

## A Study of Sociodemographic Features of Mobile Usage among Medical Students

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### Abstract

*Introduction:* Mobile phone growth in India has been fast and it has reached all segments of society, especially the young. The cell phone is ever-present on college campuses and is frequently used in settings where learning occurs [5]. College students find the mobile phone to be an important window through which they can communicate and interact with the world. College students as a group appear more vulnerable to developing dependence on the mobile phone than any other segment of society. *Materials & Methods:* Type of study: Cross-sectional study. Study area: Ashwini Rural Medical College, Hospital and Research Centre, Kumbhari, Solapur. Study population: MBBS students of the Ashwini Rural Medical College, Hospital and Research Centre, Study duration: 2 months, Study instruments: pre- designed Questionnaire and clearance from the college Ethics committee. *Results:* students ranging from an age group between 18-23 yrs took part in the study, of which, 144(48%) were females and 156(52%) were males. The parental income-majority (65.3%) falls under the group 5lakhs-10lakhs. More than three fourth (89%) of students had android operated phones. In the present study on an average at least 3 mobile phones were replaced by each student since the start. The average cost of mobile used by the students was 16117 Rupees . The average age at which mobile phone was first used was found to be 16.8yrs and the average monthly expenditure made was found to be 219 rupees. Every student who participated in the study had internet enabled on their phone. *Conclusions:* The mobile phone use had an adverse impact on the students in terms of psychological effects, cutting sleep and hampering studies. The data is indicative of nomophobia to be an emerging problem of the modern era. Multicentric studies are required to assess the real problem and thereby take appropriate steps to tackle the growing problem. make the students aware of the fact that mobile phone indeed serves as an educative tool. Our study paves way for further research regarding which specific educative tools are likely to help the medical students quench their thirst for knowledge.

**Keywords:** Sociodemographic Factors; Mobile Usage; Nomophobia; Cross Sectional Study.

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### Introduction

One of the important technological advancements in the last three decades or so has been the advent of the mobile phone also known as cell phone. In the

last 20 years, worldwide mobile phone Subscriptions has grown from 12.4 million to over 5.6 billion, penetrating about 70% of the global population. Its use has also become an important public health problem as there have been reports of plenty of health hazards, both mental and physical, in people of all age groups [1].

Research suggests that college students frequently use the cell phone during class time despite rules and regulations [2].

Mobile phones are low-powered radiofrequency transmitters, operating at frequencies between 450 and 2700 MHz with peak powers in the range of 0.1 to 2 watts through an antenna used close to the user's head. Mobile phones communicate by transmitting radio waves through a network of fixed antennas called base stations. Radiofrequency waves are electromagnetic fields (EMF) and there is increasing concern among the general population that these waves might induce or promote cancer. Changes in the permeability of the blood-brain barrier, of electroencephalographic activity, and blood pressure have also been reported [3,4].

Mobile phone growth in India has been fast and it has reached all segments of society, especially the young. The cell phone is ever-present on college campuses and is frequently used in settings where learning occurs [5]. College students find the mobile phone to be an important window through which they can communicate and interact with the world. College students as a group appear more vulnerable to developing dependence on the mobile phone than any other segment of society, probably because college students have strong drives to develop firm senses of identity, and to develop meaningful and intimate relationships [6].

In recent years, a psychological problem which results from the excessive use of mobile phones which is called "Ringxiety, has been reported. It is a condition where individuals hear the phone ringing when it actually hasn't, which is also called "phantom ringing" [5].

In the medical field itself, there has been a revolution. Smartphone applications, such as those available in the Apple and Android application stores, are quickly becoming integrated into clinical practice by physicians. These features have helped the doctors and medical practitioners to tackle various medical emergencies, and have helped them to treat patients in the best possible way. From helping in medical education to displaying of information for patients, Smart phones have truly digitized the medical world.<sup>7</sup> However, the mobile phone also gives

room to blending students' roles with other roles thus distracting and disrupting the students' academic work. Thus, the mobile phone has the power to undermine the authority and weaken their control over students as well as affects their level of concentration which might land them in psychological issues too [8]. Nomophobia an upcoming problem- is an unreasonable level of fear when out of mobile phone contact. As the smart phone penetration spreads across the globe so does Nomophobia. Younger are more prone to Nomophobia, of which with 18-24yrs tops the list at 77%, which is 11% more than the next group- 25-34yrs [9].

There is dearth of studies in this regard despite the rampant usage of mobile phones. Hence, this study was planned to find out the pattern of the use and the perceived effects of the mobile phone usage among students in Ashwini Rural medical college, Hospital, Research Center, Kumbhari.

## Materials and Methods

*Type of Study:* Cross-sectional study.

*Study area:* Ashwini Rural Medical College, Hospital and Research Centre, Kumbhari, Solapur. *Study population:* MBBS students of the Ashwini Rural Medical College, Hospital and Research Centre, *Study duration:* 2 months, *Study instruments:* pre-designed Questionnaire and clearance from the college Ethics committee *Essential pre requests from the study:* consent form

### *Inclusion Criteria*

1. MBBS students from the Ashwini Rural Medical College, Hospital Research Centre, Kumbhari, Solapur.
2. Students who gave consent to participate in the study.

### *Exclusion Criteria*

Students who did not give consent to participate in the study.

### *Date Collection Procedure*

A cross sectional study among 300 MBBS students of Ashwini Rural Medical College was conducted. Every year the college admits 100 students and since 3years had passed since the establishments of the

college, all 100 students from each batch were included for the study.

### Observations and Results

A total of 300 students gave consent to participate in our study.

Sociodemographic profile: The students ranging from an age group between 18-23yrs took part in the study, of which, 144(48%) were females and 156(52%) were males. 285 (95%) resided in hostels and 15 (5%)

were day scholars. The parental income was categorized as < 5 lakhs, 5 lakhs-10 lakhs and > 10 lakhs, of which a majority (65.3%) falls under the group 5 lakhs-10 lakhs. More than three fourth (89%) of students had android operated phones. In the present study on an average at least 3 mobile phones were replaced by each student since the start. The average cost of mobile used by the students was 16117 Rupees (SD=6928Rupees). Majority (46%) of them used a mobile phone costing more than 20000 rupees. The average age at which mobile phone was first used was found to be 16.8yrs (SD=1.7yrs). The

**Table 1:** Parent annual income (Rs)

Parent Annual Income	Frequency	Percent
< 500000	62	20.7
500000 - 1000000	196	65.3
> 1000000	42	14.0
Total	300	100.0

**Table 2:** Age at which mobile was first used

Age	Frequency	Percent
10-12	11	3.7
12-15	36	12.0
15-20	253	84.3
Total	300	100.0

**Fig. 3:** Cost of mobile phone (Rs)

Cost of Mobile	Frequency	Percent
< 10000	64	21.3
10000-15000	61	20.3
15000-20000	37	12.3
> 20000	138	46.0
Total	300	100.0

**Fig. 4:** Number of mobiles changed since the start

Number of Mobiles Changed	Frequency	Percent
2	125	41.7
3	116	38.7
4	30	10.0
> 4	29	9.7
Total	300	100.0

**Table 6:** Association between Parent's annual income and Monthly expenditure

Monthly expenditure	Parent's annual income			Total
	< 500000	500000 - 1000000	> 1000000	
< 100	10(16.1%)	13(6.6%)	2(4.8%)	25
100-200	20(32.3%)	47(24%)	16(38.1%)	83
200-300	26(41.9%)	110(56.1%)	16(38.1%)	152
> 300	6(9.7%)	26(13.3%)	8(19%)	40
Total	62	196	42	300

average monthly expenditure made was found to be 219 rupees (S.D=81rupees) with 200-300 rupees in a majority (50.7%). Every student who participated in the study had internet enabled on their phone.

### Discussion

This study was exploratory in nature. The study's aim was to assess the positive as well as the negative

aspects of the mobile phone use. A casual observation reveals mobile phone use by every student nowadays. In our study every student (100%) owned a mobile and had internet enabled on their devices which was in consistence with the study conducted by Bobby Paul et al [3] (99.3%) used mobile phones, which was higher than usage prevalence among medical students as reported by Mahmoodabad et al [10] (73.5%) and similar (99.7%) to that of Subba et al [5]. This increasing trend may be because of the realization that having mobile as a necessity among the young individuals.

Study by Sevil Sahin et al [11] showed that the age at which mobile phone was first used was found to be <13yrs in a majority which was contradictory in the present study which is between 15-20yrs. This trend may be due increasing awareness among parents.

With increasing use of smart phones in the coming era, in the present study it was observed that 89% students use android system which was consistent in the study by Dhara Prajapati et al<sup>1</sup> (80.61%). The popularity of mobile phones has caused mobile phone manufacturers produce several different models of phones. Young people are the main target of markets producers. The desire to modernistic enthusiasm, being different, attracting attention, and some of these reasons has caused young people change their phones. Thus in the present study every student has changed mobile phone atleast twice which is in accordance to a studies of Maryamm et al [12], Baghyany Moghadam et al [13].

The observation in present study about monthly expenses incurred by students on mobile phone for recharging the prepaid services, internet usage, were comparable to study done in Jodhpur medical students [14] in which 50% students spent Rs. 200-300 per month. For their mobile recharge, only 6% spent <100 rupee, 22.6% spent 100- 200 rupee per month while 27.4% student spent more than 500 rupee per month for mobile recharge. The amount of money which was spent by the majority (50.7%) on mobiles per month was Rs.200-300/- on an average, which was much lower (56 RM) than that which was spent by Malaysian college goers [15], which amounted to about Rs. 800. However, this difference could be due to the difference in purchasing power parity. Although the factors affecting the results of various studies are not well known, cultural and social backgrounds might influence the mobile phone use in females.

Results point out students from high socioeconomic families had a costlier mobile than students from lower socio-economic families. High socioeconomic families

not only have the economic resources for mobile expenditure, but also create a particular cultural environment (use at an earlier age) for their use. These findings in the present study were similar with studies of Maryam Amidi Mazaheri et al [12] but not similar with studies of Koivusilta et al [16] which reported a higher expenditure among lower socio economic group.

## Conclusion

The mobile phone use had an adverse impact on the students in terms of psychological effects, cutting sleep and hampering studies. The data is indicative of Nomophobia to be an emerging problem of the modern era. Multicentric studies are required to assess the real problem and thereby take appropriate steps to tackle the growing problem. make the students aware of the fact that mobile phone indeed serves as an educative tool. Our study paves way for further research regarding which specific educative tools are likely to help the medical students quench their thirst for knowledge.

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