

An Exploratory Study of Nomophobia in Post Graduate Residents of a Teaching Hospital in Central India

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ABSTRACT

Background: The extensive use of mobile phones and its addiction brings in newer psychological problems like nomophobia which necessitates close examination of its impacts on people's health. Despite growing concerns over the increasing incidence of nomophobia there is paucity of research on the various factors affecting it. **Aim:** This study aims at assessing the prevalence of nomophobia and its relationship with various clinical and socio-demographic factors. **Materials & Methods:** 100 post graduate residents were included in the study after informed consent and ethics committee approval. Self reported semi-structured questionnaire which included details about socio-demographic profile, questions pertaining to factors affecting nomophobia and Nomophobia Questionnaire (NMP-Q) were administered. Data was analyzed statistically. **Results:** Nomophobia was seen in 38% of the participants with significantly more prevalence in younger age group and in females. Majority of the participants were using mobile phone since 5-10 years (71%). Around 46% participants used mobile phone for 2-3 hours per day with most of them (47%) checking their phones 25-50 times per day. More than half of the participants (59%) spent 500-1000 rupees per month as their mobile expenses. Physical symptoms due to mobile phone use were reported by 37% of the participants and they were seen significantly more in those with nomophobia. **Conclusion:** This study not only gives useful insight into nomophobia and its risk factors, but

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it is also one of the few studies to explore the relationship between clinical and socio-demographic factors related to nomophobia.

Keywords: *Nomophobia, Mobile Phone*

Mobile phones have become an indispensable part of our lives. In recent times there seems to have been a transformation of the mobile phone from a status symbol to a necessity because of the countless advantages it provides. Mobile phones are very fascinating for younger generations, as it gives them a feeling of autonomy, identity and credibility. Besides being just an entertainment object, it helps to keep them in constant contact with their family and friends. Literature suggested that there are over 1.5 billion smartphone users around the world, and it has been estimated that more than 1 billion smartphones will be sold in 2016. (International Data Corporation, 2013). Smartphone is popular device capable of processing more information than other mobile phones, making it possible to perform variety of tasks like voice calling, texting people, surfing the Internet, social networking, gaming, for entertainment, etc. Access to the internet is increasingly easy due to improvements in mobile technology and the prevalence of smartphones use. Another downside of using mobile phones is uncontrolled and extreme use or dependence and its associated social and behavioral outcomes. Various studies have shown that excessive and addicting use of mobile phone is related to depressive symptoms, interpersonal anxiety, poor self-control, low self-sufficiency and low self-esteem.

Nomophobia is the modern fear of being unable to communicate through a mobile phone. Nomophobia literally means “no mobile phone phobia” that is the fear of being out of mobile phone contact”. If a person is in an area of no network, has run out of balance or battery, the person gets anxious, which adversely affects the concentration level. Nomophobia is a situational phobia related to agoraphobia and includes the fear of becoming ill and not receiving immediate assistance. Some studies have indicated that excessive use of mobile phone may affect the cardiovascular system, the central nervous system, and hormone levels which may in turn lead to fatigue, headache, dizziness, and sleep disturbances. With this background, this study was planned to assess the prevalence of nomophobia and its relationship with various clinical and socio demographic factors.

MATERIALS AND METHODS

This was a cross-sectional single interview study done at a tertiary care hospital and teaching institute. Study population included 100 post graduate residents studying at the institute. After Ethics committee approval, 100 consecutive post graduate residents were selected and written informed consent was obtained. Residents were explained about the study and confidentiality was maintained. Ward visits for post graduates residents were made and only those residents who agreed to volunteer & were devoid of any diagnosed psychiatric illness were included in the study. Post graduate residents were administered a self-reported semi-structured questionnaire to obtain details about socio-demographic profile. A Nomophobia questionnaire (NMP-Q) by Yildirim C et al was used for this study. This questionnaire was

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prepared by the author on the basis of validated scales like the one developed by Dr. Marcus L. Raines to study mobile phone dependence. Nomophobia Questionnaire has 20 items which were measured using a 7-point Likert scale. Four dimensions are covered in NMP-Q: (1) not being able to communicate, (2) losing connectedness, (3) not being able to access information and (4) giving up convenience. Based on the results of the reliability analysis, the internal consistency coefficient, Cronbach's alpha, for all the items in the NMP-Q was .945.

The prevalence of nomophobia was initially estimated. Accordingly, participants were classified into two groups: nomophobia present and nomophobia absent. Comparisons among these groups were established using Chi-square tests for categorical variables. Statistical significance was determined at the 0.05 level of confidence. Statistical analysis was done by using statistical package for social science (SPSS) version 16.0 for Windows.

RESULTS

Out of 100 post graduate residents, 31 were first year junior residents, 39 second year junior residents and 30 third year junior residents. Of all the participants, 23 were from medicine and allied departments, 28 from surgery and allied departments, 27 from paraclinical departments and 22 from preclinical departments.

A] PREVALENCE OF NOMOPHOBIA: As shown in figure 1, there was high prevalence of nomophobia (38%) i.e. 38 out of 100 post graduate residents were having fear of loss of mobile phone contact. Of the 20 questions of NMP-Q, most patients with nomophobia had higher scores on following 5 questions: I would feel uncomfortable without constant access to information through my smartphone [Mean 5.62;SD 1.26], I would be annoyed if I could not use my smartphone and/or its capabilities when I wanted to do so [Mean 5.27;SD 1.38], Running out of battery in my smartphone would scare me [Mean 5.28; SD 1.39], If I could not check my smartphone for a while, I would feel a desire to check it [Mean 4.49, SD 1.45], I would feel anxious because my constant connection to my family and friends would be broken. [Mean 5.62, SD 1.26]. Mean score of NMP-Q was 79.30 (S.D:13.82) with minimum score being 41 and maximum score being 111.

B] SOCIO DEMOGRAPHIC PROFILE: As shown in Table 1, majority of the subjects having nomophobia belonged to younger age group [23-25 years] as compared to those without nomophobia and the difference was statistically significant. Also females PG residents were having nomobile phobia significantly more as compared to males ($p < 0.05$). With regards to marital status, residence, educational year and department there was no statistically significant difference between the two groups.

C] FACTORS AFFECTING NOMOPHOBIA: As mentioned in Table 2, majority of participants (71%) were found to have used mobile phone for 5-10 year duration. 10% participants used for less than 5 year while 19% participants used for more than 10 years. Also nomophobia was seen significantly more in those with 5 to 10 years duration of smart phone use as compared to those who have used it for less than 5 years or for more than 10 years. [$p = 0.35$; $p < 0.05$] 19% participants spent 1-2 hours per day on their mobile phones, 46

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% participants spent 2-3 hours on an average per day while 35% participants spent around 3-4 hours per day with their smart phones. Of these, nomophobia was seen significantly more in those who spend 3-4 hours per day on mobile phone. [p =0.00001, p<0.05]

Most participants checked their mobile phones 25-50 times per day [47%]. There was no statistical difference between the nomophobia present and nomophobia absent groups with respect to number of times per day mobile phones were checked.

On an average, 29% participants were spending less than 500 rupees per month over mobile phone use, while 71 % participants spent more than 500 rupees per month over mobile phone use. This may include money to recharge for voice calling or for internet data. Of these, nomophobia was seen significantly more in those who spend 500-1000 rupees per month over mobile phone expenses. [p =0.0006, p<0.05] Majority of participants had prepaid mobile network connection [58%], of these those with nomophobia were found to have postpaid connection [n=26] as compared to those without nomophobia and this difference was statistically significant. [p=0.00002; p<0.05] 44% participants changed their mobile phone after more than 3 years, while 50 % participants changed once in 1 to 3 years. Just 6% participants changed their mobile phones in less than a year. There was no statistically significant difference between the two groups with respect to changing of handsets.

On asking if participants developed any physical symptoms secondary to mobile use, most of them had complaints of straining of eye, watering of eye, Fatigue\headache, Sleep disturbance, Wrist pain, Shoulder\neck\back pain, etc. 37% of participants developed physical symptoms however physical symptoms were seen significantly more in students with nomophobia as compared to those without nomophobia [P=0.00001, P<0.05]

DISCUSSION

In last few decades, newer disorders have been found, nomophobia being one of them. Nomophobia is affected by various factors and their assessment would definitely help in predicting its outcome.

The prevalence of nomophobia was 38% in our study i.e. 38 of 100 post graduate residents had fear of being out of mobile phone contact. Various studies report the prevalence of nomophobia to range from 53 % to 58%. While in a study done by Katharine b et al, 1147 of the 2163 patients were diagnosed as having nomophobia [53%].

As shown in Table 2, majority of the subjects having nomophobia belong to younger age group [23-25 years] as compared to those having no nomophobia and the difference was statistically significant. Previous study^[18] also found that nomophobia is inversely related to age, i.e. nomophobia is seen more in younger age group as compared to older group.

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In this study most participants having nomophobia were females as compared to males ($p < 0.05$). Some authors have pointed that women are more addicted to smartphone and spend more time than men. This simple fact of being more exposed to this activity might in itself make females more vulnerable for frequent problematic use of mobile phones.

With regards to marital status, residence and post graduation department there was no statistically significant difference between those with and without nomophobia.

In our study, most participants with Nomophobia had been using mobile phone since 5-10 years. Previous study have shown the similar findings in which students had been using mobile phones for a period ranging from 2 to 120 months (10 years). This could be due to many functions that smartphone serves like calling, messaging, emails, internet access, music storage, banking etc.

Majority participants with Nomophobia check their phones 25 to 50 times per day as seen in table 2. This finding is similar to the study findings carried out by Bragazzi NL et.al that is on an average people check their phones 34 times a day. This finding underlines the utility of smartphones in day to day life of people.

59% of the participants were found to be spending 500 to 1000 rupees per month as their mobile expenses; this may include money to recharge for internet data and voice calling.

37% of the participants developed physical symptoms due to mobile use. Moreover, the physical symptoms were seen significantly more in residents with Nomophobia as compared to those without Nomophobia. Various studies have indicated that excess mobile phone use can cause physical health related problems such as straining and watering of eyes, fatigue, headache, wrist pain, shoulder/neck/back pain. Emotional response include anxiety, frustration, feeling of loneliness, irritability, with few reporting sadness of mood.

CONCLUSION AND IMPLICATIONS

With excessive use of mobile phone in present scenario, the problems related to its use are going to increase further. Though nomophobia is not a diagnostic category at present, it might find its place as a independent diagnostic category in future. This study shows the pattern of mobile (smart phone) use in the resident doctors. The study helps us to understand the factors which affect mobile phone addiction, and a fear of being away from mobile phone. Early intervention in such unconventional problematic entity may help to seek methods to modify lifestyle, to understand proper usage of mobile phone in such a way so as to avoid dependency. This will further improve the physical and mental health of overburdened postgraduate residents. Thus improving the workforce at a tertiary care hospital.

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Limitations:

Nomophobia was identified using screening instrument which would not be a proper tool to estimate exact prevalence. This being a cross-sectional study, cause effect relation cannot be ascertained. Finally, as study was done in a closed sample of medical postgraduate students it cannot be generalized to general population.

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REFERENCES

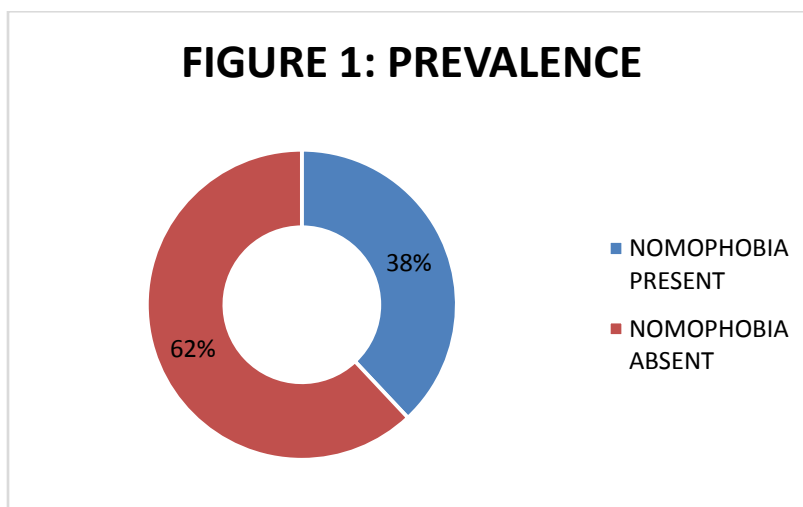
- Anuj, M., Rajasekar, V. D., & Krishnagopal, L. (2013). A study to assess economic burden and practice of cell phone disposal among medical students. *Journal of clinical and diagnostic research: JCDR*, 7(4), 657.
- Bragazzi, N. L., & Del Puente, G. (2014). A proposal for including nomophobia in the new DSM-V. *Psychology research and behavior management*, 7, 155.
- Bragazzi, N. L., & Del Puente, G. (2014). A proposal for including nomophobia in the new DSM-V. *Psychology research and behavior management*, 7, 155.
- Chan, P. A., & Rabinowitz, T. (2006). A cross-sectional analysis of video games and attention deficit hyperactivity disorder symptoms in adolescents. *Annals of General Psychiatry*, 5(1), 16.
- Chiu, S. I., Lee, J. Z., & Huang, D. H. (2004). Video game addiction in children and teenagers in Taiwan. *CyberPsychology & behavior*, 7(5), 571-581.
- Choi, S. W., Mok, J. Y., Kim, D. J., Choi, J. S., Lee, J. W., Ahn, H. J., ... & Song, W. Y. (2014). Latent class analysis on internet and smartphone addiction in college students. *Neuropsychiatric disease and treatment*, 10, 817-828.
- Choi, S. W., Mok, J. Y., Kim, D. J., Choi, J. S., Lee, J. W., Ahn, H. J., ... & Song, W. Y. (2014). Latent class analysis on internet and smartphone addiction in college students. *Neuropsychiatric disease and treatment*, 10, 817-828.
- Davey, S., & Davey, A. (2014). Assessment of smartphone addiction in Indian adolescents: A mixed method study by systematic-review and meta-analysis approach. *International journal of preventive medicine*, 5(12), 1500.
- Demirci, K., Akgönül, M., & Akpınar, A. (2015). Relationship of smartphone use severity with sleep quality, depression, and anxiety in university students. *Journal of behavioral addictions*, 4(2), 85-92.
- Dixit, S., Shukla, H., Bhagwat, A. K., Bindal, A., Goyal, A., Zaidi, A. K., & Shrivastava, A. (2010). A study to evaluate mobile phone dependence among students of a medical college and associated hospital of central India. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*, 35(2), 339.

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- Dixit, S., Shukla, H., Bhagwat, A. K., Bindal, A., Goyal, A., Zaidi, A. K., & Shrivastava, A. (2010). A study to evaluate mobile phone dependence among students of a medical college and associated hospital of central India. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*, 35(2), 339.
- Dworak, M., Schierl, T., Bruns, T., & Strüder, H. K. (2007). Impact of singular excessive computer game and television exposure on sleep patterns and memory performance of school-aged children. *Pediatrics*, 120(5), 978-985.
- Ellwood-Clayton, B. (2003). *Virtual Strangers Young Love and Texting in the Filipino Archipelago of Cyberspace*. na.
- Ha, J. H., Chin, B., Park, D. H., Ryu, S. H., & Yu, J. (2008). Characteristics of excessive cellular phone use in Korean adolescents. *CyberPsychology & Behavior*, 11(6), 783-784.
- Hazan, C., & Shaver, P. (1987). Romantic love conceptualized as an attachment process. *Journal of personality and social psychology*, 52(3), 511.
- Koo, H. Y. (2010). Cell phone addiction in highschool students and its predictors. *Journal of Korean Academy of Child Health Nursing*, 16(3), 203-210.
- Lee, Y. K., Chang, C. T., Lin, Y., & Cheng, Z. H. (2014). The dark side of smartphone usage: Psychological traits, compulsive behavior and technostress. *Computers in Human Behavior*, 31, 373-383.
- Lobet-Maris, C. (2003). Mobile phone tribes: Youth and social identity. *Mediating the human body: Technology, communication, and fashion*, 87-92.
- Pavithra, M. B., & Madhukumar, S. (2015). A Study on Nomophobia-Mobile Phone Dependence, Among Students of a Medical College in Bangalore. *National Journal of Community Medicine*, 6(3), 340-344.
- Rao, G., & Madan, A. (2012). A study exploring the link between attachment styles and social networking habits of adolescents in urban Bangalore.
- Salehan, M., & Negahban, A. (2013). Social networking on smartphones: When mobile phones become addictive. *Computers in Human Behavior*, 29(6), 2632-2639.
- Taylor, A. S., & Harper, R. (2003). The gift of the gab?: A design oriented sociology of young people's use of mobiles. *Computer Supported Cooperative Work (CSCW)*, 12(3), 267-296.
- Wang, J. L., Wang, H. Z., Gaskin, J., & Wang, L. H. (2015). The role of stress and motivation in problematic smartphone use among college students. *Computers in Human Behavior*, 53, 181-188.
- Wang, J. L., Wang, H. Z., Gaskin, J., & Wang, L. H. (2015). The role of stress and motivation in problematic smartphone use among college students. *Computers in Human Behavior*, 53, 181-188.
- Yee, N. (2006). The demographics, motivations, and derived experiences of users of massively multi-user online graphical environments. *Presence: Teleoperators and virtual environments*, 15(3), 309-329.
- Yildirim, C. (2014). Exploring the dimensions of nomophobia: Developing and validating a questionnaire using mixed methods research.

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Zulkefly, N. S., & Baharudin, R. (2009). Mobile phone use amongst students in a university in Malaysia: its correlates and relationship to psychological health. *European Journal of Scientific Research*, 37(2), 206-218.



| Table 1 Socio Demographic Profile | | Nomophobia present | Nomophobia absent | Significance |
|--|-----------------------|---------------------------|--------------------------|--------------------------------|
| Age | 23-25 years | 27 | 28 | $\chi^2=6.38$ P=0.01 |
| | 26-28 years | 11 | 34 | |
| Gender | Male | 14 | 37 | $\chi^2=4.91$ P=0.02 |
| | Female | 24 | 25 | |
| Marital status | Single | 36 | 56 | $\chi^2=0.62$ P=0.42 |
| | Married | 2 | 6 | |
| Residence | Rural | 15 | 21 | $\chi^2=0.32$ P=0.57 |
| | Urban | 23 | 41 | |
| Education year | First year residency | 13 | 18 | $\chi^2=0.48$ P=0.78 |
| | Second year residency | 15 | 24 | |
| | Third year residency | 10 | 20 | |
| Department | Preclinical | 10 | 12 | $\chi^2=1.35$ P=0.71 |
| | Para clinical | 8 | 19 | |
| | Medicine allied | 9 | 14 | |
| | Surgery allied | 11 | 17 | |
| Total | | 38 | 62 | |

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| Table 2 Factors Affecting Nomophobia | Nomophobia | | Significance | |
|---|-------------------|---------------|---------------------|-----------------------------|
| | Present | Absent | | |
| 1] Duration of smart phone use | < 5 years | 2 | 8 | $\chi^2=2.083$ P=0.35 |
| | 5-10 years | 27 | 44 | |
| | >10 years | 9 | 10 | |
| 2] Time spent per day on mobile phone | 1-2 hours | 1 | 18 | $\chi^2=46.82$ P=0.0001 |
| | 2-3 hours | 8 | 38 | |
| | 3-4 hours | 29 | 6 | |
| 3] Number of times per day mobile phones checked | 10-25 times | 1 | 36 | $\chi^2=31.18$ P=0.0001 |
| | 25-50 times | 27 | 20 | |
| | 50-75 times | 10 | 6 | |
| 4] Money spent per month (rupees) | <500 | 4 | 25 | $\chi^2=14.66$ P=0.0006 |
| | 500-1000 | 25 | 34 | |
| | >1000 | 9 | 3 | |
| 5] Network connection | Pre-paid | 12 | 46 | $\chi^2=17.56$ P=0.00002 |
| | Post-paid | 26 | 16 | |
| 6] Frequency of changing mobile handset | Less than 1 year | 2 | 4 | $\chi^2=4.32$ P=0.11 |
| | 1- 3 year | 24 | 26 | |
| | More than 3 year | 12 | 32 | |
| 7] Physical symptoms with mobile phone use | Yes | 29 | 8 | $\chi^2=40.64$ P=0.00001 |
| | No | 9 | 54 | |
| Total | | 38 | 62 | |

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