

## RESEARCH ARTICLE

### Influence of technological gadgets on health and lifestyle of medico

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#### ABSTRACT

**Background:** Technological gadgets have been a boon to us and will continue to do so in future. However, their excessive usage in times of stress has been a matter of concern, especially in case of the youth in recent times. It is important to understand the influences of technological gadgets on the health and lifestyle, which includes both mental and physical health and its implications on the lives of medicos. **Aims and Objectives:** This study aims to study the influence of various technological gadgets on the health and lifestyle of medicos. **Materials and Methods:** It involved the students of Chengalpattu Medical College who were assessed with a pre-tested and a framed questionnaire. Based on their answers, a statistical analysis was done. **Results:** The results showed a positive correlation between the duration and purpose for which the gadget was used and the health and the lifestyle of the medicos. **Conclusion:** Technological gadgets though necessary do have an influence in health and lifestyle of medicos in a negative direction which could be attributed to overuse.

**KEY WORDS:** Health; Influence; Lifestyle; Technological Gadgets

#### INTRODUCTION


In the present era, with the introduction of modern technological gadgets, dependency of people on the technological gadgets and services provided by these has reached at such level that, without these, progress in life seems impossible. Generation Y, i.e., the present generation is psychologically addicted to social media and the purposes of use in most cases are pleasure driven rather than necessity driven.<sup>[1]</sup>

A study conducted in Delhi proved that medicos belonging to middle class economically were most addicted.<sup>[2]</sup> A similar study conducted in Western Maharashtra also

proved that the younger generation is inclined toward becoming gadget dependent.<sup>[3]</sup> Another study conducted on students of the National Institutes of Technology, Rourkela, proved that addiction of gadgets had health and social effects.<sup>[4]</sup>

This study considered the case of medicos who already undergo a stressful life due to the bulk syllabi followed by them. This is where, technology acts like a haven but again, the degree of dependence is quite a matter of concern which affects the health and lifestyle of medicos indirectly affecting both the quality and the quantity of doctors being produced in our country.

As it is known, anything in excess is not good, similarly, technology in the long run has negative effects on individuals. It can make the youth weak in real-life practical skills and it also takes them away from the reality. The addiction causes intrapsychic conflicts such as intolerance and relapse among the youth.<sup>[5]</sup>

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## MATERIALS AND METHODS

This cross-sectional study was conducted at Chengalpattu Medical College. After obtaining permission from the Institutional Ethics Committee, students from all the batches interested to participate in this study were enrolled. A total of 300 students, both males and females, from the 1<sup>st</sup> to pre-final year MBBS in the age group of 18–25 years were involved in the study. The medicos who were not willing and those who were already under medications for neuropsychiatric illnesses were excluded from the study. After getting approval from the Institutional Ethical Committee and written informed consent from the subject, the subjects were given a pre-tested, framed, and a standardized questionnaire. The purpose of study was explained to all the participants well in advance before conducting the study. The confidentiality of the details given by the participant was ensured.

### Description of the Questionnaire

The questionnaire to be used in this study was a structured one. The first part of the questionnaire consisted of the declaration and the demographic profile which included the year of study, age, gender, residency, and socioeconomic status of the participants followed by four sections. Along with the declaration, some general information about the participant regarding his/her condition of study and previous medical history if any was also taken into account. The latter four sections were contained closed-ended questions regarding the use of the technological gadgets and the present health status of the participants.

Section-A of the questionnaire contained questions regarding the use of the gadgets in a tabular form. Time spent for the purposes of the use of the gadgets and services and since when they have been using that particular gadget was enquired.

**Table 1:** Gender-based variation in time spent on technological gadgets

Duration (h)	Male (%), n=124	Female (%), n=190
1–2	29	31
2–4	45	40
4–6	10	14
>6	16	15

**Table 2:** Services availed based on the duration of usage of technological gadgets

Time spent	n	Calling (%)	Messaging (%)	Internet (%)	Social networking (%)	Music/video (%)
2 h	95	100	43	68	64	85
2–4 h	132	98	42	86	78	95
4–6 h	55	100	16	100	100	100
>6 h	32	81	77	100	65	100
Average	314	95	45	89	77	95

In Section-B of the questionnaire, some questions were asked about the dependency of respondents on the technological gadgets and services. All questions were in 5-point Likert-scale, where 5 referred to strongly agree and 1 referred to strongly disagree. In this, certain questions had subquestions so as to assess the reason why they had given a particular score to that particular question.

In both the Sections-C and D, some questions regarding the present health status and social behavior were asked. They were also enquired about medications if any to get that particular health condition treated. The individual responses obtained were compiled and analyzed in terms of percentages and proportions.

The data collected through this process were subjected to statistical analysis using SPSS-19 and the same was interpreted accordingly.

## RESULTS

A total of 314 medicos participated in the study, of which 124 were male and 190 were female. The mean duration and the intentions behind the usage of technological gadgets were analyzed in terms of percentage and the influence of them on health and lifestyle was correlated using Pearson's correlation and  $P < 0.05$  was considered statistically significant.

Table 1 gives a preview of the gender based variations in time spent on technological gadgets. It is evident from Table 2 that majority of the students use technological gadgets for calling, listening to music or viewing videos, and browsing internet. The medicos who use it for more than 6 h use it for messaging (77%) more than the other groups.

Table 3 shows that most of the students use the technological gadgets for entertainment whereas the students who use it for more than 6 h use it for studies and entertainment equally.

The results have been tabulated based on the answers given by the students to questions related to their lifestyle. The Pearson's correlation test was done to assess whether they agree that there is influenced of technological gadgets on their lifestyle.

The students felt that the technology is the best source of entertainment which is evident from the table that it has a very highly significant positive correlation ( $P = 0.0001$ ) statistically. They have also responded that computer education is mandatory for higher education as a tool which has statistically highly significant correlation ( $P = 0.008$ ).

Table 4 shows the influence of technological gadgets on lifestyle of medicos and Table 5 shows the results of health status and the statistical correlation test, Pearson’s correlation was done to assess whether the duration of the usage of technological devices does influence their health.

The probability of feeling sad, melancholic, and depressed was found to be increased as the duration of usage of tech devices increases and there is very highly significant ( $P < 0.0001$ ) positive statistical correlation.

There was highly significant positive correlation between the duration of usage of technological devices and experiencing physical discomfort ( $P = 0.0022$ ).

It was found that there is a significant positive correlation in visual disturbances ( $P = 0.03$ ), difficulty in logical reasoning and positive thinking ( $P = 0.025$ ), and feeling sick and too tired ( $P = 0.027$ ).

**DISCUSSION**

In the present study, 314 medicos of which 124 males and 190 females consented to be a part of this study were exposed to a standardized questionnaire. In this study, it was observed that the number of males using a gadget compared to the number of females was lesser in the sections of 1–2 h, 2–4 h, and 4–6 h, but for >6 h, the proportion was found to be reversed. The questionnaire had different sections, of which Section B dealt with lifestyle and Sections C and D dealt with health. Sections C and D were compared with Section A which dealt with duration, purpose, and services availed while using gadgets.

In this study, the statements ‘technology as the best source of entertainment’ and ‘survival without gadgets is being difficult’ showed significant positive correlation which makes it evident that medicos do need technological gadgets as a relaxation in their stressful lives. The statement that social networking ruins relationships got a negative value which is consistent with findings by Ranjani and Chandio<sup>[5]</sup> who have proved in their study that internet helps in maintaining relationships instead of ruining them. However, the study conducted by Muduli<sup>[11]</sup> has quoted that respondents of addictive use of gadgets hardly had any time for their friends or family, which is not in line with the results obtained in the present study.

**Table 3: Purpose of the usage of technological devices based on duration**

Time spent	n	Study	Communication	Entertainment
2 h	95	77	88	96
2–4 h	132	91	95	99
4–6 h	55	56	93	100
>6 h	32	100	77	100
Average	314	88	81	99

**Table 4: Influence of technological gadgets on lifestyle of medicos**

Influence of technological gadgets on lifestyle	Pearson’s correlation	
	R	P-value
Survival is difficult without technological gadgets	0.0794	0.1702
Technology is the best source of entertainment	0.4056	0.0001***
Unaware about surroundings while with gadgets	-0.0053	0.879
Music makes work easy	-0.0579	0.411
Social relationships ruin	-0.0401	0.492
Internet is the ultimate source of knowledge	0.0079	0.763
Technology makes youth smart	0.0190	0.560
Computer education is mandatory for higher education	-0.0890	0.116
Excess usage of tech gadgets is injurious to health	0.1499	0.008**
Technology causes generation gap	-0.0385	0.497

\*\*highly significant, \*\*\*very highly significant

**Table 5: Issues of physical health associated with the duration of usage of tech gadgets**

Health status	Pearson’s correlation	
	R	P-value
Defective vision	0.1216	0.0312*
Hearing difficulty	0.0527	0.3516
Breathing difficulty	-0.014	0.8045
Difficulty in speaking coherently	0.0451	0.4256
Bladder and bowel habits	-0.028	0.6247
Difficulty in performing day-to-day activities	0.0551	0.3298
Difficulty in logical reasoning and thinking	0.1264	0.0251*
Physical discomforts	0.1721	0.0022**
Feeling sad, melancholic, depressed	0.2933	<0.0001***
Anxious, stressed, or nervous	0.1075	0.0571#
Feeling of being ill and tired	0.1242	0.0278*

\*Significant, \*\*highly significant, \*\*\*very highly significant, #not quite significant

Muduli,<sup>[11]</sup> in his study, has quoted that respondents considered Google as the storehouse of knowledge which is consistent with the present study, wherein even medicos feel that internet is the ultimate source of knowledge. As Rallings<sup>[7]</sup> had concluded in his study that internet has become a major irremovable technological advancement in day-to-day life, we have obtained a positive correlation for the statement that survival without gadgets is difficult even for a day.

In this study, it was observed that technological gadgets had an influence on the physical health status of the user. A highly significant value was obtained for the problems associated with feeling of sadness or depression after using a gadget continuously for long hours. This shows that depression and usage of technological gadgets have a strong relationship which is consistent with the study conducted by Augner and Hacker<sup>[8]</sup> and Suki<sup>[9]</sup>. The studies conducted by Praveen Gaganahalli *et al.*<sup>[10]</sup> a study conducted by Khan<sup>[11]</sup> proved problems such as headache and concentration problems in individuals using gadgets excessively. In the present study, we also obtained a significantly positive correlation which implies that excessive usage of gadgets did cause physical discomfort. This study showed a significantly positive correlation for problems associated with logical reasoning, memory impairment, and fatigue. This goes hand in hand with studies conducted by Khan.<sup>[11]</sup> Miakotko<sup>[12]</sup> also arrived at a similar conclusion in his study, wherein excessive use was associated with problems of physical discomfort, fatigue, and problems like inattention.

The present study has given a significantly positive correlation for vision-related disturbances and goes in line with the studies conducted by the American Optometric Association<sup>[13]</sup> and Akinbinu and Mashalla.<sup>[14]</sup> Gaganahalli *et al.*<sup>[10]</sup> also arrived to a similar conclusion which stated that excessive use leads to eye strain. In the study conducted by Lepp *et al.*<sup>[15]</sup> they correlated decreased cardiorespiratory fitness with significant cell phone use but in the present study gave a negative correlation for the same.

From this study, it is observed that technological gadgets though it is a boon to present-day world, it does have a negative impact on health and lifestyle of medicos.

### Limitations of the Study

This study had its own share of limitations in the sample size which could have involved students from the other colleges and it also assessed the health impacts through a questionnaire which could have been better if correlated clinically.

### CONCLUSION

Physical health showed a deteriorating trend on comparing with the time spent on these gadgets, especially factors

such as vision, hearing, memory, and logical thinking. Excessive use showed highly positive value for problems such as depression, feeling of anxiety, and sadness. They also reported to having felt tired and fatigue after using gadgets for long hours which need to be addressed. Technological gadgets had a definitive influence in their lifestyle which was evident from positive correlation for the statements like technology as the best source of entertainment and survival being difficult without technological gadgets even for a day and internet being accepted as the ultimate source of knowledge. This implies that they prefer technology over spending time with family and friends and also opens them to risk factors involved in browsing the internet.

Thus, technological gadgets though necessary seem to have influenced our health and lifestyle in a negative direction due to overuse. These problems need to be addressed and an awareness regarding the same must be created to bring back our medicos on the right track.

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