



Original Research Article

ASSESSMENT OF USAGE OF ELECTRONIC GADGETS AND ITS EFFECTS ON MENTAL AND PHYSICAL HEALTH AMONG MEDICAL STUDENTS AT SKIMS MEDICAL COLLEGE, BEMINA - AN INSTITUTIONAL STUDY

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ABSTRACT

Background: The use of electronic gadgets provides the medical students a chance to access a vast amount of medical information, research studies and case studies by healthcare professionals and organizations which can be beneficial for staying updated. However its excess usage has been associated with debilitating health effects such as headache, nausea, ophthalmic and psychological effects. **Aim:** The study was aimed to assess the usage of electronic gadgets and its effect on mental and physical health of medical students at SKIMS Medical college, Bemina.

Materials and Methods: A cross-sectional study was conducted among 100 medical students, out of which 47 were male and 53 were female at SKIMS, medical college, Bemina, who were asked to fill a 11 pointed questionnaire.

Results: Majority of students responded to spend about 4-8 hours on gadgets in a day. Out of which 56% participants spent 4-8 hours on internet in a day. Sleep disturbance was responded in 35% students. 43% students responded to develop headache due to excessive usage.

Conclusion: Excessive usage of electronic gadgets possess potential negative impact on physical and mental health of medical students. In this regard students need to exercise caution, and strike a balance between online engagement and their academics and professional responsibilities.

Keywords: Electronic gadgets, healthcare professionals, medical students, mental health, physical health.

INTRODUCTION

The use of electronic gadgets such as laptop, computers, smartphones and tablets in day to day work have become immensely common in any society of developing and developed countries, especially among young university students even during class hours.^[1] Smartphones are cellular phones having built in applications and internet access so that they become mobile computers.^[2] Nowadays business, education, billing and various other activities are being undertaken through smart phones. These devices have been extensively embraced by medical students and professionals in

clinical and academic setting as they provide instant handy access to appropriate information about diseases, medications,^[3] interconnecting colleagues for any particular and critical issue regarding teaching and prescribing,^[4] viewing images,^[5] listening to podcasts,^[6] and download necessary reference as articles and even books.^[7]

The increased popularity of apps among the health care providers resulted in dedicated medical app category in the Apple app store in 2008.^[8] Despite their usefulness, these devices can have deleterious effects on health, both physical and mental, the severity of which depends on the type of device, duration of usage, rays transmitted, posture. The

extended duration of harmful radiations has harmful effects on health especially, vision, mind and other vital organs. It is important to highlight the health hazards of these devices, so as to regulate the duration and posture during usage and thereby reducing the severity of health hazards to the lowest possible level.

Aim: The aim of the study was to assess the usage of electronic gadgets and its effect on mental and physical health of medical students at SKIMS Medical college, Bemina.

MATERIALS AND METHODS

A cross-sectional study was conducted among 100 medical students out of which 47 were male and 53 were female at SKIMS medical college, Bemina. For this study, a 11 pointed closed questionnaire was designed to find out the type of gadgets, use of gadgets, their effects on health and other activities. The questionnaire also contained the three questions regarding demographic data (age, gender and socio-economic status). The hundred questionnaires were distributed among the available medical students at SKIMS, Medical College, Bemina. The study was conducted through the filling of questionnaire by students after properly explaining the procedure. Collected data was then compiled in excel sheet. Descriptive analysis was done.

RESULTS

Out of 100 students invited to participate in the study, 100 students completed and submitted the questionnaire. The demographic characteristics of students are summarized in Table no.1 which shows 47% of the respondents were males and 53% were females. Time spent on gadgets by respondents is interpreted in table no.2 where majority of students i.e. 60% students (19 males and 41 females) were seen to spend 4-8 hours on gadgets. About 56% students (17 males and 39 females) spent about 4-8 hours time on internet daily, out of which about 53% students spent < 4hours on social media applications, 42% spent 4-8 hours and about 5% spent > 8hours on social media. Table no.3 summarizes the psychological and ophthalmic effects of gadgets. About 59% of students (27 males and 32 females) responded that they cannot stay without mobile for a day. Sleep disturbance was seen in 35% (20 males and 15 females) respondents. Further the various health problems faced by the participants are mentioned in table no.4. Out of which the majority of students i.e. 43% (17 males and 26 females) responded to develop headache and about 30% (14 males and 16 female) responded to face no problem.

Table 1: Socio-economic status and type of family of participants

Characteristics	Male (n=47) (47%)	Female (n=53) (55%)	Total (n=100) (100%)
Socio-economic status			
Upper	0	0	0
Upper middle	33	47	74
Lower middle	14	12	26
Type of family			
Nuclear family	41	47	88
Joint family	4	6	10
Extended	2	0	2

Table 2: Time spent on gadgets by participants

Characteristics	Male (n=47)	Female (n=53)	Total (n=100)
Time spent with gadgets (in hours)			
< 4	21	8	29
4-8	19	41	60
>8	7	4	11
Time spent on internet (in hours)			
<4	24	11	35
4-8	17	39	56
>8	6	3	9
Time spent on social media (in hours)			
<4	25	28	53
4-8	19	23	42
>8	3	2	5
Time spent on laptop			
<4	28	33	61
4-8	17	19	36
>8	2	1	3

Table 3: Psychological and Ophthalmic effects of gadgets use

Characteristics	Male (n=47)	Female (n=53)	Total (n=100)
Stay without mobile for a day			
Yes	20	21	41
No	27	32	59

Behaviour when not in touch with mobile			
No reaction	25	32	57
Anxiety	12	12	24
Irritated	10	9	19
Difficulty in sleeping			
Yes	20	15	35
No	27	38	65
Wears spectacles			
Yes	12	19	31
No	35	34	69

Table 4: Health problems faced by participants

Health problems	Male (n=47)	Female (n=53)	Total (n=100)
Headache	17	26	43
Backache	15	19	34
Depression	4	3	7
Migraine	5	8	13
No problem	14	16	30

DISCUSSION

With the various advancements in electronic devices, its use among students particularly of higher education has been on continuous rise. The use of these devices plays an important role in improving the overall academics of students by allowing instant access to the medical knowledge and interaction at the global level. However its potential negative impact in the form of distractions and direct ill effect on physical and mental health of students is a matter of concern.

The present study included 100 participants, out of which 47 were males and 53 were females. Maximum number of students i.e. 60% were using electronic gadgets for about 4-8 hours in a day which included 19% males and 41% females as compared to study conducted by Marskole P et al,^[9] where 32% of participants were using gadgets for 4-8 hours in a day.

In the present study psychological effects of use of electronic gadgets in the form of anxiety, irritation and restlessness were found among 43% of students as compared to 46% found in study by Marskole P et al.^[9]

In our study sleep disturbance was found in 35% of participants as compared to 27% observed in study conducted by Garg R et al.^[10]

The ophthalmic effects of gadgets in the form of refraction error was found in 31% of participants who wore spectacles. In a similar study conducted by Pachiyappan et al,^[11] the ophthalmic effects in the form of pain in the eye region, redness of eye and blurring of eye was observed in 16.7%, 2%, 8.6% participants respectively.

Further in our study, various health problems due to gadget use like headache, backache, depression and migraine were found. Headache was found to be the most common problem in 43% participants. This was similar to the study conducted by Pachiyappan et al,^[11] where headache was the most common health problem observe in 34.8% participants.

CONCLUSION

With the widespread advancement in technology, the use of electronic gadgets has been on rise in medical students and health care professionals which has had its own positive and negative impacts. In this regard its total elimination seems impossible and irrational. However, there is a need to spread awareness about the its harmful effects on both physical as well as mental health of students. Further spreading the awareness regarding the possible ways to control the harmful effects like proper sitting posture, increase in blinking frequency, regulating screen time etc. would help in achieving the rational use of electronic gadgets.

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