Research Article

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Menace of mobile phone overuse: an emerging public health concern

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ABSTRACT

Background: Mobile phones have become indispensible objects of necessity in the rapidly developing economies like India. They are part and parcel of our lives in the rapidly evolving digitalized era. In this scenario, a study was conducted to find out how are mobile phones are being utilized by undergraduate medical students of a premier medical school IMS, BHU. The objectives of the study were to find out the pattern of mobile phone usage by the students; to assess its role as an educational tool and to explore the issue of 'problem mobile phone overuse'; if any, in the students.

Methods: A pretested questionnaire was used to assess the response on various issues related to cell phone usage. 208 medical students out of total 309 from 3rd to 9th semester were the part of the study. For statistical analysis, data analysis was done by using Epi-info ver.7.

Results: Almost 40% respondents did not refer any educational sites on their cell phones. 9% respondents felt that they should cut down their time on cell phone but they can't (problem mobile phone overuse). 59% respondents felt that cell phone affects their studies negatively to a certain extent. Only 5% respondents used their cell phones as a learning aid.

Conclusions: Cell phones do not seem to play a major role as far as their educational role is concerned rather it is more often used as an entertainment tool by the students. The issue of cell phone overuse is also a new emerging issue with over 9% students found to be affected.

Keywords: Digitalized era, Educational tool, Problem mobile phone overuse

INTRODUCTION

A mobile phone is a device that can make and receive calls over radio link while moving around a wide geographic area. It does so by connecting to a cellular network provided by a mobile phone operator allowing access to public phone network. In addition to telephony, mobile telephones also support a wide variety of other services such as text messaging, MMS, email, internet access, short range wireless communications (infra-red, Bluetooth), business applications, gaming and photography.² Mobile phones that offer these and more

general computing capabilities are referred as smart phones. Since the launch of first hand held cell phone by Motorola in 1973, we are now in the world of 4th generation handsets. Cell phones have made inroads in every walk of our lives right up to the bottom of the economic pyramid. From 1983 to 2014 world wide mobile phone subscriptions grew from zero to 7 billion, thus penetrating and spreading their tentacles in every strata of the society. We are so much engulfed in this digitalized scenario that we start our day by checking for overnight missed calls and messages!

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Hence, a study was conducted to find out the pattern and utility of mobile phones by the medical students of an elite medical school IMS, BHU. The study also tries to find out the use of cell phone as an educational aid. The issue of 'problem mobile phone overuse'. a new phenomenon seen lately among young cell phone users has also been explored.

METHODS

A Cross sectional Observational study was carried out by using a pretested questionnaire in the month of February 2015. All the MBBS students (309) from 3rd semester to 9th semester constituted the sampling frame. All the students (309) were sent the questionnaire via e-mail. They were asked to respond within 24 hours. Everyone was explained the purpose of the interview.

208 students agreed to be the part of the study. Inclusion criterion was that the participants should have at least one phone and they should have spent at least one year in the medical college. So the 1st and 2nd semester students were excluded. The responses were then evaluated using SPSS Ver16. Chi square test was applied for statistical analysis.

RESULTS

Out of 208 students who were the part of the study 125 were males and 83 females.

Table 1 shows that 72.13% respondents had smart Phone while 5.76% respondents had phones without internet. Only 1.92% used i-phones. About 90% respondents were using only one handset, while the rest had two cell phones.

Table 1: Type of cell phone used by the respondents (n=208).

| Type of cellphone | N | Percentage |
|--|-----|------------|
| 1. Smartphone | 150 | 72.13 |
| 2. With internet but not a smart phone | 42 | 20.19 |
| 3. Without internet | 12 | 5.76 |
| 4. I-phone | 4 | 1.92 |

About one-third respondents had handsets in the range of Rs. 5,000- 10,000 while about one-fourth students had in the range of Rs. 10,000- 15,000.

About 13% respondents did not use their cell phones for internet browsing. Respondents were almost equally distributed with regard to type of internet connection used; 2G (28.36%), 3G (28.84) and 2G/3G (24%).

Table 2 shows that only 23% percent respondents referred to some educational sites (newspaper, medical sites, general knowledge websites, current affairs magazines etc.) on their cell phones. Rest 77%

respondents used it as an entertainment tool mainly, spending time on facebook, adult sites, movies, downloading music, you tube and sports websites. More than one-forth students frankly admitted that they use it for watching porn sites. The actual figures may be still higher. This may be an example of technological misuse.

Table 2: Frequently browsed sites by the students (n=208).

| Name of the site | N | Percentage |
|--------------------------|----|------------|
| Educational sites | 48 | 23.0 |
| Adult sites | 44 | 21.15 |
| Facebook | 38 | 18.33 |
| Facebook and adult sites | 38 | 18.33 |
| Misc | 10 | 5.01 |
| None | 30 | 15.08 |

Table 3 shows that meanwhile, the average monthly expenditure of the majority of respondents (41.82%) was found to be between Rs 200 to 400. About 11% students spent more than Rs 600 per month on their phones. No significant difference was found in the monthly expenditure in relation to gender.

Table 3: Approximate monthly expenses of the respondents on cell phone.

| Monthly expense on cell phone n(%) | | | | | |
|------------------------------------|---------|-------------------|-------------------|-------------------|---------|
| Gender | < Rs100 | Rs 100- 200 | Rs 200- 400 | Rs 400- 600 | >Rs600 |
| Male | 11 | 28 | 49 | 16 | 21 |
| | (8.8) | (22.4) | (39.2) | (12.80) | (16.80) |
| Female | 13 | 15 | 37 | 11 | 7 |
| | (15.66) | (18.09) | (44.57) | (13.25) | (8.43) |

P value= 0.245, X2= 5.43. Percentages are given in brackets.

Rs-Rupees is Indian currency.

Table 4 shows that we found a significant difference in the time spent on talking to parents. Girls spend more time talking at as compared to boys. About 11% girls even spend 1 to 2 hours daily with their parents. About 75% boys talk to parents less than 15 mins.

Table 4: Table showing the time spent by the respondents talking to parents n=208.

| | Time spent for talking to parents n(%) | | | | | |
|--------|--|-----------------|------------------|---------------|--------------|--|
| Gender | Upto 5 mins | 5 to 10 mins | 10 to 15 mins | 15 to 30 mins | > 30 mins | |
| Male | 28 | 34 | 37 | 20 | 5 | |
| 111111 | (15.2) | (34.2) | (27.0) | (15.6) | (8.0) | |
| Female | 1 | 13 | 25 | 30 | 12 | |
| | (2.4) | (16.86) | (30.12) | (33.73) | (12.85) | |

Corrected chi sq = 34.21 p value < 0.0001.

Percentages are given in brackets.

Table 5 shows the various responses of the students to the questions regarding Cell phone usage. It was found that 9.13% respondents wanted to cut down their time on cell phone but they could not. This group of respondents (around 19 students: 11 boys, 8 girls) could be termed under the condition called "problem mobile phone overuse". This is the term used in medical nomenclature for the colloquial jargon 'cell phone addiction'. On further exploring the reasons for this issue we found that some said that they felt addicted; others told that they didn't know how to stop themselves while a few others told that they had an impulsive desire to be online always, whereas some told that we want to reduce but don't know how to.

Table 5: Various responses of the students regarding cell phone usage n=208.

| Question | Response | n | % |
|--|-----------------------------------|-----|---------|
| Do you need to cut down time on cellphone? | Yes, i should cut down | 55 | (26.44) |
| | No need to cut down | 124 | (59.63) |
| | Yes i want to, but i cant | 19 | (9.13) |
| | Can't say | 10 | (4.8) |
| What is the Most common use of cell phone? | Talking to parents | 128 | (61.53) |
| | Talking to boyfriend/gf | 50 | (24.06) |
| | Facebook | 18 | (8.65) |
| | Browsing educational sites | 12 | (5.76) |
| Do you feel any harmful impact of Cell phone on studies? | Yes, but only to a small extent | 98 | (47.11) |
| | No, not at all | 78 | (37.50) |
| | Definitely yes, to a large extent | 26 | (12.50) |
| | Can't say | 6 | (2.88) |

61.53% mainly use their cell phone for talking to their parents, while only 5.76% respondents used it as an educational aid. 24.06% respondents told that they use their cell phone for talking to their boyfriend/girlfriend.

Almost one-third (62.50%) respondents felt that cell phones were a hindrance in their studies in as they get carried away due to over usage.

After excluding 12 respondents (5.76%) who did not have cellphones with internet connection we evaluated the following data about internet browsing for remaining 196 students.

Figure 1 and 2 show that it is clear from the graphs in figure 1, 2 that 40.38% rarely browsed any educational site. About half the respondents spent upto 15 mins daily on facebook. About 18.26% respondents did not use facebook on their cellphones. 29.32% never used whats

app whereas 18.26% spent more than two hours daily on whats app. Out of this around 11.26% were always online.

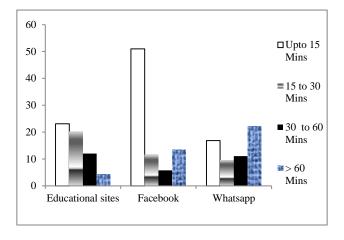


Figure 1: Bar diagram showing the time spent on browsing different sites (n=196).

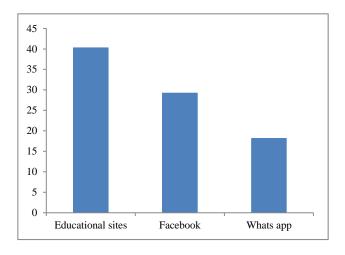


Figure 2: Bar diagram showing No. of students rarely using the following sites.

DISCUSSION

The striking findings of the study were that the cell phone is generally not utilized as an educational aid by medical students; rather more than half of the respondents felt it as a hindrance in their studies. Students mainly use it for communication and entertainment purposes only. About 9% students have an issue of 'problem mobile phone overuse' which should be looked into before it becomes a major social and psychiatric issue. Young students in these formative years should learn to spend their time judicially in other physical and other sports related activities, instead of sitting long hours on facebook, whats app etc. Effective professional counseling can help students overcome these issues. If we go by the current trends of cell phone usage, the day is not far when cell phones will be as indispensible as oxygen is for the human beings!! So technology should be adopted as per our need and requirement. The brighter side of technology should be emphasized upon the younger generation through school curriculum, mass media and family encouragement. We could not find any Indian figures on this issue before. We have made a soft beginning into this new domain of technological impact and side effects of digitalisation in our society.

According to my opinion, we should actively pursue policies about teaching the younger generation at school and college level about highlighting the rational usage of mobile phones and tap their positive potential and minimize the negative impacts like cell phone addiction as well as pornography viewing.

Key messages

- Since internet has become a part of our day to day activity the young minds should be sensitized about its advantages and how they should stay away from its ill effects.
- Cell phone addiction and internet addiction are slowing engulfing our society which will gain importance by each passing day and we should be prepared with a practical framework to tackle them effectively, before it becomes a mass problem.
- Medical school students who are supposed to be the
 most health conscious and source of health
 education for the community. If they are unable to
 understand this menace, then its high time we pull
 up our socks and reach up to the community and
 make them understand the seriousness of the issue.
- All the stakeholders and the government should put into place policy guidelines at the earliest before this issue of mobile phone overuse becomes a chronic illness manifesting in forms of psychiatric problems, loneliness, crimes and virtualisation of our society.

CONCLUSION

Cell phones do not seem to play a major role as far as their educational role is concerned rather it is more often used as an entertainment tool by the students. The issue of cell phone overuse is also a new emerging issue with over 9% students found to be affected.

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Institutional Ethics Committee

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