ORIGINAL RESEARCH ARTICLE

PREVALENCE OF NOMOPHOBIA AMONG STUDENTS, INTERNS AND FACULTY IN A DENTAL COLLEGE IN KERALA

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ABSTRACT

Background: Nomophobia is defined as the fear of being out of mobile phone contact and is considered a modern age phobia. With the advent and prolific use of smart phones by people, the addiction levels have also concomitantly increased. This study was conducted with the objective of assessing the prevalence of Nomophobia among dental students, house surgeons and teaching faculty of a dental college in Kerala.

Methodology: The study was a cross-sectional questionnaire based survey. The target population was the clinical dental students, house surgeons and teaching faculty of a dental college Kerala. The Nomophobia Questionnaire developed at The Iowa State University, herein after referred to as NMP-Q validated by Caglar Yaldirim and Ana- Paula Correia was used in the study. Results were expressed as a number and percentage of respondents for each question. Chi-square test was performed to compare the response in relation to year of study and designation.

Results: Among the 153 respondents, 84 were students, 45 interns and the rest 24 were faculty members. About 96% (n=147) were smart phone users. About 95% of the respondents had an access to internet on their mobile phone. The present study showed that – 2% had no nomophobia, 39.2% had mild nomophobia, 56.2% had moderate nomophobia and 12.4% had severe nomophobia. There was a statistically significant difference in nomophobia levels among teaching faculty, house surgeons and students (p=0.042), where teaching faculty and house surgeons had significantly greater levels of nomophobia compared to the students.

Conclusion: Present study revealed that nomophobia was highly prevalent among the respondents. The most common reasons for smart phone use were calling of family members and friends.

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INTRODUCTION

Nomophobia is defined as the fear of being out of mobile phone contact and isconsidered a modern age phobia introduced to our lives as a by-product of the interaction between people and mobile information and communication technologies, especially smartphones.[1] In olden times, individuals were dependent on phone just for communication purpose but now they have a thirst for it due to countless benefit it provides.[2] In recent times there seems to have been a transformation of the cell phone from a status symbol to a necessity because of the countless perks that a mobile phone provides like personal diary, email dispatcher, calculator, video game player, camera and music player.[3]

As per Telecom Regulatory Authority of India (TRAI), there are about 980.81 million mobile phone subscribers in India making it the world's second largest mobile phone user country in 2015 (TRAI, 2015) [2.] Mobile phones are very fascinating for younger generations, as it gives them a feeling of autonomy, identity and credibility. Besides being just a entertainment object, it helps to keep them in constant contact with their family and friends. 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. [4]

With the advent and prolific use of smartphones by people the addiction levels have also concomitantly increased. A mental impairment resulting from modern technology has come to the attention of sociologists, psychologists, and scholars of education on mobile addiction. Mobile phone addiction and withdrawal from mobile network may increase anger, tension, depression, irritability, and restlessness which may alter the physiological behaviour and reduce work efficacy. [5]

However the phobia caused due to being out of contact of mobile phone (esp. smart phone), termed as Nomophobia is a relatively new concept. Hence this study was conducted with the objective of assessing the prevalence of nomophobia among dental students, interns and faculty of a dental college in Kerala.

METHODOLOGY

The study was a cross-sectional questionnaire based survey. The target population was the clinical dental students (Third year and Final Year undergraduate students), House surgeons and teaching faculty of Indira Gandhi Institute of Dental Sciences, Nellikuzhy, Kothamangalam, Kerala. The Nomophobia Questionnaire developed at The Iowa State University, herein after referred to as NMP-Q validated by Caglar Yaldirim and Ana-Paula Correia was used in the study.

The questionnaire was divided into two parts. The first part consisted of questions on professional data designation and grade, and information regarding usage of smart phones, duration, frequency and time of usage of smart phones. The second part contained 20 closed ended questions. NMP-Q, used for assessing Nomophobia, consists of self-reported scores (from 1 to 7) ranging from strongly disagree (1) to strongly agree (7), for all 20 questions. The final score per person is interpreted as: 20 (Nomophobia absent), 21-60 (Mild Nomophobia), 61-100 (Moderate Nomophobia) and 101-140 (Severe nomophobia).

The questionnaires were distributed by the house surgeons posted in the Department of Public Health Dentistry. The respondents filled the questionnaire on their own and were asked to return the questionnaire immediately.

Necessary ethical clearance for the study was obtained from the Institutional Ethical Committee. The respondents were briefed about the study and informed consent was obtained from all the participants prior to the administration of questionnaire. The final study sample was 153.

Statistical analysis

All returned questionnaires were coded and analysed. Results were expressed as a number and percentage of respondents for each question and were analysed using the SPSS Version 17 software. Chi-square test was performed to compare the response in relation to year of study and designation; and the level of significance was set at $p = 0.05$.

Table 1: Response to Nomophobia Questionnaire (response in %)

		Strongly Disagree						Strongly Agree
		1	**2**	**3**	**4**	**5**	**6**	**7**
1	I would feel uncomfortable without constant access to information through my smartphone.	22.2	14.8	8.9	25.9	15.6	6.9	6.7
2	I would be annoyed if I could not look information up on my smartphone when I wanted to do so.	14.2	11.2	10.4	14.2	20.9	11.9	17.2
3	Being unable to get the news (e.g., happenings, weather, etc.) on my smartphone would make me nervous	36.6	17.9	13.4	9.0	11.2	6.0	6.0
4	I would be annoyed if I could not use my smartphone and/or its capabilities when I wanted to do so	19.0	8.7	7.9	14.3	23.8	12.7	13.5
5	Running out of battery in my smartphone would scare me.	19.2	20.0	16.9	14.6	8.5	10.8	10.0
6	If I were to run out of credits or hit my monthly data limit, I would panic.	37.1	12.9	15.9	12.9	9.8	3.0	8.3
7	If I did not have a data signal or could not connect to Wi-Fi, then I would constantly check to see if I had a signal or could find one	16.3	13.3	8.1	16.3	15.6	15.6	14.8
8	If I could not use my smartphone, I would be afraid of getting stranded Somewhere	33.8	13.5	12.8	15.8	11.3	6.8	6.0
9	If I could not check my smartphone for a while, I would feel a desire to check it.	17.2	9.7	7.5	19.4	16.4	13.4	16.4
	If I did not have my smartphone with me,							
10	I would feel anxious because I could not instantly communicate with my family and/or friends.	12.8	9.8	11.3	18.0	17.3	13.5	17.3
11	I would be worried because my family and/or friends could not reach me.	9.2	9.9	5.3	20.6	22.1	17.6	15.3
12	I would feel nervous because I would not be able to receive text messages and calls.	16.9	12.3	7.7	20.0	16.9	11.5	14.6
13	I would be anxious because I could not keep in touch with my family and/or friends.	11.4	9.1	9.8	15.9	22.7	11.4	19.7
14	I would be nervous because I could not know if someone had tried to get a hold of me.	20.9	10.9	14.7	16.3	18.6	8.5	10.1
15	I would feel anxious because my constant connection to my family and friends would be broken.	19.1	13.7	11.5	19.1	14.5	11.5	10.7
16	I would be nervous because I would be disconnected from my online identity.	40.2	14.4	16.7	11.4	5.3	4.5	7.6
17	I would be uncomfortable because I could not stay up-to-date with social media and online networks.	30.3	11.7	12.1	14.4	6.8	11.4	8.3
18	I would feel awkward because I could not check my notifications for updates from my connections and online networks.	30.3	19.7	13.6	9.8	9.8	8.3	6.1
19	I would feel anxious because I could not check my email messages.	39.2	15.0	18.0	8.3	4.5	6.0	9.0
20	I would feel weird because I would not know what to do.	42.7	6.9	11.5	16.0	9.9	1.5	11.5

RESULTS

Among the 153 respondents, 84 were students, 45 interns and the rest 24 were faculty members. About 96% (n=147) were smart phone users. About 95% of the respondents had an access to internet on their mobile phone.

Table 1 shows the summary of the response to the Nomophobia Questionnaire scale. Only about 12% of the respondents strongly agreed that they were uncomfortable without constant access to their smartphone. However 50% strongly felt annoyed if they could not look up any information on their smart phone whenever they wanted to. Over half the number of respondents disagreed that being unable to get news (happenings, weather etc.) would make them nervous. About 20% strongly agreed that running out of battery would scare them. More than 50% agreed that they constantly checked their data signal /Wi-Fi signal when their signals were lost. Only about 35% felt that they wouldn't have a desire to check their smart phone if not checked for a while.

When asked if the respondents did not have smart phones with them, about 47% strongly agreed that they felt anxious that they could not instantly communicate with family/friends, and about 55% strongly agreed that they would be worried as family/friends could not reach them. Majority of the respondents disagreed that absence of smart phones would make them nervous as they could not know if someone tried to get hold of them and also that their online identity would be lost. About half the number felt that the felt uncomfortable as they could not stay up to date with social media and online networks. Only about 18% felt that they would feel anxious as they couldn't check their e mails on phone.

NOMOPHOBIA SCORE AND INTERPRETATION

Score	Interpretation	(n)	Percentage
20	Absent	3	2%
21-60	Mild Nomophobia	60	39.2%
61-100	Moderate Nomophobia	71	46.4%
101-140	Severe Nomophobia	19	12.4%
TOTAL		**153**	**100%**

There was a statistically significant difference in nomophobia levels among teaching faculty, house surgeons and students (p=0.042), where teaching faculty and house surgeons had significantly greater levels of nomophobia compared to the students.

DISCUSSION

Mobile phones have become integral part of our life. It is a well-known fact that the number of subscribers for mobile phones have been drastically increasing past few years. The number of internet users in India is expected to reach 500 million by June 2018, according to the Internet and Mobile Association of India (IAMAI).[6] Eighty-eight per cent of households in India today have a mobile phone, according to the 'Household Survey on India's Citizen Environment & Consumer Economy' (ICE 360° survey) conducted in 2016.[7]

Concomitantly, during the last few years, newer disorders have been discovered associated with mobile phone usage, nomophobia being one of them. Nomophobia is affected by various factors and their assessment would definitely help in predicting its outcome. Increase in mobile phone dependence, can result in increased internet addiction and vice versa.

It is a matter of fact that technology can convey information to people without any difficulty. However, over usage of mobile phones may cause psychological illness such as dry eyes, computer vision syndrome, weakness of thumb and wrist,

neck pain and rigidity, increased frequency of De Quervain's tenosynovitis, tactile hallucinations, nomophobia, insecurity, delusions, auditory sleep disturbances, insomnia, hallucinations, lower self-confidence, and mobile phone addiction disorders.[5] More importantly, studies conducted by Baghianimoghadam MH et al., in 2013, Krithika M et al., in 2013, Aman T et al., in 2015 and Chen YF in 2006 show that excess use of the mobile phones can have negative results on academic performance among students.[8-11] Hence, this study was undertaken to assess the nomophobia levels among students and staff in a dental teaching institution in Kerala.

The present study showed the following results – 2% (no nomophobia), 39.2% (mild nomophobia), 56.2% (moderate nomophobia) and 12.4% (severe nomophobia). The results are comparable to similar study conducted among medical students in Wayanad in 2017 by Madhusudan M et al., where the corresponding figures were 3%, 33.3%, 56.2% and 7.5% respectively.[12] The prevalence of nomophobia in a study conducted in a dental college in Thodupuzha by Abdul Saheer et. al. in 2017 revealed a prevalence of 35.4% as nomophobic[13], also a study by Prasad et al. in Modinagar revealed a prevalence of 24.12% with nomophobia and another 41% at risk of nomophobia [2]. The difference could be due to the scale used for assessment of nomophobia where it is interpreted as absence of nomophobia, at risk of nomophobia and nomophobic. Comparison with few other studies show that prevalence reported among interns of medical students in Indore by Sharma N et. al. in 2015 was 73% and college students in Bangalore by Masthi NR was 67%. However, the results are in sharp contrast with the results of a study conducted by Bivin JB in 2013 in Kerala, where the nomophobia prevalence was reported as 23%. The observed difference could be due to the fact that it was conducted about 6 years ago, when internet usage and addiction was not so rampant as today.

Only 3.2% of the respondents admitted of using mobile phone during or in between classes. This is in contrast to study conducted by Prasad et. al. in Modinagar[3], where 24.7% agreed and 6.9% strongly agreed that they frequently checked their cell phoned during class or clinics. The difference might be due to the ban on usage of mobile phone by students during college hours.

It's an important observation that majority of the study samples felt annoyed when they could not get information on their smart phone/use smart phone when they wanted to. However when questions regarding feeling uncomfortable without constant access to information via smartphone, inability to get the news and weather report, panic following running out of data, afraid of getting stranded due to loss of smartphone; were asked many disagreed to having an issue with the situation. The results are similar to Thodupuzha study conducted among dental students[13].

About 27% agreed that running out of battery scared them. This is similar to the results of Thodupuzha study [13,] and in contrast to the Modinagar study where the corresponding figures were about 32% and 60% respectively.

The most common reason for the use of smartphones in our study was calling of family members which were similar to the findings of other studies. [12-14]

Given the ever-increasing amount of time peoplespend using technology, and the potential deleterious effects such increase can have on health, the present study's investigation on mobile phone dependence pattern and the prevalence of Nomophobia is critically important. Mobile phone usage is not only habit forming, it is also addictive; "possibly the biggest non-drug addiction of the 21st century"[15].

The limitations of the study are that it is based on medical students of one particular college only and hence it cannot be used to generalize the prevalence. The results also rely upon the presumption that the students gave real responses to the self-administered questionnaire.

CONCLUSION

Present study revealed that nomophobia was highly prevalent among the respondents. Nomophobia was not found to be significantly higher among teaching faculty and house surgeons compared to students. The most common reasons for smartphone use were calling of family members and friends.

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