

Original Research Article

Effect of Cellphone on Quality of Life Among Medical Students; A Cross-sectional Study

Abstract

Aims: The aim of the current study is to find out the quality of life among the medical undergraduates who are addicted to cellphone use.

Study Design: Cross-sectional study

Place and Duration of Study: Study was conducted in private and public sector medical and dental colleges of Karachi from January 2019 to September 2019.

Methodology:

The data had been collected through a set of questionnaire, which was pre-designed. Those students were included who were using smartphones for pleasure, communication or study purpose. The data was entered into the Statistical Package for the Social Sciences (SPSS) version 22. For numerical variables mean with standard deviation were calculated and for categorical variables frequency and percentages were calculated.

Results:

Comment [JQ(1): Abstract should summarize the study. "Aims" looks good. You can summarize the study design, place & duration and methodology and results under "methodology" using the "PICO" model. The final heading will be conclusion.

The mean age of the students surveyed was found to be 21.2 ± 1.82 years. Majority of our research candidates were addicted to cell phone use. It was noted that more than 6 hours' screen time daily was 29.75% while very unfortunate observation of less than 1-hour screen time was found in 6.25% of study participants. About 38.25% of our participants although addicted to screens agreed that this addiction is causing them to ignore their important things like study or family. Cell phone addiction is worsening day by day as 37.5% medical students confessed that they feel stressed when they do not use cell phones. About 76.75% medical students despite of being addicted to screens, confessed that this is causing them different health and social problems which they feel should be removed just by giving lesser time to the applications.

Conclusion:

It can be concluded that the medical undergraduates who are addicted to their cellphones, having poor quality of life which is negatively affecting their health as well as their studies. There is a need to accept the problem and find out the best solution for it. Students should aware of the effects of cellphone addiction on the quality of life.

Keywords: Cellphone addiction, Quality of life. Mental distress.

Comment [JQ(2): Be aware

Introduction

There are about 5.6 billion cellphone users around the globe while in Pakistan it is about 150 million (1). Cell phone has not only become a lifestyle show off, its persistent use has become part of daily life. Every individual is using smart phone but the rate of its usage is higher in students especially of colleges. It is noted that usage of cell phones is increased among the age group of 21-30 years (2), majority of the cellphone addicted are the college students worldwide, like other regions of the world, students of Pakistan also use smart phones extensively. About 60% of the students are addicted to cellphone use which is a very high rate in comparison to other countries, among them majority are of male students (3, 4). In India, it is about 39-44% (5), in South Korea 30.9% (6), in Spain 20% (7) while in UK only 10% of the students are addicted to cellphone use (8).

Cellphone addiction is labelled when there is excessive use of cellphone for getting relief or comfort or stimulation and having craving when it is not nearby (9). It is condition in which person ignores everything in his life, compromising the quality of life (10). A study in Irish adolescents reported poor quality of life among cellphone users as compared to those who don't use smartphone (11). Among college students most of the cellphone usage consists of using social media, talking to each other and using various mobile applications. Digital literacy has become a common trend among the students, as they are using their cell phone for study purposes while different institutes and teachers are uploading their presentations, classwork and home assignments on the digital media as well. It is also used for different purposes such as for social media interaction and very less for education (12).

Cellphone addiction is maximally observed in colleges of Karachi where students waste majority of their time on cell phone devices. This enhanced usage is not only wasting their precious time

Comment [JQ(3)]: "Lifestyle show off" can be worded in an academic way. For example you can say "Cell phone has not only become a lifestyle statement".

of studies, but also have negative impacts on health of these users as well (13). It is affecting the users physically, mentally and socially. One of the study correlated cellphone addiction with the depression and suicidal attempts and found higher rate among females (14). The aim of the current study is to find out the quality of life among the medical undergraduates who are addicted to cellphone use.

Comment [JQ(4)]: Instead mention "determine".

Material and Methods

A cross-sectional study was conducted in private and public sector medical and dental colleges of Karachi from January 2019 to September 2019. Calculated sample size was 400 students that were studying in the medical and dental colleges. They were randomly selected after verbal information of the research and their consent. The data had been collected through a set of questionnaire, which was pre-designed. Those students were included who were using smartphones for pleasure, communication or study purpose for more than at least 1-year duration while those students who either did not give their consent for the study or with diagnosed eye problems or females with gross anemia were excluded from the study. The project had been conducted after the approval by the Departmental Research Committee of Community Health Sciences and finally by Ethical Review Board of Hamdard University.

The data was entered into the Statistical Package for the Social Sciences (SPSS) version 22. For numerical variables mean with standard deviation were calculated and for categorical variables frequency and percentages were calculated.

Results

The mean age of the students surveyed was found to be 21.2 years with standard deviation of 1.82 years. The minimum age of the student was 18 years whereas the maximum age was 30

years. The gender distribution was 39.75% (159) male and 60.25% (241) female. The participants were found to be equally distributed for medical education i.e. 200 (50%) each for MBBS and BDS Program. Likewise, the current study intentionally selected 200 participants i.e. 50% each from public and private sector medical institutes of Karachi for equal distribution of socio-economic situations and burden of academic studies among the students as presented in Table 1.

Majority of our research candidates were addicted to cell phone use. It was noted that more than 6 hours' screen time daily was 29.75% while very unfortunate observation of less than 1-hour screen time was found in 6.25% of study participants as presented in Figure 1.

Variables	n=400	%
Gender		
Male	159	39.75
Female	241	60.25
Degree program		
MBBS	200	50
BDS	200	50
Educational sector		
Government	200	50
Private	200	50

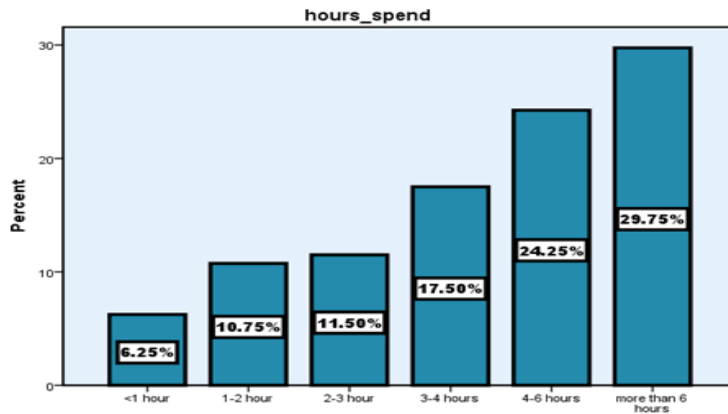


Figure 1 Hours spend in front of digital screen

About 38.25% of our participants although addicted to screens agreed that this addiction is causing them to ignore their important things like study or family, 28.75% of the participants did not take this issue seriously and denied ignoring. Cell phone addiction is worsening day by day as 37.5% medical students confessed that they feel stressed when they do not use cell phones. All of the respondents, being medical students have some knowledge regarding their own physical, psychological and social health. About 76.75% medical students despite of being addicted to screens, confessed that this is causing them different health and social problems which they feel should be removed just by giving lesser time to the applications. Majority (52.5%) of participants agreed using cell phone just to avoid any stressful situation at college or at home while 30.5% of the participants, mostly boys, denied of facing stressful conditions or their escape to cell phones. The data has been presented in Table 2.

The “*Perceived Stress Scale*” was used among the students to measure their level of stress. The responses that had been provided by the participants clearly reflect that the majority of the participants sometimes suffered from stress as presented in Table 3.

Table 2 Cellphone affecting Quality of life		
	Frequency	Percentage
Ignoring important things in life		
Yes	153	38.25
No	115	28.75
Don't Know	132	33.0
Feel stressed when do not use Cellphone		
Yes	150	37.5
No	191	47.75
May be	59	14.75
Digital display screen affecting lifestyle and eye health		
Yes	307	76.75
No	93	23.25
Using Cellphone to avoid stressful situation		
Yes	210	52.5
No	122	30.5
May be	68	17.0

Table 3 Perceived Stress Scale

STATEMENTS	Never		Almost Never		Sometimes		Often		Very Often	
Upset Because Of Something That Happened Unexpectedly	83	20.8	81	20.3	122	30.5	59	14.8	55	13.8
Felt Unable To Control Important Things In Life	57	14.3	98	24.5	110	27.5	70	17.5	65	16.3
Felt Nervous And Stressed	59	14.8	78	19.5	130	32.5	75	18.8	58	14.5
Felt Confident To Handle Personal Problems	48	12.0	72	18.0	122	30.5	88	22.0	70	17.5
Felt Things Were Going Your Way	55	13.8	82	20.5	152	38.0	68	17.0	43	10.8
Could Not Cope With All The Things That You Had To Do	66	16.5	88	22	150	37.5	66	16.5	30	7.5
Able To Control Irritations In Life	68	17.0	83	20.8	139	34.8	80	20	30	7.5
Felt That You Were On Top Of Things	69	17.3	95	23.8	149	37.3	55	13.8	32	8.0
Often Angered Because Of Things That Were Out Of Control	56	14.0	82	20.5	108	27.0	78	19.5	76	19.0
Felt Difficulties Were Piling Up So High That Could Not Overcome	69	17.3	100	25.0	117	29.3	55	13.8	59	14.8

Comment [JQ(5)]: This table has not been labelled. Moreover, it has not been explained.

Discussion

Cellphone addiction is becoming an alarming situation as every user of cell phone has become addicted to its use and because of which are suffering from mental distress and social isolation

(15). Iqbal, Khan and Malik, reported that in Pakistan 50% of the local teens feel addicted to their mobile phones while 72% teens think that they need to respond to their messages and social media texts when they receive any of them and about 78% of the teens have habit of checking their cell phones hourly (12). Aman et al. identified that, college students are part of the group which is highly addicted to the use of cell phones. About 77% of the people who belong to the age of 21 to 30 years are intensely using smart phones. College students belong to this category which means that 77% of the college students intensely use smart phones. The risk of developing cell phone vision syndrome is higher in the people who use smart phones more (16).

Jan et al. noted that the younger generation has become proficient in multi-tasking simultaneously. Many students use smart phones for study purpose as well, for example they search various topics on Google, which they want to understand, they also use mobile phones to read e-books. According to the research, student of Karachi spends average 3 hours per day on social media, it has been noted that these three hours are spent on social media alone and other usage of smart phone is not included in these three hours. The point worth mentioning is that it does not matter what a student is doing on smart phone for example, there are cases where students are found wasting their precious hours and on the other hand, some utilize their time more productively by using cell phone for necessary and meaningful purpose. These activities are positive and provide benefit to the students in academic terms but it will also develop cell phone vision syndrome, as this syndrome appears by watching smaller display screen for longer period (17). Current study found that more than 6 hours' screen time daily was 29.75% while very unfortunate observation of less than 1-hour screen time was found in 6.25% of study participants. Rai et.al. favored current finding by reporting average time of cellphone usage of about more than 10 hours per day (18)

Comment [JQ(6)]: You have explained the data of Figure 1 over here. It is important to clarify that this data is as mentioned in figure-1.

Lee and Low studied the patterns of stress and sleep quality in students. They emphasize that stress pattern and quality of sleep are also affected by cellphone addiction; as it directly affects their daily routine, individuals are seemed to be more stressed out due to health issues. Headache keeps students under stress every time affecting pattern and quality of sleep. Shoulder and neck pain make a person feel discomfort while sleep, headache makes the patient feel stressed out, dry eye always accelerate the feeling of stress and restlessness, blurred vision may cause a person to use glasses or lens so these symptoms lead to unusual stress. When quality of sleep is not good then a person could not perform at his best in day time. It is concluded that perceived stress pattern and quality of sleep is directly related to the cellphone addiction (19). About 76.75% participants of the current study reported that cellphone addiction is affecting their lifestyle while 38.25% agreed that they are ignoring important things in their life. Current study also used Perceived Stress Scale and found higher level of mental distress among cellphone addicted individuals.

Comment [JQ(7): This and the data below has come from Table – 2 so this should be mentioned here.

Conclusion

It can be concluded that the medical undergraduates who are addicted to their cellphones, having poor quality of life which is negatively affecting their health as well as their studies. There is a need to accept the problem and find out the best solution for it. Students should aware of the effects of cellphone addiction on the quality of life.

Comment [JQ(8): Be aware.

Reference

1. Kotris I, Drenjanèviæ D, Talapko J, Bukovski S. Identification of microorganisms on mobile phones of intensive care unit health care workers and medical students in the tertiary hospital. *Medicinski glasnik*. 2017;14(1).
2. Barbovschi M, O'Neill B, Velicu A, Mascheroni G. Policy recommendations. Report D5. 2014;1.
3. Khalily MT, Loona MI, Bhatti MM, Ahmad I, Saleem T. Smartphone addiction and its associated factors among students in twin cities of Pakistan. *JPMA*. 2020;2020.
4. Tariq FJ, Irfan ARB. Cell Phone Addiction: A Rising Epidemic. *JPMA*. 2019.
5. Davey S, Davey A. Assessment of smartphone addiction in Indian adolescents: a mixed method study by systematic-review and meta-analysis approach. *International journal of preventive medicine*. 2014;5(12):1500.
6. Cha S-S, Seo B-K. Smartphone use and smartphone addiction in middle school students in Korea: Prevalence, social networking service, and game use. *Health psychology open*. 2018;5(1):2055102918755046.
7. Sánchez-Martínez M, Otero A. Factors associated with cell phone use in adolescents in the community of Madrid (Spain). *CyberPsychology & Behavior*. 2009;12(2):131-7.
8. Lopez-Fernandez O, Honrubia-Serrano L, Freixa-Blanxart M, Gibson W. Prevalence of problematic mobile phone use in British adolescents. *CyberPsychology, Behavior, and social networking*. 2014;17(2):91-8.
9. Buctot DB, Kim N, Kim JJ. Factors associated with smartphone addiction prevalence and its predictive capacity for health-related quality of life among Filipino adolescents. *Children and Youth Services Review*. 2020;110:104758.
10. Goswami V, Singh DR. Impact of mobile phone addiction on adolescent's life: A literature review. *International journal of home science*. 2016;2(1):69-74.
11. Mc Govern D. Smartphone ownership, usage and addiction proneness in preadolescents—implications for quality of life. 2019.
12. Iqbal S. Mobile phone usage and students' perception towards m-learning: A case of undergraduate students in Pakistan. *The Journal of Distance Education/Revue de l'education Distance*. 2017;32(1).
13. Rosen L, Carrier LM, Miller A, Rökkum J, Ruiz A. Sleeping with technology: cognitive, affective, and technology usage predictors of sleep problems among college students. *Sleep health*. 2016;2(1):49-56.
14. Choliz M. Mobile phone addiction: a point of issue. *Addiction*. 2010;105(2):373-4.
15. Coles-Brennan C, Sulley A, Young G. Management of digital eye strain. *Clinical and experimental Optometry*. 2019;102(1):18-29.
16. Aman T, Shah N, Hussain A, Khan A, Asif S, Qazi A. Effects of mobile phone use on the social and academic performance of students of a public sector medical college in khyber pakhtunkhwa Pakistan. *KJMS*. 2015;8(1):99-103.
17. Jan SR, Ullah F, Ali H, Khan F. Enhanced and effective learning through mobile learning an insight into students perception of mobile learning at university level. *International Journal of Scientific Research in Science, Engineering and Technology (IJSRSET)*, Print ISSN. 2016:2395-1990.
18. Rai S, Saroshe S, Khatri A, Sirohi S, Dixit S. A cross sectional study to assess the effects of excessive use of smartphones among professional college going students. *International Journal of Community Medicine and Public Health*. 2016;3(3):758-63.
19. Lee Y-S, Low B-S. Sleep pattern among electronic device users and its relationship with users' practice in Malaysia university community. *Sleep and Biological Rhythms*. 2016;14(3):271-7.

UNDER PEER REVIEW

