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Problematic Mobile Phone among Medical Students using PUMP Scale

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ABSTRACT

Background: Smartphone use is increasing tremendously all over the world and so is its abuse. Similar problems are arising in medical students also and they are no exception to it.
Aim: To determine the problematic mobile phone usage among medical students at our medical college.
Methods: This cross-sectional study was conducted at Mohtarma Benazir Bhutto Shaheed Medical College, Mirpur over 2 months, from January, 2017 to February, 2017. All the final year medical students studying at our college were included in the study. Problematic Use of Mobile Phones (PUMP) scale was used for this study. The higher scores indicate more usage of mobile phones and more problematic use. All the questionnaires were anonymous.
Results:A total of 95 final year medical students were included in the study. The mean age of students was found to be 22.92±0.775 years. Among our participants, most of the participants 67(70.5%) were female. The mean score of participants for PUMP scale was found as 56.33±15.92. Total PUMP scale score was stratified for age groups, gender and residence of medical students.
Conclusion: On the basis of this study, we conclude that problematic mobile phone usage is prevalent among medical students of our college, so certain measures need to be taken.
Keywords: Smartphone; medical students; internet; Pakistan

INTRODUCTION

Usage of mobile phones is not a luxurious thing, rather a necessity now a day. Mobile phones are now not used simply for connecting people, but smartphones are used. They are used for connecting people, using internet, studying books, using many a lot applications, multimedia, navigation and a lot many purposes[1,2,3]. Now the number of applications one may use in smartphones is unlimited. According to an estimate, smartphone users are more than 1.5 billion in world and it is on a continuous rise[4].

As the quality and number of applications in Smartphone are increasing, the interest of young generation towards its use is increasing[5]. Youngsters and adolescents are becoming more addicted towards screen usage. The abuse or problematic use of mobile phones is difficult to define; however, it may be defined as the overuse of smartphones to the extent that it disturbs the users' daily lives[6,7]. Smartphone overuse may lead to its addiction and many behavioral disorders like mood variations, depression, pre-occupation and loss of control. Although previously internet addiction was considered more prevalent, but now smartphone addiction is considered more prevalent and dangerous as it has functions more than internet[8]. It is portable, has video games and a lot many applications and things to indulge someone. In a study, prevalence of mobile phone usage was found more than internet addiction (8.4vs 7.7%)[9]. Now the access to internet is very much cheaper even in a developing country like Pakistan, so is the smartphone use is increasing, similar is the trend among medical students[10,11].

The objective of this study was to determine the problematic mobile phone usage among medical students at our medical college.

MATERIALS AND METHODS

This cross-sectional study was conducted at Mohtarma Benazir Bhutto Shaheed Medical College, Mirpur after approval from ethical review board. The duration of study was 2 months, from January, 2017 to February, 2017. All the final year medical students studying at our college were included in the study. They were asked to fill a proforma which consisted of 2 portions. First portion was of demographic details. In order to assess mobile phone usage, Problematic Use of Mobile

Phones (PUMP) scale was used for this study. It consisted of 20 questions. Each question is answered on Likert scale from strongly disagree, somewhat disagree, neither agree not disagree, somewhat agree and strongly agree and scored as 1-5 respectively. So the total score range from 20-100.

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The higher scores indicate more usage of mobile phones and more problematic use. All the questionnaires were anonymous. The data was analyzed using SPSS version 20. Mean±SD was calculated for PUMP scale and it was stratified for age groups, gender and residence using independent sample student's t-test. P-value <0.05 was considered as significant.

RESULTS

A total of 95 final year medicalstudents were included in the study. The mean age of students was found to be 22.92±0.775 years. Among our participants, most of the participants 67(70.5%) were female while remaining 28 participants (29.5%) were male. Also 46 participants (48.4%) were boarders and 49 participants (51.6%) were non-boarders. Total PUMP scale score was stratified for age groups, gender and residence of medical students. It was found significant for gender only and was significantly higher in males than females. All data are summarized in table 1.Regarding PUMP scale, the mean score of participants was found as 56.33±15.92. In details, highest score was found for question 7 stated as 'I have used my cell phone when I knew I should be sleeping'. The lowest mean score was found for question 19 stated as 'I have almost caused an accident because of my cell phone use'. All questions along with means core are summarized in table 2.

Table 1: Stratification of PUMP scale score with respect to age groups, gender and residence

	PUMP scale score	P-Value
Age Groups		
<22 years	58.13± 16.40	0.458
≥22 years	55.50 ± 15.75	
Gender		
Male	61.71 ± 14.30	0.033
Female	54.08 ± 16.12	
Residence		
Boarder	54.15 ± 18.87	0.197
Non-boarder	58.38 ± 12.40	

Table 2: PUMP scale questions and their scores

PUMP Scale Questions	Mean ± SD
1. When I decrease the amount of time spent using my cell phone I feel less satisfied.	2.47 ± 1.38
2. When I stop using my cell phone, I get moody and irritable.	2.31 ± 1.21
3. The amount of time I spend using my cell phone keeps me from doing other important work.	3.53 ± 1.47
4. I think I might be spending too much time using my cell phone.	3.46 ± 1.39
5. When I am not using my cell phone, I am thinking about using it or planning the next time I can use it.	2.58 ± 1.35
6. I have ignored the people I'm with in order to use my cell phone.	2.86 ± 1.21
7. I have used my cell phone when I knew I should be sleeping.	3.71 ± 1.34
8. I have gotten into trouble at work or school because of my cell phone use.	2.23 ± 1.28
9. I have used my cell phone when I knew it was dangerous to do so.	2.47 ± 1.42
10. My cell phone use has caused me problems in a relationship.	2.18 ± 1.28
11. I need more time using my cell phone to feel satisfied than I used to need.	2.24 ± 1.33
12. It would be very difficult, emotionally, to give up my cell phone.	3.14 ± 1.43
13. I have thought in the past that it is not normal to spend as much time using a cell phone as I do.	3.35 ± 1.31
14. People tell me I spend too much time using my cell phone.	2.98 ± 1.34
15. I feel anxious if I have not received a call or message in some time.	2.85 ± 1.41
16. I have used my cell phone when I knew I should be doing work/schoolwork.	3.49 ± 1.47
17. When I stop using my cell phone because it is interfering with my life, I usually return to it.	3.06 ± 1.18
18. At times, I find myself using my cell phone instead of spending time with people who are important to me and want to spend time with me.	3.03 ± 1.43
19. I have almost caused an accident because of my cell phone use.	1.73 ± 1.10
20. I have continued to use my cell phone even when someone asked me to stop.	2.63 ± 1.45

DISCUSSION

The objective of this study was to determine the problematic mobile phone usage among medical students at our medical college using PUMP scale.We found that mean PUMP scale score among medical students was 56.33±15.92. PUMP scale is a validated tool for this purpose having excellent internal consistency [12].

Mobile phone phobia is also called Nomophobia and it is defined as having fear of having no contact with mobile phone. Now mobile phone is a necessity and nomophobia is considered if a person becomes anxious when he/she is out of balance or having low battery or no internet access. Ina study conducted among medical students at a medical college in India, nomophobia was found in 18.5% of students and it was more in males than females (19% vs 18%)[13]. Similar results were found in our study that

smartphone usage was more in males than females. In another study conducted in United Kingdom, it was found that males had more phobia for mobiles than females (58% vs 48%)[14]. In a study conducted among hospital medical staff, it was found that only 3% reported washing their hands after mobile phone use. Also 45% of mobile phones showed positive culture for micro-bacteria[15].

Ina study, PUMP scale score was found higher among those having a lover, using headphones, males and those who were smokers[16]. In our study, we compared the PUMP score for boarders/ non-boarders, age groups and genders. It was found significant only for gender but not for other factors.

Our study had few limitations. It was a single center study, so its results can't be generalized and cannot be implemented at all centers. Therefore we recommend more trials which must include multiple centers. On the basis of this study, we conclude that problematic mobile phone usage is prevalent among medical students of our college, so certain measures need to be taken. They must be educated and proper counseling sessions need to be conducted regarding this issue among medical students so that both pros and cons may be explained.

REFERENCES

1. Payne KFB, Wharrad H, Watts K. Smartphone and medical related App use among medical students and junior doctors in the United Kingdom (UK): a regional survey. BMC medical informatics and decision making. 2012;12:121
2. Khan M. Adverse effects of excessive mobile phone use. International journal of occupational medicine and environmental health. 2008;21:289-93
3. Bock BC, Thind H, Fava JL, Walaska K, Barnett N, Rosen R, et al., editors. Development of the mobile phone attachment scale. System Sciences (HICSS), 2016 49th Hawaii International Conference on; 2016: IEEE.
4. Cochrane T, Bateman R. Smartphones give you wings: Pedagogical affordances of mobile Web 2.0. Australasian Journal of Educational Technology. 2010;26
5. Mohd Suki N, Mohd Suki N. Mobile phone usage for m-learning: comparing heavy and light mobile phone users. Campus-Wide Information Systems. 2007;24:355-65
6. Katz JE, Aakhus M. Perpetual contact: Mobile communication, private talk, public performance: Cambridge University Press; 2002.
7. Yuan Y, Raubal M, Liu Y. Correlating mobile phone usage and travel behavior–A case study of Harbin, China. Computers, Environment and Urban Systems. 2012;36:118-30
8. Kuznekoff JH, Titsworth S. The impact of mobile phone usage on student learning. Communication Education. 2013;62:233-52
9. Demirci K, Orhan H, Demirdas A, Akpinar A, Sert H. Validity and reliability of the Turkish Version of the Smartphone Addiction Scale in a younger population. Klinik Psikofarmakoloji Bülteni-Bulletin of Clinical Psychopharmacology. 2014;24:226-34
10. Clinton HR. Remarks on internet freedom. The Newseum. 2010;21
11. Rahman T. The Internet Youth and Education in Pakistan. UNDP Pakistan. 2014
12. Merlo LJ, Stone AM, Bibbey A. Measuring problematic mobile phone use: development and preliminary psychometric properties of the PUMP scale. Journal of addiction. 2013;2013
13. Dixit S, Shukla H, Bhagwat A, Bindal A, Goyal A, Zaidi AK, et al. 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. 2010;35:339
14. B K. Phone-reliant Britons in the grip of nomo-phobia,. The independent. March 31, 2008.
15. Ramesh J, Carter A, Campbell M, Gibbons N, Powlett C, Moseley Sr H, et al. Use of mobile phones by medical staff at Queen Elizabeth Hospital, Barbados: evidence for both benefit and harm. Journal of Hospital Infection. 2008;70:160-65
16. Öz F, Arslantaş D, Buğrul N, Koyuncu T, Ünsal A. Evaluation of problematic use of mobile phones and quality of sleep among high school students. Journal of Human Sciences. 2015;12:226-35.