RESEARCH ARTICLE

Cross-sectional evaluation of nomophobia among nursing students

Yasir Ali[1,*], Merab Sarfaraz[2], Barira Zaman[3], Iqra Khan[4], Muqadaas Bibi[5]

[1]Ziauddin University, Faculty of Nursing and Midwifery, Karachi, Pakistan [2,3,4,5]Qatar College of Nursing (Female), Orangi Town, Karachi, Pakistan

*Author for correspondence: e-mail: yasir.13832@zu.edu.pk

Abstract

Aim: Smartphones have become almost cemented to our fingers. It affects all age group people especially students resulting a growing psychological issue tied to our digital dependency. To determine the level of nomophobia among nursing students. **Methods:** A cross sectional study conducted at public and private institutes of nursing at Karachi form August, 2025 to December, 2025. The calculated sample size was 300. A cluster sample technique was used to collect data through a validated questionnaire, Nomophobia Questionnaire (NMP-Q). All Generic bachelor of nursing Students (GBSN) were included while all the Nursing Interns and Post RN students were excluded. **Results:** Among all participants only 4.0% of students had mild nomophobia, 11.0% of the participants were classified as having moderate nomophobia while severe nomophobia affected 85.0% of the students. A significant percentage of participants (71.0%) strongly agreed that they would feel uneasy if they didn't have continuous access to information via their smartphones. 49.7% of respondents strongly agreed that being unable to search up information when needed would irritate them. 48.3% of the interviewees strongly agreed that they would feel anxious if they couldn't receive the news. **Conclusion:** The findings of the study revealed surprisingly high prevalence of nomophobia among nursing students including excessive dependence on smart phone, suggesting an urgent need to address unhealthy smartphone use due to its potential impact on students' academic performance, mental well-being, and professional development.

Keywords: Evaluation exploring • Nomophobia • Nursing students

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Introduction

Smartphones have become practically glued to our hands. For most people—especially students—life revolves around constant connectivity. But here's the issue: when that connection breaks, it doesn't just feel inconvenient. For many, it sparks real anxiety. That's nomophobia—short for "no mobile phone phobia"—and it's more than just a buzzword. It's a growing psychological issue tied to our digital dependency [1–3]. In terms of nomophobia, nursing students are a special population to research. As digital natives, they mostly use their phones for scheduling, social contact, study materials, and clinical updates [4–5]. However, students are being prepared for a career that requires concentration, compassion, and unwavering patient care [6]. When researching cell phone overuse, this group is particularly pertinent due to the conflict between hyper-connectivity and professional responsibility [7–8]. Numerous studies have demonstrated that students in health-related disciplines, especially those pursuing medical and nursing education, frequently experience nomophobia [9–10]. Not every student is impacted similarly, though. The type of institution they attend—private versus public—can influence both their online behavior and academic atmosphere [11–12]. While public schools may impose stricter rules or restrict resources, private schools may encourage more tech-based learning settings, latex device-use regulations, or greater social comparison pressures [13–14]. This study filled that knowledge gap. Our goal is to determine if phone reliance is caused by institutional, environmental, or behavioral variables by comparing the degrees of nomophobia among nursing students in public and private institutions. The objective was not merely to quantify anxiety, but also to comprehend its causes and potential solutions through awareness, policy, and institutional support.

Materials & methods

The study was conducted at 2 private and 2 public nursing colleges. All participants were nursing students (male and female). A descriptive cross sectional study design was used for this study. This study was completed within 4 months (August, 2025 to December, 2025) after the approval of synopsis from the IR&EC of Qatar College of Nursing (Female), Karachi. The sample size was calculated to estimate the frequency of an outcome in a population of 1,000,000 individuals. Assuming a previous study [15] prevalence of 23.3% and a margin of error of ±5%, the required sample size at a 95% confidence level and a design effect (DEFF) of 1 was determined to be 275. A cluster sample technique was used to collect data. The eligibility criteria for the selected sample were including all male and female nursing students, currently enrolled in the 1st, 2nd, 3rd and 4th semester of Bachelor of Science in nursing (GBSN) program. All participants above than 16 years of age. All participants (nursing students) from public and private sector nursing colleges recognized by PNC. On the other hand, all students of midwifery, post RN, technicians and students from other disciplines were excluded. Nursing

students were asked to complete a standardized questionnaire called the Nomophobia Questionnaire (NMP-Q) in order to provide data. Followed by informed consent, participants filled out the questionnaire. Nomophobia level and associated variables, including age, gender, academic year, and mobile phone usage habits, will be evaluated using the tool. Every response were remain private and be utilized exclusively for research.

Data collection

The data was collected in three phases.

In initial phase, 4 nursing colleges (two public and two private) were identified as clusters.

In second stage, 300 participants from each college were selected through simple sampling while choosing 75 students from each college were the target. In Final Phase, once the required sample size was finalized the questionnaires were administered to the selected participants to measure their level of nomophobia. Data was collected by using an open excess, validated and structured questionnaire; named Yildirim and Correia level of nomophobia [15]. It was a widely used tool to measure level of nomophobia. It was consists of 20 items, each rated on a 7-Likert Scale where 1= strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=6 and ,7 strongly agree.

Validation and reliability of the instrument

Validity: Content validity was ensured by reviewing previous studies and consultation with subject experts. Reliability: The NMP-Q has a high internal consistency. Original studies reported Cronbach's alpha = 0.94. A 2017 study by Nawaz et al. in Lahore, Pakistan, revealed that nomophobia is very common among young Pakistanis, with university students reporting mild to severe cases [16].

The analysis of the gathered data was done with SPSS version 21.0. Demographic factors and total nomophobia scores will be described using descriptive statistics like mean, standard deviation, frequency, and percentage. The significance level were set at a P-value < 0.05.

Before the data collection, approval of the study was taken from Ethical Review Committee (ERC) and Research committee of QCON. Permission was taken from head of the institutes of all the selected nursing colleges. Furthermore, all participants were required to sign a written informed consent. Confidentiality and data integrity were strictly followed throughout the analysis process and privacy were protected.

Results

Characteristics of the participants

A comparative cross-sectional study was conducted by recruiting three hundred nursing students took part in the study with equal participation from both public and private institutions. In terms of demographics, female had higher participation (60.3%) than male (39.7%). According to the distribution of academic year, first-year students made up the largest proportion (36.7%), followed by fourth-year (32.7%). Second-year students made up the smallest percentage of participation (11.7%. Nearly universal smartphone access among students is demonstrated by the fact that 99.3% of participants reported possessing a smartphone. The majority of respondents (79.0%) estimated that they used their smartphones for 7 to 9 hours per day, which was the highest usage category, while 5% of the participants said they used their smartphones for more than ten hours per day. Only a small proportion (0.7%) used smartphone for less than an hour each day. Social media browsing had the higher utilization of smart phone (81.0%) while only 10.0% said their main goal was to study or do academic work. A significant number of students (89.0%) reported experiencing anxiety when they were unable to access their smartphones, and 94.0% of students reported sleeping with their phones, while 92.7% said they check their phones as soon as they wake up. (Table 1)

Table 1. Demographic characteristics of the participants (n = 300)

Characteristics	N
Institution	
Public	150 (50%)
Private	150 (50%)
Age	22 (5) Median (IQR)
Gender	
Male	119 (39.7)
Female	181(60.3)
Year of Study	
First Year	110 (36.7)
Second Year	35 (11.7)
Third Year	57 (19.0)
Fourth Year	98 (32.7)
Smartphone ownership	
Yes	298 (99.3)
No	2 (0.7)
Daily Smartphone Use	
Less than 1 hour	2 (0.7)
1-3 hour	16 (5.3)
4-6 hour	28 (9.3)
7-9 hour	237 (79.0)
10+ hour	17(5.7)
Primary Smartphone Use	
Academic / study-related activities	30 (10.0)
Browsing social media (e.g., instagram, facebook, tiktok)	243 (81.0)
Messaging or phone calls	6 (2.0)
Watching videos / entertainment (e.g., youtube, netflix)	11(3.7)
Playing game	5 (1.7)
Other	4 (1.3)
Gaming	1 (3)
Sleep With Smartphone	

Yes	82 (4)
No	18 (6)
Check Smartphone After Waking	
Yes	278 (92.7)
No	22 (7.3)
Smartphone Anxiety Experience	
Yes	267(89)
No	23 (7.7)
Not sure	10 (3.3)

Table-2 presents the level of nomophobia among study participants. The results showed that only 4.0% of students had mild nomophobia, On the other hand, 11.0% of the participants were classified as having moderate nomophobia while severe nomophobia affected 85.0% of the students.

Table 2. Level of nomophobia among the respondents

Level of Nomophobia	F(%)
No Nomophobia	0 (0)
Mild	12 (4)
Moderate	33 (11)
Severe	255 (85)

The degree of smartphone dependence was further demonstrated by an analysis of individual statements. A significant percentage of participants (71.0%) strongly agreed that they would feel uneasy if they didn't have continuous access to information via their smartphones. In a similar vein, 49.7% of respondents strongly agreed that being unable to search up information when needed would irritate them. 48.3% of the interviewees strongly agreed that they would feel anxious if they couldn't receive the news. Over half of the students concurred that panic would occur if their cell data ran out (61.7%) or if their battery died (57.7%). Significantly more people also said they regularly checked for Wi-Fi or signal connectivity when they were disconnected (51.7% somewhat agreed). In terms of communication, 72.0% of participants strongly agreed that being unable to speak with friends or relatives right away would make them feel nervous. In a same vein, 43.7% strongly agreed that they would worry if anyone couldn't get in touch with them. Additionally, a lot of people reported feeling anxious about missing notifications, messages, and online updates. All things considered, the item-wise replies show that when denied smartphone access, the vast majority of nursing students suffer from extreme emotional pain, worry, and terror. This supports the high prevalence of severe nomophobia in the study population. (Table 3).

Table 3. Participants responses to Nomophobia Questionnaire (NMQ) statements

S #	Statement	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
01	I would feel uncomfortable without constant access to information through my smartphone.	14 (4.7)	13 (4.3)	6(2.0)	12(4.0)	18(6.0)	23(8.0)	213 (71.0)
02	I would be annoyed if I could not look information up on my smartphone when I wanted to do so.	10(3.3)	8 (2.7)	2 (0.7)	8(2.7)	17(5.7)	106(35.3)	149 (49.7)
03	Being unable to get the news (e.g., happenings, weather, etc.) on my smartphone would make me nervous.	17(5.7)	21 (7.0)	8(2.7)	8(2.7)	67 (22.3)	34(11.3)	145 (48.3)
04	I would be annoyed if I could not use my smartphone and/or its capabilities when I wanted to do so.	11(3.7)	5(1.7)	5(1.7)	19(6.3)	21(7.0)	203 (67.7)	36 (12.0)
05	Running out of battery in my smartphone would scare me.	14(4.7)	4(1.3)	4(1.3)	9 (3.0)	28(9.3)	173(57.7)	68(22.7)
06	If I were to run out of credits or hit my monthly data limit, I would panic.	12 (4.0)	9(3.0)	9(3.0)	7(2.3)	55(18.3)	185(61.7)	23(7.7)
07	If I did not have a data signal or could not connect to Wi-Fi, then I would constantly check to see if I had a signal or could find a Wi-Fi network.	9(3.0)	6(2.0)	2(0.7)	10(3.3)	155(51.7)	56(18.7)	62(20.7)
08	If I could not use my smartphone, I would be afraid of getting stranded somewhere.	14(4.7)	10(3.3)	8(2.7)	15(5.0)	133(44.3)	89(29.7)	31(10.3)
09	If I could not check my smartphone for a while, I would feel a desire to check it.	6(2.0)	6(2.0)	3(1.0)	9(3.0)	155(50.3)	41(13.7)	84(28.0)
10	I would feel anxious because I could not instantly communicate with my family and/or friends.	3(1.0)	7(2.3)	1(0.3)	13(4.3)	22(7.3)	38(12.7)	216(72.0)
11	I would be worried because my family and/or friends could not reach me.	2(0.7)	5(1.7)	5(1.7)	7(2.3)	24(8.0)	126(42.0)	131(43.7)

12	I would feel nervous because I would not be able to receive text messages and calls.	12(4.0)	9(3.0)	2(0.7)	13(4.3)	104(34.7)	46(15.3)	114(38.0)
13	I would be anxious because I could not keep in touch with my family and/or friends.	3(1.0)	7(2.3)	2(0.7)	11(3.7)	36(12.0)	174(58.0)	67(22.3)
14	I would be nervous because I could not know if someone had tried to get a hold of me.	6(2.0)	8(2.7)	5(1.7)	14(4.7)	45(15.0)	128(42.7)	94(31.3)
15	I would feel anxious because my constant connection to my family and friends would be broken.	2(0.7)	9(3.0)	4(1.3)	7(2.3)	52(17.3)	187(62.3)	39(13.0)
16	I would be nervous because I would be disconnected from my online identity.	22(7.3)	11(3.7)	1(0.3)	11(3.7)	137(45.7)	77(25.7)	41(13.7)
17	I would be uncomfortable because I could not stay up-to-date with social media and online networks.	18(6.0)	6(2.0)	3(1.0)	17(5.7)	79(26.3)	137(45.7)	40(13.3)
18	I would feel awkward because I could not check my notifications for updates from my connections and online networks.	13(4.3)	11(3.7)	4(1.3)	12(4.0)	119(39.7)	35(11.7)	106(35.3)
19	I would feel anxious because I could not check my email messages.	25(8.3)	10(3.3)	4(1.3)	10(3.3)	47(15.7)	126(42.0)	78(26.0)
20	I would feel weird because I would not know what to do.	16(5.3)	6(2.0)	1(0.3)	23(7.7)	108(36.0)	40(13.3)	106(35.3)

Discussion

The current findings of the study revealed that 85.0% of nursing students experienced severe nomophobia, while 11.0% had moderate nomophobia and only 4.0% demonstrated mild nomophobia. These findings indicate an alarmingly high level of smartphone dependence among nursing students, suggesting that excessive reliance on mobile phones has become a common behavioral concern within this population. The predominance of severe nomophobia may be attributed to the increasing integration of smartphones into students' academic activities, social interactions, entertainment, and daily communication. Nursing students frequently depend on smartphones for accessing educational resources, online classes, clinical information, social networking platforms, and instant communication, which may gradually increase psychological dependence and fear of being disconnected.

The high prevalence observed in the present study is consistent with global evidence demonstrating that nomophobia has become a widespread problem among university students, particularly those enrolled in health-related disciplines. However, the severity reported in the current study is substantially higher than that documented in most international studies, indicating that smartphone dependence may be more pronounced among nursing students in the present setting.

Evidence from European countries also supports the growing burden of nomophobia among nursing students, although the severity reported remains lower than that observed in the present study. A study conducted in Spain by Bernabé-Mateo et al. (2025) among 353 nursing students reported a high overall nomophobia score (mean = 69.27 ± 26.13), with female students demonstrating significantly higher scores than males. However, the prevalence of severe nomophobia was considerably lower than the 85% severe nomophobia identified in the current study. The authors suggested that lifestyle behaviors, anxiety, sleep quality, and unhealthy digital habits contributed to increased nomophobia among nursing students [17]. Similarly, a study conducted in Turkey by Tekin and Aslan (2025) among undergraduate health sciences students reported that 47.6% experienced moderate nomophobia, 24.7% had extreme nomophobia, and 27.7% had mild nomophobia. Although the study confirmed widespread smartphone dependence among healthcare students, the proportion of students with extreme nomophobia remained substantially lower than that found in the present study. The Turkish researchers further identified a significant inverse relationship between physical activity and nomophobia, suggesting that healthier lifestyle behaviors may reduce smartphone dependency [18]. These international findings collectively demonstrate that while nomophobia has become a global concern among nursing students, the severity observed in the present study exceeds that reported in European populations. This discrepancy may reflect cultural differences, greater smartphone accessibility, prolonged screen exposure, variations in digital learning practices, or differences in social media engagement. Comparable findings have been reported across several Asian and Middle Eastern countries, where nomophobia among nursing and medical students has become increasingly prevalent.

In Iran, Aslani et al. (2025) reported that 72% of nursing students experienced moderate to severe nomophobia, with significant associations observed between nomophobia and

educational level, grade point average, smartphone checking frequency, internet usage duration, and primary purpose of smartphone use [19]. Although the Iranian study confirmed a high prevalence of nomophobia, the proportion of severe cases remained markedly lower than the 85% severe nomophobia observed in the present study.

Similarly, Janatolmakan et al. (2024) investigated nomophobia among 500 nursing students in Tehran and reported an overall prevalence of approximately 80%, with significant differences according to gender and primary smartphone use [20]. Although these findings support the widespread occurrence of nomophobia among nursing students, the prevalence remains lower than that documented in the present research.

Another Iranian study conducted by Sadeghi et al. (2025) found that all participating nursing students experienced some degree of nomophobia, with 40.7% exhibiting mild, 40.3% moderate, and only 19% severe nomophobia. Additionally, approximately one-quarter of participants experienced social interaction anxiety [21]. Compared with these findings, the present study demonstrates a substantially greater proportion of students experiencing severe nomophobia, suggesting more intense smartphone dependence within the current population.

Studies from India have also reported widespread nomophobia, although with considerably lower severity than the present findings. Dabhi et al. (2024) investigated 700 medical students and reported that all participants exhibited some degree of nomophobia; however, only 5.43% experienced severe nomophobia, while 31.29% had moderate and 29% had mild nomophobia [22]. Likewise, Mahto et al. (2025) observed nomophobia in 96% of medical and paramedical students, with 57.3% moderate, 24% mild, and 14.7% severe nomophobia, while higher screen time was significantly associated with greater nomophobia and depression [23].

Similarly, Thomas et al. (2024) reported that among nursing students in Tamil Nadu, 59.4% had moderate, 27.5% mild, and only 9.7% severe nomophobia, with female students demonstrating significantly greater nomophobic characteristics than males. Although these studies consistently demonstrate widespread smartphone dependence, none reported a proportion of severe nomophobia approaching that observed in the present study [24].

A descriptive study conducted by Rohini et al. (2025) among nursing students in Kerala primarily assessed knowledge regarding nomophobia rather than its prevalence. Nevertheless, the authors noted that participants generally demonstrated satisfactory awareness of nomophobia, and knowledge levels were significantly associated with age, academic year, and duration of mobile phone use [25]. Despite this awareness, the current study found an exceptionally high prevalence of severe nomophobia, suggesting that knowledge alone may not be sufficient to prevent excessive smartphone dependence.

Evidence from other Middle Eastern countries further supports these findings. In Saudi Arabia, Alkalash et al. (2023) reported that 99% of medical students experienced some degree of nomophobia, with younger students exhibiting significantly higher levels of moderate to severe nomophobia [26]. Although the prevalence of nomophobia was almost universal, the distribution of severe cases remained considerably lower than that identified in the current study.

Likewise, in Egypt, Lashin et al. (2024) found that 80% of nursing students demonstrated high nomophobia, accompanied by elevated levels of social isolation [27]. These findings are consistent with the current study in demonstrating extensive smartphone dependence among nursing students; however, the present study still reports a comparatively greater concentration of severe nomophobia.

Overall, comparison with regional evidence indicates that nomophobia has become a pervasive problem among nursing and medical students throughout Asia and the Middle East. Nevertheless, the 85% prevalence of severe nomophobia observed in the present study exceeds that reported in Iran, India, Saudi Arabia, Egypt, and Turkey. This difference may reflect increased smartphone accessibility, greater dependence on digital education, prolonged social media engagement, extensive internet availability, and cultural patterns favoring continuous smartphone connectivity. These findings emphasize the urgent need for educational institutions to implement awareness programs, promote responsible smartphone use, encourage healthy digital behaviors, and develop interventions aimed at reducing excessive smartphone dependence among nursing students.

Conclusion

The study found an alarmingly high prevalence of nomophobia among nursing students, with 85% experiencing severe nomophobia, indicating excessive smartphone dependence. Compared with international and regional studies, the severity observed was substantially higher. These findings suggest an urgent need to address unhealthy smartphone use due to its potential impact on students' academic performance, mental well-being, and professional development.

Recommendations

Nursing institutions should implement awareness programs on responsible smartphone use and regularly screen students for nomophobia. Educational strategies promoting digital well-being, healthy lifestyle behaviors, and balanced technology use should be integrated into nursing education. Future multicenter longitudinal studies are recommended to identify contributing factors and evaluate interventions for reducing smartphone dependence

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