

## Research Article

## A study to assess ill effects of prolonged use of mobile phones among nursing students of college of nursing, pravara institute of medical sciences (D.U.), Loni Bk

Jitendra D. Belokar

Assistant Professor, MHN, College of Nursing, PIMS, Loni Bk, Maharashtra, India.

### Abstract

Mobile phones have been of tremendous assistance to all of us. The adaptation of mobile phone by young people has been global phenomenon in recent years. It has now an integral part of our daily lives. Concerns continue to be raised about potential ill health impacts associated with the mobile phone use. Hence this study was undertaken to assess ill effects of prolonged use of mobile phones. **Objectives:** 1. to assess physiological ill effects of prolonged use of mobile phones 2. To assess psychological ill effects of prolonged use of mobile phones, among nursing students of College of Nursing, PIMS, Loni. **Methodology:** Descriptive study design with cross sectional survey approach was used. 60 subjects were selected with stratified random sampling technique. Data was collected by using structured questionnaire which was designed to assess physiological and psychological ill effects of prolonged use of mobile phones. Data was analyzed by using descriptive statistics such as frequency and percentage. The level of physiological and psychological ill effects of prolonged use of mobile phone was classified as mild, moderate and severe. **Findings:** Findings of present study revealed that 62.66% participants had mild physiological ill effects, 32% subjects had moderate and 6% participants had severe physiological ill effects due to prolonged use of mobile phones. Also study revealed that 46.66% participants had mild psychological ill effects and 53.33% participants had moderate psychological ill effects due to prolonged use of mobile phones. **Conclusion:** Use of mobile phone for longer period can lead to mild to severe ill effects.

**Keyword:** ill effects, prolonged use of mobile phones

\*Corresponding author: Mr. Jitendra D. Belokar, Assistant Professor, MHN, College of Nursing, PIMS, Loni Bk, Maharashtra, India. Email: jitubelokar@yahoo.com

### 1. Introduction

Use of mobile phone is always accompanied by the issue of health implications for human [1]. There is growing concern about possible hazards that electromagnetic waves emitted by mobile phone pose threat to human health [2]. Mobile phones communicate with base stations using radiofrequency (RF) radiation. Radiation is a combination of electrical and magnetic energy that travels through space at the speed of light. It is also referred to as electromagnetic radiation (EMR). There are concerns that the low levels of RF radiation emitted by mobile phones could cause health problems such as headaches or brain tumors [3].

Furthermore health issues are also opposing the idea of using mobile phones as a tool for communication. Cell phone chatting for hours, affected sleep pattern in preteens and teens which is a more serious issue. Other anomalies in behavioral pattern such as irritability, lack

of patience and abruptness, sometime affects heavy users of cell phones in deteriorating way [4].

Common symptoms due to use of mobile phones are stress, earaches, headaches, chronic fatigue, insomnia, muscle pains, drastic mood changes, behavioral disabilities, weakened immune system and blurred vision and dizziness, lack of concentration, memory loss and mental confusion [5]. Cell phone's microwave can produce learning disorders in children and teenagers. It alters the brain's electrical activity during sleep. It includes ringing sensation in the ear; creates joint pain, muscle spasms and tremors. The endocrine system is affected especially pancreas, thyroid, ovaries and testes [6].

Mobile phone is proved to be life saving in certain circumstances (e.g. after accidents) and has helped to improve quality of life in some sectors [7]. Over the last decade, usage of mobile phones has dramatically increased. They are now an essential part of business,

commerce and communication; however their use may lead to health problems [8].

### **Objective of the study:**

1. To assess physiological ill effects of prolonged use of mobile phones among nursing students.
2. To assess psychological ill effects of prolonged use of mobile phones among nursing students.

## **2. Methodology**

### **Research approach:**

Cross sectional survey approach was used.

### **Research design:**

Non experimental, descriptive study design was adopted for the study.

### **Study setting:**

Study was conducted at College of Nursing, Pravara Institute of Medical Sciences (D.U.), Loni (Bk)

### **Study population:**

Study population was students of College of Nursing, PIMS, Loni (Bk)

### **Sampling technique:**

Stratified random sampling technique was used for sample selection. 10 students studying in each class at 6 different levels were selected.

### **Sampling criteria:**

Students studying in College of Nursing, who make use of mobile phones and who are willing to participate in the study were included in study.

**Sample size:** 60 samples were selected as per inclusion criteria.

**Data collection instrument:** Data collection tool was divided into two parts

### **Part I: Demographic profile of participants**

This consists of 11 items related to age, gender, area of residence, monthly family income, occupation of father, occupation of mother, duration age at which mobile phone use was started, type and number of phone used etc

### **Part II: Ill effects of mobile phone use**

**This was divided into two sections**

**Section A- Physiological ill effects of prolonged use of mobile phone.** It is a rating scale consisting of 11 items to be scored on scale of 1-5 based on the responses from most of the times to not at all.

**Section B- Psychological ill effects of prolonged use of mobile phone.** It is also a rating scale consisting of 09 items to be scored on scale of 1-5 based on the responses from most of the times to not at all.

**Ethical consideration:** Proposal was presented before Institutional Ethics Committee of College of Nursing, PIMS, Loni and approval was obtained.

### **Data collection procedure**

Prior permission was obtained from the concerned authority from College of Nursing, PIMS, Loni. For maximum cooperation the investigator introduced to the respondents and willingness of participant was ascertained. The respondents were assured that anonymity and confidentiality of information provided by them will be maintained. Informed consent was obtained from participants. The researcher himself collected data from the participants. The data collected was recorded systematically on each subject and was organized in a way that facilitates computer entry and data analysis.

## **3. Result:**

### **Findings of the study:**

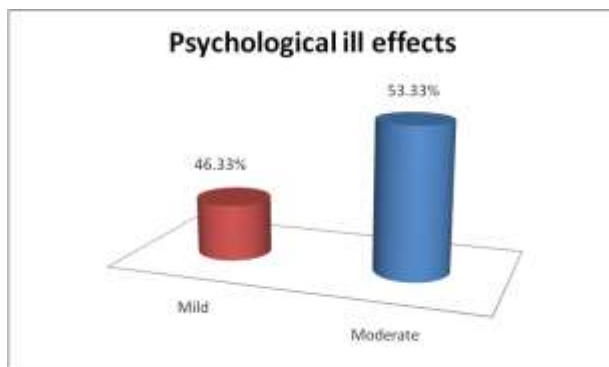
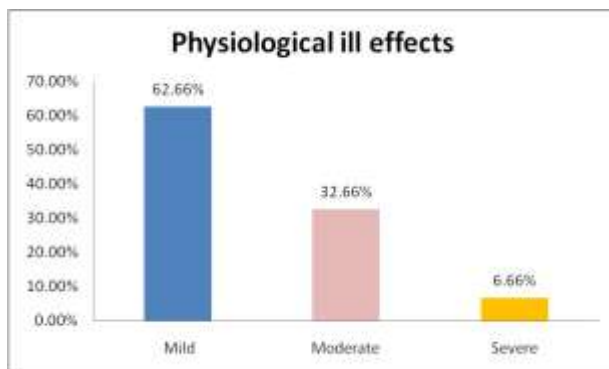
#### **a) Findings related to the demographic profile**

1. It was observed that maximum no of samples (50.0%) were in age group of 19-20 years and only 13.33% were in age group of 21-22 years.
2. 71.66% subjects were female and 28.33% were male
3. Majority of the subjects (80%) were living in rural area and 20% subjects' belonged to urban area.
4. 23.33% subjects had monthly family income of rupees less than Rs.5000, 28.33% subjects were getting Rs. 5000-7000 whereas 18.33% were paid Rs7500-10,000 and 30% had monthly income more than Rs.10, 000.
5. 60% subject's fathers occupation was farmer and 20% subject's father were employed in private sectors.
6. 88.33% subject's mother was housewife and 6.66% subject's mothers were employed in private sectors.
7. 55% of the subjects were using mobile phones since one year and 28.33% participants were using mobile phones during last 1-3years.
8. 70% of subjects were using mobile phones with camera and 30% of participants were using mobile phones without camera.
9. 88.33% participants used to carry one mobile phone with them and 10% subjects used to have two mobile phones with them
10. 43.33% participants had internet facility in their mobile phones and 56.66% were not having internet facility in their mobile phones.
11. 71.66% participants were using mobile phones approximately for 30 min for calling and texting

messages and 10% subjects were using mobile phone for 30-90 min for calling and texting messages.

#### b) Findings related to the ill effects of prolonged use of mobile phones

1. 62.66% participants had mild physiological ill effects, 32% subjects had moderate and 6% participants had severe physiological ill effects due to prolonged use of mobile phones.
2. Study revealed that 46.66% participants had mild psychological ill effects, 53.33% participants had moderate psychological ill effects and none of the participant had severe psychological ill effects due to prolonged use of mobile phones.



#### 4. Discussion

This study revealed that, 8.33% of the participants had earache, 3.48% had heaviness of head, 3.33% had numbness of thumb, irritability was found in 5% of participants and 11% had sleep disturbances. These findings are supported by the study which was conducted by Khan MM to assess adverse effects of mobile phone among students in king south University, Riyadh [9].

Present study findings are also supported by the study which was conducted by Bulck at Lodz, University Poland which has indicated that 70% participants had complaint of headache, 20% had dizziness and impaired concentration was seen in 56% of respondents [10].

Kucer N reported that continuous usage of mobile phone, staring at the screen caused the subjects eye

strain so much so that some of them had to go to a Doctor for an eye checkup [11].

Hansson M. K et al., conducted a Larger-scale cross-sectional survey of 11,000 mobile phone users. This study revealed information about various symptoms including fatigue, headache and warmth behind and on the ear. Of the participants, 13% in Sweden and 30% in Norway reported the occurrence of at least one symptom. For both analogue and digital phones, the prevalence of reported symptoms increased with minutes per day of phone use. The proportion of GSM phone users reporting a symptom was rather lower than in other groups [12].

The use of mobile phones always accompanied by the issue of health implications for human being, and this is been proved by various studies conducted across world

#### Recommendations:

1. Study may be conducted with the large samples.
2. Study may be conducted in different populations.
3. Study may be conducted with different age groups.

#### Nursing implications:

This study has following implications

**Nursing education:** Nursing educators can educate students and health workers about ill effects of prolonged use of mobile phones so that they will be able to impart this knowledge for target groups during health education sessions.

#### Nursing research:

Nurse researchers can undertake exploratory studies based on findings of this study.

#### Conclusion

With the findings of the study it can be concluded that use of mobile phone for longer period can lead to mild to severe ill effects in physiological as well as in psychological aspects of the individuals, which affect their overall health and reduces quality of life. Being a nursing professional we can create awareness among general public to prevent ill effects of mobile phone use and develop strategies for healthy use of mobile phones among general public.

#### References

- [1] Mobile phones and your health, Better health channel. Available from [www.beterhealth.viv.gov.au](http://www.beterhealth.viv.gov.au).
- [2] Kari J, et al., Helsinki 1999 "Radiation safety of handheld mobile phones and base stations, STUK-A 161.

- [3] Dutta P, what are the negative effects of cell phones? Available from <http://www.ehow.com>
- [4] Dr. Tamizuddin S, adverse effects of mobile phone radiation. E-journal 2011
- [5] Telecom regulatory authority of India. Available from <http://www.trai.gov.in>
- [6] Gandhi G, Anita, Indian journal of Human genetics. 2012 11(2), 99-104.
- [7] Sanchez Martinez M, Otero A. Factors associated with cell phone use in adolescents in the community of Madrid (Spain). Cyber Psychology & Behavior. 2009 Apr 1; 12(2):131-7.
- [8] Mobile World Congress, Barcelona, 2010. Available from <http://www.reviews.cnet.com>
- [9] Khan MM, Adverse effects of excessive mobile phone use, international journal of occupational medicine and environmental health
- [10] Bulck lights out, Sleep, calling and for sending text messages after 2007 Sept 1; 30(9), 1220-1223.
- [11] Kucer N, some ocular symptoms experienced by users of mobile phones Celal Bayar University, Turkey. Available from <http://www.informahealthcare.com>
- [12] Mild KH, Oftedal G, Sandstroms M, Wilén J, Tynes T, Haugsdal B. Comparison of symptoms experienced by users of analogue and digital mobile phones. Arbetslisrapport. 1998; 23:1-47.