

Nomophobia, a disease linked to mobile phone addiction: A descriptive study among university students

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Abstract

Objective: To determine the frequency of nomophobia and its associated factors among university students.

Materials and methods: A cross-sectional descriptive study was carried out in the first academic period corresponding to 2023. The sample consisted of university students from three private universities located in the northern area of the city of Lima. The manifestations of nomophobia were measured with the Nomophobia Scale (NMP-Q).

Results: A total of 372 students of both sexes participated, with a median age of 22 years (Q1=20, Q3=29, IQR=9). Regarding frequency, 14.8% (n=55) had no nomophobia, 65.6% (n=244) were at risk of nomophobia, and 19.6% (n=73) were nomophobic. The manifestations of nomophobia, as well as the risk of nomophobia were mainly presented in students aged between 21 and 30 years, with a frequency of 50.7% (n=37) and 46.3% (n=113), respectively (p=0.029).

Conclusion: Nomophobia among university students is a frequent problem and mainly affects young adults in their third decade of life. It is important to promote self-care regarding the manifestations of nomophobia in the university community.

Keywords: Nomophobia; Technology Addiction; Mobile Phone Addiction; Students; Peru.

1. Introduction

Digitization is an unstoppable global phenomenon(1). The internet has become a vital part of our daily lives; nowadays, the number of internet users worldwide is 5.18 billion, equivalent to two-thirds of the world's population (2). Mobile Internet penetration worldwide is 55%, the highest in Europe with 85%, 83% in North America, and only 23% in sub-Saharan Africa (2).

The widespread availability of the Internet has led to the recognition of problematic use or addiction to the Internet (3). In the United States and Europe, the prevalence rate ranges from 1.5% to 8.2% (4). In China, the COVID-19 pandemic had an impact on Internet use. The overall prevalence of internet addiction was 36.7%, and severe internet addiction was 2.8% (5).

The unlimited and exaggerated use of mobile devices may be associated with a new psychiatric term called nomophobia (acronym of "no-mobile-phobia"), described as experiencing intense fear, anxiety, stress and discomfort due to the idea

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of being without a cell phone or the impossibility of using it (3). Nomophobia is considered a public health problem in the digital age (6). In the general population, severe nomophobia is 20.81%; in university students, it is 25.46% (7).

Nomophobia promotes the development of mental disorders, personality disorders, self-esteem problems, loneliness and happiness in people. This has an impact on academic, work and interpersonal relationships (6). Nomophobia affects sleep habits and is also a factor in the deterioration of physical health and stress (8).

Nomophobia is a common problem in all populations. Mild, moderate and severe symptoms are present in 25%, 50% and 20% of individuals, respectively (9). Young adults are more vulnerable to nomophobia (8).

In university students, the prevalence of moderate and severe nomophobia is high, ranging from 3% in Germany to 71% in Indonesia (10). In academia, nomophobia is associated with decreased study habits and grades, reduced concentration and late arrivals to class (11).

Cell phones are ubiquitous devices in the daily life of university students (12). In Peru, studies on nomophobia are limited; in medical students, it is a frequent problem (13)(14)(15)(16); however, they are limited in other areas and fields, so the present study aims to know the frequency of nomophobia and the associated factors in students from universities located in the northern area of the city of Lima.

2. Materials and Methods

2.1. Type and design of research

The present study has a quantitative, observational and cross-sectional approach, developed in the northern area of the city of Lima, Peru.

2.2. Participants

The study population consisted of students from three universities located in the northern area of the city of Lima (*Universidad de Ciencias y Humanidades, Universidad Privada del Norte and Universidad César Vallejo*). The sample consisted of 372 students; the number obtained during the planned period of the study. The sample included students who were studying in the 2023-I academic period, from any professional academic school, voluntarily willing to participate in the study.

2.3. Data collection procedures

Data were collected through a virtual survey elaborated in Google Drive. In cases with access to classrooms, prior to the application, the surveyor in charge provided the scope regarding the objectives of the study, and then the link to the virtual survey was shared with all those present. In other cases, the link was shared through teachers, delegates and student volunteers. Data collection took place between June and July 2023.

2.4. Study variables

Nomophobia: Psychological condition when people have a fear of being detached from mobile phone connectivity. The usual symptoms and signs of nomophobia consist of anxiety, respiratory alterations, trembling, perspiration, agitation, disorientation, and tachycardia (17). The manifestations of nomophobia were measured with the nomophobia questionnaire (NMP-Q), an instrument widely used in both adolescents and adults (18).

2.5. Measuring instrument

The Nomophobia Scale (NMP-Q) was used (19). The instrument has a version adapted to Spanish (20), and also has validity and reliability studies in the Peruvian context (21). The instrument consists of 20 items, distributed in 4 dimensions: Inability to communicate (6 items), loss of connection (5 items), not being able to access information (4 items), and giving up comfort (5 items). Each item is scored using a 7-point Likert scale, with 1 being "strongly disagree" and 7 being "strongly agree". Total scores are calculated by summing the responses to each item ranging from 20 to 140, where higher scores correspond to greater severity of nomophobia (19) (20) (21). To classify the levels of nomophobia, cut-off points were established based on the 15th, 80th and 95th percentile, corresponding to no nomophobia, risk of nomophobia and nomophobic, respectively (22). According to the criteria described, the following categories were considered: no nomophobia (<29 points), nomophobia risk (49-96 points), and nomophobic (97-140 points).

2.6. Statistical analysis

The self-generated database in Microsoft Excel went through a debugging and coding process, then exported to IBM SPSS version 26. For variables such as age and nomophobia score, calculations of measures of central tendency and dispersion were determined. Qualitative variables and categorized numerical variables were distributed and represented in a frequency table and graph. For bivariate analysis, the Chi-square statistic was used, considering values of $p < 0.05$ as significant.

3. Results

A total of 372 students of both sexes participated, with a median age of 22 years ($Q1=20$, $Q3=29$, $IQR=9$). Of the sample, 67.7% ($n=252$) were female, with the majority of the participants belonging to the 21-30 age group. Additional data regarding the characteristics of the participants are described in Table 1.

Table 1 Factors associated with nomophobia among university students, Lima, 2023

Sample characteristics	Total	Without nomophobia	Risk of nomophobia	With nomophobia	p-value
	n (%)	n (%)	n (%)	n (%)	
Total	372(100.0)	55(100.0)	244(100.0)	73(100.0)	
Sex					
Female	252(67.7)	35(63.6)	170(69.7)	47(64.4)	0.544
Male	120(32.3)	20(36.4)	74(30.3)	26(35.6)	
Age					
≤ 20	121(32.5)	16(29.1)	76(31.1)	29(39.7)	0.029
21 a 30	171(46.0)	21(38.2)	113(46.3)	37(50.7)	
> 30	80(21.5)	18(32.7)	55(22.5)	7(9.6)	
Year of study					
1st	102(27.4)	16(29.1)	71(29.1)	15(20.5)	0.717
2nd	74(19.9)	11(20.0)	48(19.7)	15(20.5)	
3rd	68(18.3)	13(23.6)	43(17.6)	12(16.4)	
4th	68(18.3)	8(14.5)	42(17.2)	18(24.7)	
≥ 5th	60(16.1)	7(12.7)	40(16.4)	13(17.8)	
Faculty					
Accounting, economic and financial sciences	101(27.2)	14(25.5)	64(26.2)	23(31.5)	0.243
Health sciences	141(37.9)	26(47.3)	91(37.3)	24(32.9)	
Science and engineering	31(8.3)	6(10.9)	21(8.6)	4(5.5)	
Humanities and social sciences	66(17.7)	3(5.5)	46(18.9)	17(23.3)	
Others	33(8.9)	6(10.9)	22(9.0)	5(6.8)	
Condition					
Study only	124(33.3)	22(40)	80(32.8)	22(30.1)	0.480

Study and work	248(66.7)	33(60)	164(67.2)	51(69.9)	
Marital Status					
Single	299(80.4)	42(76.4)	202(82.8)	55(75.3)	0.067
Cohabitant/married	64(17.2)	9(16.4)	38(15.6)	17(23.3)	
Separated	9(2.4)	4(7.3)	4(1.6)	1(1.4)	

Among the students, the median nomophobia score was 76 (Min. 20, Max. 137). Regarding frequency, 14.8% (n=55) had no nomophobia, 65.6% (n=244) were at risk for nomophobia, and 19.6% (n=73) were nomophobic (Figure 1).

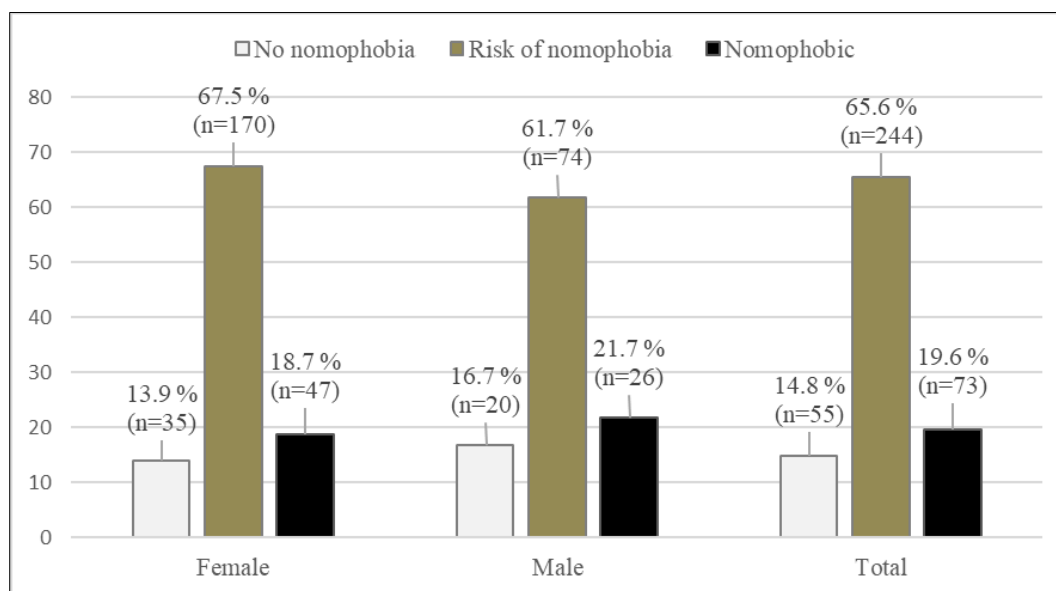


Figure 1 Nomophobia among university students according to sex, Lima 2023

The manifestations of nomophobia, as well as the risk of nomophobia, were presented mainly in students between 21 and 30 years of age, with a frequency of 50.7% (n=37) and 46.3% (n=113), respectively ($p=0.029$). No significant differences were found in the levels of nomophobia and the variables sex, years of studies, academic career, student status or marital status of the participants ($p>0.05$) (Table 1).

4. Discussion

In the present study, nomophobia was a frequent problem, and a high proportion of the students were at risk of suffering from the condition. Nomophobia and the risk of suffering from the symptoms occurred mainly in young people belonging to the third decade of life.

Regarding the magnitude of the problem, the frequency of nomophobic students in the present study (19.6%) was higher than those found in Peruvian medical students, in whom 7.4% presented severe nomophobia (13). Variable frequencies have been reported in different regions of Peru. In Arequipa, 60.3% of basic medical science students at a public university had nomophobia (14); in Trujillo, 100% of medical students at a private university had nomophobia, of whom 61.8% had moderate nomophobia and 7.4% had severe nomophobia (15); in Ucayali, 92.9% of medical students at a public university had some degree of nomophobia, 7.5% of students had severe nomophobia (16). In general, nomophobia is a frequent problem present in university students. The frequency reported outside Peru ranges from 3 to 71% of students (10).

Another important point in the present study was the age group; more than 50% of the nomophobics were students between 21 and 30 years of age. This finding is consistent with previous studies indicating that nomophobia is a problem present in all age groups but mainly in young adults (8).

From the integrated technical features to the variety of applications and the rich set of available content, the smartphone favors repetitive and addictive usage patterns (12). Nowadays, in academia, the possession and use of mobile devices are essential, even more so in recent years with the emergence of the hybrid modality, an educational method that combines online and face-to-face education.

The findings shown should be taken into account, considering the following limitations. Although students from three universities participated, there was one university with a greater number of participants due to the existence of greater ease of access, which generated an asymmetry with respect to the sample provided by each university. The limitations of the study design should also be considered. Despite these limitations, the study shows the magnitude of the problem among university students from private institutions in the northern area of the city of Lima; future studies should address other factors linked to nomophobia in this specific population.

5. Conclusion

Nomophobia among university students is a frequent problem; the vast majority are at risk, while 2 out of 10 students are nomophobic. This condition mainly affects young adults in their third decade of life. It is important to promote self-care regarding the manifestations of nomophobia in the university community.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare no conflict of interest.

Statement of ethical approval

The research project was evaluated and approved by the Ethics Committee of the University of Sciences and Humanities (CEI Act No. 060, 2023).

Statement of informed consent

The participation of the students was voluntary, with the grant of informed consent.

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