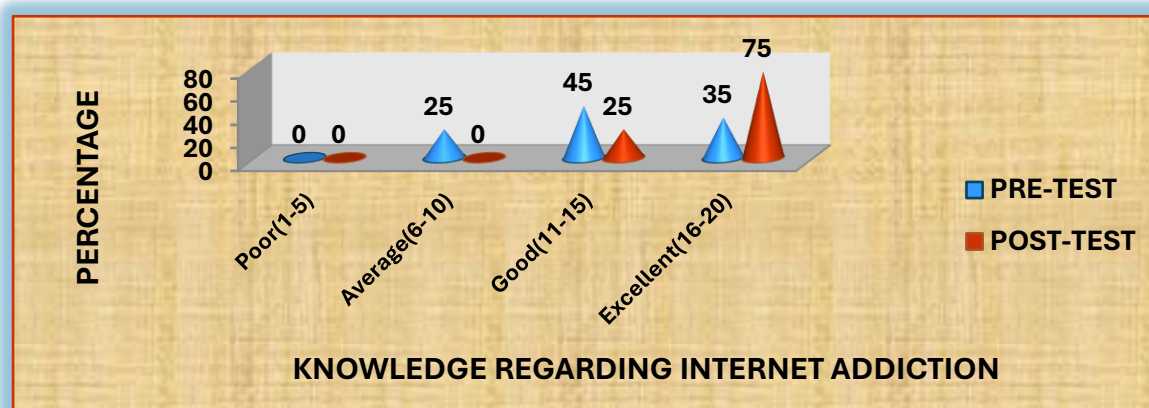
Among a total 40 B,Sc Nursing students who participated in the present study, majority of them were in the age group of 20-21 years (45%). Majority of the students (62.5%) were female and belong to Hindu religion (95%). About 62.5% students were studying in Bsc Nursing 1st year and 57.5 % belong to nuclear family only. The educational status of father and mother was graduate and above i.e. 45 and 35% respectively. About 45% of father and 32.5% of mother were having their own business. About less than half of the parents 37.5% were having family income ranging from 30-40 thousand per month. 62% of students hail from rural area and about 97% students were using mobile data to access internet at home. Less than 50% students use internet for about 2-4 hours/day and their major purpose of using internet was for study i.e. 87.5%.

Section B: Findings related to knowledge regarding internet addiction among B.Sc. nursing students.

Table 2: Knowledge level among B.Sc. nursing students

N=40

S No.	Criterion	Scoring	Pre-test knowledge		Post-test knowledge	
			F	%	F	%
1.	Poor	1-5	0	0	0	0
2.	Average	6-10	8	20	0	0
3.	Good	11-15	18	45	10	25
4.	Excellent	16-20	14	35	30	75



Data presented in Table 2 depict that before the instructional module, the majority of the students, 18 (45%) had good knowledge, 14 (35%) had excellent knowledge, and 8 (25%) had average knowledge about internet addiction. After the intervention, 30 (75%) B.Sc. nursing students had excellent knowledge and 10 (25%) had good knowledge of internet addiction. This indicates that the knowledge among B.Sc Nursing students improved remarkably after the instructional module regarding internet addiction was implemented.

Section C: Evaluation of the effectiveness of the instructional module regarding internet addiction among B.Sc. nursing students

Table 3: Evaluation of the effectiveness of the instructional module

	Mean & SD	Mean difference	"t" Value calculated	"t" Value tabulated	Inference
Pre-test	13.75 ± 3.60	3.00	7.01	2.37	S
Post-test	16.75 ± 2.66				

The findings in table 3 shows that the mean post-test knowledge level (16.75 ± 2.66) was significantly higher than the mean pre-test knowledge level (13.75 ± 3.60), with a mean difference of 3.00. The calculated t-value was 7.01, higher than the tabulated value i.e. 2.37, which was statistically significant at p<0.05. This indicates that the

instructional module was effective in enhancing knowledge among B.Sc. nursing students regarding internet addiction. Hence, the research hypothesis (H1) that there will be a significant difference between mean pre-test and post-test knowledge among B.Sc Nursing students regarding internet addiction was accepted.

Section D: Association between the pre-test Knowledge level and selected Socio-demographic variables

Table 4: Description of the association between the pre-test knowledge level and selected demographic variables.

S. No.	Socio-demographic variables		Knowledge level				Degree of Freedom	X ²	Table P Value	Sig
			Poor	Average	Good	Excellent				
1	Age (in years)	17-18	0	0	3	0	9	16.92	29.27	S
		18-19	0	3	1	3				
		19-20	0	0	4	8				
		20-21	0	5	11	2				
2	Gender	Male	0	4	8	3	3	7.82	20.6	S
		Female	0	4	10	11				
3	Religion	Hindu	0	17	7	14	9	16.92	1.694	NS
		Muslims	0	1	1	0				
		Sikh	0	0	0	0				
		Christian	0	0	0	0				
4	Class	B.sc N 1 ST year	0	3	9	13	9	16.92	9.63	NS
		B.sc N 2 nd year	0	0	1	0				
		B.sc N 3 rd year	0	5	8	1				
		B.sc N 4 th year	0	0	0	0				
5	Type of family	Nuclear	0	5	9	9	6	12.59	0.751	NS
		Joint	0	3	9	5				
		Extended	0	0	0	0				
6	Educational status of father	Primary education	0	3	3	1	9	16.92	6.93	NS
		Secondary education	0	3	5	5				
		Graduate and above	0	1	9	8				
		No formal education	0	1	1	0				
7	Educational status of mother	Primary education	0	1	6	1	9	16.92	11.94	NS
		Secondary education	0	2	6	5				
		Graduate and above	0	2	4	8				
		No formal education	0	3	2	0				
8	Occupation of father	Private job	0	3	3	1	9	16.92	25.52	S
		Government job	0	3	5	5				
		Own business	0	1	9	8				
		Other	0	1	1	0				
9	Occupation of mother	Private job	0	1	8	1	9	16.92	20.36	S
		Government job	0	1	5	2				
		Business women	0	1	3	9				
		Homemaker	0	5	3	1				
10	Family income	10,000-20,000/month	0	4	1	2	9	16.92	8.94	NS
		20,000-30,000/month	0	1	3	0				
		30,000-40,000/month	0	2	7	6				
		> than 40,000/month	0	2	6	6				
11	Place of residence	Rural	0	7	10	8	3	7.82	2.67	NS
		Urban	0	1	8	6				
12	Type of internet availability at home	Wi-fi	0	0	0	1	3	7.82	9329.0	S
		Mobile data	0	7	19	13				
13	Duration of internet use	Less than 2 hours	0	2	4	4	9	16.92	2.43	NS
		2-4 hours	0	5	8	5				

		4-6 hours	0	0	2	1				
		More than 6 hours	0	1	4	4				
14	Purpose of internet use	Study	0	8	15	12	9	16.92	4.972	NS
		Entertainment	0	0	2	0				
		Socialization	0	0	1	1				
		Online service	0	0	0	1				
15	Sources of preference for recreational activity	Listening to online music	0	1	3	3	9	16.92	23.30	S
		Using internet	0	2	5	8				
		Reading books	0	2	3	1				
		Playing	0	3	7	14				

The study findings revealed a significant association between pre-test knowledge level and selected socio-demographic variables such as age, gender, father's occupation, mother's occupation, type of internet availability at home, and preferred sources for recreational activity, as their calculated chi-square values were greater than the table value at the 0.05 level of significance. The other socio-demographic variables, such as religion, class, type of family, father's educational status, mother's educational status, family income, place of residence, duration of internet use, and purpose of internet use, were not significantly associated. Hence, the formulated research hypothesis H2, that there will be a significant association between mean pre-test knowledge and selected demographic variables among B.sc Nursing students, was accepted.

VI. Discussion

Internet addiction can be a threat to adolescents' health and social well being. If the adolescent has adequate knowledge and a positive attitude, it will enable them to use the internet wisely(11). After the intervention, the post-test results showed a significant improvement, with 75% achieving excellent knowledge, compared to only 35% in the pre-test. The post-test results show a decrease in good and average knowledge scores from 25% to 45% and from 0% to 25%, indicating a shift towards the excellent category. The current study findings were consistent with a study conducted on internet addiction among students by Vidyapeeth P in 2022 on social media addiction where in pre-test, 8.3% of the students had poor knowledge (score 0-6), 41.7% of them had average knowledge (score 7-13) and 50% of them had good knowledge (score 14-20) regarding social media addiction where as in post-test, 11.7% of them had average knowledge (score 7-13) and 88.3% of them had good knowledge (score 14-20) regarding social media addiction(12)

In terms of the effectiveness of the instructional module on Internet addiction, the mean $\pm$ SD of the pre-test was 13.75 ± 3.60 , whereas the post-test mean $\pm$ SD after the implementation of the instructional module was 16.75 ± 2.66 with a mean difference of 3.0. These findings were supported by a study conducted in 2022 by Paridhi J where mean value for pre-test was 14.60 and for the post-test was 21.65. The standard deviation for the pre-test was 6.27 and for the post test was 6.45. The mean percentage for the pre-test was 24.33% and for the post-test was 36.08%. The t-value for was 14.02 which was more than the p value at 0.05. Hence it was statistically interpreted that the structured teaching programme on knowledge regarding prevention of Smartphone addiction was effective(13).

The result of the study was consistent with the findings of the study conducted by c Rajeshwari in 2017 where the degree of internet addiction was significantly associated with gender, course of study, level of education, religion, educational status of parents, total number of children in the family, and internet use by significant others. Academic burden, higher educational status of parents, and their use of the internet at home, along with loneliness resulting from the modern single-child family, could be possible reasons for internet addiction. The influence of siblings who are already exposed to the internet can also contribute to internet addiction. The wide range of possibilities and lifestyle modifications continue to create new addicts of the modern era(14).

Caregivers working in community settings, rehabilitation centres, and workplaces have an important responsibility to increase adolescents' awareness of the harmful effects of excessive Internet use and screen viewing. Through role-plays, motivational interviews, and structured educational programs, adolescents should be informed about the negative consequences of prolonged screen time to promote awareness and help reduce excessive use of digital devices. Governing authorities should develop and implement awareness programs across different healthcare settings. The present study was conducted among a limited group of adolescents in a selected nursing college. Therefore, future studies may include larger sample sizes and a wider range of demographic variables. Further research can also examine the harmful effects of excessive Internet use and identify effective coping strategies (15).

VII. Conclusion

The instructional module significantly improved the knowledge of B.Sc nursing students regarding internet addiction. The findings shows a significant increase in knowledge compared to pre-test results. There is significant association between pre-test knowledge level and selected socio-demographic variables. The findings suggest that an instructional module effectively enhances the understanding of B.Sc. nursing students.

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