Gadget Dependency among Medical College Students in Delhi

Gupta N1, Krishnamurthy V2, Majhi J3, Gupta S4

1Assistant Professor, Department of Community Medicine, Lady Hardinge Medical College, New Delhi, 2 Senior Resident, 3Post Graduate Student, Department of Community Medicine, University College of Medical Sciences, Delhi, 4Assistant Professor, Department of Community Medicine, Saraswathi Institute of Medical Sciences, Anwarpur, Hapur, UP

Abstract

Background: Gadget holds the great importance in everyday life. Mobile phone and internet usage have become universal practice especially among the student community. Gadgets usage has both pros and cons. Objective: To assess the magnitude of gadget utilization among medical college students in Delhi and to estimate the burden of gadget dependency. Methodology: A cross sectional study was conducted in three medical colleges. The participants were 957 medical students selected by systematic random sampling, interviewed using a self-administered questionnaire. Result: The sample consisted of 485 (50.7%) males and 472 (49.3%) females, aged 17-25 years. Gadgets of at least one variety were uniformly used by all the students, 22.4% of the students surveyed were found to be gadget dependent. Conclusion: Our study shows high prevalence of gadget dependency among medical students. There is need to create awareness regarding the problem of gadget dependency and its social and health effects.

Key Words

Gadget, Medical College; Delhi; Gadget dependent; Students

Introduction

The term “gadget” refers to the portable electronic devices that belong to either one or more of the following categories: mobile phones, MP3 players and gaming consoles or any other wireless-enabled devices. This comprises of variety of devices including notebooks, tablets and i-touch. These gadgets can perform a great variety of functions. Mobile phones, for instance, have been transformed into multi-functional devices with cameras, radio/MP3, wireless technology connectivity and more (1).

Globally an increasing number of people own more than one gadget. In America, young adults aged 18 to 29 years old own four gadgets on average in 2010 (2). Indian market has emerged as the second largest market after China for mobile phone handsets. It has been found in various studies that it is difficult to part people from their gadgets even for a second. Gadget usage has both pros and cons. With at a stretch continuous use of gadget many health problems are reported like eye
straining, finger pain, backache, neck pain, day
time sleepiness and sleep disturbances. Depending on the amount of time spent on
gadget (duration and frequency), there are adverse effects like physiological,
psychological, social and emotional (2).

Although media is raising the issue of adverse
effects of gadget usage, still there are no substantial efforts regarding the proper usage
of gadgets.

**Aims and Objectives**

The present study was planned to assess the
magnitude of gadget utilization and to address
the issue of gadget dependence among
medical college students.

**Methods**

The study was a cross-sectional analysis of the
subject population with the units of study
being college students studying in medical
colleges under Delhi University. Delhi has total
seven medical colleges. Of these, medical
colleges under university of Delhi were chosen
by convenience. The chosen colleges were
Maulana Azad Medical College (MAMC), Lady
Harding Medical College (LHMC) and
University College of medical Sciences (UCMS).
The study protocol was approved by Ethics
Committee of University College of Medical
Sciences Delhi University. A written permission
and consent from the respective college
principals was obtained prior to conducting the
study in these colleges.

As no previous study was available from the
specific study population and area, we relied
on previous results from international studies
for calculating sample size. With an estimated
proportion (p) of gadget dependency as 20%,
with an allowable error (d) of 3%, statistical
power of 80% and constant Z=1.96, the
required minimum sample size came out to be
682 using the formula, sample size = \( Z^2 \times p \times (1-p)/d^2 \).

By considering the non-response rate of 20%,
the total sample size calculated was 822. The
sample size was equally divided for the three
medical colleges and every second student was
selected from each batch by systematic
random sampling. All students from different
batches were included in the study except interns.

A pre-tested, self-administered and semi
structured questionnaire was used to collect
information about socio-demographic profile
and about gadget dependency amongst the
college students.

The demographic variables include age,
gender, type of schooling and socio economic
status. As currently there is no standard
definition for gadget dependency. In the
present study it is defined as compulsive usage
of gadgets even when individuals know their
usage affects them and others around them –
psychologically, socially, emotionally and
physically (3). The questionnaire focusing on
gadget dependency (4) had ten components:
effect on academic performance, use of gadget
to escape from problems, thinking about
electronic gadget more and more, stolen a
gadget from a store or a friend, tried to use it
for lesser time but unsuccessful, have become
restless if tried to cut down gadget usage,
compromised studies or co circular activities to
use gadget, spending more time and money on
gadget to feel a level of excitement, lied to
family or friends about how much you use
gadget and ever needed to borrow money so
you could get electronic gadget. Each question
had three options: yes, sometimes and no. By
adapting the point allocation system from a
study on video gaming (5), for the option ‘yes’
score was 1 and for ‘sometimes’ score was 0.5,
total score of more than 5 signifies gadget
dependency.
The individual responses thus obtained were complied, processed and analyzed by using SPSS version 12.

**Result**

The study was conducted among three medical colleges located in Delhi, under university of Delhi. Table 1 shows the demographic profile of the students. The study population comprised 485 (50.7%) males and 472 (49.3%) females their age ranged from 17-25 years (mean 20.8 years). About two third (57.9%) students were aged above 20 years. Majority of the students (70.1%) did their schooling from private schools. Most of the students belonged to upper (414; 43.3%), upper middle (500; 52.2%) socio economic class while remaining (43; 4.5%) belonged to either lower middle or upper lower socio economic class according to modified Kuppuswamy scale for socio economic status.

**Discussion**

The present study was an analysis of the magnitude of gadget utilization and gadget dependency among medical college students in Delhi. The sample consisted of 50.7% males and 47.3% females. The mean age of the study population was 20.8±1.4 years with range of 17-25 years. All the three medical colleges had almost equal representation in the sample. Similarly batch wise also there is equal representation by each batch of MBBS.

In the present study atleast one gadget (mobile phone) is owned by each student. More than three forth (79.1%) of students had multimedia mobile. Nearly three forth (71%) had laptops. About half of the students used wireless internet and ipods. A study by Kaiser Family Foundation (6) reported that there has been a huge increase in ownership of gadgets among 8-18 years old: from 39% to 66% for cell phones and from 18% to 76% for iPods and other MP3 players. With global trends indicating an exponential increase in gadget ownership, it would not be feasible to encourage the people to discontinue or disengage in the use of gadgets. Further more young people want technology to add value to their lifestyles, satisfy their social and leisure needs and reinforce their group identity (7).

At present there is not much information about the topic. Of the total 957 students, 22.4% were found to be gadget dependent. Our finding was similar to that of S Dixit (8) in whose study 19% of medical students were mobile phone dependent. Wong Fei Mun et al 2011 (9) in a study in Malaysia, found 22% of males were mobile phone dependent. Even though the proportions are almost similar, our results represent a broader view as we have taken into account all electronic gadgets to assess dependency. Gadget dependency may be a larger problem than we think as the people are oblivious to the extent of their gadget usage as they tend to lie- subconsciously and not-to conceal the extent of their gadget usage.

**Conclusion**

The gadget dependency was found to be high (22.4%) among the medical college students of Delhi. The results give an alarming indication that the younger generation is inclined towards possessing more gadgets and becoming gadget dependent. There is a need to counsel students and parents regarding dependency on gadgets. For mitigating gadget dependency, co-curricular activities and yoga can be promoted. Seminars should be conducted to create awareness regarding indiscriminate use of gadgets, their addicting potential and ill-health effects related to it and also regarding the usage of gadgets at intervals rather than continuously at a stretch. Further more research is required focusing on gadget
utilization, gadget dependency and ill-health effects.

Acknowledgement

The authors wish to express their sincere thanks to all the study participants for their support and cooperation without them, this study would not have been possible.

References

3. iGROW, 2011. iGROW Pte Ltd.


Tables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Males (n=485)</th>
<th>Females (n=472)</th>
<th>Total (n=957)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 18 years</td>
<td>28 (5.8)</td>
<td>27 (5.7)</td>
<td>55 (5.8)</td>
</tr>
<tr>
<td>19-20 years</td>
<td>173 (35.7)</td>
<td>174 (36.9)</td>
<td>347 (36.3)</td>
</tr>
<tr>
<td>21-22 years</td>
<td>213 (44.0)</td>
<td>202 (42.8)</td>
<td>415 (43.4)</td>
</tr>
<tr>
<td>23-24 years</td>
<td>71 (14.5)</td>
<td>69 (14.6)</td>
<td>140 (14.5)</td>
</tr>
<tr>
<td>COLLEGE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UCMS</td>
<td>258 (53.2)</td>
<td>102 (21.6)</td>
<td>360 (37.6)</td>
</tr>
<tr>
<td>LHMC*</td>
<td>0</td>
<td>281 (59.5)</td>
<td>281 (29.4)</td>
</tr>
<tr>
<td>MAMC</td>
<td>227 (46.8)</td>
<td>89 (18.9)</td>
<td>316 (33.0)</td>
</tr>
<tr>
<td>YEAR OF MBBS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First year</td>
<td>114 (23.5)</td>
<td>106 (22.5)</td>
<td>220 (23.0)</td>
</tr>
<tr>
<td>Second year</td>
<td>121 (24.9)</td>
<td>106 (22.5)</td>
<td>227 (23.7)</td>
</tr>
<tr>
<td>Third year</td>
<td>146 (30.1)</td>
<td>118 (25.0)</td>
<td>264 (27.6)</td>
</tr>
<tr>
<td>Forth year *</td>
<td>104 (21.4)</td>
<td>142 (30.1)</td>
<td>246 (25.7)</td>
</tr>
<tr>
<td>TYPE OF SCHOOLING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>335 (69.1)</td>
<td>336 (71.2)</td>
<td>671 (70.1)</td>
</tr>
<tr>
<td>Public</td>
<td>150 (30.9)</td>
<td>136 (28.8)</td>
<td>286 (29.9)</td>
</tr>
</tbody>
</table>

* LHMC is girl’s medical college

<table>
<thead>
<tr>
<th>TABLE 1: DEMOGRAPHIC PROFILE OF STUDY SUBJECTS (N=957)</th>
</tr>
</thead>
</table>

<p>| TABLE 2: GENDER-WISE DISTRIBUTION OF GADGET DEPENDENCY AMONG THE STUDENTS (N=957) |</p>
<table>
<thead>
<tr>
<th>Status</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gadget dependent</td>
<td>117 (24.1)</td>
<td>97 (20.6)</td>
<td>214 (22.4)</td>
</tr>
<tr>
<td>Gadget non-dependent</td>
<td>368 (75.9)</td>
<td>375 (79.4)</td>
<td>743 (77.6)</td>
</tr>
<tr>
<td>Total</td>
<td>485 (100)</td>
<td>472 (100)</td>
<td>957 (100)</td>
</tr>
</tbody>
</table>

Figures in parenthesis are percentages

**Figures**

**FIGURE 1: COMPARISON OF GADGET DAILY USAGE BETWEEN MALES & FEMALES**