Research Article

Impact of internet use on lifestyle in undergraduate medical students

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Abstract

Objectives: Medical students overindulgence with the internet, therefore it is important assess the impact of internet use on lifestyle of undergraduate medical students.
Methods: This cross-sectional study involved 90 (18-20 years) undergraduate medical students. Based on the Young's Internet addiction test scoring, subjects were divided into addictive internet users (score $\geq$ 50) and non-addictive internet users (score < 50). The two groups were compared for environmental stressors and lifestyle factors such as sleep, dietary pattern, physical activity and hobbies.
Results: The addictive internet user group had a statistically significant impairment of sleep (94.11% Vs 45.2%) and excessive daytime sleepiness(88.23% Vs 39.72%) and presence of environmental stressors (76.47% Vs 36.98%) when compared to the non-addictive internet user group.
Conclusions: This study identified addictive internet use as an important concern among medical students, on account of its negative impact on lifestyle factors and the role of environmental stressors in the predisposition to internet addiction.
Keywords: Dietary Pattern, Hobbies, Internet Use, Lifestyle, Physical Activity, Sleep Pattern.

1. Introduction

Technology influences lifestyle. With the advent of the internet, the virtual life created by the internet seems to be replacing real life experiences. This has significant bearing on both the physical and mental health of an individual.

College students spend a significant amount of time on the internet. Studies have demonstrated that this overindulgence can occasionally be problematic, with some students conforming to internet addiction symptoms such as heavy preoccupation with the internet, excessive online time, compulsive behaviour and time management problems[1]. Also, this could have a negative impact on their lifestyle, with a gradual transformation to a more sedentary lifestyle. Some cross-sectional studies have shown that internet addiction has an adverse effect on several lifestyle-related factors in adolescents; it can result in irregular dietary habits, extended periods of time spent on the internet[2], physical inactivity and short duration of sleep[3, 4]. Also, with late night internet use, as is often the case with adolescents, the quantity and quality of sleep is significantly compromised. A study on high school students in Korea found a strong correlation between internet addiction and excessive daytime sleepiness as an index of poor sleep quality [4]. Spending long hours online while compromising on hobbies and recreation can also hamper one's creativity and holistic development.

Medical students are a particularly vulnerable group, considering that technology is incorporated into their education and they often have easy access to the internet at their campuses.

With the above concerns in mind, we conducted this study to assess the impact of internet use on lifestyle and to study the association between environmental stressors and internet addiction in a sample population of undergraduate medical students.

2. Materials and Methods

This cross-sectional study was carried out on undergraduate medical students. Both male and female undergraduate medical students in the age group of 18-20 years, conforming to internet use for the last 6 months or more, were enrolled into the study. A total of 90 student volunteers were thus selected by random sampling by computer generated numbers. The study was carried out from 1st March 2013 to 1st April 2013. The study was approved by the research ethics committee. Subjects were briefed in detail about the nature and purpose of the study. Confidentiality was assured and informed consent was taken. Two questionnaires were administered to the subjects. One was a general questionnaire, subjective in nature. The parameters assessed were impact of the internet on hobbies, sleep, exercise and dietary patterns. Duration of internet use and stressors in life were also recorded. Stressors were defined as any stress that caused significant physical or mental distress for a period of at least one month. The second was the Young's Internet Addiction Test[5]. This includes 20 questions with a scoring of 0-5 for each question and a total maximum score of 100. Based on the scoring, subjects were classified into normal users (<20), mild (20-49), moderate (50-79) and severe (>79) internet addiction groups.

2.1 Statistical analysis

Statistical analysis was done using the SPSS version 16. Mean and standard deviation were calculated for the continuous variables and frequencies, and percentages were computed for the discontinuous variables. Comparison of groups for determination of statistically significant difference in the study parameters was done using chi square test.

3. Results

Of the 90 internet user subjects, 34(37.8%) were males and 56(62.2%) were females. The mean age of the sample was 18.49 (± 0.71) years. The mean duration of internet use was 6.46 (± 2.31) years. The average daily time spent on the internet was 2.10 (±1.19) hours. Baseline parameters of the subjects are given in (Table 1).

Table 1: Baseline parameters of internet users: n=90

Parameter	Mean	Standard Deviation
Age (years)	18.49	0.71
Height (cms)	165.86	8.03
Weight (kg)	63.71	13.99
BMI (kg/m^2)	23.02	3.91
Years of internet use	6.46	2.31
Hours of internet use per day	2.10	1.19

Based on the Young's Internet addiction test score, subjects were categorized into four groups- normal, mild internet dependence, moderate internet addiction and severe internet addiction categories[5]. In this study, the normal and mild dependent users were categorized as non-addictive internet users. The moderate and severe addicts were categorized as addictive internet users.

3.1 Comparison of study parameters between addictive and non-addictive internet users:

Subjects were divided into two groups for comparison of study parameters-the addictive internet user group (Internet addiction test score ≥ 50), comprising of 17 subjects, and the non-addictive internet user group (Internet addiction test score < 50), comprising of 73 subjects.

In this study, we found that the addictive internet user group had a higher frequency of all study parameters, when compared to the non-addictive internet user group. With regard to impairment of sleep and excessive daytime sleepiness, this difference was statistically significant. 94.11% of the addictive internet users reported impairment of sleep on account of internet use while only 45.2% of the non-addictive internet users reported to the same. Likewise, 88.23% of addictive internet users reported excessive daytime sleepiness as opposed to 39.72% in the non-addictive internet user group. With regard to snacking, skipping meals and impairment of hobbies and physical activity on account of internet use, the addictive internet user group reported a higher frequency as opposed to the non-addictive internet user group. However, this difference was not statistically significant. (Table 2)

Table 2: Comparison of lifestyle parameters between the addictive (n=17) and non-addictive (n=73) internet user category. Data is presented as whole number, with percentage in parentheses.

Parameter	Addictive internet users (n=17)	Non-addictive internet users (n=73)	χ^2	p
Impairment of sleep	16 (94.11%)	33 (45.2%)	13.301	0.000*
Excessive daytime sleepiness	15 (88.23%)	29 (39.72%)	12.985	0.000*
Skipping meals	04 (23.52%)	08 (10.95%)	1.886	0.170
Snacking	08 (47.05%)	34 (46.57%)	0.001	0.971
Impairment of physical activity	07 (41.17%)	18 (24.65%)	1.876	0.171
Impairment of hobbies	06 (35.29%)	24 (32.8%)	0.036	0.849

*p highly significant at < 0.01

Also, when the two study groups were assessed with respect to environmental stressors, a greater proportion of subjects in the addictive internet user group (76.47%) self-reported to the presence of environmental stressors in the last 5 years as opposed to the non-addictive internet users (36.98%). This difference among the two groups was found to be statistically significant (Table 3).

Table 3: Comparison of self-reported environmental stressors among addictive internet users (n=17) and non-addictive internet users (n=73). Data is presented as whole number, with percentage in parentheses.

Environmental stressors	Addictive internet users (n=17)	Non-addictive internet users (n=73)
Yes	13 (76.47%)	27 (36.98%)
No	04 (23.53%)	46 (63.02%)

$\chi^2 = 8.706$ p = 0.003

4. Discussion

This study is a preliminary study that assesses the impact of internet use on lifestyle in a sample representing undergraduate university students.

In this study, we found that addictive internet users reported a greater impairment of hobbies, exercise, sleep and dietary patterns on account of internet use when compared to non-addictive internet users. Impairment of sleep and excessive daytime sleepiness in addictive internet users were identified as important areas of concern in this study. These results are consistent with the findings of previous studies conducted in college students. A study on university students in Qatar revealed similar results, linking problematic internet use with negative lifestyle[6]. A study undertaken on Taiwanese college students identified sleep deprivation as an important negative consequence of excessive internet use [1]. Excessive daytime sleepiness was recorded as an important finding among internet addicts in a study undertaken on Korean adolescents[4]. These results significantly imply the dependence behaviour of internet addicts, who use the internet indiscriminately, at the expense of more important and purposeful activities of day to day life. Studies have suggested that college students as a group are more vulnerable to developing dependence on the internet on account of their strong drive to develop a firm sense of identity and to develop meaningful relationships[7]. Besides, with a significant proportion of medical students residing in hostels and leading independent lives, the predilection for internet dependence may be higher.

In this study, a significant proportion of problematic internet users reported to an environmental stressor in the last 5 years. A study in Chinese college students revealed that when compared to normal internet users, internet addicts reported more stressful life events, pointing to the role of environmental stressors in the propensity to addictive internet use [8]. This is in accordance with theories of addiction, which define environmental stressors as important factors in the predisposition to both substance use and internet addiction in adolescents [9]. In addition, the academic stress faced by medical students can compound the risk of internet dependence.

5. Conclusion

In our study, we identified addictive internet use as an important concern among medical students, on account of its negative impact on lifestyle factors. This study also highlighted the role of environmental stressors in the predisposition to internet addiction. It is therefore recommended that students be monitored with respect to their internet use and early counselling and interventional therapy be provided for excessive and indiscriminate internet use, as well as for dealing with stress.

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