



# A STUDY ON NOMOPHOBIA - MOBILE PHONE DEPENDENCE, AMONG STUDENTS OF A MEDICAL COLLEGE IN BANGALORE

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## ABSTRACT

**Background:** Smart phones today have become an important part of our techno-culture, especially among the younger population. Discomfort, anxiety, nervousness or anguish caused by being out of contact with a mobile phone is termed as "Nomophobia"- no mobile phobia. Nomophobia is on the rise across the globe.

**Objectives:** To assess the prevalence of Nomophobia and mobile phone dependence among the students of a medical college.

**Material and Methods:** A cross-sectional study was carried out in 200 students of a medical college in Bangalore. A pre-designed and pre-tested questionnaire was used to get information. Data analyzed by using Statistical Package of Social Sciences (SPSS) 17.0.

**Results:** The study population of 200 students comprised of 47.5% females and 52.5% males. Majority (74%) of the students spent Rupees 300-500 per month on mobile recharge. About 23% students felt they lose concentration and become stressed when they do not have their mobile around, 79(39.5%) students were Nomophobic in this study and another 27% were at risk of developing Nomophobia.

**Conclusion:** The result of our study is indicative of increasing prevalence of Nomophobia among younger generation. Further research and multi-centric studies are required to investigate more in depth the psychological aspects and solutions for nomophobia.

**Key words:** Nomophobia, mobile phone dependence, mobile phone addiction, medical students

## INTRODUCTION

In today's contemporary digital and virtual society, Anxiety is the affliction of life. New addition to the stress list is "Nomophobia", the fear of being out of mobile phone contact. This disorder, Nomophobia a catchy contraction for "no mobile phone" and mobile phone addiction. It is a result

of development of technologies that enable virtual communication. Nomophobia refers to discomfort, anxiety, nervousness or anguish caused by being out of contact with a mobile phone.<sup>1</sup>

For many the smart phone has become an extension of their ear, from the moment they wake up until the second they fall asleep. This love affair

with the mobile phone is both enabling and crippling at the same time. The increasing utilization of new technological devices and virtual communication involving personal computers, tablets and mobile phones (smart phones) are causing changes in individuals' behaviour and daily habits. Besides providing various advantages these new technologies, can lead to many type of social problems like social isolation, economic/financial problems like larger debts incurred to buy or use smart phones. It can also cause both physical and psychological pathologies like damages related to electromagnetic field radiation, car accidents, distress linked to the fear of not being able to use new technological devices.<sup>2</sup>

Mobile phones were introduced in few markets in the 1980s, and their use spread only in the mid-1990s. Subscribers increased from 12.4 million in 1990 to 500 million in 2000 to 3.3 billion in 2008 and 5.3 billion at the end of 2010<sup>3</sup>. Estimations show that the prevalence of mobile use will be increased to 95% and further more in the coming years. The use of mobile phones is now so extensive that in some countries the number of phone subscriptions outnumbers the population. Indian market is one of the largest in the world for mobile phones.

Smart phones have become today become an important part of our techno-culture especially among the younger population, whose primary need is to socialize, join in and to be liked. Research shows that Nomophobia is on the rise across the globe and more and more people fear of being without or losing their mobile device. A study conducted in the UK in 2008 stated that 66% of the teenagers and younger population are troubled with the idea of losing their mobile phones.<sup>4</sup>

Our study was intended to find the prevalence of Nomophobia among the students in our college, since the younger generation is the largest consumer of the mobile phones, and they use mobile phones more frequently.

## METHODS

This cross sectional study was conducted amongst the students from MVJ Medical College and research hospital, Bangalore. Around 200 students from different batches both day scholars and students staying in hostel, those pursuing internship, under graduation and post graduation, using mobile phone were randomly selected and after taking oral consent were included the study. A questionnaire was designed for this study on

the basis of validated scales like the one developed by Dr. Marcus L. Raines<sup>5</sup> was used to study mobile phone dependence among the study subjects. The questionnaire was modified and validated by a pilot study, using a smaller group of students who were not a part of the main study. The mobile phone dependent students were then designated as Nomophobes.

The questionnaire consisted of questions to elicit the demographic and psychographic aspects of the respondents. The demographic aspect included variables like age, sex, education and residence. The psychographic variables included student's attitude towards usage of mobile phones, mobile phones dependence and associated anxiety. There were eight mandatory questions to be answered to assess Nomophobia, which were regarding the duration of having mobile phone with self, anxiety and stress experienced because of network errors, loss of mobile and battery dying, reaction to phone ringing at inappropriate times, money spent every month on recharge, frequency of change of hand sets and sim cards and their reaction if unable to use the phone for a period of one week. All these questions had three options depicting maximum to minimum mobile phone addiction. The responses thus obtained were then compiled, analysed and scores were given for each respondent. The cut-off of 24 was set to designating an individual as Nomophobe; individuals with scores from 20 to 24 were considered at risk. The data analysis was done using the statistical package for social sciences (spss 17 version). Chi-square test has been used to find the significance of study parameters on categorical scale between two or more groups. Significant level was considered as  $p < 0.05$ .

## RESULTS

The study population of 200 students comprised of 47.5% females and 52.5% males among them 40.5% of the students resided in the medical college hostel and other hostels, whereas 59.5% of the students were day scholars. The study group included 31.5% post graduate students and 68.5% undergraduates and interns.

The students who participated in the study were in the age group of 17-27 years. Mean age of the participants was  $21.6 \pm 3.1$ . Majority of the participants in this study (97.5%) owned a smart phone currently and average age of starting to use a mobile phone in this study group was 17.1 years.

In our study 67% of the students stated that they purchased mobile phone to call and keep in touch with family members, 26% for calling and texting friends and 7% for other reasons. As students would state multiple reasons for using mobile phone, the reason for the most frequent use of mobile phone, in a day by the student was enquired in this study. They are given in the [Table-I].

When asked about the total duration of time spent on using mobile phone per day majority (48%) responded that they use mobile phone for duration of 1-3 hours per day followed by 31% who used it for only half to one hour, whereas 16% used it for 3-5hours and 5% used for more than 5 hours in a day. Nomophobic scores (20 and above) were higher in students who used mobile phones for more than 3 hours compared to students using for less than 3 hours in a day (p< 0.05).

Frequency of checking phone for messages, mails or calls in an hour was assessed, for which 49% responded that they would check the phone 2-3 times in an hour. When asked about how long they take to answer a phone call 51.5% responded that they would answer after 3-4 rings, while 23% said they would immediately answer the call. About 23% students felt that they lose their concentration and become stressed when they do not have their mobile around or their mobile has run out of balance or battery.

Majority (74%) of the students spent Rupees 300-500 per month on mobile talk time and internet recharge and 39% students said they would update their mobile software immediately when an updated version comes in market and 62% responded that they would change the handsets once in 2 years whereas 11% changed their handsets once in less than a year.

Around 93% students responded that they keep their mobile phones with them even when they go to sleep, 59.5% students used mobile phone during college hours and only 7% of the students used it when absolutely necessary, while 58.5% responded that they would seldom use the phone while driving. In our study 46% students agreed that they make minimum one long duration call everyday for more than 30 min.

In our study 77% students responded that mobile phone is a necessary tool to help them in academics while 10% felt it is not necessary. Around 43% participants expressed those mobile phones have severe adverse effects on their study and academic achievement while 57% did not agree with it. About 26% of our participants had tried to

decrease use of mobile phone but were unsuccessful. While about 12% of our participants believed that life without mobile phone is more comfortable, 76% didn't have such a belief.

The students having Nomophobia score of >24 were considered as Nomophobics and 79(39.5%) students fell into this category in this study and another 27% were at risk of developing Nomophobia with a score of 20 -24. Among the Nomophobic students (79) 59.5% were males and 40.5% were females, 36.7% were residing in hostel and 63.3% were day scholars and 31.6% were post graduate students whereas 68.4% students were interns and undergraduates.

No statistically significant association was found in our study in relation to gender, place of residence and academic session (Under graduate/post graduate) [table2]

**Table 1: Reason for the most frequent use of the mobile phone in a day**

Reasons	N=200 (%)
Calling family members	20 (10)
Calling friends	16 (8)
Texting	5 (2.5)
Using internet for academics	4 (2)
Social networking	112 (56)
Playing game	22 (11)
Listening music	17 (8.5)
Taking photos (selfies)	4 (2)

**Table No. 2: Determinants of Nomophobia among medical students**

Characteristics	Nomophobia#		Total (n=200)	P value
	Yes (n=79)	No (n=121)		
<b>Gender</b>				
Male	47 (44.8)	58 (55.2)	105 (52.5)	0.08
Female	32 (33.7)	63 (66.3)	95 (47.5)	
<b>Education</b>				
Postgraduate	25 (39.7)	38 (60.3)	63 (31.5)	0.8
Under graduate	54 (39.4)	83 (60.6)	137 (68.5)	
<b>Place of stay</b>				
Hostel	29 (35.8)	52 (64.2)	81 (40.5)	0.4
Day scholar	50 (42.1)	69 (57.9)	119 (59.5)	

\*figures in bracket represent percentages  
# Nomophobia (score > 24) -"Nomophobia", the fear of being out of mobile phone contact

**DISCUSSION**

Nomophobia- no mobile phobia, has varied clinical characteristics like, using regularly a mobile phone and spending considerable time on it, always carrying a charger with oneself, feeling anxious and nervous at the thought of losing handset or when the mobile phone cannot be used due to no balance, network or battery. To look at the phone's screen to see whether messages or calls have been received, To sleep with the mobile device in bed, To have few social face-to-face interactions with humans instead to prefer to communicate using the new technologies and to incur debts or great expense from using the mobile phone are also considered as features of mobile phone dependence and Nomophobia.<sup>6</sup>

Our study conducted to assess Nomophobia among medical students revealed that out of 200 students studied 39.5% were Nomophobic. In a similar study conducted by Dixit et al in Indore<sup>7</sup> 18.5% of the study participants showed symptoms of Nomophobia. Whereas a survey conducted by Secur Envoy in the UK revealed that two thirds of the respondent(66%) fear of being without mobile phones.<sup>4</sup> Many other surveys and studies performed in different countries and cultural background -from the Poland,<sup>8</sup> Pakistan<sup>9</sup> and Spain<sup>10</sup> have confirmed these findings and shown that Nomophobia is universally widespread and present.

In our study there was no significant association between Nomophobia and gender, but number of Nomophobes were certainly higher among males (44.8%) compared to females (33.7%). Similarly, In a study on problematic internet and mobile phone use by the university students conducted by Beranuy et al, problematic mobile phone use was found to be lower in the female students compared to the males.<sup>2</sup> Bianchi and Phillips in their study found that there is no difference between the females and males with regard to the mobile phone addiction.<sup>11</sup> These results indicate that mobile phone use is universal and also equally distributed among male and female students in universities.

Dixit et al in Indore<sup>7</sup> observed twenty one out of 109 (19.26%) hostellers and 16 out of 91 (17.58%) day scholars were found to be Nomophobic. No statistically significant association was observed in relation to place of stay and academic sessions with Nomophobia score which was very similar to the observations made in our study.

Our study revealed that Nomophobic scores (20 and above) were higher in students who used mobile phones for more than three hours compared

to students using for less than three hours in a day ( $p < 0.05$ ). The addiction level of the students whose duration of daily mobile phone use is five hours and above was higher compared to other students ( $p < 0.05$ ) in a study conducted in Pakistan.<sup>9</sup> Similarly, Choliz stated that mobile phone addiction was determined in the individuals whose duration of mobile phone use is approximately two hours.<sup>10</sup> With the introduction of facility to use internet and social networking sites on mobile phones the duration spent on mobile phones has considerably increased in turn, increasing the mobile phone addiction.

The average age of starting to use a mobile phone in our study was 17.1 years. In Uzgoren's study, the age for first mobile phone was 13-16 in the great majority of the students.<sup>12</sup> The mobile phone addiction level in the students whose age for first mobile phone was 13 and below was determined to be higher than the students whose age for first mobile phone was 16 and above ( $p < 0.05$ ) in a study conducted in Pakistan.<sup>9</sup>

In our study 67% of the students stated that they purchased mobile phone to call n keep in touch with family members, Sahin S et al<sup>9</sup> also found same reason for using mobile phone was given by more than half of the students in their study. Studies done before the introduction of smart phones in the market revealed that the young people use mobile phone for many purposes such as feeling secure, financial interests, effective use of time and being in touch with their families and friends. Whereas our study done in 2014 revealed many other reasons for using mobile phones like using internet both for academics and social networking, listening to music, playing games, taking photos, online shopping and reading news. Today, after the introduction of smart phones with internet connections, social networking, using face book and whatsapp have become the primary use of the mobile phones.

Frequency of checking phone for messages, mails or calls in an hour was assessed 49% responded that they would check the phone 2-3 times in an hour. While the Helsinki Institute for Information Technology has found that, on average, people check their phones 34 times a day. When asked whether they were willing to reduce the use of mobile phones majority expressed their willingness to reduce but 26% of our participants had tried to decrease use of mobile phone and were unsuccessful. About 19% of the participants had tried and failed in a study conducted in Yazd university<sup>13</sup>; this rate in Thomee study was 10%.<sup>14</sup> A

study conducted in Mumbai by Market Analysis and Consumer Research Organization (MACRO) to study the various patterns and association of mobile phone usage reported that 58% of the respondents could not manage without a mobile phone even for a day.<sup>15</sup>

Around 43% participants expressed that mobile phones have severe adverse effects on their study and academic achievement while 57% did not agree with it, similar views were expressed by students of yazd university of medical sciences.<sup>13</sup> Majority of the students in our study felt that mobile phone is a necessary tool to help them in academics.

There are various advantages that a smart phone provides to the user but everything that gives excitement causes addiction. This study revealed that 39.5% of the students were Nomophobic and many others were in 'at risk' category suggesting that Nomophobia will show no signs of abating in the near future among the students and younger generation.

## CONCLUSION

Mobile phones and new technologies have both positive and negative aspects. They have not only helped improve worldwide communication, newer technology through new social media, social network sites, social informatics, and "social software" enables us to perform many jobs quickly and efficiently. On the other hand, the long-term usage leads to addictive behaviour. The result of our study clearly show mobile phone dependence among students and is indicative of increasing Nomophobia among younger generation. Further research and multi-centric studies are required to assess the real problem and to investigate more in depth the psychological aspects and solutions for Nomophobia.

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## REFERENCES

1. Kuss DJ, Griffiths MD. Online social networking and addiction - a review of the psychological literature. *Int J Environ Res Public Health*. 2011; 8(9):3528-3552.

2. Beranuy M, Oberst U, Carbonell X, Chamarro A. Problematic Internet and mobile phone use and clinical symptoms in college students: the role of emotional intelligence. *Comput Hum Behav*. 2009; 25(5): 1182-1187.
3. Mobithinking Global Mobile Statistics. All quality mobile marketing research, mobile Web stats, subscribers, ad revenue, usage, trends. 2011; Available from: <http://mobithinking.com/mobile-marketing-tools/latest-mobile-stats> last accessed on January 22<sup>th</sup> 2014.
4. Available on <https://www.securenvoy.com/blog/2012/02/16/66-of-the-population-suffer-from-nomophobia-the-fear-of-being-without-their-phone/> last accessed on June 11<sup>th</sup>,2015.
5. Raines ML. An introduction to Nomophobia (Learn about Nomophobia) Available from:<http://www.nomophobic.co.uk/> last accessed on Jan 21<sup>st</sup>,2014.
6. Nicola Luigi Bragazzi, Giovanni Del Puente. A proposal for including nomophobia in the new DSM-V. *Psychology Research and Behavior Management* 2014;7 155-160.
7. Dixit S, Shukla H, Bhagwat A, Bindal A, Goyal A, Zaidi AK, Shrivastava A. A study to evaluate mobile phone dependence among students of a medical college and associated hospital of central India. *Indian J Community Med*. 2010;35(2):339-341.
8. Krajewska-Kulak E, Kulak W, Stryzhak A, Szpakow A, Prokopowicz W, Marcinkowski JT. Problematic mobile phone using among the Polish and Belarusian University students, a comparative study. *Prog Health Sci*. 2012;2(1):45-50.
9. Sahin S, Ozdemir K, Unsal A, Temiz N. Evaluation of mobile phone addiction level and sleep quality in university students. *Pak J Med Sci* 2013;29(4):913-918.
10. Cholz M. Mobile-phone addiction in adolescence: The Test of Mobile Phone Dependence (TMD). *Prog Health Sci*. 2012;2:33-44.
11. Bianchi A, Phillips JG. Psychological predictors of problem mobile phone use. *J Cyber psycho Behavior*. 2005;8:39-51.
12. Uzgoren E, Sengur M, Yigit U. The factors effecting the demand of mobile phones by university students - An implementation on the students of Dumlupinar University, AfyonKocatepe University. *Economics and Administration Faculty J*. 2012;14:55-72.
13. MohamadHoseinBaghianimoghadam, HasanShahbazi, DariushMasoodiBoroojeni, BehnamBaghianimoghadam. Attitude and Usage of Mobile Phone among Students in Yazd University of Medical Science. *Iran Red Crescent Med J*. Aug 2013; 15(8): 752-754
14. Thomee S, Harenstam A, Hagberg M. Mobile phone use and stress, sleep disturbances, and symptoms of depression among young adults--a prospective cohort study. *BMC Public Health*. 2011;11:66.
15. Macro - market analysis and consumer research organization. A report on study of mobile phone usage among the teenagers and youth in Mumbai, April-May-2004. Available from:<http://www.itu.int/osg/spu/ni/futuremobile/socialaspects/IndiaMacroMobileYouthStud.y04.pdf> last accessed on may 27<sup>th</sup> 2015.