

# Impact of Usage of Technological Gadgets on Lifestyle of Medical Students

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## ABSTRACT

**Background:** Technology has become the driving force of our lives. With time dependency on technology is increasing day by day, among which young students are the most vulnerable group to be addicted. Although technology has proven to be beneficial in daily life, it also has some strong negative impacts on lifestyle of students. This study has been conducted to study impacts of the addictive use of technological gadgets and services on mental health and life-style of medical students of Islamabad. **Methods:** This study was conducted by 4th year M.B.B.S students of FMDC Islamabad. Using valid and reliable questionnaire and after proper consent, primary data was collected from 330 students of different medical colleges of Islamabad who were selected randomly after the sample size calculation. Ethical consideration was taken from ethical committee of PIMS Islamabad. **Results:** The mean age of 330 students were  $21.31 \pm 5$  years. The study result shows that most of the young students spend their time mostly using the technological gadgets. And the purpose behind use was entertainment and communication rather than study. Study also reveals that excessive use of technological gadgets has negative impacts on physical and mental health that serves as an important factor in change of lifestyle of students. **Conclusion:** Timely management and proper usage of technological gadgets helps in preventing negative impacts on and necessity usage of technology proves to be beneficial for healthy lifestyle. **Key words:** Addiction, Lifestyle, Mental Health, Technological Gadgets and Services.

## I. INTRODUCTION

Technology means the use of science in industry, engineering, etc., to invent useful things or to solve problems (1). It is nothing but the results of our creativity that provides us with the sources to utilize the available resources and use them in such a way to fulfill our demands and find solutions to most of our problems. With latest advancements in IT and communication, this world appears like a small globe where masses from different geographical

locations can interact and share information within a blink of an eye.

Smart phones, laptops, tablets, and Digital personal assistants (DPAs) are amongst the most commonly used technological devices these days and youngsters are the prime market for these gadgets. Today's college students, the Net generation, have woven technology into their everyday repertoire of communication and connection tools. They use the Internet, e-mail, instant messaging, blogs, and social networking Web sites like Face book, twitter

and instagram at higher rates than individuals from any other generation (2).

However there has been an exponential growth in the use of these gadgets in the previous decade. This has led to numerous questions arising about the affect of these devices on the users. Introduction to internet and easy accessibility to smart phones and laptops etc. has led to an addiction of these gadgets amongst the college students. Addiction is the continued repetition of a behavior or an activity independent upon the adverse or negative consequences of the same (3). Such addiction can lead to mental illnesses and various other harmful effects on human health.

This study is designed to evaluate the use of technological devices by the medical students studying in the city of Islamabad. Where the technology and internet has hoodwinked the rest of our generation, medical students are also being mesmerized by the vast opportunities that smart phones and internet etc. has in store for the advancement of medicine. The use of technology in medical education is a welcome development especially because it offers a good platform for continuous self-directed learning, an important skill for all health practitioners (4, 5). Since no work has previously been done in Pakistan about this topic and there is no assessment of how much affect it can have on the health and lifestyle of medical students of this region, this study is being conducted by the students of Federal Medical and Dental College (FMDC) Islamabad.

Everything has its own pros and cons; similarly usage of technology by the students, especially medical students also has some merits and demerits. In the available literature, we find that very less work has been done on the impact of usage of technological gadgets by medical students; some of the studies will be mentioned here in this literature review.

Mobile phones are one of the most commonly used technologies these days and medical students can use it for their benefit as well. A study done in

Kenya by Masika MM (2015) aimed at assessing the use of mobile learning technology among the final year undergraduate MBBS students. They surveyed 292 final year medical students. Out of these 292, almost 88% owned smart phones and around 80% had both laptop and smart phones. Out of all the students who owned mobile phones, all of them had used their mobile for educational purposes and 72% of the smart phone holders have at least one app related to medical field. Almost all of them used short messaging service promoting the fact that mobile phone is a wonderful way to interact with each other. So the final conclusion was that the trend of using mobile phones as a mean of education is becoming popular these days and developers should take some time to create such medical friendly apps (6). So this paper showed that technological gadgets (mobiles, laptops, tablets) can be useful but a little bit time wasting as well (referring to the social outcomes).

Abuse of mobile phone is also a dark side of using technological gadgets. From the medical point of view cellular phones, including smart phones, are known to be detrimental to cognitive performance. Their use increases reaction time, reduces focus, and lowers performance of tasks needing mental concentration and decision making (7). This study mainly focused on health care work settings done by Gill, Kamath and Gill (2012) considered smart phones a distraction. From their study, it was concluded that no doubt smart phones are an integral part of life, but they do have some faults i.e. they compromise user's security and privacy, they somehow decrease the quality of patient care, efficiency of a health care professional and are a source of total distraction for a doctor whose sole purpose is the "well-being and health of patient" (7).

So from the available literature, we can deduce that technological gadgets can be a wonderful source for mobile learning, reading newest literature about medical topics, solving medical case studies etc. but this use is limited to medical students. In health care

settings, which demands high degrees of focus on part of a health care worker, usage of technological gadgets can lead to harmful consequences for the patient.

## II. METHODOLOGY

A cross - sectional study was conducted among different public sector medical colleges and institutes in Islamabad, in 2015. The study was reviewed and approved by ethical committee of PIMS, Islamabad. A sample size of 342 was calculated by WHO sample calculator. Impact of usage of technological gadgets on health and lifestyle of medical students was assessed by using standardized and structured questionnaire. The questionnaire was administered to 342 medical students from 1<sup>st</sup> year to final year aged between 18 to 26 years. Students participated voluntarily in the study and informed consent was signed from them after explaining the aims and objectives of the study. A simple Random sampling method was followed to collect information. Study variables were dependent and independent. Dependent variables were service, purpose and time duration of use of technological gadgets. Independent variables were age and type of gadget used. Data on Demographics, most commonly used devices, time spent on these, purpose behind their use and their impacts on health and lifestyle was collected. Questionnaire has scales of options as follows; Strongly agree, Agree, Strongly disagree or Disagree. Both the qualitative and quantitative methods were used for the analysis of data. Collected data was kept confidential and Data entry and analysis was done using SPSS21. Chi-square and t-test were used for bivariate analysis.

## III. RESULT

In this study, about technological gadgets, 70% participants are males and 20% are females. As gadgets generally are of high cost, therefore economical stable and strong person will possess more gadgets and will have their immense impact

on him. Data signifies that parental income of study participants vary from 18,000 to 2,00,000. Average parental income is 1,00,000 per month, which shows that majority of the participants, are of average socioeconomic status and cannot afford more than two devices. Few participants are of rich families and they can possess more than two technological gadgets i.e. laptop and smart phones. 61.3% participants are addicted to mobile usage, 19.2% use computers or laptops, while only 9.7% use tablets, iPod and watch television.

Gadget Used	Percentage
Mobile	61.3%
Computer/laptop	19.2%
Tablet/ ipad	9.7%
Television	9.7%

Service	Percentage
Calling	15.0%
Messaging	19.5%
Internet	27.2%
Social Networking	21.5%
Music/ Video	16.8%

The most prominent service provided by the gadgets is internet -27.2%, this service is used for news, sports and social networking, etc. Major purpose of using these technological devices is communication and entertainment i.e. 37% while only 26.1% use these gadgets for study purpose.

Purpose	Percentage
Study	26.1%
Communication	37.0%
Entertainment	36.9%

Regarding time spent on technological gadgets, it has critical impact on mental and physical health as well as on social behavior of a person. 31.8% use



these devices for 2 to 4 hours, 18.2% for 1-2 hours and 27% for 4 to 6 hours, above 6 hours usage is only by 23% of the participants. Data signifies that 34.5% participants are of view that survival is difficult without technology. While 43.9% students agreed that social relationships are ruined by addictive usage of these devices. Question was asked about internet as ultimate source of knowledge and 6.7% rejected this view, while 45.5% were in strong favor of this opinion. As excessive use of mobiles, laptops and tablets can cause various health issues. Data signifies that 51.2% participants agreed that these gadgets are injurious to health as 33.6% are having breathing and reading problem. 64.9% participants complained of headache and 52.1% are of view that they suffer from physical discomfort .i.e. aches, pains due to posture instability and these are all signs of poor health. Less depression is a sign of healthy and happy life. In this study data, 70.3% participants feel anxious, sad, depressed and nervous at various time of the day. 60% people agreed that they have difficulty in performing physical activity and 34.8% have sleep disturbances. 64.8% participants agreed that excessive usage of technological devices cause weight gain and 76.6% students agreed that it also causes lethargy.

#### IV. DISCUSSION

This study is carried out among the medical students of the city of Islamabad to evaluate the different aspects about the usage of technological gadgets. After performing the study and analysis among these students (most of them about 70% were males) different results and patterns have been obtained. The results of this study show that the majority of the medical students are using the mobile phones than other devices like computers, laptops and iPods and this have also been proved by

a study held in Kenya on final year medical students, that the mobile phones are the devices most commonly used by the students for different purposes (8). Most of them have more than one devices but they are mostly addicted to the mobile phones. And most of the students are not using the gadgets for study purposes but for entertainment and communication which is the major drawback of using these gadgets by the medical students, which has been proved by study held by PMC that these technological gadgets are, major source of communication and entertainment (9). No doubt most of the students think that the internet is the ultimate source of the knowledge but internet, which is the most utilized service by these students is not being utilized for educational purposes but for the entertainment, communication, news and for the social networking. These devices are also ruining the social life of the students. Many students in this study agree with that aspect and others think that they cannot live without technology, which also shows that they have been addicted to these technological devices especially to the internet, a study held in Canada has shown that the internet addition is another disorder of new generation (10). Then these devices are the source of mental and physical disturbances. As most of the students are using these devices for 2-4 hours, their number is 31.8% and the number of people using these devices for more than 6 hours is 23%. And it has been demonstrated from the results that the students which have been using technological devices for more than 6 hours have some health issues like headache, depression and eyesight problems. The association of devices with the mental health can be seen by results which show that more than 70 % of students have complaints of depression, anxiety and unusual behavior at times due to excessive use of these technologies. A study which was performed in India shows very similar type of results that is the excessive use of gadgets causes the mental problems (11)



Various other health issues are also reported, and more than half of the people agree with that aspect that these devices are devastating to health. As most of them have complaints of headache, others have breathing and speaking problems. Some students have complaints of pain in different body parts due to postural uneasiness while using devices. Some students, mostly computer users have difficulty in performing some sort of physical activities and others have disturbance in the sleeping or have unnatural sleeping pattern. Most of the students have also complaints of weight gain, stress and lethargy. A study was made by Carbol in which he measures the impact of social media on the personal behavior. He concluded that the persons living among the technology are stressed, depressed and suffer from other complications and on the other hand individuals living away from the technology have less complications of stress and other health problems, so this study also proves the results obtained by this study (12). But on the other hand forceful removal of social technology from the students can cause the stress conditions.

### Significance of the study

These types of researches are mostly made in the developed countries but not in the developing countries like Pakistan. This study is significant because this type of study has not been conducted in this area. This study is important with respect to the development of the educational programs in the universities for the betterment of the students and for the development of the countries. But this study is also significant with respect to the estimation of the drawbacks of the usage of the technological gadgets, for the awareness of the students about their harmful effect in the mental, physical and social health. This study can be used for the estimation of complaints occurring due to their excessive usage and then certain implementations can be proposed for reducing these complaints.

### Limitations and future Directions

Our main limitation was lack of time for data collection, analysis and interpreting results. Paucity of time led to restrict the study to focus on the users only. Future researches may consider a control group to have a comparative analysis of the impacts of using and not using technology excessively to confirm the findings of current study.

### CONCLUSION

This is an era of education and technology, no one can survive without these things except the people living in remote and rural areas. This study is made in Islamabad which is a well-educated and is well equipped with all the modern technologies. This study tell us about the pros and cons of these technologies. One can utilize it in a constructive manner like education and communication, on the other hand one can make himself the technology addict and then the other aspects of his life get faded out. So this study provides information about all these aspects and can be used for the proper technological utilization.

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