JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

A STUDY TO ESTIMATE THE PREVALENCE OF NOMOPHOBIA AND ITS HEALTH IMPACT AMONG B.SC. NURSING STUDENTS AT SGRD COLLEGE OF NURSING, VALLAH, AMRITSAR.

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ABSTRACT

Nomophobia is a modern-day condition that affects young people and is defined as the fear of not being able to access and enjoy information via mobile devices. This study is conducted to estimate the prevalence of nomophobia and its health impact among B.Sc. nursing students. A descriptive study by enrolling 348 B.Sc. nursing students studying at Sri Guru Ram Das College of Nursing, Vallah, Amritsar. The selected setting was convenient for the study. The student enrolment was done by using a purposive sampling technique. A standardized Nomophobia Questionnaire (NMP-Q) was used to estimate the prevalence of nomophobia and a self-structure checklist was used to identify its health impacts among B.Sc. nursing students. After the collection of the data from the study subjects, data analysis was done by descriptive and inferential statistics. Out of the 348, all were females (100%), mostly came from nuclear families and lived in hostel/P.G. 200 students have social media purposes for using the phone(57.5%). It showed that 51.1% of subjects were moderately and 39.4% were severe and only 9.5% were mildly nomophobic. The most common physiological health impact is reduced physical activity among nursing students, the psychological health impact was loneliness, and the psychosocial health impact was avoiding visiting friends and family. It shows that B.Sc. nursing 1st-year students (χ^2 = 13.779, p = 0.032) and who are single by their marital status (χ^2 = 12.011, p = 0.011) were significantly associated with nomophobia. Nursing students who see mobile phone less than 10 times/day (χ^2 = 20.342, p = 0.002) and who use 2-3 numbers of apps in phone (χ^2 = 17.908, p = 0.007) have significance. An informational booklet was also distributed among B.Sc. nursing students to provide them with awareness regarding nomophobia and related issues with proper management. Effective measures should be taken to prevent the prevalence of nomophobia and its health impacts as early as possible. Mental health nurses, psychologists, and psychiatrists must be aware to suggest the appropriate intervention timely.

INTRODUCTION

Mobile phones have evolved into smartphones with all the smart capabilities required to keep up with the so-called techno culture and social life of the twenty-first century.[1] As a result, they have become a vital component of our generation, particularly among the youth.Smartphone addiction, which is a well-known phenomenon nowadays, is caused by cell phones. Globally, 3.5 billion smartphones will be in use by 2020, with the number rapidly increasing (to smartphone addiction statistics).[2] This escalating trend in technological advancement is causing a medical ailment known as nomophobia. However, a psychiatrist in India has found it, particularly in adolescents and adults who are becoming more addicted to mobile phones.[1]

Nomophobia is defined as “the fear of being out of mobile phone contact in today’s existing world.” (2012, Secure Envoy) The term "nomophobia" was coined in England to describe the sensations of uneasiness and discomfort that people experience when they try to avoid thinking about circumstances and becoming emotionally drained. and the anxiousness that comes with being without a phone.[3]

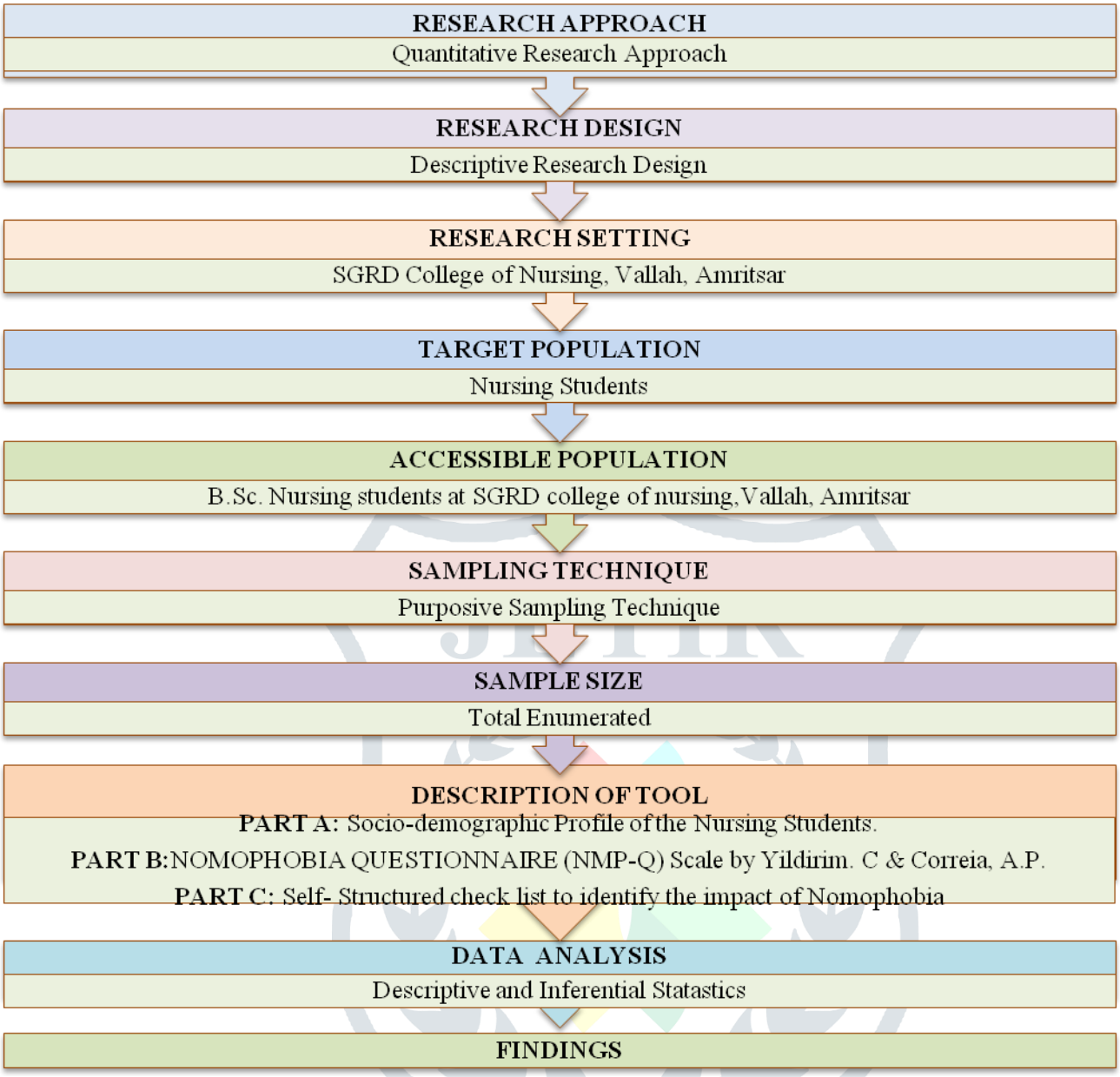
Loneliness and stress have been linked to those who are always connected to cell phones and social media. Many people become uncomfortable if they are not constantly connected to a cell phone, causing them to avoid and not participate in other activities. Just before night, online activities can trigger emotional, mental, and physiological stimulation, making it more difficult to fall asleep and resulting in poor sleep quality. According to the article, nomophobia is a modern world condition that affects young people and is defined as the dread of not being able to access and enjoy information via mobile devices.[4]

Smartphones and nomophobia have a lot in common, but the main thing they have in common is that they both provide a sense of relief and comfort. Individuals who enjoy sacrificing and submitting in relationships are more vulnerable to nomophobia than those who are more independent and conscientious.[5] This has been defined as a unique phobia that developed into a condition because of the quick communication and reward that smartphones give, eventually becoming obsessive and addictive. Smartphones are useful devices, but they can be detrimental if used excessively. According to studies, Nomophobia affects 66 percent of the world's population. (To smartphone addiction statistics).[6]

As it emerged in very practical and portable technology with enriched content creates new opportunities for people and enables them to access what they need. With these huge benefits coming along with just a handy device, it becomes easier to be dependent on a smartphone.[18] The present generation is very addicted to their phones for trivial things like calculation, watching time, communicating, and assessing vital information which makes the generation to be Nomophobia. It became irresistible to live without a phone. Raising awareness among students may be effective in preventing this disorder which is more common in younger age groups, and this is important in terms of evaluation.[19]

During the pandemic period, the entire human race is battling the COVID 19 and during these hard times, most of the population turns to their smartphone which acts as a source of distraction.[20] As a result of quarantine, the individual starts to experience a sense of mental discomfort and they often satisfy themselves through the means of internet wherein a wide variety of options are available through which people can gain gratification, this includes social satisfaction such as maintaining communication, educational – by doing courses, attending classes, personal satisfaction which includes video gaming and pleasure satisfaction.[18] According to studies, everyday smartphone use will hike by 39% in 2020, and 37% of users will text more than they have in the past during COVID-19. (By COVID smartphone statistics).[21] During COVID-19, there was also an increase in the use of mobile phones which have so many negative impacts on the students.

Material and Methodology: The research methodology is described below in detail.



Research Approach:

A quantitative research approach was used to achieve the aims of the Study. Because the goal of the study was to estimate the prevalence of nomophobia and its health impact among B.Sc. nursing students at SGRD College of Nursing, Amritsar, this method was appropriate.

Research Design:

The purpose of this study was to determine the prevalence of nomophobia and its health impacts among B.Sc. Nursing students. As a result, a Descriptive Survey Design was used.

Research Setting:

The settings were Sri Guru Ram Das College of Nursing, Vallah, Amritsar, and Punjab.

Target Population:

For this study, nursing students are mainly targeted.

Accessible Population:

The study population comprises all 4 yearsofBSc nursing students at SGRD college of nursing, Vallah, Amritsar.

Sampling Technique:

The students recruited as study subjects were selected using a purposive sampling technique, as only those students included in the study had a mobile phone and were SGRD college of nursing students.

Sample Size:

Total Enumerated Sampling was done on B.Sc. Nursing students only and who were using a mobile phone were taken as the study subjects.

Inclusion criteria: Students who were:

a) Only B.Sc. nursing students at SGRD College of Nursing in Vallah, Amritsar.
b) Nursing students who were keen to take part.
c) Nursing students who were available to offer consent during data collection.

Exclusion criteria: Students who were:

a) Nursing students who were not present at the time of data collection.
b) Nursing Students who do not have Smartphones.

Description of Tools: The tools used in this study were as follows:

PART A: Socio-demographic profile of the Nursing Students: The social demographic profile of nursing students contains two parts. Part A: concerned with social-demographic variables such as age, gender, course of the year, type of family, marital status, residence, and monthly family income (in Rs).

PART B: concerned with variables related to mobile phone usages such as type of device, screen time, usage of smartphone, checking smartphone in a day, money spent on charging the smartphone, talking on a smartphone per day, apps using in smartphones, and information regarding the impact of smartphone use on health status. Data was collected from those who were using smartphones by using a standardized **Nomophobia Questionnaire (NMP-Q) Scale**

This scale has 20 items that address the four primary features of nomophobia: inability to communicate, loss of connectedness, inability to acquire information, and inconvenience. This scale is the only one that has a theoretical foundation and has undergone rigorous psychometric testing to assess Nomophobia. The reliability of the tool is measured by Cronbach's alpha. The entire NMP-Q ($\alpha = 0.945$) and in each factor ($\alpha = 0.814$-0.939)

The NMP-Q consists of 20 questions, each of which is rated on a 7-point Likert scale and described as follows:

Table 1: Interpretation of Nomophobia Questionnaire (NMP-Q) Scale.

SCORE	INTERPRETATION
20	Absence of nomophobia
21-59	Mild level of nomophobia
60-99	Moderate level of nomophobia
100-140	Severe nomophobia

The minimum score is 20 and the maximum score is 140.

PART C: Self- Structured checklist to Identify Health Impacts of Nomophobia:

This part of the scale will measure the 3 domains of symptoms to identify the health impacts of nomophobia: 1 point for yes response and 0 for no response.

A: Physiological symptoms. (5 items)

B: Psychological symptoms. (10 items)

C: Psychosocial symptoms. (5 items)

Table 2: Domains of Symptoms to Identify Health Impacts of Nomophobia

PHYSIOLOGICAL SYMPTOMS	PSYCHOLOGICAL SYMPTOMS	PSYCHOSOCIAL SYMPTOMS
Reduced physical activity	Nervousness	Avoid going out
Insomnia	Annoyed	Not enjoying company with friends and family
Headache	Anxious	Avoid visiting friends and family
Rapid heartbeat	Uncomfortable	Reduced social interaction
Nausea	Aggressive	Trouble in communication
	Sad and depressed	
	Worried	
	Low self-esteem	
	Feel lonely	
	Decreased academic performance	

RESULT AND DISCUSSION

Section A: Socio-demographic Profile of students.

Table 3: Socio-demographic characteristics of B.Sc. nursing students. N=348

S.No.	Characteristics	f	%
1.	**Age (years)**		
	17-19	124	35.6
	20-22	**202**	**58.0**
	>22	22	6.3
2.	**Gender**		
	Female	348	100
3.	**Year of course**		
	B.Sc. N. I year	**96**	**27.6**
	B.Sc. N. II year	90	25.9
	B.Sc. N. III year	81	23.3
	B.Sc. N. IV year	81	23.3
4.	**Type of family**		
	Nuclear	**255**	**73.3**
	Joint	93	26.7
5.	**Marital status**		

	Single	**345**	**99.1**
	Married	3	.9
6.	**Residence**		
	Hostler / P.G	**260**	**74.7**
	Home	88	25.3
7.	**Family income (Rs./month)**		
	Less than 25,000	72	20.7
	25,001- 50,000	**144**	**41.4**
	50,001- 75,000	74	21.3
	Above 75,000	58	16.7

Table 3 depicted the socio-demographic profile in that most of the subjects were between 20-22 years of age and none of the subjects were male and 348 (100%) were female. 96 (27.6%) respondents were in their first year, 90 (25.9%) subjects were in their second year, 81 (23.3%) subjects were in their third year, and 81 (23.3%) subjects were in their fourth year. Most subjects were unmarried (99.1%) and came from nuclear families (73.3%). As per the family income, 144 subjects reported family income between 25,001- 50,000 Rs. Out of 348 subjects, 260 were live in Hostel / P.G as their residence.

Table 4: Pattern of mobile phone use among B.Sc. nursing students.N=348

S. No.	The pattern of mobile phone use	f	%
1.	**Purpose of using the phone**		
	Educational	135	38.8
	Social media	**200**	**57.5**
	Business	2	.6
	Shopping	11	3.2
2.	**Screen times/day**		
	≤4	**256**	**73.6**
	5-6	62	17.8
	7-8	20	5.7
	>8	10	2.9
	Mean SD	**3.84±2.05**	
3.	**Duration ofusing the phone**		
	From 1 year	51	14.7
	2 – 3 years	**139**	**39.9**
	4 – 5 years	77	22.1
	5 – above year	81	23.3
4.	**Seeingmobile phone times/day**		
	<10	151	43.4
	10-20	**152**	**43.7**
	21-30	37	10.6
	>30	8	2.3
	Mean SD	**12.76±10.80**	

5.	**Money spent for recharging phone Rs./ month**		
	≤200	51	14.7
	200-400	**231**	**66.4**
	401-600	41	11.8
	>600	25	7.2
	Mean SD	**341.41±194.03**	
6.	**Talking on the phone mins per day**		
	<30 min	95	27.3
	30 min-60 min	**169**	**48.6**
	61 min-90 min	9	2.6
	91 min-120 min	53	15.2
	>120 min	22	6.3
	Mean SD	**58.27±53.73**	
7.	**Number of apps on phones**		
	2 – 3	**126**	**36.2**
	4 – 6	117	33.6
	6 – 8	44	12.6
	>8	61	17.5
8.	**Phone battery charging times/day**		
	<2 times	**275**	**79.0**
	3-5 times	65	18.7
	6-8 times	3	.9
	>8 times	5	1.4
9.	**Information regarding the impact of smartphone use on health status**		
	Yes	**307**	**88.2**
	No	41	11.8
10.	**Source of information about the impact of phones (n=307)**		
	Health personals	71	23.1
	Family members/friends	**150**	**48.9**
	Electronic media	79	25.7
	Print media/ books	7	02.3

Table 4 revealed the pattern of mobile phone use among B.Sc. nursing students. The majority 88.2% (307) subjects already have information regarding the impacts of smartphone use on health status and 79% (275) charge their phone battery less than 2 times per day. Followed by 73.6% (256) having less than 4 screen times per day and 66.4% (231) of subjects spending Rs.200-400 on mobile phone recharge. 57.5% (200) of subjects have social media purpose for using the phone and 48.9% (150) of subjects' source of information about the impact of the phone is family members and friends. 48.6% (169) of subjects talk for 30-60 min. on their phone per day and 43.7% (152) of subjects have seen mobile phones 10-20 times per day. Followed by 39.9% (139) have using the phone from 2-3 years and 36.2% (126) of subjects used 2-3 number of apps on phones.

Section B: Standardise Nomophobia Questionnaire (NMP-Q)

Table 5: Level of Nomophobia among B.Sc. nursing students.N=348

S.No	Level of Nomophobia	f	%	Mean SD
1.	Mild (21-59)	33	9.5	92.67 ± 21.99
2.	Moderate (60-99)	**178**	**51.1**	
3.	Severe (100-140)	137	39.4	

Table 5 showed that among all the students, 51.1% of subjects have moderate and 39.4% have severe and only 9.5% have a mild level of nomophobia.

Hence, it was concluded that most of the subjects have moderate levels of nomophobia.

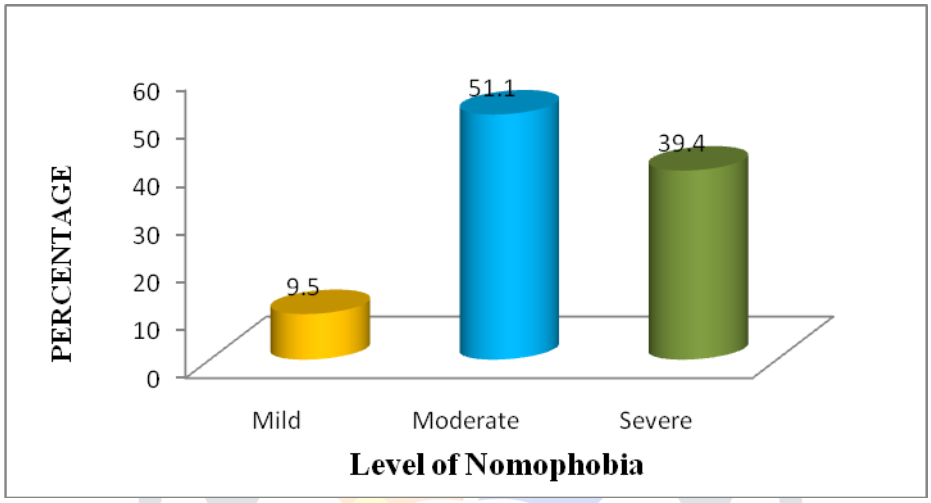


Figure 6: Level of Nomophobia among B.Sc. nursing students.

Table 6: Class-wise Prevalence of Nomophobia among nursing students.N=348

S. No.	Prevalence of Nomophobia	B.Sc. N. I Year (n=96)		B.Sc. N. II Year (n=90)		B.Sc. N. III Year (n=81)		B.Sc. N. IV Year (n=81)	
		f	%	f	%	f	%	f	%
1.	Mild (21-59)	6	6.3	8	8.9	4	4.9	15	18.5
2.	Moderate (60-99)	**49**	**51.0**	**42**	**46.7**	**44**	**54.3**	**43**	**53.1**
3.	Severe (100-140)	41	42.7	40	44.4	33	40.7	23	28.4
Mean SD		94.19±20.78		92.92±21.23		96.65±19.09		86.61±85.00	
Median		93.00		97.50		96.00		25.75	
Range (Min-Max)		39-128		45-131		46-130		25-134	

Table 6 revealed the mean score of B.Sc. nursing students regarding the prevalence of nomophobia. The mean score obtained on the prevalence of nomophobia was (94.19±20.78) for B.Sc. nursing 1st year, (92.92±21.23)

for B.Sc. nursing 2nd year, (96.65±19.09) for B.Sc. nursing 3rd year and (86.61±85.00) for B.Sc. nursing 4th year.

Hence, the table concluded that all the B.Sc. nursing classes had a moderate level of nomophobia.

Section C: Domain-wise health impacts of Nomophobia

Table 7: Physiological health impacts of nomophobia among B.Sc. nursing students.

N=348

S. No.	Physiological health impact	No		Yes	
		f	%	f	%
1	Reduced physical activity	**177**	**50.9**	**171**	**49.1**
2	Insomnia	237	68.1	111	31.9
3	Headache	186	53.4	162	46.6
4	Rapid heartbeat	291	83.6	57	16.4
5	Nausea	330	94.8	18	5.2

Table 7 showed the physiological health impacts of nomophobia among B.Sc. nursing students. It showed that 49.1% of subjects have reduced physical activity, followed by 46.6% have a headache, 31.9% have insomnia,16.4% have a rapid heartbeat and at last 5.2% only have nausea.

The most common physiological health impact is reduced physical activity among nursing students.

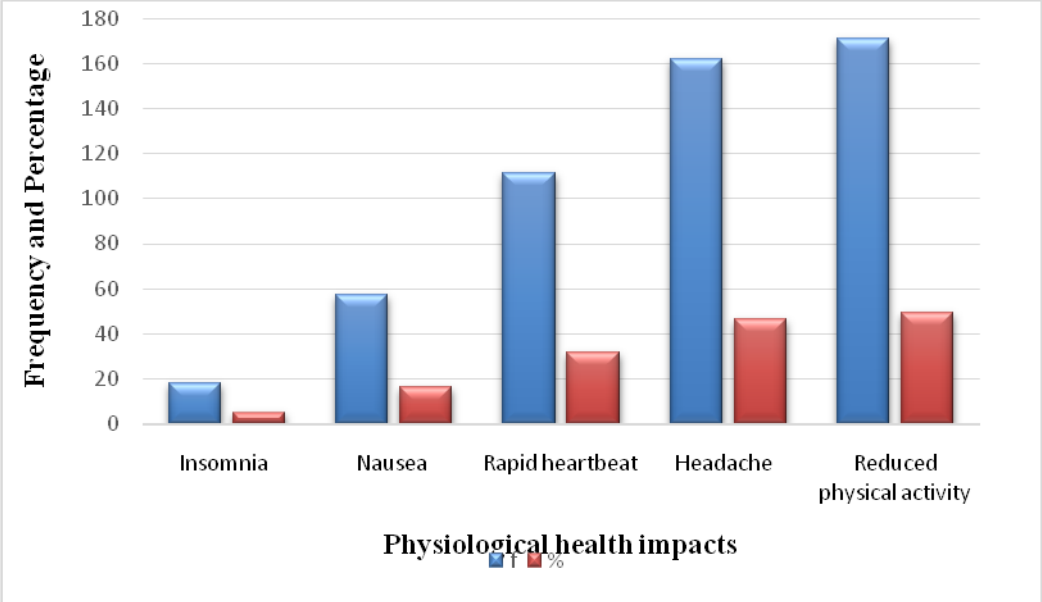


Figure 7: Physiological health impacts of nomophobia among B.Sc. nursing students

Table 8: Psychological health impact of nomophobia among B.Sc. nursing students. N=348

S. No.	Psychological health impact	No		Yes	
		f	%	f	%
1	Nervousness	247	71.0	101	29.0
2	Annoyed	194	55.7	154	44.3
3	Anxious	224	64.4	124	35.6
4	Uncomfortable	198	56.9	150	43.1
5	Aggressive	246	70.7	102	29.3
6	Sad and depressed	247	71.0	101	29.0
7	Worried	205	58.9	143	41.1
8	Low self-esteem	276	79.3	72	20.7
9	Feel lonely	**167**	**48.0**	**181**	**52.0**
10	Decreased academic performance	237	68.1	111	31.9

Table 8 depicted the psychological health impacts of nomophobia among B.Sc. nursing students. It showed that 52% felt lonely, followed by 44.3% annoyed, 43.1% uncomfortable, 41.1% worried, 35.6% anxious, 31.9% decreased academic performance, 29.3 aggressive, 29% nervous, sad, and depressed, and 20.7% had low self-esteem.

Hence table concludes that most commonly they have suffered from Loneliness.

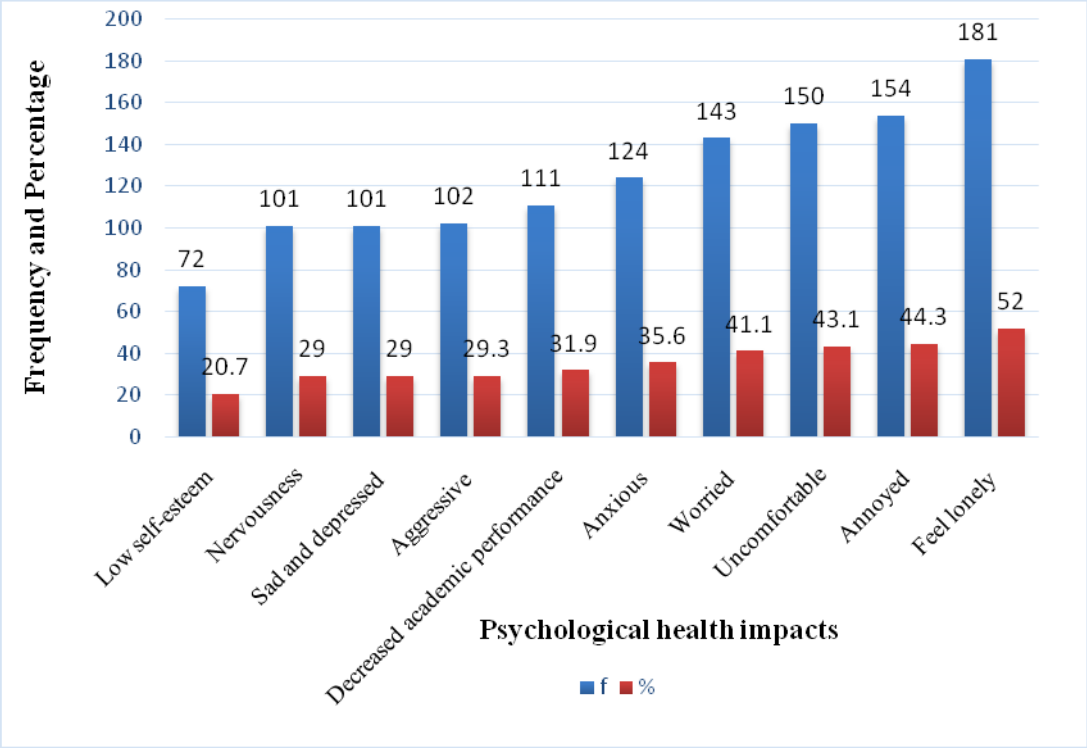


Figure 8: Psychological health impacts of nomophobia among B.Sc. nursing students

Table 9: Psycho-social health impacts of nomophobia among B.Sc. nursing students. N=348

S. No.	Psycho-social health impacts	No		Yes	
		f	%	f	%
1.	Avoid going out	213	61.2	135	38.8
2.	Not enjoying company with friends and family	268	77.0	80	23.0
3.	Avoid visiting friends and family	275	79.0	73	21.0
4.	Reduced social interaction	198	56.9	150	43.1
5.	Trouble in communication	**190**	**54.6**	**158**	**45.4**

Table 9 revealed the psycho-social health impacts of nomophobia among B.Sc. nursing students. It showed that 45.4% have trouble in communication, 43.1% have reduced social interaction, 38.8% avoid going out, 23.0% have not enjoyed the company of friends and family and 21.0% have avoided visiting friends and family.

The most common impact is Trouble in communication.

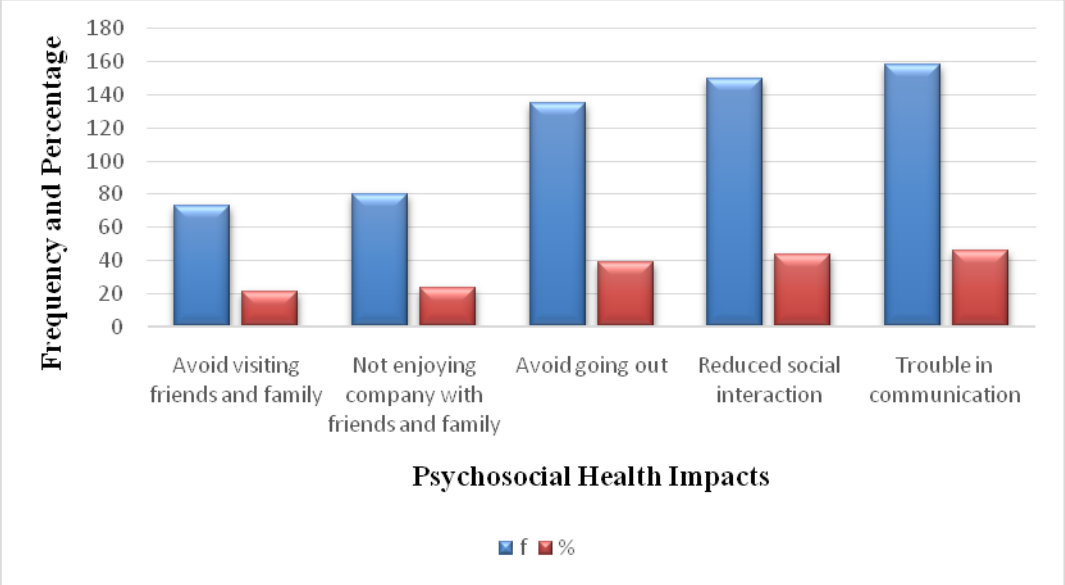


Figure 9: Psychosocial health impacts of nomophobia among B.Sc. nursing students

Table 10: Association of nomophobia with the selected demographic variables of B.Sc. nursing students.N=348

S.No.	Variables	Level of Nomophobia			χ^2 values	df	*P-value*
		Mild	Moderate	Severe			
1.	**Age (years)**						
	17-19	6	67	51	5.918	4	.168^{NS}
	20-22	23	101	78			
	>22	4	10	8			
2.	**Gender***						
	Female	33	178	137			
3.	**Year of course**						

	B.Sc. N. I year	**6**	**49**	**41**	**13.779**	**6**	**.032^{S}**
	B.Sc. N. II year	8	42	40			
	B.Sc. N. III year	4	44	33			
	B.Sc. N. IV year	15	43	23			
4.	**Type of family**						
	Nuclear	22	131	102	.842	2	.656 ^{NS}
	Joint	11	47	35			
5.	**Marital status**						
	Single	**31**	**178**	**136**	**12.011**	**2**	**.011^{S}**
	Married	2	0	1			
6.	**Residence**						
	Hostler / P.G	27	129	104	1.459	2	.482 ^{NS}
	Home	6	49	33			
7.	**Family income (Rs./month)**						
	Less than 25,000	8	29	35	8.598	6	.197 ^{NS}
	25,001- 50,000	16	70	58			
	50,001- 75,000	4	45	25			
	Above 75,000	5	34	19			

NB: *= No statistics are computed because the variable is a constant, NS= Nonsignificant, S=significant at 0.05 level.

Table 10 depicted the association of nomophobia with the selected demographic variables of B.Sc. nursing. It shows that B.Sc. nursing 1st-year students (χ^2 = 13.779, p = 0.032) and subjects who were single by their marital status (χ^2 = 12.011, p = 0.011) were significantly associated with nomophobia. No other demographic variables were found significantly associated with nomophobia.

Table 11: Association of nomophobia with Pattern of mobile phone use among B.Sc. nursing students.

N=348

S. No.	**Variables**	**Level of Nomophobia**			**χ^2 values**	**df**	***P* value**
		Mild	**Moderate**	**Severe**			
1.	**Purpose of using the phone**						
	Educational	15	70	50	21.611	6	.059^{NS}
	Social media	15	101	84			
	Business	2	0	0			
	Shopping	1	7	3			
2.	**Screen times/day**						
	≤4	26	128	102	8.008	6	.315 ^{NS}
	5-6	7	34	21			
	7-8	0	13	7			
	>8	0	3	7			
3.	**Duration ofusing the phone**						
	From 1 year	7	30	14	10.538	6	.101 ^{NS}

	2 – 3 years	9	74	56			
	4 – 5 years	11	39	27			
	5 – above year	6	35	40			
4.	**Seeingmobile phone times/day**						
	<10	**20**	**84**	**47**	**20.342**	**6**	**.002^{S}**
	10-20	11	74	67			
	21-30	2	20	15			
	>30	0	0	8			
5.	**Money spent for recharging phone Rs./month**						
	≤200	6	26	19	3.834	6	.694 ^{NS}
	200-400	21	120	90			
	401-600	4	23	14			
	>600	2	9	14			
6.	**Talking on the phone mins/per day**						
	<30 min	13	55	27	12.287	8	.156 ^{NS}
	30 min-60 min	15	87	67			
	61 min-90 min	0	3	6			
	91 min-120 min	3	23	27			
	>120 min	2	10	10			
7.	**Numbers of apps on phones**						
	2 – 3	**22**	**63**	**41**	**17.908**	**6**	**.007^{S}**
	4 – 6	6	63	48			
	6 – 8	4	20	20			
	>8	1	32	28			
8.	**Phone battery charging times/day**						
	<2 times	28	145	102	13.258	6	.053 ^{NS}
	3-5 times	5	33	27			
	6-8 times	0	0	3			
	>8 times	0	0	5			
9.	**Information regarding the impact of smartphone use on health status**						
	Yes	27	158	122	1.443	2	.468 ^{NS}
	No	6	20	15			
10.	**Source of information about the impact of phones (n=307)**						
	Health personals	7	40	24	7.844	6	.193^{NS}

	Family members/friends	9	72	69			
	Electronic media	10	41	28			
	Print media/ books	1	5	1			

NB: NS =Nonsignificant, S=Significant at 0.01 level.

Table 11 exhibited the association of nomophobia with a pattern of mobile phone use among B.Sc. nursing students. It showed that nursing students who see mobile phone less than 10 times/day (χ^2 = 20.342, p = 0.002) and nursing students who use 2-3 numbers of apps in phone (χ^2 = 17.908, p = 0.007) was significantly associated with nomophobia. No other variable was found significantly associated with nomophobia.

CONCLUSION

The study concluded that B.Sc. nursing students have a moderate level of nomophobia with significant health impacts like reduced physical activity, loneliness, and avoiding visiting friends and family as the most common symptoms. So, the current study finding shows significance in terms of knowing the present status of nomophobia which is emerging as a matter of public health problem in a great proportion of Indian youth. It needs more attention to the early detection and intervention for treating nomophobia. Raising awareness among students may be effective in preventing this disorder which is more common in younger groups, and this is important in terms of evaluation.

ACKNOWLEDGEMENT

Oh almighty! With thy blessings, I have been able to accomplish this task; you have shown me the path to travel, blessed me with the courage and patience to discover, and with the words to write. I bow to you in reverence; you were there to guide me everywhere to overcome my hurdles and achieve my goals.

This research project is a joint effort of many people. Many persons become part of this project through a variety of help, such as advisors, teachers, experts, family members, and friends. The investigator is filled with gratitude to all of them from the depths of her heart for assisting her in accomplishing the task within the appropriate time limit.

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