

A Study On Prevalence Of Nomophobia And Its Effect On Depression, Anxiety And Stress Issues In Medical Students.

Mette Naga Nandini

MBBS, Siddhartha medical college

Dr. Sreya Kongala

MBBS, Osmania Medical College

Enjapuri hemanth Kumar

MBBS , Osmania medical College, 2016 batch.

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ABSTRACT

Background: Nomophobia, or "no mobile phone phobia," is the fear of being without a mobile phone. As mobile phone usage increases, especially among young adults, concerns about its psychological impacts have risen. Medical students, due to their rigorous academic demands and reliance on mobile technology, may be particularly susceptible to nomophobia and its associated mental health effects.

Objective: This study aims to determine the prevalence of nomophobia among medical students and examine its correlation with depression, anxiety, and stress levels.

Methods: Medical students at [Name of University or Institution] participated in a cross-sectional survey. A total of individuals filled out a DASS-21 and Nomophobia Questionnaire (NMP-Q) as part of a structured questionnaire. The associations between nomophobia and mental health markers were investigated using descriptive statistics, Pearson's correlation, and regression analysis.

Results: It was discovered that the frequency of nomophobia among medical students was %. Nomophobia scores were shown to be significantly correlated with levels of depression ($r = [\text{value}]$, $p < 0.05$), anxiety ($r = [\text{value}]$, $p < 0.05$), and stress ($r = [\text{value}]$, $p < 0.05$). The results of the regression analysis showed that among medical students, nomophobia is a strong predictor of negative emotions such as despair, anxiety, and tension.

Conclusion: There has to be treatments to lessen the reliance on mobile phones because nomophobia is so common among medical students and is associated with higher rates of sadness, anxiety, and stress. To lessen the impact on mental health, there should be initiatives to teach people how to use mobile phones responsibly.

Keywords: Nomophobia, Depression, Anxiety, Stress, Medical Students, Mobile Phone Dependence

INTRODUCTION:

Globally, medical schools strive to educate and generate compassionate doctors who will aid the ill, progress medical understanding, and enhance public health. Nonetheless, medical school is regarded as one of the most intellectually and emotionally taxing professional training programmes. (1). Throughout their time as medical students, students endure a wide range of emotions. From the intense pressure to do well on medical school entrance exams to the overwhelming amount of study material they must read, from learning every muscle in the

body to comprehending chemical reactions, and from the difficult and often emotionally taxing interactions they will have with patients to the moral quandaries and difficult situations they will encounter, including exposure to both life and death. It is now unavoidable to remove mobile phones from their lives, especially given the increasing influence of technology on communication and education. The problem is that students' lives are already stressful enough without dealing with the numerous diversions and possible addictions that come with relying too much on mobile phones.

The widespread adoption of mobile phones did not occur until the mid-1990s, despite their introduction to certain markets in the 1980s. In 1990, there were 12.4 million subscribers; by 2000, that number had risen to 500 million.

(2). In May 2008, over 3.3 billion mobile phone subscribers, more than half of the world's population, were reported worldwide (3). As of 2024, approximately 4.88 billion individuals own a smartphone. (4) Most members of today's age would rather communicate with strangers online than in person because they have grown up with the internet. People use their mobile phones for a variety of purposes, including gaming, e-mail, and social media (Facebook, Instagram, WhatsApp, Twitter, etc.) (6). Approximately 46% of college students use their smartphones for social media, according to a 2018 study by Ammati et al. (5). Some people use social media as a means of avoiding real-life issues, while others find it an endless supply of pleasure (6)

In 2008, a research organisation in the UK used a study to assess the fears felt by people who use mobile phones; the acronym for this was "NOMOPHOBIA." (7). No-mobile phone phobia is also known as 'the phobia of the 20th century' or 'modern age phobia'. (8) Although nomophobia is considered a problem close to addiction problems, it is thought to be among phobias (9). An individual with situational phobias experiences an extreme and illogical fear of a specific object or scenario, according to the DSM-5. Nomadophobes must avoid situations when they are unable to utilise their mobile phones at all costs since their dread is of being out of reach of them. (10)

According to Ali A [11] and Yildirim [12], Nomadophobia can be categorized into four basic aspects and/or origins: 1) anxiety about social isolation; 2) worry about losing connections; 3) worry about missing out on timely information; and 4) worry about giving up the convenience of mobile gadgets. A person may experience significant anxiety when confronted with situations or thoughts like not having their mobile phone with them, not being able to reach it, not having enough battery life, or being in areas that prohibit the use of mobile phones (e.g., airports, theatres, public transportation, etc.). Furthermore, believing that face-to-face conversation may induce stress or anxiety, choosing instead to communicate through mobile devices, never turning off the phone, or even sleeping with it. Go into debt and spend a tonne of money just to have a smartphone. People who experience these symptoms may also be afflicted with nomophobia, according to certain theories (13).

This disease has been considered for inclusion in DSM-V based on the results of several investigations. Nicola Luigi Bragazzi and Giovanni Del Puente released a paper in 2014 suggesting that the DSM-V add nomophobia. This could be a chance to give therapists a valuable tool and develop the profession (9) More than thirteen million Britons experience nomophobia, with fifty-three percent of mobile phone users falling into this category (48% women, 58% males) according to a Stewart Fox-Mills survey (14). Nomadophobia is most common among younger people (77% of them have indicated anxiety and anxieties about being without their phone), next among those between the ages of 25 and 34, and finally among those over the age of 55 (9).

Consequently, a number of nomophobia assessment tools are under development, including the Nomophobia Questionnaire (NMP-Q), the Firat Nomophobic scale (16), and the Mobile Phone Involvement Questionnaire (MPIQ) (15). In their study titled "Exploring the dimensions of nomophobia: Development and validation of a

self-reported questionnaire," Yildirim and Correia (2015) (17) employed the Nomophobia Questionnaire (NMP-Q) as a tool to measure the fear of being alone. The development of the NMP-Q, which consists of 20 items, was an extensive procedure that included quantitative and qualitative stages (18). Scores on the NMP-Q are assigned for each item using a scale ranging from 1 (strongly disagree) to 7 (strongly agree). When these scores are added together, the final score is determined. Nomophobia is more severe in cases where the NMP-Q score is greater than 140. To get a nomophobia score, take the overall NMP-Q score and multiply it by the following: No condition is indicated by a score of 20, mild condition by a score between 21 and 59, moderate condition by a score between 60 and 99, and extreme condition by a score of 100 or more. (number one)

Subsequent research utilizing the NMP-Q scale has established a connection between a fear of the unknown (nomophobia) and mental health issues, specifically in the medical student population. A study conducted in Brazil and published in 2021 (19) indicated that medical students experiencing nomophobia were more likely to suffer from sadness, anxiety, and tension. The study also found that students' academic performance dropped when they used their smartphones for longer periods (>4 hours). (19) We used the DASS 21 questionnaire to assess and differentiate between stress, anxiety, and depression.

The DASS-42 evaluates major depressive disorder (MDD), anxiety (ADHD), and stress (Stress). It was developed in 1995 by S. H. Lovibond and P. F. Lovibond and has been used to gauge patients' responses to treatment. The psychometric properties of the questionnaire are adequate, and it is similar to other trustworthy measures. (20) The DASS-42 scale (21) is a self-report instrument that aims to highlight the commonalities and distinctions between anxiety and depressive symptoms, namely stress. It takes more time to complete the DASS-42 exam because of its lengthy questionnaire, which is one of its major drawbacks (22). Because of this, many condensed variants were developed: 21-item (23), 18-item (24), 12-item (23), and 9-item (25). Worldwide, many clinical and non-clinical groups use the 21-item version. The DASS-21 is a battery of three self-report measures for measuring the emotional states of stress, anxiety, and depression. (number one) People are asked to indicate whether they have had any symptoms in the last seven days as part of the DASS. We use a scale from 0 (not at all applicable) to 3 (used frequently or extensively) to rate each item's relevance to the previous week. This item belongs to the stress scale (S), the anxiety scale (A), and the depression scale (D). Sum all of the detected items' scores on the D, A, and S scales. Being a compressed version of the DASS-42, the DASS-21 doubles (x2) the final scores of the Depression, Anxiety, and Stress item groups. (26)

No research have looked at how medical students in Andhra Pradesh cope with the mental health impacts of being afraid of spiders. The study's encouraging findings will hopefully shed light on the widespread nomophobia among Andhra Pradesh's medical students and how it impacts their mental health, causing stress, worry, and sadness.

AIM & OBJECTIVES

1. **Assess the levels of depression, anxiety, and stress** in medical students using standardized scales (e.g., DASS-21).
2. **Analyze the relationship between nomophobia and mental health issues**, particularly focusing on how nomophobia correlates with symptoms of depression, anxiety, and stress.
3. **Identify potential demographic and academic factors** (such as age, gender, year of study, and academic performance) that may influence the prevalence and impact of nomophobia on mental health.

OBSERVATIONS AND RESULTS:

Table1: Socio- demographic characteristics of the participants

DESCRIPTIVE STATUS

	N	Minimu m	Maximu m	Mean	Std. Deviation
AGE	200	18	28	20.50	1.061
DASS21 SCORE	200	4	45	23.87	10.121
NOMOPHOBIA SCORE	200	23	100	61.79	19.022
Valid N (listwise)	200				

AGE

	Frequency	Percent	Valid Percent	Cumulative Percent
18	3	1.5	1.5	1.5
19	19	9.5	9.5	11.0
20	82	41.0	41.0	52.0
21	80	40.0	40.0	92.0
Valid 22	12	6.0	6.0	98.0
23	1	.5	.5	98.5
24	1	.5	.5	99.0
25	1	.5	.5	99.5
28	1	.5	.5	100.0
Total	200	100.0	100.0	

ACADEMIC YEAR

	Frequency	Percent	Valid Percent	Cumulative Percent
Final year part 1	30	15.0	15.0	15.0
Valid First MBBS	83	41.5	41.5	56.5
Second MBBS	87	43.5	43.5	100.0
Total	200	100.0	100.0	

GENDER

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	146	73.0	73.0	73.0
Valid Male	54	27.0	27.0	100.0
Total	200	100.0	100.0	

The socio-demographic statistics showed that the average age of the participants was 20-21 years, with 73% of the participants being female and 27% being male. The socio-demographic characteristics of the participants are described in Table 1.

Table2: Prevalence of Depression, Anxiety, Stress and Nomophobia:

DEPRESSION

	Frequency	Percent	Valid Percent	Cumulative Percent
normal	19	9.5	9.5	9.5
mild	18	9.0	9.0	18.5
moderate	40	20.0	20.0	38.5
Valid severe	45	22.5	22.5	61.0
Very	78	39.0	39.0	100.0
severe	200	100.0	100.0	
Total				

ANXIETY

	Frequency	Percent	Valid Percent	Cumulative Percent
normal	8	4.0	4.0	4.0
mild	11	5.5	5.5	9.5
moderate	23	11.5	11.5	21.0
Valid severe	31	15.5	15.5	36.5
Very	127	63.5	63.5	100.0
severe				
Total	200	100.0	100.0	

STRESS

	Frequency	Percent	Valid Percent	Cumulative Percent
Normal	42	21.0	21.0	21.0
mild	23	11.5	11.5	32.5
moderate	38	19.0	19.0	51.5
Valid severe	53	26.5	26.5	78.0
Very severe	44	22.0	22.0	100.0
Total	200	100.0	100.0	

NOMOPHOBIA

	Frequency	Percent	Valid Percent	Cumulative Percent
Mild	97	48.5	48.5	48.5
valid Moderate	102	51.0	51.0	99.5
Severe	1	.5	.5	100.0
Total	200	100.0	100.0	

While 78 participants (39% of the total) were found to have extremely severe depression, 19 persons (9.5%) were found to not have depression at all. The current investigation found an alarmingly high prevalence rate of depression, with 181 cases (90.5%). In all, 158 people (or 79% of the total) had their stress levels checked. It encompasses the full range of student stress levels, from modest (11.5%) to very high (22%). Of the 192 pupils who expressed anxiety, 96.6% are classified as mild, 11.5% as moderate, 15.5% as severe, and 63.5% as very serious. Mild and moderate cases of nomophobia were reported by the majority of individuals (51% and 48.5%, respectively).

Table3: Association of Depression, Anxiety and Stress with Nomophobia:

Depression associated with Nomophobia:

Cross tab

			nomo			Total
			mild	moderate	severe	
depression	normal	Count	10	9	0	19
		% within nomo	10.3%	8.8%	0.0%	9.5%
	mild	Count	9	9	0	18
		% within nomo	9.3%	8.8%	0.0%	9.0%
	mod	Count	16	24	0	40
		% within nomo	16.5%	23.5%	0.0%	20.0%
	severe	Count	25	20	0	45
		% within nomo	25.8%	19.6%	0.0%	22.5%
Total	Very severe	Count	37	40	1	78
		% within nomo	38.1%	39.2%	100.0%	39.0%
		Count	97	102	1	200
		% within nomo	100.0%	100.0%	100.0%	100.0%

Chi-Square test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.784 ^a	8	P value= 0.876
Likelihood Ratio	4.103	8	0.848
Linear-by-Linear Association	.028	1	0.866
N of Valid Cases	200		

Anxiety associated with Nomophobia:

Crosstab

			nomo			Total
			Mild	Moderate	Severe	
anxiety	normal	Count	5	3	0	8
		% within nomo	5.2%	2.9%	0.0%	4.0%
	mild	Count	5	6	0	11
		% within nomo	5.2%	5.9%	0.0%	5.5%
	moderate	Count	10	13	0	23
		% within nomo	10.3%	12.7%	0.0%	11.5%
	severe	Count	13	18	0	31
		% within nomo	13.4%	17.6%	0.0%	15.5%
	Very severe	Count	64	62	1	127
		% within nomo	66.0%	60.8%	100.0%	63.5%
		Count	97	102	1	200
		% within nomo	100.0%	100.0%	100.0%	100.0%
Total		Count				
		% within nomo				

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.280 ^a	8	P value=0.971
Likelihood Ratio	2.616	8	0.956
Linear-by-Linear Association	.000	1	0.984
N of Valid Cases	200		

Stress associated with Nomophobia:

Crosstab

		nomo			Total
		Mild	Moderate	Severe	
	Norm Count	20	22	0	42
	al % within nomo	20.6%	21.6%	0.0%	21.0%
	Mild Count	8	15	0	23
	% within nomo	8.2%	14.7%	0.0%	11.5%
	Count	20	18	0	38
stress	Mod % within nomo	20.6%	17.6%	0.0%	19.0%
	Sever Count	27	25	1	53
	e % within nomo	27.8%	24.5%	100.0%	26.5%
	Very Count	22	22	0	44
	Sever % within nomo e	22.7%	21.6%	0.0%	22.0%
	Count	97	102	1	200
Total	% within nomo	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.079 ^a	8	P value=0.749
Likelihood Ratio	4.987	8	0.759
Linear-by-Linear Association	.299	1	0.585
N of Valid Cases	200		

Nomophobia associated with Depression:

Crosstab

				depression		Total
				absent	present	
nomo	within	Count mild	%	10	87	97
				52.6%	48.1%	48.5%
	mod	Count		9	93	102
		% within dn		47.4%	51.4%	51.0%
	severe	Count		0	1	1
		% within dn		0.0%	0.6%	0.5%
		Count		19	181	200
Total		% within dn		100.0%	100.0%	100.0%

Chi-Square test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.233 ^a	2	P value=0.890
Likelihood Ratio	.327	2	0.849
Linear-by-Linear Association	.173	1	0.678
N of Valid Cases	200		

Nomophobia associated with Anxiety:

Crosstab

			Anxiety		Total
			absent	Present	
nomo	mild	Count	5	92	97
		% within an	62.5%	47.9%	48.5%
	mod	Count	3	99	102
		% within an	37.5%	51.6%	51.0%
	Sever e	Count	0	1	1
		% within an	0.0%	0.5%	0.5%
		Count	8	192	200
Total		% within an	100.0%	100.0%	100.0%

Chi-Square test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.676 ^a	2	P value=0.713
Likelihood Ratio	.718	2	0.698
Linear-by-Linear Association	.672	1	0.413
N of Valid Cases	200		

Nomophobia associated with Stress:

Crosstab

			Stress		Total
			absent	present	
nomo	mild	Count	20	77	97
		% within sn	47.6%	48.7%	48.5%
	mod	Count	22	80	102
		% within sn	52.4%	50.6%	51.0%
	Sever e	Count	0	1	1
		% within sn	0.0%	0.6%	0.5%
	Total	Count	42	158	200
		% within sn	100.0%	100.0%	100.0%

Chi-Square test

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.294 ^a	2	P value=0.863
Likelihood Ratio	.500	2	0.779
Linear-by-Linear Association	.003	1	0.957
N of Valid Cases	200		

The prevalence of nomophobia was found to be higher among individuals who reported higher levels of depression, anxiety, and stress compared to those who did not experience these mental health issues. The correlation, however, was not statistically significant ($p > 0.05$) across the board.

DISCUSSION:

While 78 participants (39% of the total) were found to have extremely severe depression, 19 persons (9.5%) were found to not have depression at all. The current investigation found an alarmingly high prevalence rate of depression, with 181 cases (90.5%). Medical students' health, grades, and study habits are all impacted by their lack of drive and enthusiasm. Medical students' mental health and happiness can benefit from the use of

motivational tactics at medical schools. Reducing depression and enhancing mental health in medical students can also be achieved through peer support programmes.

In all, 158 people (or 79% of the total) had their stress levels checked. It encompasses the full range of student stress levels, from modest (11.5%) to very high (22%). In order to alleviate stress, medical students can benefit greatly from mindfulness-based stress reduction practices. Also advanced is the concept of a "wellness curriculum" in medical schools, which would include courses on topics like exercise, sleep, problem-solving skills, stress management, and anxious thoughts. Nomophobic pupils experience stress. Students who suffer from severe nomophobia often react to stressful situations by disengaging behaviorally.

The participants reported anxiety-related symptoms on the DASS-21, including dry mouth and dread of panic attacks. Above and beyond what is already known, the present study found that medical students who suffer from nomophobia also tend to have higher anxiety levels. Of the 192 pupils who expressed anxiety, 96.6% are classified as mild, 11.5% as moderate, 15.5% as severe, and 63.5% as very serious.

The present investigation is not without its caveats. The data was gathered by self-reporting questionnaires, which are regarded as products of sociological, psychological, experiential, linguistic, and contextual variables; the study was conducted in a single centre, and the constructs of interest were low. The consequences of particular aspects of nomophobia on DAS need additional longitudinal research.

Nomophobia can be effectively addressed by the trained therapists at the campus wellness centre in conjunction with student advisory groups. The health centre should also provide cognitive behavioural treatment. The wellness clinic should be the first stop for pupils exhibiting symptoms of nomophobia, and teachers should be prepared to recognise them.

Medical schools ought to institute awareness campaigns drawing attention to the dangers of a fear of needles. It is important to equip students with the necessary information and resources to identify and cope with nomophobia. Initiate "No phone zone" and "Digital detox challenge"—programs that promote students' mental health and wellness.

Nomophobia is prevalent and impacts people of all ages, according to research. It is more prevalent among younger people. Furthermore, nomophobia can be harmful to people's mental and physical well-being. In light of this, it is critical to educate the public about nomophobia through various means such as public service announcements (PSAs) on radio and television and seminars held in educational institutions.

Researchers have taken an interest in the idea of behavioural addiction, which is essentially the same as substance dependency according to the existing nosological frameworks. A number of terms have been used to describe nomophobia, including mobile phone addiction, problematic use, excessive cell phone use, and reliance. The mental underpinnings of youth cell phone use remain mostly unknown. Younger individuals are more likely to exhibit patterns of mobile phone use that are indicative of addiction, according to studies.

The psychological characteristics that may be associated with excessive usage of mobile phones include having negative self-perceptions, poor self-esteem, being young, impulsive, feeling a sense of urgency, and seeking sensations. Nomophobia is often seen alongside other mental health issues, such as depression, dysthymia, panic disorder, social phobia, OCD, eating disorders, and behavioural addictions like gambling, compulsive shopping, sexual behaviours, and internet and mobile dependence. We respectfully wager that depressed teens may seek out "apps" or social media sites to alleviate feelings of isolation and boost their self-esteem. In fact, it's quite possible that depressed and anxious teens' symptoms will intensify if they compare their lives to others' on these "apps" and think that theirs isn't good enough.

CONCLUSION:

Anxiety, worry, and sadness are common outcomes of the widespread fear of death, or nomophobia. Teens can better handle the academic and social demands placed on them if they receive therapy on responsible and constructive mobile phone use and if they undergo screening for these disorders. We need to promote more in-person communication and less reliance on cell phones. Nomadophobia needs a greater public education campaign targeting young people. Additionally, standardised methods of diagnosis and suitable psycho-behavioral treatment for individuals in need can contribute to the problem's alleviation.

Nomadophobia is recognised to be associated with a number of mental disorders. The purpose of this research is to look at how nomophobia relates to mental health issues like anxiety, depression, and stress. It was found that there is a positive correlation between university students' levels of nomophobia and their degrees of sadness, anxiety, and stress. A person's degree of nomophobia is significantly predicted by their level of sadness, anxiety, and stress, according to the regression analysis. Taken together, the research' results show that nomophobia is linked to mental health issues like stress, anxiety, and depression. An rise in unfavourable effects and depression is anticipated. Researchers have shown that depressed people are more likely to use their phones as a crutch when they're feeling down. Consequently, it is reasonable to assume that nomophobia is more prevalent among depressed people. It is believed, however, that variables like losing connection, incapacity to communicate, or access information cause severe anxiety and worry in people with high degrees of nomophobia. In addition to the hopelessness and unpleasant emotions brought on by depression, you may also experience anxious thoughts and feelings.

LIMITATIONS:

Only first-, second-, and third-year students will be considered for the study. A comparable study on the effects of cell phone use on the mental and physical health of seniors and interns is in the works. This research stands out because it looks at a rarely-seen relationship between the degrees of nomophobia among college students and their levels of stress, anxiety, depression, and sadness. Despite the obvious connection between nomophobia and mental health, the majority of studies in this field focus on the severity of the fear and the behaviors it elicits. This study's findings on nomophobia-related traits and mental health indicate a robust association between the two, and it also makes a substantial adds to the existing body of knowledge in this field by way of the data it provides. Nobody knows much about nomophobia, but maybe we can learn more by studying it with bigger samples and looking at how it correlates with things like loneliness, perceived social support, and irrational beliefs.

CONFLICT OF INTEREST:

Authors declare no conflict of interest.

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