

A Cross Sectional Study to Assess the Problematic Use of Mobile Phones among a Selected Population in an Urban Area

Radhika Das¹, Punita A Sharma²

The authors are: 1. Tutor, and 2. Prof & Head, both at Dept of Mental Health Nursing, College of Nursing, AFMC, Pune.

Abstract

Increasing use of mobile phone users has been associated with increased physical and psychological addiction symptoms; it has also found to be a leading cause of road traffic accidents. This study used the PUMP (Problematic Use of Mobile Phone) questionnaire to assess the mean score of mobile phone use among the selected population. In this quantitative non-experimental descriptive cross sectional study, 100 samples were selected through non-probability convenient sampling and assessed using the PUMP questionnaire. Consent was taken and self administered structured questionnaire administered, which were answered under supervision of researcher. Tool had two sections with 10 questions of socio demographical variables and 20 questions related to substance use disorder for assessing tolerance, withdrawal, craving, social or interpersonal, physical and psychological criteria. The mean scoring on problematic use of mobile phones was found to be 53 percent; most of the symptoms of substance abuse were included in the PUMP questionnaire in which scores were more than 50 percent in symptoms except those of Withdrawal, Use in physically hazardous situations and Use despite social or interpersonal problems. The selected population showed significantly high scores on problematic use of mobile phones questionnaire. Most of the symptoms of substance abuse in the PUMP questionnaire had a scoring of over 50 percent indicating need for proactive action.

Addiction is a complex condition, a brain disease that is manifested by compulsive substance use despite harmful consequence. It may be a substance or behavioural addiction. Mobile phone overuse or mobile phone dependency is a form of behaviour addiction which exhibits problematic behaviours related to substance use disorders. Mobile phones today have become an essential part of our lives, used not only for communication, a device of social connect, safe house of our images, videos, passwords, documents and provides internet and mail facilities at our finger tips. What developed as a need in 1973 has grown in leaps and bounds with an estimated 339.95 million users in India alone, and expected to rise to 442.5 million users in 2022. This study aims to identify the features of addiction among the selected population mobile phone users.

Need & significance of the study: Use of mobile phones for extensive periods has been proved to have detrimental effects on physical and emotional aspects of an individual across all age groups. The average age of children using cell phone is at 10.3 years. The radio frequency waves emitted from mobile phones

has also been evaluated for being possible human carcinogens. Various health problems like neurological diseases, physiological addiction, cognition and sleep disturbances have also found to be associated with the constant use of mobile phones. Though DSM 5 does not include any criteria for problematic use of technology, a study in 2016 based on the core symptoms of substance use disorders gives the following as proposed diagnostic criteria for smart phone addiction.

1. Recurrent failure to resist the impulse to use the smart phone
2. Withdrawal: as manifested by dysphoria, anxiety and/or irritability after a period without smart phone use.
3. Smart phone use for a period longer than intended.
4. Persistent desire and /or unsuccessful attempts to quit or reduce smart phone use.
5. Excessive time spent on using or quitting the smart phone use, persistent or recurrent physical or psychological problem.

Atleast three of these symptoms should be present for a three month period to be diagnosed for mobile phone addiction.

Strengthening of global health standards requires identifying the problem and taking remedial measures in time to prevent worsening of global health conditions. Mobile phone misuse has been found to affect people irrespective of age, socioeconomic status or educational qualification.

There has been to be an inverse relationship between mental health, healthy habits and cell phone addiction. Associated comorbidities include sleep affections, anxiety, stress and consumption of substances such as alcohol or tobacco along with neck strain, eye strain, increased illness, car accidents and male infertility.

This study utilises PUMP (Problematic Use of Mobile Phone) questionnaire which demonstrates a single factor structure and an excellent internal consistency. It has questions related to various aspects of substance abuse such as Tolerance, Craving, Withdrawal and Activities given up or reduced, scoring from 20-100, higher scores indicating more symptoms of problematic mobile phone use .

Literature review

In a study by Dhanasekharan, et al (2013) in India the problematic usage of mobile phones was found to be significantly high among adolescent population. Another study published in 2017, showed that many of them were extremely dependant on smart phones, one fourth of the studied population had wrist and hand pain due to smart phone use which may lead to further physiological and psychological complications.

Objectives

The objective was to assess the problematic use of mobile phones among the selected population through scoring on the problematic use of mobile phones questionnaire.

The assumption was that there will be a high rate of Problematic use of Mobile Phones among the selected population.

Conceptual framework: The nursing theory applied in this study is the Neuman's System Model Theory. Here the nurse understands that the client should be seen as a whole and are surrounded by several lines of resistance, the normal line of defence and the flexible line of defence. The purpose is to retain this system's stability through the three levels of prevention.

1. Primary prevention to protect the normal line and

strengthen the flexible line of defence.

2. Secondary prevention to strengthen internal lines of resistance, reducing the reaction, and increasing resistance factors.
3. Tertiary prevention to readapt and stabilise and protect reconstitution or return to wellness following treatment.

Adults, recognised as having problematic use of mobile phones can be made aware of their harmful behaviour so that they can control it themselves. They also can be referred for treatment and help if they require professional help and are not able to exercise self control. This study also helps raising awareness among the study population of this compelling problem and as mode of self check on the indiscriminate use of mobile phones in one's day-to-day life.

Review of Literature

In a mixed method study on adolescents by systematic review and meta analysis by Davey & Davey (2014) it was found that smartphone addiction magnitude in India is 39-44 percent. Another study by Krithika & Vasantha (2013) revealed that 52.9 percent of students had conflict with their parents for talking on mobile phones late at night and 44.8 percent on frequent texting to friends, and also that poor academic performance was related to prolonged mobile phone use. The prevalence among British adolescents aged 11-14 was 10 percent. Under different diagnostic criteria, the estimated prevalence ranged from 0 to 38 percent with self-attribution of mobile phone addiction exceeding the prevalence estimated in the studies themselves. The prevalence of the related problem of Internet addiction was 4.9-10.7 percent in Korea, and is now regarded as a serious public health issue.

Behaviours associated with mobile-phone addiction differ between genders. Women are more likely to develop addictive mobile phone behaviour than men. Men experience less social stress than women and use their mobile phones less for social purposes. Older people are less likely to develop addictive mobile phone behaviour because of different social usage, stress, and greater self-regulation.

Materials and Methods

Quantitative non-experimental descriptive cross sectional study design was followed. Population of study was urban adult population of a selected area. Convenient sampling was carried out and a total of 100 samples were studied. Informed consent of the participants was obtained, a self administered structured

questionnaire was provided and the participants were encouraged to give the most correct answer.

The questionnaire had two sections. Section I of Socio demographic variables included Age of the subject, Gender, Education level, Occupation, Marital status, Number of children, Staying with family members, Years since owning a smart phone, Socio Economic Status, Time spend on social networking sites/day.

Section II was a set of 20 questions of PUMP Scale in Likert form. The scores of the individuals were calculated and the mean PUMP score of 100 samples using descriptive statistics was calculated.

Results

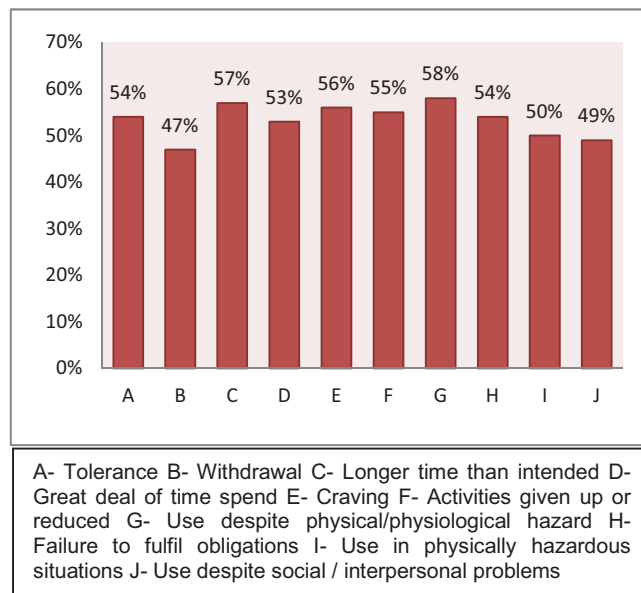
One hundred samples participated in the study. Maximum samples were of the age group-17-30 years (38%), 58 percent were females, undergraduates were more (40%); most of the samples were private employees (30%) and 72 percent were married; 40 percent samples had no children and 72 percent were staying with their family members; 44 percent samples owned a mobile phone since 1-5 years and maximum samples (42%) earned between Rs. 10,001-50,000. On time spend on social networking sites 42 percent of samples spend less than 01 hour on them.

As per PUMP scale (Fig 1) on the questions related to Tolerance the scores of the samples were 53.6 percent, 46.8 percent scored on symptoms of withdrawal, 57 percent scored on longer time than intended on smart phone, 53.4 percent scored on great deal of time spend, 56 percent scored on symptoms of craving, 54.6 percent had activities which were given up or reduced due to use of smart phones, 57.6 percent scored on use despite physical/psychological problems, 53.6 percent scored on Failure to fulfil obligations, 49.8 percent scored on use in physically hazardous situations, 48.6 percent had use of smart phones despite social or interpersonal problems. The mean scoring on problematic use of mobile phones was found to be 53 percent.

Discussion

Among the 100 samples who participated in the study, maximum were in the young adults age group as the samples were selected from an urban educational area. Also undergraduate female participation was more, as the selected area had more of females studying and working there; 72 percent of samples were staying with families and 60 percent of them had children. Presence of families and responsibilities of looking after the children may be the reason why 42 percent of samples spend less than 01 hour on social

Fig 1: Scoring on PUMP questionnaire.



networking sites.

The present study highlights the high rate of mobile use among the selected population with the mean scoring of 53 percent. Most of the symptoms of substance abuse were included in the PUMP questionnaire in which scores were more than 50 percent in most of the symptoms except those of Withdrawal, Use in physically hazardous situations and Use despite social or interpersonal problems. The mean score of problematic use of mobile phone in the present study is comparable to 48.96 percent obtained in a study by Dhanasekharan et al (2017) in India.

Lavanya & Rajandran (2017) also revealed that youngsters spend too much time and money on mobile phones, have less interaction with people and majority of them have health problems due to usage of phone in the night which interrupts their sleep.

Implications

The findings of the present study have deep significance to the field of Mental Health Nursing, Psychiatry and Psychology. Use of PUMP questionnaire allows to interpret the use of mobile phones in terms of substance abuse. It highlights how each facet of substance abuse like tolerance, craving etc. in terms of mobile phone is met by the samples.

This study points to the urgent need for sensitisation and identification of problematic users and their quick management. These findings can be used to spread awareness among phone users, parents of children possessing mobile phones, teachers and medical staff to identify symptoms of dependency and abuse. Based on the findings, an individual can self evaluate their usage of mobile phones and levels of dependency on them.

This study provides a basis for teachers to evaluate their student's extent of usage of mobile phones, and also educate nursing students on ways and methods to identify further dependent users in their clinical field and community. Serving nurses can use this questionnaire to evaluate self as well as patients they care for, spread knowledge and improve awareness regarding safe use of mobile phones. Nursing administrators will be able to identify among the workforce, symptoms of dependency, take proactive steps to manage it and also educate the staff on its identification and coping methods. New methods can be initiated to curb the overuse of these gadgets during work time and to improve the efficiency of the staff.

Recommendations

- Periodic screening be carried out in schools, colleges and work setting.
- Sensitisation and awareness programs at Schools, Colleges and areas of work.
- Provision of counselling and help facilities at various places of interactions.
- Restriction on use of mobile phones in schools, colleges and work places.
- Supervision of parents over the use of mobile phones among children.
- Improving human contact and interactions so as to reduce dependency on gadgets.

Conclusion

The present study highlights the problematic use of mobile phones, widely rampant among children and adults. Excessive use of mobile phones is associated with physical as well as psychological hazards, economic losses, and inefficiencies in social and interpersonal relationships. Mean PUMP score of the present study (53%) indicates significant problematic use of mobile phones in the selected population.

There is a pressing need to identify and tackle the influence of this ever expanding technological invention that may have deleterious effect on the present and coming generation. While studies are being carried out to evaluate the relationship between mobile phone use and increasing incidences of cancer, scientists have reported adverse effects of mobile phone usage in changes in brain activity, reaction time and sleep patterns, also a 3-4 times greater risk of road traffic accidents.

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