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Research Article

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Take control or be controlled: a qualitative study about medical students' standpoint on internet use

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ABSTRACT

Background: Internet use has become an indispensable part of our daily life nowadays and is accessible in homes, schools, colleges, libraries and internet cafes; access is further aided with the increasing affordability of home computers and smart cell phones over the last decade. However, excessive Internet use can lead to negative outcomes such as poor school performance, social isolation, and might impede adolescent's achievement of psychosocial developmental tasks. The balance is very important to maintain a healthy relationship with everything around us. For this equipoise the basic requirement is timely discernment. The rationale behind choosing medical students for the study is the belief that they should have better perception of balance between physical activity and internet usage. The objective was to study the medical students' view point and practice regarding internet use, and physical activity, and their knowledge of health problems related to excessive internet use.

Methods: Design of the study was semi-structured interviews with individual participants and Setting is one medical school in the Karachi, Pakistan. The study participants include 40 undergraduate medical students, across all stages of their training, selected by homogeneous purposive sampling, with the whole medical school population as a sampling frame

Results: Based on medical students' experiences and perceptions regarding internet use, the main findings included one forth12 (28%) of medical students prefer to see their friends in person while three forth of the participants either maintain their social circle through internet or visit them sometime. More than half of the sample, 23 (57%) respondents used Google search to update their knowledge and get information about certain topics to complete their academic tasks like course assignments. Two third of the sample either not interested in playing games or prefer to stay home. Almost half 21 (52%) sample used to do regular exercise either aerobics or with electrical or manual exercise machines while 9 (22%) go for daily walk. The gender differences in physical activity were not found to be significant. More than half 23 (57%) of the medical students either had no idea about health effects of excessive internet use or they denied any effect.

Conclusions: Medical students prefer socialization through internet and also utilizing it to accomplish a wide range of academic tasks like their course assignments. Medical schools generally promote a healthy lifestyle, and we expect medical students to be self-motivated to improve their health-related behaviors. However, based on the findings of current study, it can be safely recommended that there is a crucial need of improvement not only in edification of health effects of excessive internet use but also in terms of attitude and practice of medical students for their pivotal role in setting exemplary behavior towards this momentous concern of the century.

Keywords: Controlled, Control, Internet use, Medical students

INTRODUCTION

Internet usage has become an indispensable part of our life nowadays. It is accessible in homes, schools, colleges, libraries and internet cafes; access is further aided with the increasing affordability of home computers over the last decade. Usual online activities include completing schoolwork, playing online games, reading and writing emails and engaging in real time chatting. The Internet provides great educational assistance which includes access to information across a variety of topics, generating educational links and enhancing communication with teachers and classmates. Educators who advocate technology integration in the learning process believe it improves learning and prepare students to effectively participate in the 21st century workplace.

However, excessive Internet use can lead to negative outcomes such as poor school performance, social isolation, and might impede adolescent's achievement of psychosocial developmental tasks.^{4,6,7} Internationally, there are many surveys on the use of the Internet, and nearly all find that Internet use is most prevalent amongst youngers.8 Studies have revealed that an increase in virtual interaction decreases the amount of face-to-face interaction between people and this in turn may lead to social isolation and depression. There is an association between increased Internet use and psychological distress and loneliness. ^{6,10} In addition, an increase in the amount of time spent in front of the computer would generally cause the adolescent to spend less time on other important activities such as schoolwork. 11 An obsession of "internet addiction" is on rise specially among youngsters which is termed as PIU (problematic internet use). Among diagnostic categories of the current diagnostic and statistical manual of mental disorders (DSM- IV-TR), PIU has been most frequently likened to substance dependence and pathological gambling based on phenomenological similarities. ^{12,14,15} However, direct evidence for the existence of physiological changes associated with tolerance or withdrawal in individuals with PIU which may qualify it as a condition of dependence is currently lacking.

In Pakistan, the internet came for the first time in 1995 through Digicom in Karachi which was connected to the global Internet by a 64 Kbps line. In 1996, the PakNet data network, operated by Pakistan telecommunication company limited (PTCL), and was connected to the global Internet via a total of 512 Kbps. ¹⁶ The personal computers (PCs) and mobile phones's prices have decreased substantially which facilitated the dramatic internet use in Pakistan. Wireless broadband internet has been introduced by the WLL (wireless local loop) Networks in many major cities. In January 2007, Pakistan telecommunication authority reported over 12 million internet users. ¹⁷ The internet facility is available in 1898 cities in Pakistan, of which 1166 cities are in Punjab Province, 202 in Sindh Province, 420 in NWFP, while

110 are in Baluchistan Province. PTCL has now launched universal internet number, the internet service providers (ISPs) can, therefore, subscribe this highly effective service and send to their customers a strong message of care and service excellence. ¹⁸

The aims of current study were to explore the medical students' view point and practice regarding internet use and physical activity, and their knowledge of health problems related to excessive internet use.

METHODS

The study cohort consisted of 40 students from all years of training in one medical school of Karachi, Pakistan. Recruitment was stopped when saturation was reached for the key study themes. The students were selected by homogeneous purposive sampling, with the whole student population of the medical school as the sampling frame. All 40 respondents did not differ in key characteristics from the whole medical student population of the medical school.

Qualitative data were collected in one to one semistructured interviews, which took place in a private room in the medical school. The interviews were conducted by principal investigator herself in local language of the country.

A detailed summary of each interview was written and selected quotes were transcribed in author's words not precisely the respondents 'verbatim because the study was carried out in local language and translated afterwards. The rationale behind choosing local language for study was to make the interviews interviewer friendly.

The interviews were transcribed, identified emerging and repeated themes, and used NVivo and Concordance software to conduct content and discourse analysis, with simple counting methods. Author opted to display the results of interviews in the forms of Figures after fitting them in small categories for the convenience of readers.

Ethical considerations: The research was approved from the institutional review board. Informed consent was obtained as a preliminary requirement. Participation was totally discretionary and no compulsion was used in the data collection process. All participants were fully informed of the nature of the study and the use of the data. Participants were also ensured of confidentiality and withdrawal at any stage of study.

RESULTS

A qualitative study was done on 40 participants who were willing to participate in the study. The data was organized and three main themes emerged: socialization and information through internet operated screens of electronic devices, physical activity, and effects of excessive internet use on physical health.

Forty students participated: 20 (50%) were males and 20 (50%) females and all students in the age group 17–25 years.

Findings from the interviews

Socialization and information through internet operated screens of electronic devices

The findings established though this study were very interesting and unconventional for me. Among 40 students, 11 (27%) stay connected with their friends through internet operated social media like Facebook, SMS or MMS etc. (Figure 1). The others 18 (45%) maintained this social connections through both social media and occasional physical meetings. This makes a sum of 29 (72%). All of them including those who also have occasional physical meetings with their friends felt same, whether on social media or personal visit to friends. For them it does not make any difference. Their rationale was connectivity through social media is even better than to meet physically because in this case, they have an advantage to update their status minute to minute for their friends. Chatting verbally or writing a text is same; they feel even closer to their friends and ascendancy was the time saving.

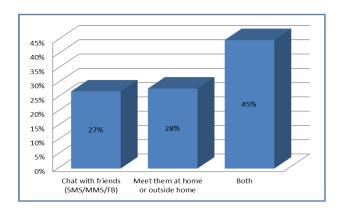


Figure 1: Spending time with friends.

The 12 (28%) students who prefer to see their friends instead of contacting them through social media had their own reasons. They believed that social media is promoting an anti-social behavior among youth by encouraging them to sit in front of the screen and feel like connected. They had a view that the so called socialization though screens is creating loneliness among new generation, they argued that just imagine if their access to internet is hindered due to any reason then they will realize where they stand. They will found themselves lonely sitting in front of an inanimate machine. Some of them even made very interesting comments on it, they said suppose a person who has died in early 20th century would revived again then he will die again for sure after beholding this version of socialization. It's like sitting side by side but not talking with each other rather everybody is busy in typing text. It sounds insane for them. Even-though their perspective was valid but

ironically they cannot outnumber the high percentage of social media supporters around them.

To get information through internet is a productive thing than just socialization. More than half of the sample participants 23 (57%) used Google search for knowledge and information about certain topics and to accomplish a wide range of academic tasks like course assignments. They think they can get updated information which is not present in the books but 12 (28%) of students still rely on books in the library for their knowledge (Figure 2). While 6 (16%) of the students said they are not interested in gaining additional information. They were of the opinion that they hardly get time to study their course and revise what they have learnt in their classes. They think their course books are sufficient to provide them required knowledge.

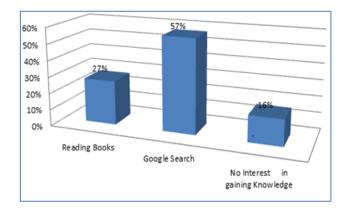


Figure 2: Source of knowledge.

Physical activity

Half of the respondents preferred to play games at home either on their internet operated computers or online XBox. While only 12 (31%) go out to play out door games. On the other hand 8 (20%) were not even interested to any kind of games. They said they have no time for games and if they get any time, they would prefer to sleep rather than playing games (Figure 3).

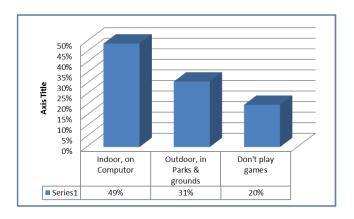


Figure 3: Preference to play games.

Almost half 21 (52%) respondents used to do regular exercise either aerobics or with electrical or manual exercise machines while 9 (22%) go for daily walk (Figures 4 and 5). The gender differences in physical activity were not found to be significant in this study.

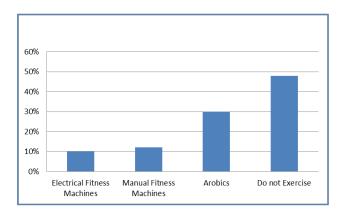


Figure 4: Physical activity through exercise.

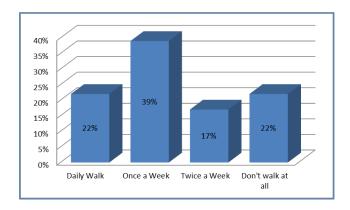


Figure 5: Daily walk.

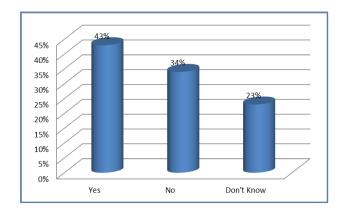


Figure 6: Does excessive internet surfing affects physical health.

Effects of excessive internet use on physical health

Surprising enough more than half 23 (57%) of the medical students either had no idea about effect of excessive internet use on health or they denied any effect (Figure 6). About half of the sample denied vicious cycle

of decreased physical activity due to sitting idle in front of computer or mobile phone screen and obesity related disorders. Exact half of the sample denied any visual impairment due to internet operated electronic gadgets and computer screens. More than half 25 (62%) respondents agreed that heart problems can be caused by electronic gadgets. Mental stress due to excessive internet use also bisected the sample into two half, almost of same size (agreed=51% and disagreed=49% (Figure 7).

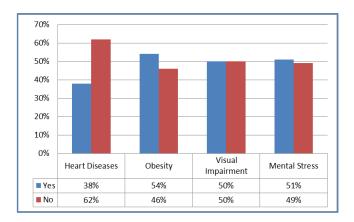


Figure 7: Health problems due to excessive internet use.

DISCUSSION

This study aimed to explore the medical students' view point and practice regarding internet use and physical activity, and their knowledge of health problems related to excessive internet use.

The findings of current study are in agreement with the study done by Bashir S in 2014 which showed that for most college students the Internet is a functional tool, one that has greatly changed the way they interact with others and with information as they go about their studies. They use internet to accomplish a wide range of academic tasks. Many students prepare course assignments, make study notes, tutor themselves with specialized multimedia, and process data for research projects. Most exchange emails with faculty, peers, and remote experts. They keep up to-date in their fields on the Internet, accessing newsgroups, bulletin boards, listservs, and web sites posted by professional organizations. ¹⁹

College students specially the medical students are future leaders of our society. Their physical activity behaviors will not only affect their own health, but will also serve as role models for the general population. Unfortunately, current study revealed that medical college students' physical activity levels are of concern because approximately 22% to 52% of students do not participate in adequate amounts of physical activity for accrue health benefits. It is discouraging that even medical students' physical activity behavior is not up to the mark. Frank E in 2008 showed that more than half (61%) of U.S. medical students adhered to CDC Physical Activity

recommendations.²⁰ Among U.S. medical students, personal physical activity levels are higher than those of age-matched peers in the general population, are maintained throughout medical school. Findings of Frank E can be contradicted by "National college health risk behavior survey" that more than one third of students (36%) did not participate in adequate amounts of physical Activity.²¹ Other studies also found an even higher percentage of college students (about 40%-50%) who were not physically active. 22-26 When compared with the American college of sport medicine's (ACSM's) recommendations for adequate amounts of physical activity, researchers reported that about 50% of the students failed to meet the ACSM's recommendations.²⁷ Thus it can be safely inferred that there is no difference in Physical Activity of doctor students and other college students. Studies show that physical activity patterns established in college are likely to be maintained for a long time. ^{28, 29} Given that virtually all college students are adults with multiple responsibilities, they are very likely to maintain physical activity patterns that they establish during their college years throughout adulthood, and such patterns may thereby influence long-term health. 28,30

Evidence shows that the contemporary style of living has significantly reduced demand for physical activity. 31-35 For the majority of people, the amount of physical activity required while performing daily activities is no longer sufficient for maintaining sound fitness and has caused a sedentary lifestyle and thereby produced a dramatic increase in overweight individuals, thus creating a high risk for poor health. 36-40 As a result, public health professionals have been making tremendous efforts to promote physical activity to combat diseases related to physical inactivity. 31,38,41,42 Many studies have shown that physical inactivity is associated with higher levels of overweight and obesity and that physical activity is essential in the prevention and treatment of overweight and obesity. 31,38

In current study the gender differences in physical activity were not found to be significant. The finding is in agreement with most of studies; researchers examined gender differences in physical activity and reported conflicting findings. Some studies noted that gender differences did not exist in this population, whereas others indicated that male college students participated in more vigorous activities than their female counterparts. Physical 24,30,45-47 When considering gender and age together, researchers reported different PA change patterns by gender over time. Buckworth and Nigg found that male students increased their PA levels as time passed, whereas their female counterparts demonstrated the opposite trend.

During the past few decades, the prevalence of obesity in adolescents there is an international epidemic of teen obesity worldwide. Obesity in adolescents causes a wide range of serious complications, and increases the risk of premature illness and death later in life, raising public-

health concerns. This is especially the case as exposure to eye strain from computer use and TV viewing can exacerbate an already existing eye condition. The findings of a study clearly demonstrated that a significant proportion of those with low vision and time spent in front of computer screen. The case of the case

The effect of computer use on obesity risk is of particular interest. Computer/TV viewing is thought to promote weight gain not only by displacing physical activity, but also by increasing energy intake. 51,52 Adolescence obesity is a multisystem disease with potentially devastating consequences. 53-59 Several complications warrant special attention. As with adults, obesity in childhood and adolescence causes hypertension, dyslipidaemia, chronic inflammation, increased blood clotting tendency, endothelial dysfunction, and hyperinsulinaemia. 54,55 Among adolescents and young adults who died of traumatic causes, the presence of cardiovascular disease risk factors correlated with asymptomatic coronary atherosclerosis, and lesions were more advanced in obese individuals. ^{60,61} Type 2 diabetes, once virtually unrecognized in adolescence, now accounts for as many as half of all new diagnoses of diabetes in some populations. 62 The emergence of type 2 diabetes in children represents an ominous development, in view of the macrovascular (heart disease, stroke, limb amputation) and microvascular (kidney failure, blindness) sequelae. Media time (watching television or videos, playing video or computer games) was directly associated with BMI change in both sexes. 63 We expect our doctor students to know the risks related to excessive internet use but surprising enough the findings of current study revealed that more than half of the medical students either had no idea about effect of excessive internet use on health or they denied any effect. About half of the sample said decreased physical activity cannot cause obesity. Exact half of the sample denied any visual impairment due to electronic gadgets. 62% respondents agreed that heart problems can be caused by electronic gadgets. Half of the respondents denied any mental stress due to excessive internet activity.

Limitation of study: The participation in the study was voluntary so the data gathered for this study may not be generalized.

CONCLUSION

Medical students prefer socialization through internet and also utilizing it to accomplish a wide range of academic tasks like course assignments. Medical schools generally promote a healthy lifestyle, and we expect medical students to be self-motivated to improve their health-related behaviors. However, based on the findings of current study, it can be safely recommended that there is a crucial need of improvement not only in edification of health effects of excessive internet use but also in terms of attitude and practice of medical students for their

pivotal role in setting exemplary behavior towards this momentous concern of the century.

Recommendations: There is a need to stress upon the medical students to lead healthy lifestyles to act as a role model for the general population. As a result of medical schools' improvement in promoting healthy lifestyles and positive clinical practice attitudes among their students, will prove fruitful in long run.

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Institutional Ethics Committee

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