NOMOPHOBIA AND ITS PREDICTORS AMONG UNIVERSITY STAFF MEMBERS

By

Zalat M[1,2] and Bolbol S[1]

[1]Department of Community, Environmental and Occupational Medicine, Faculty of Medicine, Zagazig University, Egypt, [2]Department of Family, Community Medicine and Medical Education, College of Medicine, Taibah University, KSA.

Corresponding author: *Bolbol S.* ***E-mail:*** *sarahbolbol@zu.edu.eg*

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Abstract

Introduction: Nomophobia (no mobile phone phobia) is an alarming and emerging problem; it is a relatively new term that describes the growing fear and anxiety associated with being without a mobile phone. **Aim of Work:** To determine the prevalence and predictors of nomophobia among a sample of university staff members of Taibah University, Saudi Arabia. **Materials and Methods:** A cross-sectional study was conducted using an online questionnaire that included socio-demographic, and occupational data, mobile phone usage characteristics, and a validated nomophobia questionnaire. Logistic regression was performed to find the predictors of moderate and severe nomophobia. **Results:** Among 102 participants; 86.3% used mobile phones for more than 10 years and 93.1% used the mobile for 2 hours or more per day. Making calls, social networking and academic purposes were the most common use of mobile phone among academic staff members and WhatsApp was the most commonly viewed social media (85.3%). Nomophobia level was divided between Moderate and Severe levels (47.1% and 44.1% respectively). Married participants, working for 8 hours or more a day, longer work duration, and spending 2 hours or more/day were significantly associated with Severe nomophobia (p-value 0.006, 0.02, 0.024, 0.000 respectively). The most significant nomophobia predictors were being married and spending 2 hours or more on the phone/day. **Conclusion and Recommendations:** This study reported a high prevalence of nomophobia among a sample of university staff members of Taibah University, Saudi Arabia. Awareness programs and interventions such as "mindfulness" or coping strategies are needed to prevent and treat this critical issue in educational institutions.

Keywords: Nomophobia, Smartphones, Predictors, University staff and COVID-19 pandemic

Introduction

In recent decades, smartphones have become an integral part of daily life and represent the most utilized products in developed and developing countries, as they present great services and comforts for different people age groups; also, they facilitate the accomplishment of various tasks, and have achieved generalized popularity in several societies (Mokyr et al., 2015). At the same time, mobile companies are continuing to compete to offer new models with more memory, better cameras, and batteries, the number of apps and services is also constantly increasing, making people more dependent on them (León-Mejía et al., 2021).

However; the excessive use of smartphones raises social concern and produces behavioral modifications in the everyday habits and actions of their users (Bartwal and Nath, 2019), especially, after the COVID-19 pandemic, with more dependency on virtual environments to communicate, learn, and work which results in the emergence of new psychological phobias.

Nomophobia (no mobile phone phobia) (NMP) is a term used to define the individual worry and fear of being detached from using the mobile phone and/or the services they offer (King et al., 2013). This modern-day problem of NMP was first described in 2008 by the UK Post Office research when they reported that 53% of the surveyed people have become anxious when losing their mobile, forgetting to take the phone with them, having no network coverage, running out of battery and when not receiving any calls, texts or emails for some time (King et al., 2014).

The incessant need to check for incoming calls and messages on smartphones, along with other impulsive behaviors (e.g., keeping the smartphone on all the time) are indicative of nomophobia (Gezgin, 2017; Kanmani et al., 2017). According to several studies, the unlimited use of mobile phones affects the physical health of users (Jalalmanesh et al., 2017). In addition, a systematic review conducted in 2021 on a sample of 40 studies revealed NMP among 15.2%-99.7% of the participants and concluded that excessive use of smartphones is an emerging threat to social, mental, and physical health (Notara et al., 2021).

Among NMP cases, there were signs of agitation, anxiety, tachycardia,

sweating, and altered breathing patterns as documented by Bhattacharya et al. (2019). Even panic attacks were reported from being unable to access the mobile phones as shown by Sharma et al. (2015). Indeed, nomophobia is a form of behavioral addiction toward mobile phones and manifested as symptoms of psychological as well as physical dependency (Vanitha, 2014), and it has also been proposed earlier to be added to the Diagnostic and Statistical Manual of Mental Disorders (DSM) (Bragazzi and Del Puente, 2014).

To date, several studies have been conducted to assess nomophobia among medical students and residents in different countries (Sharma et al., 2015; Copaja-Corzo et al., 2022). However, few studies have addressed nomophobia and its predictors among university staff members.

Aim of Work

To determine the prevalence and predictors of nomophobia among a sample of university staff members of Taibah University, Saudi Arabia.

Materials and Methods

Study design and study setting

A cross-sectional survey was conducted between May 30 and June 22, 2023, at the College of Medicine Taibah University, Al-Madinah, Saudi Arabia.

Study population, Sample size:

Every staff member at Taibah University's College of Medicine received an invitation to take part in the study. Possession of a smartphone and willingness to participate in the study were the inclusion criteria. The exclusion criteria were lack of time to participate in the study, non-use of smartphones, or refusal to participate. The target sample size was calculated to be 100 staff members as the minimal size calculation so; our collected sample was 102 staff members. Calculations were done using online sample size software for prevalence studies (Sampsize, 2018): the total number of staff members at the College of Medicine who were currently working and not on leave is 180, assuming a prevalence of Nomophobia from a previous study of 17.3% (Bartwal and Nath, 2019) at confidence interval 95% and power of test 80%. Sample selection was done using a simple random technique.

Study methods:

Google Forms was used to create an online survey, which was then sent

to participants via official emails and the college WhatsApp group. The standardized questionnaire covered the following; (1) Sociodemographic and occupational characteristics: age, sex, job title, work duration, and working hours/day. (2) Features of mobile phone usage include the average number of hours spent on a phone each day, the most common uses for smartphones, and the social media apps that are checked or viewed most frequently. (3) A validated Nomophobia Questionnaire (NMP-Q): is a 20-items questionnaire, developed by Yildirim and Correia (2015). The (NMP-Q) is a 7-point Likert scale, covering four dimensions: not being able to communicate, losing connectedness, not being able to access information, and giving up convenience. The total score ranges from 20 to 140, scores ≤20 mean "No nomophobia," while scores between 21 and 59, 60 and 99, and 100 and 140 mean "Mild," "Moderate," and "Severe" nomophobia, respectively.

Consent

The description of the study objectives and consent for participation were available at the beginning of the online Google form. If any participant selected "NO" as an option, the form would not proceed further. Prior to the study's launch, a pilot study involving ten employees was carried out to make sure all of the questions were understood.

Ethical Approval

Before carrying out the study, the proposal was applied for approval by the Ethical Committee of the College of Medicine, Taibah University (Ref No #TU-038-22#). Informed electronic consent was obtained from the participants and they would have the right to reject participation. This study was committed to the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Data Management

Statistical analysis was done using Statistical Package for Social Science software (SPSS) version 25.0. A normality test was performed using the Shapiro–Wilk test. Descriptive statistics were used to determine the prevalence of NMP. Categorical variables were identified as frequencies and percentages. A logistic regression analysis was used to determine the predictors of nomophobia symptoms. The test results were considered significant when p-value < 0.05.

Results

Table 1: Socio-demographic and occupational characteristics of the studied group.

Occupational characteristics	No=102 (%)
Gender:	
Male	47 (46.1)
Female	55 (53.9)
Age/ years:	
25-40	28 (27.5)
>40	74 (72.5)
Marital status:	
Single	15 (14.7)
Married	87 (85.3)
Job title:	
Lecturer	6 (5.9)
Assistant Professor	59 (57.8)
Associate Professor	27 (26.5)
Professor	10 (9.8)
Working hours/day:	
<8	14 (13.7)
≥8	88 (86.3)
Work duration/years:	
<5	39 (38.2)
≥5	63 (61.8)

The current study was conducted on 102 staff members from the College of Medicine Taibah University, 53.9% were females and 72.5% were more than 40 years old, 85.3% were married and 57.8% had the position of assistant professors. Most of the participants worked 8 hours or more/day (86.3%), and 61.8% worked for 5 years and more (Table 1).

Table 2: Mobile phone use characteristics of the studied group.

Mobile phone use characteristics	No=102 (%)
Duration of mobile phone usage/years:	
5-10	14 (13.7)
>10	88 (86.3)
Average number of hours spent on the phone/day:	
< 2	7 (6.9)
≥ 2	95 (93.1)
Mobile phone›s most common use:	
Making calls	89 (87.3)
E-mailing	59 (57.8)
Social networking	77 (75.5)
Play games	18 (17.6)
Academic purpose	77 (75.5)
Media files	23 (22.5)
Online shopping	41 (40.2)
Most frequently checked/viewed social media apps:	
Facebook	60 (58.8)
Twitter	14 (13.7)
WhatsApp	87 (85.3)
LinkedIn	13 (12.7)
Snapchat	17 (16.7)
TikTok	6 (5.9)

Table 2 showed that 86.3% used mobile phones for more than 10 years and 93.1% used it for 2 hours or more a day. Making calls, social networking and academic purposes were the most common use of mobile phones by the staff members (87.3%, 75.5%, and 75.5% respectively), and WhatsApp was the most commonly viewed social media (85.3%).

Table 3: Nomophobia level among participants

Nomophobia level	No=102 (%)
Mild (21 - < 60)	9 (8.8)
Moderate (60 - < 100)	48 (47.1)
Severe (100 – 140)	45 (44.1)

Tabel 3 showed that nomophobia level among staff members was divided between Moderate and Severe levels (47.1% and 44.1% respectively) while Mild levels of nomophobia showed the lowest percentage (8.8%).

Table 4: Association between nomophobia levels and sociodemographic, occupational characteristics, and pattern of mobile phone usage.

Characteristics	**Nomophobia**			**p-value**
	Mild **No (%)**	**Moderate** **No (%)**	**Severe** **No (%)**	
Gender				
Male (No=35)	4 (11.4)	17 (48.6)	14 (40.0)	0.726
Female (No =67)	5 (7.5)	31 (46.3)	31 (46.3)	
Age/ years:				
25-40 (No =74)	6 (8.1)	35 (47.3)	33 (44.6)	0.917
>40 (No =28)	3 (10.7)	13 (46.4)	12 (42.9)	
Marital status:				
Single (No =15)	2 (13.3)	9 (60.0)	4 (26.7)	**0.006***
Married (No =87)	7 (8.0)	20 (23.0)	60 (69.0)	

Job title:				
Lecturer (No=6)	0	4 (66.7)	2(33.3)	
Assistant Professor	6 (10.2)	15 (25.4)	38 (64.4)	
(No=59)	1 (3.7)	2 (7.4)	24 (88.9)	**0.039***†
Associate Professor	0	3(30.0)	7 (70.0)	
(No=27)				
Professor (No=10)				
Working hours/day:				
<8 (No =14)	4 (28.6)	4 (28.6)	6 (42.9)	**0.002***
≥8 (No =88)	3 (3.4)	20 (22.7)	65 (73.9)	
Work duration/years:				
<5 (No =39)	4 (10.3)	14 (35.9)	21 (53.8)	**0.024***
≥5 (No =63)	3 (4.8)	10 (15.9)	50 (79.4)	
Duration of mobile phone usage/years:				
5-10 (No =14)	0	10 (71.4)	4 (28.6)	0.113
>10 (No =88)	9 (10.2)	38 (43.2)	41 (46.6)	
Average number of hours spent on the phone/day:				
< 2 (No =7)	4 (57.1)	3 (42.9)	0	**0.000***†
≥ 2 (No =95)	3 (3.2)	21 (22.1)	71 (74.7)	

*: $p<0.05$, †Fisher's exact test was used

Table 4 showed that being married and working as an associate professor were significantly associated with Severe nomophobia (p-value 0.006 and 0.039 respectively). Participants who worked for 8 hours or more/day (73.9%) and who had longer work duration (more than 5 years) were significantly associated with Severe nomophobia .Moreover, a significant association was found between the

number of hours spent daily on the phone and nomophobia as spending 2 hours or more a day was significantly associated with Severe nomophobia while participants spending less than 2 hours had Mild nomophobia (p-value 0.000).-

Table 5: Logistic regression analysis of the most important predictors of nomophobia among the studied group.

Independent factors	B	S.E	Beta	t	Sig.
Marital status	0.671	0.158	0.345	4.245	**0.000***
Job title	0.062	0.082	0.075	0.750	0.455
Working hours/day	0.261	0.158	0.148	1.656	0.101
Working Duration/years	0.246	0.124	0.196	1.974	0.051
Hours spent on the phone/day	0.578	0.105	0.480	5.511	**0.000***

*: $p<0.05$

Logistic regression analysis showed that the most significant nomophobia predictors were being married and spending 2 hours or more on the phone/day (Table 5).

Discussion

In recent years, smartphones have experienced a rapid expansion worldwide due to their numerous applications, such as communication, socialization, internet access, storage of information, location-based services, and online gaming (Notara et al., 2021). However, with this technological advancement, many new disorders have emerged and gained a lot of attention from many researchers. One of these disorders is nomophobia (no mobile phone phobia) which become the phobia of 21th century (Bhattacharya et al., 2019). The current study is likely one of the few conducted in a Saudi Medical College to address the growing problem of NMP and its predictors for the application of preventive measures to improve the health of university employees.

A high proportion of participants had Moderate and Severe levels of nomophobia (47.1% and 44.1% respectively) (Table 3). This finding was in line with a study conducted in Pakistan by Farooq et al., 2022 who reported that (48.57 %) of their studied group had Moderate, and (40.88 %) had Severe NMP. However, the detected prevalence was lesser than those reported in other studies done by Kubrusly et al. (2021) in Brazil and Kumar et al. (2021) in India (64.5% and 74.8% respectively) who had Moderate nomophobia. This high prevalence could be attributed to the fact that context of these studies were conducted between 2020 and 2022 (the Peak of the COVID-19 pandemic) with partial and total restrictions in some countries which forced the participants to excessive dependency on mobile phones, and virtual communication to overcome this critical period. Moreover, many work activities were done on distance until 2022 with an increase in the use of smartphones and social networks (Copaja-Corzo et al., 2022). On the other hand, the current study was conducted in post COVID-19 era with more stabilization and a return to face-to-face interactions.

Another explanation might be related to the peculiarity of the participants of other studies, who mostly were undergraduate students rather than university staff members with high academic load, and most of their classes were online and had to keep checking their phones from time to time for updates in the academic groups which made more problematic smartphone use (Copaja-Corzo et al., 2022).

Different countries' research (Basu et al., 2022, and Al-Mamun et al., 2023) showed that NMP was widely present, with significant regional variations pointing to the need for additional local research because it has been shown that having NMP may affect interpersonal relationships (Ding and Li, 2017, and Notara et al., 2021) and divert attention from tasks connected to health care as documented by Aguilera-Manrique et al. 2018.

Concerning the assessed characteristics, the prevalence of NMP and its severity can vary due to various factors. There was no gender difference in NMP observed in the current study (Table 4). This was in agreement to a study conducted by Alwafi et al. (2022) in Saudi Arabia and they detected that those who were married exhibited a significantly higher NMP score (p=0.01) compared to those who were single. Getting married, especially for women, means having a lot of responsibilities to their family; for instance, they frequently used numerous apps, including WhatsApp, Twitter, Facebook, and YouTube for convenient communication, online shopping, task management, and keeping up with their kids in virtual school groups. They are therefore more likely to experience the symptoms of NMP if they are not in contact with a cell phone or its services (Zalat et al., 2021).

On the contrary, another Chinese study showed that single participants due to their lesser tasks and duties were more likely than married respondents to be dependent on their mobile phones (Luk et al., 2018). Employees' dependence on smartphone use for work makes NMP spreading pervasive in various sectors of the work.

The present study found that the higher job staff position was associated significantly (p=0.03) with a severe NMP (Table 4). Despite the senior university staff having fewer teaching hours compared to the juniors, they are more occupied by other work-related tasks which necessitate more dependence on their smartphone; for example, attending online meetings, returning calls and emails from co-workers or students, and utilizing productivity apps on smartphones (such as those for note-taking, scheduling, and file sharing). These mobile tools and apps enhance work involvement to perform tasks anywhere and anytime (Ter Hoeven et al., 2016). However, this was in contrast to studies conducted

among university students in China which revealed that younger students had a higher prevalence of severe NMP than older students and explained their results by the fact that younger people are more accustomed and familiar with modern tools and technologies than older ones (Olson et al., 2011).

There was a significant association between greater levels of NMP and longer work hours, duration and daily phone use among the studied group (Table 4), which is consistent with Tolan and Karahan's (2022) findings that reported a significant difference in the nomophobia level in favor of those checking their smartphones frequently, and those use their smartphones for "5-6 hours" daily than the other groups.

In a similar vein, a British study done by Han et al., 2017 revealed that 66% of participants were nomophobic due to their fear of misplacing or losing their smartphone, with some carrying two or more phones in order to maintain constant connectivity. Furthermore, the longer time spent using cell phones may be explained by Taibah University expanding Wi-Fi coverage (Albursan et al., 2019). The present study detected that using the smartphones for two hours or more a day was the most significant predictor of NMP (Table 5). This was similar to the study done by Basu et al., 2022 in Kolkata, West Bengal, and detected that predictors of nomophobia were the time spent with mobile phones and they recommended to conduct further studies with a shift of focus from predictors to treatment options to address this growing problem and protect the mental health.

Study limitations: Since just one medical college participated in this study, it is not possible to extrapolate the results to other Saudi Arabia universities. Furthermore, we were unable to verify any correlation between the predictors and nomophobia because of the nature of the study design.

Notwithstanding these drawbacks, this study is one of the fewest studies that assessed nomophobia in Taibah university employees. Therefore, in order to identify the causes and predictors of NMP, more research involving participants from different colleges must be conducted in the future.

Conclusion

Nearly half of the studied university staff members suffer from nomophobia ranging from Moderate to Severe

levels (47.1% and 44.1% respectively). Marital status, long work hours, duration, and spending more time using smartphones daily could be crucial in the development of nomophobia. The most significant predictor for nomophobia is the long time spent with mobile phones daily. This study could aid researchers in evaluating inclinations toward nomophobia and identifying potential risk factors.

Recommendations

University staff members should be provided with the knowledge and the tools to self-diagnose nomophobic behavior. In educational institutions, awareness programs and interventions such as "mindfulness" or coping strategies are required to prevent and address this rising critical issue, particularly in light of Saudi Arabia's 2030's goal of using information technology and electronic communication. Those who already suffer from Mild to Severe nomophobia should be encouraged to use their smartphones more sensibly and prudently, directing them toward the wellness centre.

Conflict of Interest

Authors declare that they have no conflict of interest.

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