International *Journal* of Applied Research

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# A study to assess the mobile phone dependency and its relation with physical health and social life problem among adolescents of Karmaveer Bhaurao Patil Junior College, Dhankawadi, Pune

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**Abstract**
**Title:** "The mobile phone dependency and its relation with physical health and social life problem among adolescents"
**Purpose:** To assess the mobile dependency among adolescents and to assess the physical health problems and social problems among adolescents.
Material and methods: In order to achieve the desired objectives of the study quantitative research approach with non-experimental co relational survey design was adopted for the present study. Using non-probability purposive sampling 100 adolescents were enrolled for the study. Data collection was accomplished by using tool comprised of structured knowledge questionnaire four sections (section-1-demographic data, section-2-Modified standardized structured questionnaire on mobile dependency, section-3 and 4- self structured questionnaire on social and physical problems). Data was analyzed by using descriptive and inferential statistics.
**Results:** Findings related to Mobile phone dependency: Majority 62(62%) subjects are mildly mobile dependent, 33(33%) subjects are moderately mobile phone dependent and 5(5%) subjects are severely mobile phone dependent.
Findings related to Physical health problems:
1.   From the findings of the present study it is evident that 33% are having earache, 37% are having sound in ear and 30% are having hotness on the ear due to excessive use of mobile phones.
2.   Majority 48% subjects are having eye irritation due to long term use of mobile phone, 30% are having blurred vision and 22% are having redness of eyes.
3.   Maximum of subjects 57% are having thumb pain, 22% are having tingling sensation and 21% are having hotness of palms.
4.   Majority 54% subjects are having awake up due to phone alarm, 19% are delayed go to sleep and 27% are having problem with decrease sleep due to long term use of mobile phone.
5.   59% of the adolescents are having shoulder pain, 18% are having neck pain, 12% are facing back pain problem and 11% are facing other problems.
**Findings related to Social life problems:** The findings of the present study suggested that majority 61% of the adolescents are having moderate social life problem, 32% are having mild social life problems and 7% are having severe social life problems. It is also evident from the present study that there is a positive co relation (r=0.566528) between mobile phone dependency and social life problems. Finding related to association findings of mobile phone dependency with demographic variable: There is a significant association between age, the time spent per day for using mobile phone and 10th std examination result and mobile phone dependency (p=<0.05).
**Conclusion:** Mobile phone dependency is increasing day by day among adolescents and the dependency level is ranging from mild to moderate. The adolescents are suffering from many eye and ear problems due to excessive use of mobile as well as they are getting socially detached. The teachers and parents should take this with a serious note and guidance and counseling session to be organized to make the adolescents aware about the ill effect of mobile phones in their life.

**Keywords:** Mobile phone, mobile phone dependency, physical health, social life problems, adolescents

## Introduction
A mobile phone is a portable telephone that can make and receive calls over a radio frequency carrier while the user is moving within a telephone service area [1]. Mobile phone has become crucial part of our life.

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Today's environment conforms that adolescents are using various new information and communication technologies almost every time. Adolescents of modern period are spending unnecessary and maximum time with cell phone. As the number of people that have cell phones is rapidly growing, so is the numbers of people that are becoming addicted to their phones were invented, they were intended to make life easier. Today there are some people that do not know when to turn them off [2] Effect of mobile phone on adolescent's mental health and physical health in physical health over usage of the mobile phone leads to physiological health, hazards like headaches, earaches, warmth sensation, fatigue and musculoskeletal symptoms. Usage of mobile phones during driving is one of the leading causes of accident. Mobile-addict can be seriously affected at the psychological level [3] 5 Reasons Why Cell phones Are Bad For Your Health Negatively Affects Emotions, Increases Stress Levels, increases Risk of illnesses, In Your Immune System, Increases Risk of Chronic Pain, Increases Risk of Eye Vision Problems [4] It seems difficult for them to do their daily activities in due time, poor fragmented sleep, late bed time and early wake up, seriously affect their mental health, learning capacity and quality of life [5].

**Methodology**

The research approach adopted for the study non-Experimental co relational survey. Using non-probability purposive sampling technique on 100 adolescents was enrolled for the study. Data collection by using tool as demographic data, Modified standardized structured questionnaire on mobile dependency and self-structured questionnaire on social and physical problems. Data was analyzed by using descriptive and interferential statistics. Validity was obtained from 5 experts from nursing field to different faculty members and reliability of the tool was done by using test retest method (reliability of Modified standardized structured questionnaire on mobile dependency was found be 0.996, self-structured questionnaire on social life problem was found to be 0.825 and self-structured questionnaire physical problems was found to be 0.92) Administrative approval was obtained from the selected college of Pune city before approaching for data collection. Sample selection was done by using non-probability purposive sampling technique. Analysis includes the descriptive and interferential statistics.

**Results**
**Section I**
**Description of samples based on their personal characteristics**

**Table 1:** Description of samples based on their personal characteristics in terms of frequency and percentages

n=100

| DEMOGRAPHY | OPTIONS | FREQUENCY (f) | PERCENTAGE% |
|---|---|---|---|
| AGE | A.15 yrs | 1 | 1 |
| | B.16yrs | 31 | 31 |
| | C.17yrs | 52 | 52 |
| | D.18yrs | 16 | 16 |
| GENDER | A. Male | 40 | 40 |
| | B. Female | 60 | 60 |
| SINCE WHEN YOU ARE USING MOBILE PHONE | C. Less than 1 year | 42 | 42 |
| | B.1-2 years | 32 | 32 |
| | C.2-3 years | 14 | 14 |
| | D.3- 5 years | 12 | 12 |
| HOW MUCH TIME DO YOU SPEND PER DAY FOR USING MOBILE PHONE | A. Less than 4 hours | 86 | 86 |
| | B.4-5 hours | 9 | 9 |
| | C. 6-7 hours | 1 | 1 |
| | D. 8-9 hours | 3 | 3 |
| | E. 10-11 hours | 0 | 0 |
| | F.12 hours or more | 1 | 1 |
| WHERE YOUR ARE STAYING | A. In home | 95 | 95 |
| | B. In hostel | 2 | 2 |
| | C. In relatives home | 3 | 3 |
| | D. other | 0 | 0 |
| 10TH EXAMINATION RESULT | A.45-55% | 4 | 4 |
| | B.55-65% | 5 | 5 |
| | C.65-75% | 12 | 12 |
| | D. More than75% | 79 | 79 |
| 11TH EXAMINTION RESULT | A. 45-55% | 23 | 23 |
| | B. 55-65% | 40 | 40 |
| | C. 65-75% | 25 | 25 |
| | D. More than75% | 12 | 12 |

Data presented in Table no 1 that represents the demographic data of 100 subjects which shows that:
1. 1.Majority of subject belonging to age group 17 years are 52(52%), in age group 16 years they are 31(31%), in age group 16 years they are 16(16%) and only 1(1%) subject belong to the age group 15

2. Out of 100 subjects 40(40%) are male and 60(60%) are female.
3. 3.Majority of subject using mobile phone since less than 1 year are 42(42%), since 1-2 years using mobile phone subjects are 32(32%), since 2-3 years using mobile phone subjects are 14(14%) and only 12(12%) subjects are using mobile phone since 3-5 years.

4. Majority of subjects are spend time for using mobile per day less than four hours are 86(86%), 4-5 hours using mobile phone per day are 9(9%),6-7 hours using time per day are 1(1%) 8-9 hours spend time for using mobile phone per day are 3(3%), and 12hours or more than that spend time for using mobile phone are 1(1%).
5. Majority of subjects are staying in home are 95(95%), in hostel are 3(3%) and in relatives home are 2(2%) subjects are staying.
6. In 10th std examination 4(4%) subjects are having 40-55%, 5(5%) subjects are having 55-65%, 12(12%) subjects are having 65-75% and 79(79%) majority of subjects are having more than 75%.
7. In 11th std examination majority subjects are having 55-65% they are 40(40%), 25(25%) are having 65-75%, 23(23%) subjects are having 40-55% and 12(12%) subjects are having more than 75%.

**Section II**
**Analysis of data related to problems related to mobile phone dependency**
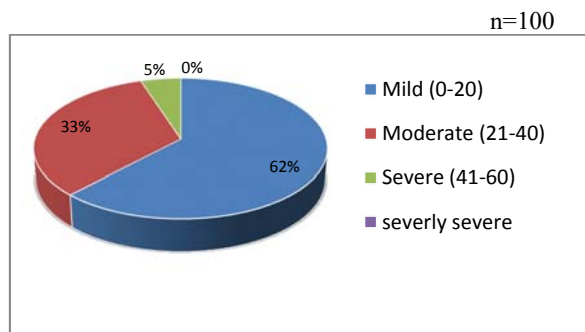


**Fig 1:** Percentage score of mobile phone dependency

Figure 1 shows that majority 62(62%) subjects are mild mobile dependent, 33(33%) subjects are moderate mobile phone dependent and 5(5%) subjects are severe mobile dependent.
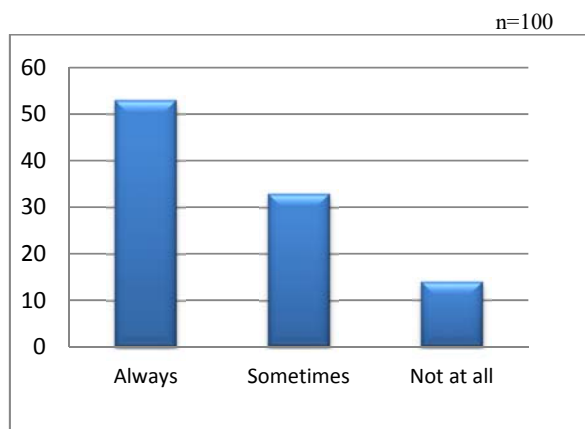


**Fig 2:** Percentage of effect of long term use of mobile

Figure 2 shows that 53(53%) are says that mobile phone affect the health, 33(33%) are saying that sometimes it affect on health and 14(14%) are saying that it will not affect health.
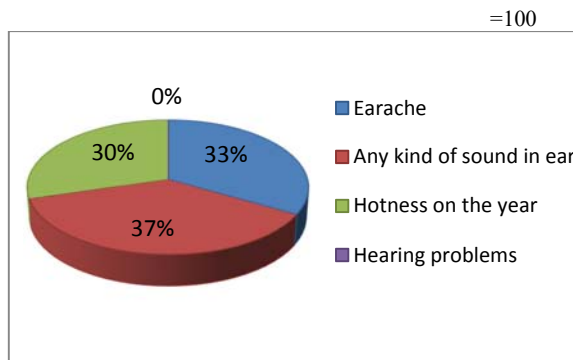


**Fig 3:** Percentage score of ear problems due to long term use of mobile phone

Figure 3 reveals that ear problems arise due to long term use of mobile phone in that 33(33%) are having earache, 37(37%) are having sound in ear and 30(30%) are having hotness on the ear.
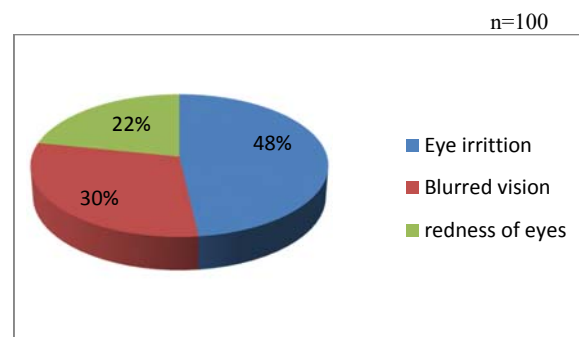


**Fig 4:** Percentage score of eye problems due to use of long term mobile phone

Figure 4 depicts that majority 48(48%) subjects are having Eye irritation due to long term use of mobile phone, 30(30%) are having blurred vision and 22(22%) are having redness of eyes.
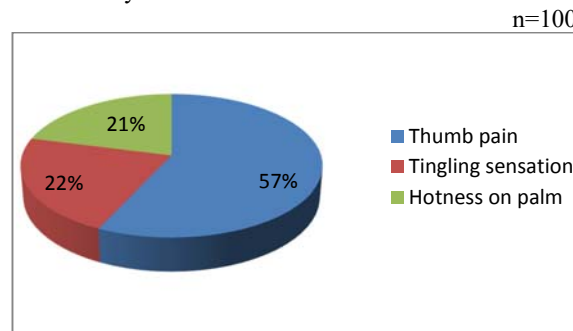


**Fig 5:** Percentage score of hand problems related to long term use of mobile phone

Figure 5 represents that problems arise on hand due to long term use of mobile phone in that majority of subjects 57(57%)are having thumb pain, 22(22%) are having tingling sensation and 21(21%) are having hotness of palms.
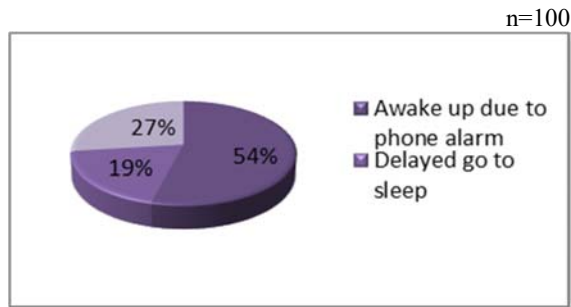
n=100



**Fig 6:** Percentage distribution of problems related to sleep due to long term use of mobile phone

figure 6 that represents the effect on sleep pattern due to long term use of mobile phone in the majority 54(54%) subjects are having awake up due to phone alarm, 19(19%) are delayed go to sleep and 27(27%) are having problem with decrease sleep.
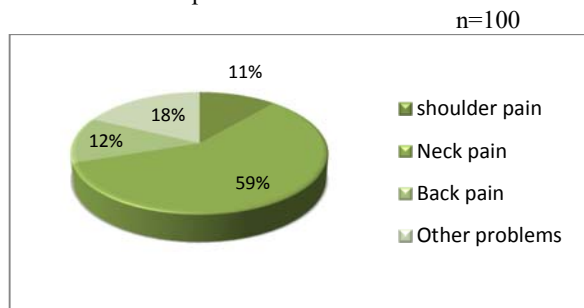
n=100



**Fig 7:** Percentage score of other problems due to long term use of mobile phone

figure 7 shows that the other problems due to long term use of mobile phone 59(59%) are having shoulder pain, 18(18%) are having neck pain, 12(12%) are facing back pain problem and 11(11%) are facing other problems.
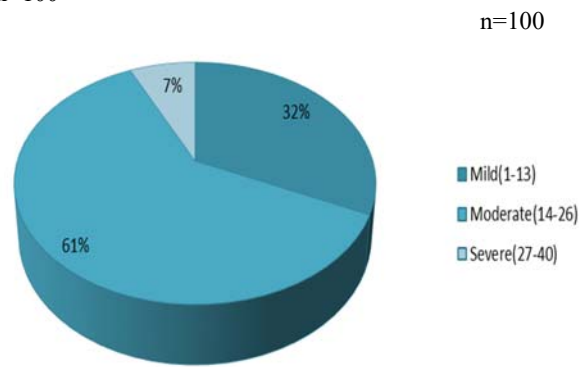
n=100

n=100



**Fig 8:** Percentage score of social life problems due to mobile phone dependency

Figure 8 that represent the social life problems among the adolescents that is majority 61(61%) are having moderate social life problem, 32(32%) are having mild problems and 7(7%) are having severe social life problems.

**Section III**
Figure 9- Analysis of data related to Correlation between social problem and mobile dependency
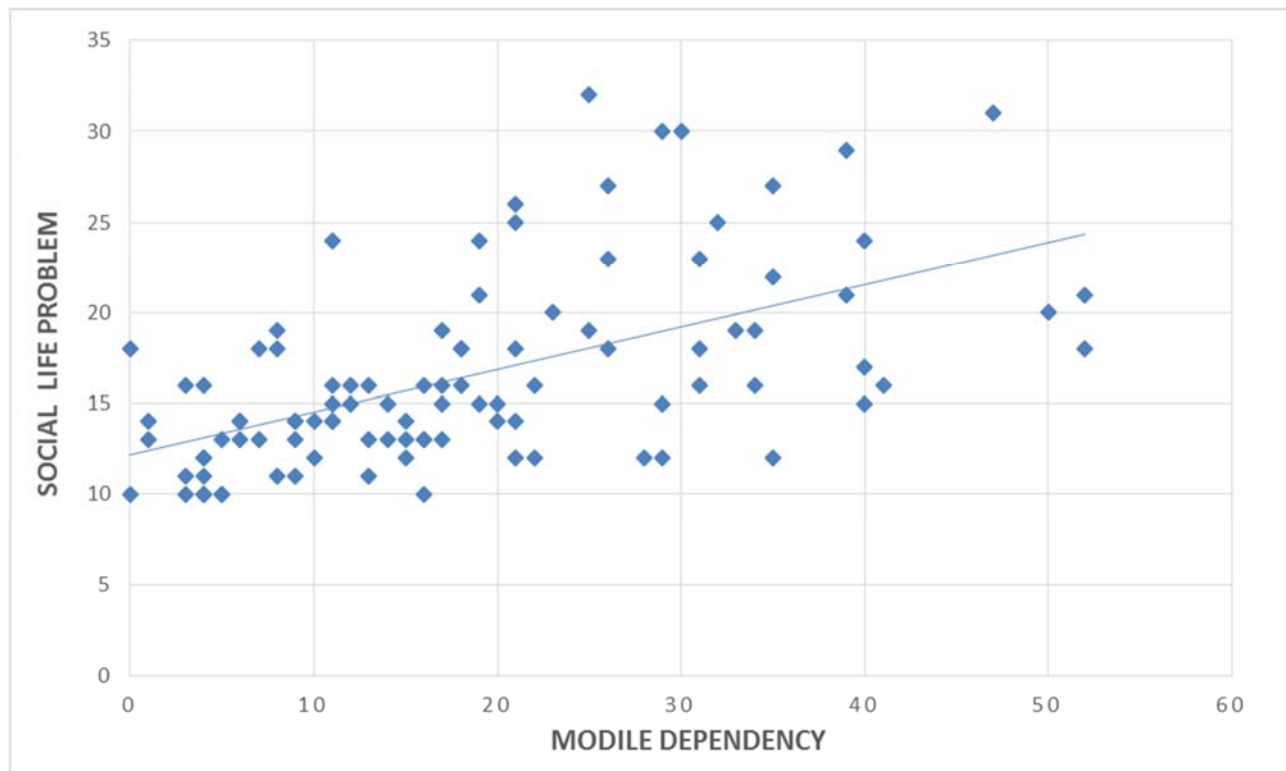


**Fig 9:** Scatter diagram showing correlation between social problem and mobile dependency

Figure 9 presented data related to co relation between mobile phone dependency and social life problems. By using Karl Pearson Co relational coefficient it found value 0.566528 it is found to be there is positive co relation between mobile phone dependency and social life problems

**Section IV**
**Analysis of data related to association of mobile phone dependency findings with demographic variables**

**Table 2:** Association between mobile phone dependency with demographic variable. n=100

| DEMOGRAPHY | | 0-20 | 21-40 | 41-60 | P value | Interpretation |
|---|---|---|---|---|---|---|
| Age | 15 | 1 | 0 | 0 | *<br>0.021 | Significant |
| | 16 | 24 | 7 | 0 | | |
| | 17 | 31 | 19 | 1 | | |
| | 18 | 6 | 7 | 3 | | |
| Gender | MALE | 22 | 14 | 4 | 0.149 | Not Significant |
| | FEMALE | 40 | 19 | 1 | | |
| Since when you are using mobile phone | A | 31 | 21 | 0 | 0.252 | Not Significant |
| | B | 18 | 11 | 3 | | |
| | C | 6 | 7 | 1 | | |
| | D | 7 | 4 | 1 | | |
| Where you are staying | A | 60 | 30 | 5 | 0.510 | Not significant |
| | B | 1 | 1 | 0 | | |
| | C | 1 | 2 | 0 | | |
| How much time do spend for using mobile phone/ day | A | 61 | 24 | 1 | *<br>0.000 | Significant |
| | B | 0 | 7 | 2 | | |
| | C | 1 | 0 | 0 | | |
| | D | 0 | 1 | 2 | | |
| | E | 0 | 0 | 0 | | |
| | F | 0 | 1 | 0 | | |
| 10th examination result | A | 1 | 2 | 1 | *<br>0.000 | Significant |
| | B | 0 | 5 | 0 | | |
| | C | 4 | 8 | 0 | | |
| | D | 57 | 18 | 4 | | |
| Demography | | 0-20 | 21-40 | 41-60 | P value | Interpretation |
| 11th examination result | A | 11 | 10 | 2 | 0.172 | Not Significant |
| | B | 22 | 17 | 1 | | |
| | C | 18 | 5 | 2 | | |
| | D | 10 | 2 | 0 | | |

Note = (*) Indicates the significant values

In Table B data present about association between mobile phone dependency and demographic variable. In that age, how much time do you spend per day for using mobile phone and 10th std examination result is significant and other are not significant. As P value level more than 0.05 levels is shows that it's significant.

**Discussion**
The study findings is supported by a study conducted by Sanjeev Davey and Anuradha Davey(2014), international journal of preventive medicine, assessment of Smartphone addiction in Indian adolescents mixed method studied by systematic review and meta- analysis approach.
Addiction considered by WHO expert committee 1964 as dependence, mobile phone addiction is one of the forms of compulsive use of a mobile phone by adolescents across the world a new kind of health disorder in this category among adolescents, Smartphone addiction is now challenging health policy maker globally to think on this rapidly emerging issue. Adolescents also affected by this high Smartphone engagement. The age group of 13-18 is found to have highest Smartphone uses of 62%. And also smart phone addiction impacting health of adolescents.[6]
Similarly in this study we found that increasing mobile phone dependency and also affecting heath problems.
ZEINAB Rajabzadeh and seyedehsaharhosseini (2016), Mediterranen journal of social sciences they stated that the relationship between physical health and mobile phone among adolescents is excessive. The result showed that the student physical health and uses of mobile phone there is significant positive relationship. This means that people who have more physical health is in danger of cell phone use. In this research measures item public health aspect anxiety sleeping disorder etc.[7]
Similarly in this study we found that mobile phone dependency is related to physical health problems.
The study findings is supported by a study conducted by Tauseefaman and Noreen Shah, Abir Hussain, Akbar Khan Shakila Assif, Alia Qazi (2015), KJMS effect of mobile phone use on the social and academic performance of student of Public Sector College in Pakistan mobile use also affected academic performance, physical activity and academic performance and other hobbies of about 56% students. About 75% students felt anxious and disconnected in the absence f there cell phone. They concluded that excess mobile phone use disturbs daily routine physical activity sleeping habits and interaction with society mental status and academic performance. This consequence can be minimize if the excessive use of mobile phone is reduced
Similarity on our study mobile phone dependency is more and also there is relationship with physical health problem, academic performance social life problems.[8]

**Conclusion**
Mobile phone dependency is increasing day by day among adolescents and the dependency level is ranging from mild to moderate. The adolescents are suffering from many eye and ear problems due to excessive use of mobile as well as they are getting socially detached. The teachers and parents should take this with a serious note and guidance and

counseling session to be organized to make the adolescents aware about the ill effect of mobile phones in their life.

## Recommendation
- A similar study can be conducted for the large sample size thereby findings can be generalized for large population.
- A comparative study to assess the knowledge regarding effect of mobile phone use among adult people and college students.
- Similar study can be conducted in different colleges of Pune city.
- A study to assess the effectiveness of Planned teaching programme on mobile phone dependency its effect on health and social life problems among adolescents of selected colleges of Pune city.

## Legal Issues
Administrative approval obtained from Bharati Vidyapeeth College of Nursing, Pune and Karmaveer Bhaurao Patil Junior College, Pune for conducting study in the specific setting. Participant was explained regarding the purpose of the study. Confidentiality assured and informed written consent is taken from participant before conducting study.

## Acknowledgement

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