Original Article

Nomophobia Among Health Care Providers: A Prevalence and Association Study.

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ABSTRACT

Background

smart phones devices have become utilized in our daily life and it is now a common practice especially in the medical field. Nomophobia or -No Mobile PHOBIA- which is the fear of feeling uncomfortable without a cell phone is one of the negative aspects of mobile phones that has illustrated a massive increase over the past years.

Aim

Assess the prevalence of nomophobia among health acre providers and assess its relation to mental health as well as self-esteem.

Methods

137 participants were assessed for nomophobia level using nomophobia questionnaire as well as self-esteem and mental health, as well as their sociodemographic characters, the correlation between nomophobia level and different factors was assessed.

Results

All the participants involved in the study (n=137) had nomophobia 100%, most of the participants had moderate nomophobia 59.85% (n=82) and 16.79% (n=23) had severe nomophobia and 23.36% (n=32) had mild nomophobia, there was a significant weak negative correlation between nomophobia level and self-esteem as well as mental health.

Conclusion

Nomophobia is a prevalent contemporary health concern that requires immediate care and management approaches.

Keywords: Nomophobia, Self-esteem, Smart phones, Mental health.

INTRODUCTION

Throughout human history, communication has been an essential component of social contact ever since the development of telegraphs, telephones, letters, pigeons, and Morse codes[1]

Healthcare is one of the most significant social and economic problems that any country faces, and effective communication is crucial in this area [2]

The COVID-19 pandemic has become a worldwide challenge to humanity, affecting all health parameters including physical, mental, social and spiritual not only of patients but as well for the health care providers[3]

During the COVID-19 pandemic, social isolation, loneliness, and inadequate physical contact led to an increase in mobile phone dependence (MPD) among the general public, and healthcare professionals are not an exception.[4]

During the pandemic, most academic institutions as well as medical institutions worldwide have abruptly changed their teaching and health provision methods from face-to-face to virtual techniques. The sudden change of methods and dependance on smart phones have been challenging with possible adverse psychological outcomes[5]

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There is growing concern about the potential health dangers connected to mobile phone use, even as these devices aid people in their daily lives and provide helpful extra tools for managing and treating illnesses.[6]

A concerning surge in the nomophobia phenomenon has been recently reported , also known as NO-Mobile PHOBIA which is a type of specific phobia brought on by being cut off from one's cell phone. A relatively recent term, nomophobia, describes a person's uneasiness, anxiety, or fear when they are unable to use a smartphone. When cut off from technology, it is also described as a pathological distress[7]

METHODS

A cross-sectional study was conducted on physicians working at the researcher's institution.

The inclusion criteria included physicians currently working in the researcher's institution, owning and actively using a smartphone and understanding verbal English instructions.

The Exclusion criteria included having any diagnosed psychiatric disorder and taking medications that could affect psychological status.

The sample size was calculated using open Epi-calc program and by reviewing results from previous study (Semerci, 2019) showed that 92.7% of persons suffer from nomophobia. Based on this and assuming 0.05 level of significance, a sample size of 104 (+/- 5) persons was needed at 95% confidence interval to fulfill study objectives.[8]

The protocol of the study was reviewed and approved by the institutional ethical committee.

At the beginning, the researcher introduced herself to the candidates willing to participate in the study.

After that, a written consent was taken from all the willing participants, as well as a comprehensive history including sociodemographic data, any chronic diseases, and their daily smart phone use time.

Then, a physical examination was conducted after participants' permission to assess their BMI.

Subsequently, a self-administered nomophobia questionnaire was used which has a total of twenty statements on the questionnaire, and responses were recorded on a 7-point Likert scale, with 7 representing strongly agree and 1 representing strongly disagree. The degree of nomophobia was calculated by adding the scores for each item. The lack of nomophobia corresponded to a score of 20. Mild nomophobia was indicated by questionnaire scores ranging from 21 ≤ to < 60. On the other hand, scores between 60 and less than 100 suggested a moderate level of nomophobia, while scores between 100 and 140 indicated a severe level of nomophobia. [9]

Then, self-esteem was assessed using state self-esteem scale (SSES) The questionnaire had a 20-item scale that measured a participant's self-esteem at a given point in time, and the Mental Health Inventory questionnaire (MHI) was used to evaluate the mental health state of the participants, The MHI's 18-item version maintains the subscale structure, is dependable, and is rather short. There was a single total score for the four subscales (positive affect, behavioral control, depression, and anxiety). Higher subscale and overall scores were indicative of greater mental health; the range is 0 to 100 for the whole questionnaire.[10] [11]

The correlation between the nomophobia level and self-esteem as well as mental health was assessed.

Ethical approval

the protocol of the study was approved by the research ethics committee of faculty of medicine – Cairo university with an IRP of MD-425-2022.

RESULTS

137 participants were assessed for nomophobia level as well as mental health and self-esteem.

Regarding the participants characteristics as shown in table (1), 59.85% of the participants were females, 63.5% were single, only 3 participants were smokers, most participants had no chronic illness and 78.83% of the participants were either normal or overweight.

Table 1: Descriptive characteristics of study participants (n=137)

Parameter		value
Age	(Mean ± SD) (Min-Max)	27.42 ± 3.34 (24-37)
Gender	· (Male) · (Female)	55 (40.15%) 82 (59.85 %)

Parameter		value
Marital status	· (Single) · (Married) · (Widowed) · (divorced)	87 (63.5%) 48 (35.04%) 1 (0.73%) 1(0.73%)
Smoking	· (Yes) · (No)	3 (2.19%) 134 (97.81%)
Chronic diseases	· Diabetes mellitus · Hypertension · Bronchial asthma · Others · None	1 (0.73) 4 (2.92%) 3 (2.19%) 6 (4.38%) 123 (89.78%)
BMI	· Underweight · Normal · Overweight · Class 1 obesity · Class 2 obesity · Class 3 obesity (Mean ± SD) (Min-Max)	2 (1.46%) 62 (45.25%) 46 (33.58%) 23 (16.79%) 3 (2.19%) 1 (0.73%) (25.71 ± 4.27) (18 - 41)

All the participants involved in the study (n=137) had nomophobia 100%, most of the participants had moderate nomophobia 59.85% (n=82) and 16.79% (n=23) had severe nomophobia and 23.36% (n=32) had mild nomophobia.

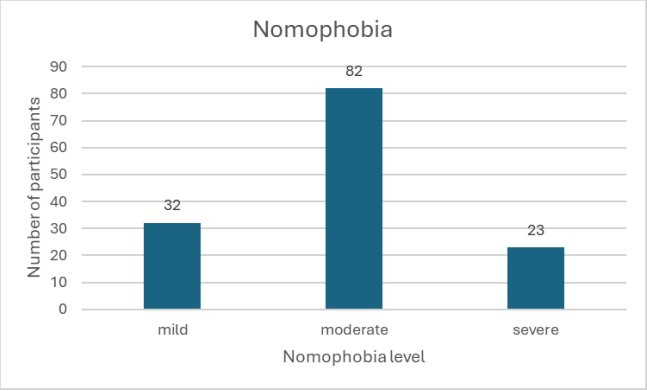

Figure 1: Nomophobia level among study participants.

As shown in table (2): There was a statistically significant difference (p=0.0004) between mean nomophobia score of participants younger than 30 years of age and those older than 30 years with a higher nomophobia score in those older.

Table 2: Association between age and nomophobia, self-esteem and mental health scores

Score (mean ± SD)	< 30 years (n=97)	> 30 years (n=40)	P value
Nomophobia	73.69 ± 22.03	89.68 ± 26.93	**0.0004**
Self-esteem	70.65 ± 11.07	67.38 ± 11.72	0.124
Mental health	70.49 ± 15.54	65.03 ± 15.16	0.061

The mean (± SD) smart phone daily use in hours among the participants was 4.59 (± 2.63), there was a very weak insignificant (p=0.145) positive correlation between nomophobia level and duration of smart phone daily use with a correlation coefficient (r=0.13).

There was a significant (p= 0.001) weak positive correlation between nomophobia level among the study participants and BMI with a correlation coefficient (r=0.274).

The mean (± SD) self-esteem score of the participants were 69.69 (± 11.32). There was a significant (P<0.001) weak negative correlation between nomophobia level and self-esteem among participants with a correlation coefficient of (r= -0.39).

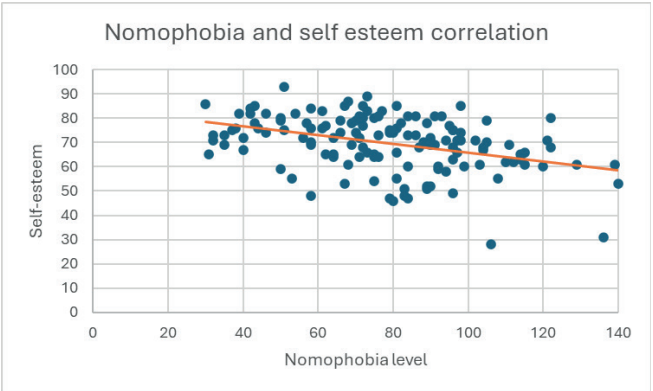

Figure 2: Nomophobia level and self-esteem correlation among study participants.

There was a significant (p=0.04) weak negative correlation between nomophobia level and mental health among participants with a correlation coefficient (r=-0.25), the mean (± SD) mental health score of the participants was 68.90 (± 15.58).

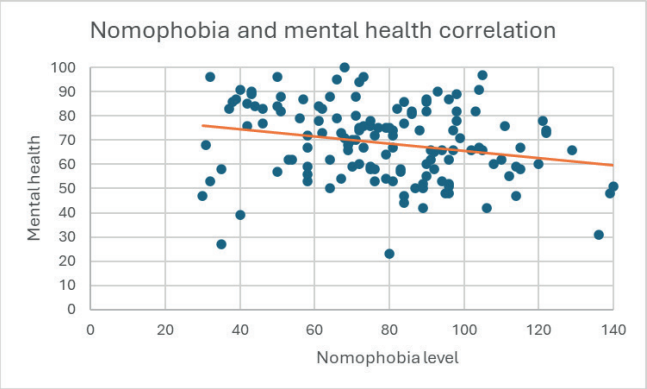

Figure 3: Nomophobia level and mental health correlation among study participants.

There was no statistically significant difference between the different marital statuses or the presence of chronic disease of the participants and any of the measured scores which included the nomophobia, self-esteem and mental health scores.

DISCUSSION

Regarding the current study the mean age of the participants was 27.42 ± 3.33 years and participants older than 30 years of age had a statistically higher nomophobia score, while 59.85 % of the participants were females, and 63.5 % of the participants were single and there was no statistically significant difference between nomophobia score and either gender or marital status.

This is in agreement with the study of *(Jahrami et al.,)* [12] where 54% of the participants were females and they found no correlation between gender of the participants and nomophobia level. As well in their study the mean age among the participants was 27.33 ± 4.83 years which is pretty close to the current study.

Concerning nomophobia, as the study progressed, all the participants involved were found to have nomophobia (100%), most of the participants had moderate nomophobia (59.85%) and (16.78%) had severe nomophobia.

These findings are close to the findings of *(Jahrami et al.,)*[10] as they assured in their study that the nomophobia level among contributors was (100%), with (73%) of the participants having moderate nomophobia and (21%) of the participants having severe nomophobia.

In occurrence to this study, the study of *(Humood et al.,)* [13] revealed that the prevalence of severe nomophobia was nearly (21%) among the adult population in their study and that the prevalence of moderate to severe nomophobia was (70.76%).

In disparity to our study, the study of (*Pang et al.*,) [14] revealed that (26.67%) of the participants had severe nomophobia and (73.33%) had moderate nomophobia, but this difference from our study is mostly attributed to the cutoff point they included in their study which was a nomophobia score of 60 which is the beginning of the moderate nomophobia level.

Furthermore, the study of (*Gokani et al.,)* [15], reported that the majority (62%) of the involved persons had scores signifying moderate levels of nomophobia and about (16.8%) of them had severe level of nomophobia with a mean nomophobia score of (79.08), which is consistent to the results of the current study.

Regarding BMI In this study, there was a significant weak positive correlation between nomophobia level among the study participants and BMI.

In contrast to this study, (*Ince sc*) [16] stated in their study that there was no significant correlation between nomophobia and obesity, and this difference from the current study could be due to the fact that most of the participants (84.2%) included in their study were either underweight or of normal BMI.

As for self-esteem in the current study, there was a significant weak negative correlation between nomophobia level and self-esteem among participants.

This is in occurrence to the study of (*Vagka et al.,)* [7] where in their study they mentioned that students with low self-esteem were twice as likely to exhibit a higher level of nomophobia.

However,(*Ince sc)* [16] stated that there was a negative but insignificant relationship between nomophobia level and self-esteem in their study participants.

As regards to mental health in the current study, there was a significant weak negative correlation between nomophobia level and mental health among the participants.

This is in agreement with the study of (*Anjana et al.,)* [17], where they stated that there was a negative correlation

between nomophobia score and mental health status score. However, in their study the correlation was insignificant.

As well in the study of (*Kubrusly et al.,*)[18], there was a significant correlation between nomophobia level and several mental health disorders.

CONCLUSION

Nomophobia is a prevalent trend in this modern era that has a negative effect on the mental health as well as the self-esteem of the individuals and it requires a meticulous understanding and management.

Conflict of interest

There was no conflict of interest during the study.

Fund

Self-fund

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Authors contribution

- The manuscript is being submitted by me on behalf of all the authors.
- The manuscript is the original work of all authors.
- All authors made a significant contribution to this study.
- This manuscript has not been submitted for publication elsewhere; it has not been accepted for publication and has not been published in any other journal.
- All authors have read and approved the final version of the manuscript.

Consent

A written consent was taken from all participants before enrollment in the study.

Data availability and confidentiality

- Ø All personal identifiable data of the patients were coded by the researcher.
- Ø The only copy of the records was with the researcher and kept in a safe place.
- Ø The records were used only for research purposes.

Trial registry name: **Counseling Intervention on Severe Nomophobia Among Health Care Providers**
Trial registry number: NCT06550557
Trial registry URL:
https://clinicaltrials.gov/study/NCT06550557?cond=Specific%20Phobia&term=nomophobia&rank=1

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