



### **Use of smart phones in medical students**

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### **Abstract**

**Background:** The use of mobile phone has become an integral part of life. The aim of present study was to study the pattern of mobile phone usage among medical students.

**Materials and Methods:** A cross - sectional, observational study was conducted among medical students of final year MBBS at ICARE institute of Medical Sciences & Research Centre & B. C. Roy Hospital, Haldia, West Bengal, India.

**Results:** In present study, there were 64 female medical students & 36 male medical students. 100% students had smart phones. 95 (95%) of students were using android phone while 5 (5%) were using iPhone.

80 (80%) students were using various study apps, 92 (92%) were giving online tests, 72 (72%) were watching online videos & reading notes, while 50 (50%) were storing notes in phone for revising.

100 (100%) students were using what’s app, 91 (91%) students were using Instagram, 78 (78%) were using snapchat while only 40 (40%) students were on Facebook.

98% students were using phone to watch movies, 86% were using phone to play games while 80% students use phone to listen music.

**Conclusion:** In our study, there was good usage of phone for education. The students were using phone for entertainment & as social media equally. Thus, smart phones have become an integral part of life.

**Keywords:** Medical students, mobile phones, smart phones, education, entertainment, social media

### **Introduction**

Smartphone has emerged as a portable computer. It has almost all the features such as browsing on the internet, E-mail access, desktop synchronization, and as “apps.”

The use of mobile phone is an important tool among health-care professionals.<sup>1</sup>

Excessive use of smartphones can be “addiction”, Addiction is defined by WHO as continuous use of something for the sake of relief, comfort, or stimulation & which causes cravings in its absence. Addiction is categorized broadly into two major categories: substance addiction and behavioral addiction. Addiction of mobile phones comes under the behavioral addiction.<sup>2</sup>

M-learning or mobile learning is defined as “learning across multiple contexts, through social and content interactions, using personal electronic devices.”<sup>3</sup>

An increasing number of physicians, residents, and medical students currently use mobile devices. Smartphones, iPads, and Tablets are used for education and in clinical environments.<sup>4</sup>

Mohapatra D et al., at JIPMER showed that smartphones were used for various purposes by medical students. Notes taking, cloud storage, imaging, web browsing, clinical handbooks and text books, question banks, medical calculators, simulation apps etc. are important purposes.<sup>5</sup>

Mobile phones took a revolutionary turn when the smartphone was launched in 1994.<sup>6</sup> Since the launch of smart phone in 1994, mobiles have become an essential companion for our day-to-day activities.<sup>7</sup> In a recent survey in England, it was found that 84% of medical students were of the opinion that smart phones and related Medical Apps are quite helpful in the medical education.<sup>8</sup> New technology in the last decade has transformed many aspects of our culture, commerce, communication and education. The smart phones have been rapidly adopted in many countries. They have provided easy access to information in ways that was not possible before.<sup>9</sup> The role of mobiles in health care professions is becoming very strong and effective. They

provide tailor made access and information to valuable advice in almost each specialty.<sup>10</sup>

### Aims & Objectives

- To measure the proportion of medical students using smart phones
- To identify common medical applications used by them.
- To explore the utility, attitude, and trends regarding Smartphone

### Material & Methods

This was an observational cross-sectional study conducted at ICARE institute of Medical Sciences & Research Centre & B. C. Roy Hospital, Haldia, West Bengal, India in November & December 2021 after taking permission from the Dean. The final year MBBS students were included in the study after taking their consent. A semi-structured questionnaire, based on previous studies was prepared.

### Inclusion criteria

- Final year students who willingly participated in the study
- Final year students who filled the informed consent form

### Exclusion criteria

- Final year students who were not willingly to participate in the study
- Final year students who did not fill the informed consent form

Table 1: Questionnaire

Name
Age
Type of phone- Android or iPhone
Use for education
Use for entertainment
Use as social media

Confidentiality of data was maintained.

Data was collected & tabulated in Microsoft excel sheet.

Analysis was done in percentages.

**Results**

Table 2: Gender distribution

Gender distribution	Number	Percentage
Males	36	36%
Females	64	64%

In present study, there were 64 female medical students & 36 male medical students. Thus, the girls outnumbered the boys. (Table 2)

Table 3: Type of phone used

Type of phone used	Number	Percentage
Android phone	95	95%
iPhone	5	5%

In present study, 100% students had smart phones. 95 (9805%) of students were using android phone while 5 (5%) were using iPhone. Thus, majority had android phone. (Table 3)

Table 4: Use for medical education

Use for medical education	Number	Percentage
Various apps	80	80%
Online tests	92	92%
Online videos & notes	72	72%
Revising notes	50	50%

In present study, 80 (80%) students were using various study apps, 92 (92%) were giving online tests, 72 (72%) were watching online videos & reading notes, while 50 (50%) were storing notes in phone for revising.

Thus, majority were interested in online tests & notes. Still all students were using textbooks also for better understanding & remembering the things. (Table 4)

Table 5: Use of phone in curriculum

Use of phone in curriculum	Number of students	Percentage
Yes	72	72%
No	28	28%

In present study, 72 (72%) students feel that phone should be allowed in the curriculum while 28 (28%) students disagree.

Thus, majority of students feel that phone should be allowed in the curriculum. (Table 5)

Table 6: Use as social media

Use as social media	Number	Percentage
What's app	100	100%
Instagram	91	91%
Snapchat	78	78%
Facebook	40	40%

In present study, 100 (100%) students were using what's app, 91 (91%) students were using Instagram, 78 (78%) were using snapchat while only 40 (40%) students were on Facebook. Thus, 100% were using what's app. (Table 6)

Table 7: Use for entertainment

Use for entertainment	Number	Percentage
To watch movies	98	98%
To play games	86	86%
To listen music	80	80%

In present study, 98% students were using phone to watch movies, 86% were using phone to play games while 80% students use phone to listen music. Thus, majority of students were using phone to watch movies.

(Table 7)

**Discussion**

In present study, there were 64 female medical students & 36 male medical students. (Table 2) Similar to our study, Sharma N et al found that out of 164 students, 96

were male and 68 were female. The mean age of students was  $20.04 \pm 0.67$ .<sup>11</sup>

In present study, 100% students had smart phones. 95 (98.05%) of students were using android phone while 5 (5%) were using iPhone. (Table 3)

Similar to our study, Sharma N et al found that 100% of respondents had smartphones. All students had internet on their mobile phones. 79 students had downloaded medical apps on their mobile phones.<sup>11</sup>

In present study, 80 (80%) students were using various study apps, 92 (92%) were giving online tests, 72 (72%) were watching online videos & reading notes, while 50 (50%) were storing notes in phone for revising. (Table 4)

Thakre SS et al found that 239 (76.60%) of students preferred the use of mobile technology extensively for social purpose. 176 (56.41%) use phone for academic purpose and 65 (20.83%) of the student used it for an entertainment. The majority of students 180 (58%) were not currently using their mobile devices to access medical resource applications<sup>12</sup>

Thakre SS et al found that majority of the students used video-sharing websites 153 (49.04%), social networking websites 139 (44.55%), Wikis (Wikipedia, course wiki, etc.) 108 (34.61%), and web-based word processor, spreadsheet, and presentation (Google Docs, iWork, Microsoft Office, Live Workspace, etc.) 94 (30.13%).<sup>12</sup>

In present study, 72 (72%) students feel that phone should be allowed in the curriculum while 28 (28%) students disagree. (Table 5)

Gavali MY et al found that out of 446 students participated in the survey, 96% owned a smart phone.<sup>13</sup>

Gavali MY et al found that 72.4% of medical students own Android based smart phones, 13.0% owned i phone, 7% owned windows-based Nokia phones and 3.6% owned Blackberry.<sup>13</sup>

Gavali MY et al found that 90% of students felt that there was a good use of smart phones in medical school. They have technological skills to use the smart phone. Third MBBS students (81.0%) felt that they have technological skills as compared to those in First and Second MBBS.<sup>13</sup>

Zaid S et al found that there were 170 (51.5%) males and 160 (48.5%) females with a mean age of  $21.26 \pm 1.86$  years. Almost all participating students 320 (97%) were well aware of Medical Apps for smart devices. 89.1% had installed different applications on their smart devices. The main usage was for either revision of courses (62.4%) or for looking up of medical information (67.3%), followed by preparing for a presentation (34.5%) and getting the medical news (32.1%).<sup>14</sup>

Zaid S et al found that 73% were occasional users of Medical Apps, and only 27% were using Medical Apps at least once a day.<sup>14</sup>

Zaid S et al found that majority of participants were of the opinion that medical apps were of use for revision purposes. Also, they access medical information. They were using apps for the preparation of presentations, obtaining medical news, using drug guides and seeking general clinical help in ward rounds.<sup>14</sup> In present study, 100 (100%) students were using what's app, 91 (91%) students were using Instagram, 78 (78%) were using snapchat while only 40 (40%) students were on Facebook. (Table 6)

In present study, 98% students were using phone to watch movies, 86% were using phone to play games while 80% students use phone to listen music. (Table 7)

In the study by Payne K et al., 79% owned smart phone. 56.6% had i phone and 18.7% had android phone. The difference in India is that most of them use Android phones, while only 13% of them had i phones.<sup>15</sup>

## Conclusion

All students were using Smartphone for communication, learning, and entertainment. Positive inclination and perception are a good sign for m-learning in medical education. Undergraduate medical students are well versed with the use of You Tube and word processor document sharing used for learning. References-

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