IJBPAS, September, Special Issue, 2021, 10(9): 275-290

ISSN: 2277–4998

International Journal of Biology, Pharmacy and Allied Sciences (IJBPAS)

'A Bridge Between Laboratory and Reader'

www.ijbpas.com

HEALTH ISSUES OF SMARTPHONE ADDICTION IN COLLEGE STUDENTS

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Received 19th May 2021; Revised 4th June 2021; Accepted 9th July 2021; Available online 25th Sept. 2021

https://doi.org/10.31032/IJBPAS/2021/10.9.1021

ABSTRACT

BACKGROUND: The advancement of technology although led to many conveniences in the world, it brought other issues as well. Mobile phone addiction is one of the effects on how technology has ramified people's lives. Owning mobile phone is not something bad, nonetheless, few individuals, indeed who use those devices ensued this 'cell phone addiction' syndrome, and impulsivity disorder like gambling and drug addiction. As high as 67% of smartphone users check their devices for calls, messages, or updates. It shows worrying symptoms on behavioral aspects and has to be controlled.

AIM: To acknowledge the reasons for using smartphone, to evaluate the self recognized effects of gadget addiction, to promote awareness among the students about the negative impacts of smartphone addiction.

MATERIALS AND METHODS: The present study focused on health issues of smartphone usage amongst students pursuing professional courses on a sample of 2000 college going students. The students were given pre-tested questionnaire which contained several features associated to the most common unfavorable mental and physical signs attributed to smartphone usage.

RESULTS: Findings revealed students used the gadget for an average of 6 hrs daily and 3hours daily for their study purpose .The most common symptoms frequently observed are Hearing issues, nomophobia, microbial Contamination, distraction from work, excitation, dependency, headache, depression.

CONCLUSION: Though we learned regarding the impact of smartphones on students life it is a truth that in this vast digitalized society we all require data at each stage of our living. So using smartphones optimally is the best solution to get rid of health issues.

Keywords: Addiction, Dependence, communication, technology

INTRODUCTION

Hunger for communication in humans with regard to belongings is advanced with the advent of cellular phones. They adapt to the environment due to different preferences such as social conformity or to acquire socioeconomic rank. According to De Santis, Poole and Orlicowski (2011) technology is not furnished as an artifact, rather scrutinizes how humans commune with a technology in their outgoing practices which shape their budding and situated use of that technology. Contrarily mobiles rely on usage of a person, whether it surrenders oneself from other influence or use it as a purpose of communicating and personal satisfaction. Moreover, Bandura (1973) claims that human behavior is acknowledged by monitoring others, one forms an idea of how new behavior are performed and this coded information serves as a guide for future action. Technological development among cellular phones are alarming principally to the adolescence. Smart phones are a category of mobile phones which are used for multi-purpose. These are classified based on stronger hardware capabilities and ample operating systems which assist wider software, internet access over mobile data and multimedia (comprising music, gaming, video etc) beside crux functionality of managing calls.

Mobiles are the prioritized internet accessible device in barely technologies places due to its portability, as computers aren't preferred outside business areas. The camera on mobile phone is used to take photograph of documents and sent email on phone itself thus eradicating facsimile machines. Nowadays, mobiles are used for transactions too by reducing the risk of carrying money. Banks are recognizing cashless transactions as a new age technological triumph. Just by a click, the payments are processed across globe reduced the risk of traveling to banks and waiting in queue. Even mobiles are used as guides in places to know about the greatness of place, the architecture and religious places. There

are audio clips for people who aren't that well versed with technology. Transportation tickets are booked in no time according to the wish of user and many more.

Addiction is a brain mayhem which is characterized by compelling trust despite knowing its dire results. Addictive stimulus is the one biological factor which makes the crux reason for addiction despite various pyschological factors attached to it. Addictive stimuli is characterized by two properties called reinforcing (which stimulates the person to repeatedly seek something) and intrinsically rewarding (apprehended as continuously positive, pleasurable, and desirable). In the case of mobile phones, 'addiction the dependence increase from being a little or no adverse affects such as usage of mobile device for safety purpose to an indispensable device having a lot of negative out comes such as eye strain, headache, depression etc. Regardless of cautions, dependency of users on mobiles is increasing. In fact, it's evident that many of the accidents are happening due to the usage of phones while driving vehicles. Messaging and calling the others while driving lead to the millions of mishaps every year. Whereas on for this the hapless position at reaching no control point over one's consciousness. The process of addiction taught the difference between liking and wanting. In other words, mobile user starts liking the device and ends at wanting it for every purpose. Inflection point is the name coined by Grover etal 2011 for this level of addiction. This typing point signals as shift from previously liking behavior with few negative consequences for present day addiction where the user psychologically and physically wanting a phone has replaced the word liking as motivational factor behind the behavioral change. The authors argued that the same neural stimulus achieved under substance addiction is repeated after behavioral addiction too.

SELF EMANCIPATING WAYS FOR MOBILE ADDICTION:

Mobile and internet addiction can be nullified by implementing few techniques. Though there are many advancements with which one can isolate themselves from mobile devices, beating the habit all alone becomes difficult sometimes. Hence a help from outside is recommended irrespective of it being a family member, friend or

counselor. A log of mobile usage is a must to track the time being spent on mobile for important and unimportant works and to recognize the addictive areas which need to obsolete. Many applications are used to track the time that is being spent on mobiles. Doing various other things other than being on mobiles can greatly reduce the screen time. By such things, the proneness towards using of mobile phone can be shifted towards other works thus achieving the de addiction over mobile usage. Discern the enkindle to reach mobile for everything. Understanding that many problems can be solved without mobiles can be useful as well. Analyzing the moments and situations when the person go after mobile and examining the person's stimulus of mobile usage can be of great use to examine. Understanding the contrast between web interaction and face to face interaction as people always like to spend time personally than virtually – hence with human communication consisting eye contacting and physical gestures many problems can be solved that are being looked on virtual world. Also it makes people feel safe, secured that someone is hearing to their problems and pressure can be handled quite easily. Sometimes virtual companies can't be embraces when an emergency rushed up rather people around comes to rescue. Personal synergy has more positive effect on humans than of virtual always.

AIMS AND OBJECTIVES

- The main aim of the study was to evaluate the self-recognize effects of expanding smartphone usage on the well-being of college goers.
- To know the amount of time spent on smartphone usage by the college students.
- To acknowledge the reasons for using smartphone.
- To study gender and age differences in mobile phone use among college students in Warangal.
- To determine the effects of smartphone on mental, physical well-being caused by excessive usage in students.
- To increase general awareness about the adverse effects caused by smartphone addiction in students.

MATERIALS AND METHODS

Present study is an prospective observational study was conducted at Major Engineering and Pharmacy

colleges in Warangal district, Telangana region. This study was conducted for a period of 6 months from the year 2019-2020. We have collected at Professional College Students Age present between 17-24 years. We collected the data by prepared questionnaire. On the day of data collection, all the participants who were present in the class was appealed to fill the given questionnaire form. This process was done during the leisure or break hours, so that, their classes won't disturb. The students were primarily explained about the purpose of the study. Next, a formal consent was obtained. Confidentiality of the information was maintained. Thus, the collected data were systemized through graph Pad prism software.

RESULTS AND DISCUSSIONS

Males and females in rural and urban areas

From **Table 1** and **Figure 1** it can be deduced that 898 students which comprises 44.9% of total lot were from rural areas. Further, splitting it, 380 out of 782 males participated which constitutes 48.6% of total male population and 518 females out of 1218 which constitutes 42.53% of total female population are from rural areas.

Also, 1102 students from the given lot which comprises 45.1% of total lot are from urban areas. Further, splitting it, 402 out of 782 males participated which constitutes 51.4% of total male population and 700 females out of 1218 which constitutes 57.47% of total female population are from urban areas.Most respondents have a place with the urban foundation. The purpose behind provincial individuals to move to universities in bigger urban areas could be the accessibility of better instructive offices when contrasted with their unique spot of remain. The MACRO investigation once more, has equivalent outcomes.

Awareness between males and females:

From **Table** and **Figure 2** it can be deduced that 1482 students which comprises 74.1% of total lot has enough awareness on mobile usage. Further, splitting it, 566 out of 782 males participated which constitutes 72.38% of total male population and 916 females out of 1218 which constitutes 75.2% of total female population are aware of the affects of mobile usage. Remaining 25.9% of students are unaware of the problems attached with mobile usage. As, the majority of the students were from non-medical courses they are not aware of the negative impact of smart phone addiction. This is similar to the survey conducted by J

Community Med. Health Edu. in Hyderabad which included most of the medical students.

3. Age wise distribution

From **Table 3** and **Figure 3**, the majority of students who participated in this survey were aged 20 and 'least' were aged 24. According to results seen, a dominant part of the subjects were under 20 years old enough. This is tantamount with the examination done by MACRO in Mumbai in 2004 where respondents were in the age bunch 15-29 years, and it was seen that presentation to PDA's has expanded definitely in those beneath the age of 20. In the milestone MACRO concentrate more females took an interest in the investigation, when contrasted with guys.

4. Usage of mobile by students based on the device's age:

From **Table 4** and **Figure 4,** it can be deduced that as many as 432 which is 21.6 % of given lot are said to be addicted when their devices are 2 years old. They have experienced the art of accessing the device by then and were unable to get rid of the usage. Students as few as 24 which is 0.12% of given lot were least affected by addiction as it was their first year of device's purchase and were said to be using it with utmost carefulness. Also, 162 students who constitute 8.1% of total stock said that they was also least addicted to mobile usage since their mobiles were 6 years old and had developed many issues. So having no choice they were frustrated with the performance characteristics of the phones being that old started ignoring it as much as they can.In the study by the J Community Med Health Educ in Hyderabad. A similar finding reveals that as the duration of possessing a smartphone is inversely proportional to the usage.

5. Daily usage of mobiles by students for studying purpose:

From **Table 5** and **Figure 5**, it can be deduced that in a day, majority of the students (630) which constitutes 31.5% of total lot considered use mobile for 1 hour for study purpose given that 6 hours is the limit taken. Suitable literature specifying students using the mobile phone for study purpose hourly basis in a single day. So further investigation is needed to justify this.

6. Daily distribution of students according to the mobile usage: (Table 6 and **Figure 6)**.

7. Distribution of students according to their problems due to mobile usage:

From **(Table 7** and **Figure 7)** it can be deduced that students are suffering

frequently with the following problems in the given order:

1. **Hearing issues:**
   As many as 390 which is 19.7% of total lot are suffering with issues related with ear. As the headphones are used extensively, the risk of ears getting affected with heavy volume is bigger.Boisterous music via telephone might be a contributing variable for hearing misfortune. The FYI Living examination reports that the reaction in the "diverted" listening test was late and less abundance in the gathering presented to cell telephones.
2. **Eye irritation:**
   As many as 276 which is 13.8% from the given lot are complaining about the eye irration they used to get because of greater mobile access.It was seen that consistent use, gazing at the screen caused the subjects eye strain to such an extent that some of them is needed to go to a Specialist for an eye exam. Anyway none was determined to have a refractive blunder or different genuine eye diseases. Eye strain is self-evidentbecause of concentrating on the screen or because of ceaseless messaging and messing around. The equivalent is referenced by the Center on Media and Kid Health in their article "Phones." Another investigation by the Worldwide Commission on non-ionizing radiation protection (April 1998) reports that "untimely waterfalls" are not connected to mobile phone use because of lower power yield of mobiles.
3. **Head ache:**
   As many as 274 which is 13.7% from the lot are suffering with headache.In spite of the fact that it is realized there could be various reasons for headache; and day by day, travel just as introduction to contamination, being a couple of significant ones, yet in this investigation the apparent perspective on the respondents was satisfactory. Reasonable writing on this explicit side effect and ramifications of mobile phones for the equivalent could not be homed onto. More exploration is expected to prove this reality.
4. **Stress:**
   As many as 238 which is 11.9% of lot are suffering from stress related

issues. They felt that stress has taken over their consciousness whenever they're away from phones. A study in the United Kingdom, the university, of worcester psychologist, Richard balding reported on the results showing that stress was related exclusively with the use of smartphone.

5. **Text depression:**

   As many as 220 that is 11% of lot are feeling depression related to texts. Be it not getting texts from their expected persons or context of received text. A study carried out by BMC public health reported that a sound there were cross-sectional associations connecting more compared to little smartphone use, and stress, symptoms of depression for males and females.

6. **Addiction:**

   As many as 208 which is 10.4% of lot are feeling that they've addicted to mobiles in their daily lives.The explanation behind utilizing the telephone for the greater part an hour by practically 90% of the members could be because of a simple dependence on the gadget or significant timeframe accessible to them. This would additionally mean their relative introduction to the unsafe radiations is more when contrasted with a senior ages gathering. This reality likewise shows that the present more youthful age is probably going to have a considerable lot of the unfriendly well-being impacts, a reality verified by Francisca study.

7. **Digital thumb:**

   As many as 188 which is 9.4% of lot are suffering from wrist pains as they continuously holding phones for long times.Computerized thumb is a pestering issue because of nonstop use of fingers especially. The thumb over the little keypad on mobile phones. Like PC related pressure wounds, this sickness is digging in for the long haul as understudy's utilize the mobile phone unreasonably now-a-days. Dull strain wounds like a advanced thumb, coming about because of redundant errands as in composing on little catches has been referenced by the Center on Media and Health as a 'Drawback of Cell Phones.

8. **Blurred vision:**

As many as 166 which is 8.3% of lot are suffering from blurred vision as the continuous phone accessing has weakened the functioning of their vision and developed vision related imperfections. A study conducted in Turkey revealed that they was few evidence that the use of smartphone has triggering effects for blurred vision, lacrimation of the eyes,and also secretion of the eyes.

9. **Indirect injuries:**

As many as 160 which constitutes 8% of lot are suffering from injuries which caused due to phone usage like slipping, hit by the vehicles, etcPhone driving, most likely is a significant reason street mishaps today. Regularly we see mishaps occurring before our eyes, or have been through one as our companion/driver utilized the gadget on the way to some place. A significant report has been done on this significant general well-being angle by Karen et al. segment 3 of their investigation manages driver execution considers, case reports of accidents, generally speaking patterns, epidemiological examinations also, hazard correlations. Administrative, Legal and Policy points of view are additionally referenced in this examination. In the current investigation an exceptionally low rate of the understudy's have been in a comparative circumstances.

10. **Back pain:**

As many as 120 students constituting 6% of lot are suffering from back pain which caused due to poor sitting posture for too long.The shanghai study showed more frequency of lower back pain and neck shoulder pain were nearly associated toseveral factors.with the use of gadgets.

8. Distribution of students according to their behavioural aspects after using mobile:

From the above table, it can be deduced that students are suffering frequently with following problems in the given order.

1. **Distraction**:

As many as 334 which is 16.7% of total lot are suffering from distraction when using mobiles. Another basic side effect saw in this investigation was that nearly a large portion of the understudy's griped of failure to focus on examines and

other significant parts of their day by day, lives because of companions, or others calls or messaging exercises to which they had/needed to react, on a moment premise. Jennifer Meckles in her investigation reports that "consideration" gets influenced because of increment in cell phone utilization. Numerous understudy's along these lines admitted to lingering behind in scholastic due to their PDA enslavement. In the investigation by Meckles a comparative finding on need "execution" has been recorded.

2. **Life without phone:**

   As many as 332whichis16.6 % of total lot couldn't imagine their life without phone. The current study shows similarity with the survey conducted by the computer in human behavior in Japan, in which adolescence are addicted to mobile phone in their lives, and most of them are unable to imagine a single day without smartphone.

3. **Microbial Contamination:**

   As many as 322 which is 16.1% of total lot are suffering from microbial contamination as they are directly affected by the microbes residing onphones. A research work done in the University of Cape Cost to study the microbial contamination on smartphone showed that all the random samples from students were highly contaminated with different types of microbes which are highly resistant to the most of antibiotics.

4. **Message excitation:**

   As many as 292 which is 14.6% of total lot excites by seeing messages. A study titled digital addiction confirmed that increased anxiety is due to smartphone usage is similar to substance abuse.

5. **Dependency:**

   As many as 280 which constitutes 14% of total lot are dependent on mobiles for their activities. A team of eight judges from the Wharton School in 2009, found that smart phone isone type of one-stop shop for communication and most people are committed to the one-stop shop.

6. **Battery depression:**

   As many as 274 which is 13.7% of given lot facing depression when the battery is inadequate for usage. A study titled digital addiction

confirmed that increased depression is due to smartphone usage is similar to substance abuse.

7. **Fear of being without phone:**

   As many as 258 which constitutes 12.9% of total lot are facing the phobia of not being with phone always. The current study shows similarity with the survey conducted by the computers in human behavior in Japan, in which Adolescence are addicted to mobile phone in their lives, and most of them are unable to imagine a single day without smartphone.

8. **Isolation:**

   As many as 256 students which is 12.8% of total lot are facing the isolation when not being on phone. Students participated in the survey conducted by San Francisco, state researchers found that participants who used their smartphone excessively reported greater levels of feeling of isolation, and they believed loneliness, is a consequence of replacing direct interaction.

9. **Physical activities:**

   As many as 252 students which is 12.6% of total lot are unaccessed to physical activities because of mobiles. A study conducted in united states by Andrew Lepp and Co concluded that smartphone usage is disrupting physical activities and decreasing cardio-respiratory sickness.

10. **Insomnia:**

    As many as 204 which is 10.2% are complained to have Insomnia and constantly checks out the phones during midnight. Absence of rest or a sleeping disorder was one of the most well-known side effects seen among this class of subjects. Moreover, extended periods of time of movement and the pressure of studies, consistent use of mobile phones was believed to be answerable for this result. A couple of replied in the agreed about some measure of restlessness as referenced previously. Sara Thomme *et al*. in Gothenberg, Sweden discovered that high cell phone use was related with rest aggravations and indications of discouragement. The Everyday Galaxy reports that top rest specialists have raised genuine concerns over more than adequate proof indicating that radiation from earphones influences profound rest.

Table 1: Males and females in rural and urban areas

Location	Male	Female	Total
Rural	380	518	898
Urban	402	700	1102
Total	782	1218	2000

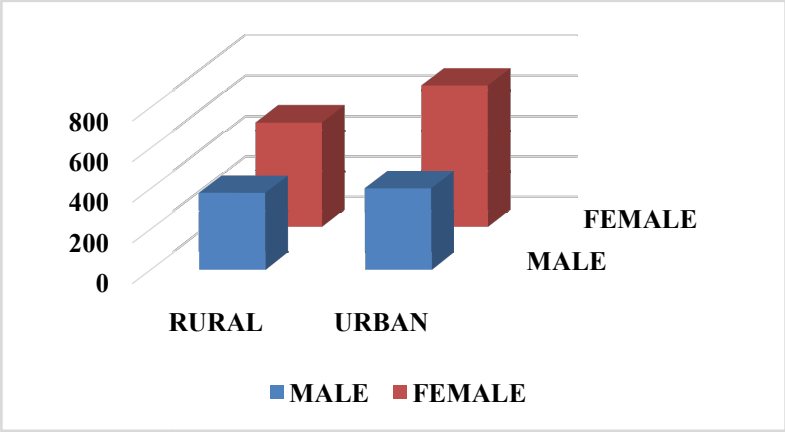

Figure 1: Males and females in rural and urban areas

Table 2: Awareness among males and females

Awareness	Male	Female	Total
YES	566	916	1482
NO	216	302	518
TOTAL	782	1218	2000

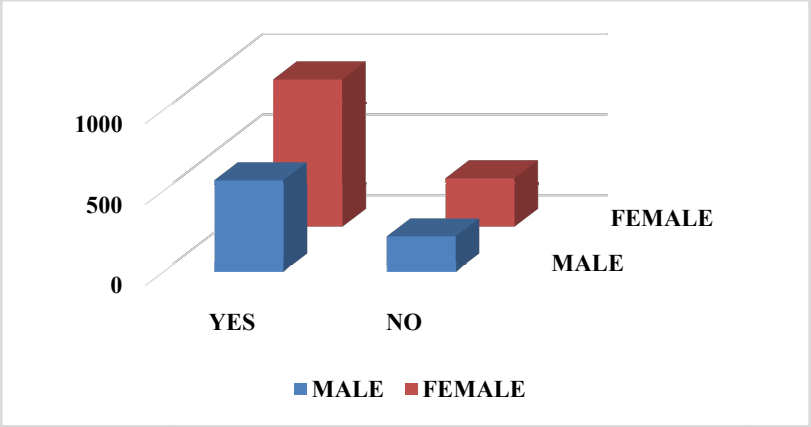

Figure 2:Awareness between males and females about problems regarding mobile usage

Table 3: Tabulation of students according to their ages

Age	Male	Female	Total
17	32	46	78
18	86	168	254
19	152	266	418
20	242	326	568
21	134	216	350
22	76	128	204
23	54	62	116
24	6	6	12

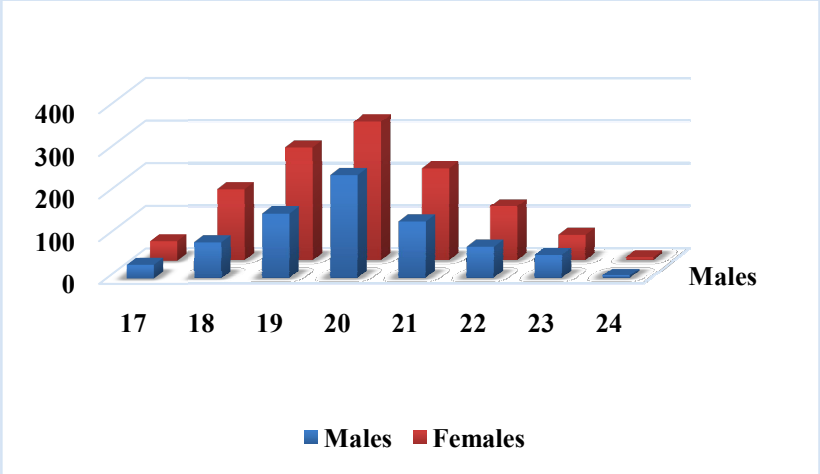

Figure 3: Distribution of Males and Females according to their ages

Table 4: Percentage increase of addiction with no. of years of usage

USAGE (yrs)	NO. OF STUDENTS
0	24
1	212
2	432
3	422
4	354
5	334
6	162

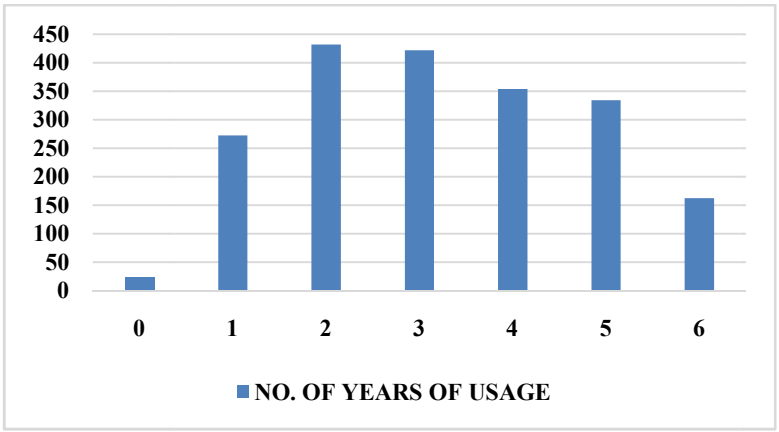

Figure 4: Percentage increase of addiction with no. of years of usage

Table 5: No. of students using mobiles for studying purpose on hourly basis in a single day

No. of hours for studying	Number of students
0	402
1	630
2	552
3	218
4	84
5	76
6	38

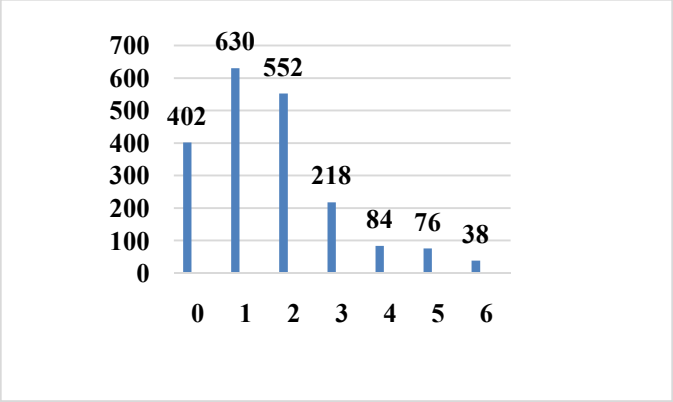

Figure 5: Distribution of students using mobile for studying purpose on hourly basis in a single day.

Table 6: No. of students who use mobiles on hourly basis

No. of hours	Number of students
0	14
1	70
2	172
3	226
4	208
5	264
6	196
7	120
8	276
9	148
10	232
11	6
12	28

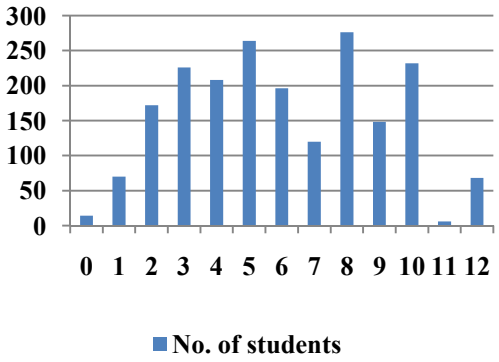

Figure 6: Distribution of students accessing to mobiles on hourly basis

Table 7: Frequency of problems occuring among the students

S. No.	Condition	Rare	Usual	Frequent
1	Addiction	924 (46.2)	868 (43.4)	208 (10.4)
2	Back pain	950 (47.50)	930 (46.50)	120 (06.00)
3	Headache	910 (45.50)	816 (40.80)	274 (13.70)
4	Text depression	912 (45.50)	868 (43.40)	220 (11.00)
5	Blurred vision	990 (49.50)	844 (42.20)	166 (08.30)
6	Stress	928 (46.40)	834 (41.70)	238 (11.90)
7	Eye irritation	912 (45.60)	812 (40.60)	276 (13.80)
8	Ear problem	772 (38.60)	838 (41.90)	390 (19.50)
9	Wrist pain	944 (47.20)	868 (43.40)	188 (09.40)
10	Indirect Injuries	938 (46.90)	902 (45.10)	160 (08.00)

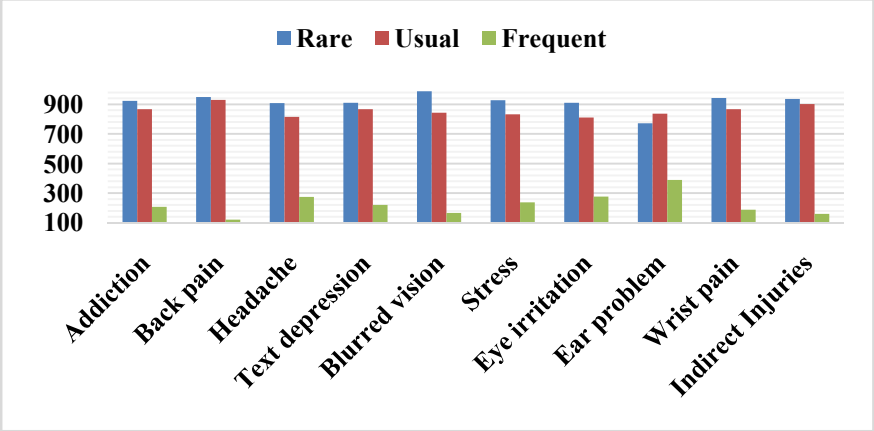

Figure 7: Frequency of problems occuring among the students

Table 8: Frequency among various behavioral aspects

11	Distraction	846 (42.30)	820 (41.00)	334 (16.70)
12	Isolation	914 (45.70)	830 (41.50)	256 (12.80)
13	Message excitation	924 (46.20)	784 (39.20)	292 (14.60)
14	Microbial contamination	858 (42.90)	820 (41.00)	322 (16.10)
15	Fear of being without (phone)	914 (45.70)	828 (41.40)	258 (12.90)
16	Physical activities	924 (46.20)	824 (41.20)	252 (12.60)
17	Battery depression	878 (43.90)	848 (42.40)	274 (13.70)
18	Dependency	894 (44.70)	826 (41.30)	280 (14.00)
19	Insomnia	928 (46.40)	868 (43.40)	204 (10.20)
20	Life without (phone)	780 (39.00)	888 (44.40)	332 (16.60)

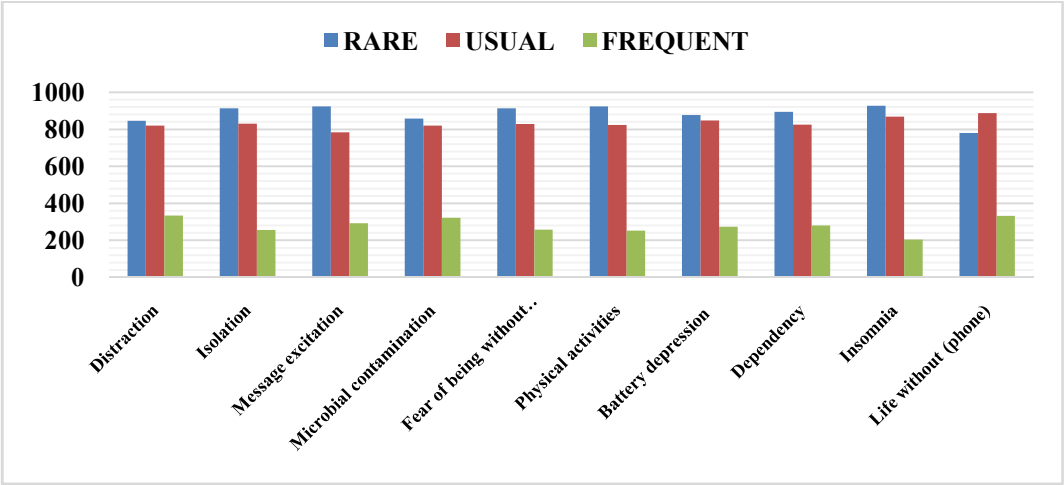

Figure 8: Distribution of frequency among various behavioral aspects

LIMITATIONS

The following limitations were considered for the present work - For the process of obtaining data, no standard scales are used. Instead of standard statistical methods percentage analysis of the data is considered.

CONCLUSION

Dependence on a wireless gadget and absence of sufficient information about the destructive impacts because of PDA's

could be the significant reasons that have added to the expanded frequency of some mental well-being side effects among the more youthful school going age It is believed that reactions because of mobile phone utilization esp. those that influence the strength of an individual can be limited or dispensed with by spreading mindfulness on the topic particularly on confined use and not getting adjusted to the gadgets. More studies should be directed among different layers of the general public, in urban just as provincial settings, in more youthful just as more seasoned age gatherings, among the informed and not all that informed furthermore, in various pieces of the nation, in this respect. The impacts of wireless use needs steady observation and checking and a compelling detailing framework in such manner can go a long route in helping specialists to detail approaches that will check the evil impacts because of cell telephone utilization.

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