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A STUDY ON NOMOPHOBIA PERVASIVENESS AND ITS IMPACT ON SLEEP CYCLE AMONG YOUNGER GENERATION

Dr. P. Thirupathy Kumaresan[1], P. M. Thenmozhi[2]*, S. Santhosh[2] and N. Ponraj[2]

[1]Associate Professor, Department of Pharmacology, Arulmigu Kalasalingam College of Pharmacy, Krishnankoil, Virudhunagar, Tamil Nadu, India – 626126.

[2]Final Year Student of Doctor of Pharmacy, Arulmigu Kalasalingam College of Pharmacy, Krishnankoil, Virudhunagar, Tamil Nadu, India-626126.

***Corresponding Author: Dr. P. M. Thenmozhi**
Final Year Student of Doctor of Pharmacy, Arulmigu Kalasalingam College of Pharmacy, Krishnankoil, Virudhunagar, Tamil Nadu, India-626126.

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ABSTRACT:

Background: Advanced mobile phones have turned into a vital piece of youth and also habit towards its utilization has turned into a genuine worry among them. The goal of this study was to assess the degree of Smartphone use among younger generation and their impact on individual's sleep cycle and their segment qualities.

Methods: A cross sectional study was conducted in 2021 and provided a set of questionnaires for 496 participants. The Smart phone Addiction Scale was used to assess smart phone addiction degree among younger participants with accepted cut-offs. Participants were divided into non-addicted smart phone users, addicted smart phone users and decreased sleep quality participants.

Results: Among 496 subjects, 424 (85.48%) subjects were addicted to smart phone usage. 72 subjects out of 496 were non-addicted smart phone users and 424 subjects out of 496 were addicted smart phone users. Among 424 subjects, 228 (87.35%) male were addicted with higher degree of smart phone addiction than female 196 (83.40%). In order to determine that people with above 5 score of PSQI are consider to have sleep disturbance, among total population 359 (72.3%) individuals have sleep disturbance.

Conclusion: Based on the study, younger generations are more addicted towards smart phone usage and it has their impact on individual's sleep quality. This study insists that the need of awareness program among the people.

KEYWORDS: Smart phone usage, Younger generation, Smart phone addiction, Intervention.

INTRODUCTION

Dependence on a specific substance might cause destructive change in the brain function which might prompt different preventable ailment and sudden death.[1] Behavioural addictions is likewise referred as non-substance dependancy were one of the warm topics for debate recently. Behavioural addictions are just like that of substance dependancy however right here an individual experiences the symptoms of addiction but the results are not due to drug or substance. addiction to gambling explains perfectly about this kind of dependancy.[2] Many research were carried out to encompass smart phone addiction in behavioural dependancy.[3]

Smart phone addiction is also a disorder which involves the compulsive usage of their smart phone and it is quantified as the number of hours they consume their smart phones. This addiction is also known as "Nomophobia" which means fear of being without a smart phone. This term is given by United Kingdom post office in 2008 during a study which evaluated the prevalence of anxiety disorder in excessive smart phone users.[4] Technology world has developed tremendously introducing the world to every person via smart phones. smart phone addiction or complicated mobile phone use is a type of behavioural dependancy which is characterized by uncontrolled or over use of smart phones. and in recent years, young children and teenagers use smart phones excessively to maintain them in contact with the world.[5,6]

Smart phones may be complicated while used excessively. as an example, excessive smart phone use can purpose maladaptive behavioural difficulties visible in impulse manage disorders in standard or pathological gambling; it may interfere with faculty or work, lower real-existence social interaction, decrease academic capability, cause relationship problems, and cause physical health-related problems consisting of blurred vision and psychological disorders such as aggression, lack of attention, sleep disorder, and musculoskeletal disorders of the hand, back muscles, ocular manifestation, cervical spine, and pain inside the wrists or the again of neck.[7-12]

EPIDEMIOLOGY

Globally, the smart phone users have reached around 3 billion and it will be increase in the upcoming years. It is estimated along with the study conducted by the Associated Chambers of Commerce and Industry of India and Price water house Coopers (PwC) and showed that Smart phone users in India would increase around 84% by the end of 2022.[13,14]

STUDY METHOD

The participants involved in the study are students of Arulmigu Kalasalingam College of Pharmacy and Higher Secondary students. The total participants involved for the study were 496 students. Total male and female students involved in the study were 261 and 235 respectively. Duration of the study carried out of 3 months. Participants were involved in the study after receiving Informed consent from every individual participants.

Inclusion criteria

Participants of either sex of more than 16 years, who were using smart phones and who were willing to participate in the study.

Exclusion criteria

Participants who were submitted incompletely filled data collection forms and who were not available. Participants with age more than 23 years were excluded.

Study scale

A questionnaire proforma were structured and that consist of socio demographic profile and questions related about their smart phone usage characteristics with the scale named as Smart phone addiction scale (SAS) which consist of 33 questions and 6 ranging factors with a six-point Likert scale and its total score raning from 33 to 198. Based on this scale, Smart phone addicted participants are divided from the total population using the SAS score with the cut off value of 72. Higher SAS score reflects the participants addiction level which is higher. Data was collected from those participants for at least last 6 months.[15]

Another questionnaire proforma were structured and that consist of questions related about their sleep habit characteristics. This standard questionnaire is known as Pittsburgh sleeps quality index (PSQI), it consist of 19 questions and it is converted into 7 component scores, each have range from 0-3. Final global score ranging from 0-21 are obtained by sum of all the 7 components. Highest score of PSQI indicates the participants affected due to poor sleep quality.[16]

Statistical analysis

Data was collected and entered in Microsoft Excel and it was double checked for any errors. Numerical data was summarized as mean and standard deviation and categorical data was summarized as percentage.

RESULTS

A total of 496 students were included, out of which 261 (52.61%) were male students and 235 (47.37%) were female students. The population were distributed as gender based and age based distribution. The population distributed among 16 to 23 years of age group.

Table 1: Gender distribution of the study population.

GENDER	Population (N)	Percentage (%)
MALE	261	52.61%
FEMALE	235	47.37%

Table 2: Age distribution of the study population.

AGE	Population (N)	Percentage (%)
16	54	10.88%
17	52	10.48%
18	68	13.70%
19	84	16.93%
20	85	17.13%
21	83	16.73%
22	53	10.68%
23	17	3.42%

The average PSQI score among the study participants is found to be 5.99. A person with score above 5 is considered to have sleep disturbance. In our study the majority of the population had a score above 5 (72.37%). Based on gender females had higher PSQI (76.17%) score than males.

Table 3: PSQI score percentage.

SCORE	NUMBER STUDENTS	PERCENTAGE
Score (<5)	137	27.62%
Score(≥5)	359	72.37%

Table 4: PSQI score based on gender.

GENDER	Score (<5)	Score(≥5)
MALE	81 (31.03%)	180 (68.96%)
FEMALE	56 (23.82%)	179 (76.17%)

The average SAS score among the study participants is found to be 95.41. Based on gender both male and female were equally addicted to smart phones.

Table 5: SAS score average based on gender.

GENDER	MEAN	STANDARD DEVIATION
MALE	95.66412	53.22815
FEMALE	95.25424	52.81385

PREVALANCE OF SMART PHONE ADDICTION

The total population (N = 496) was divided into various subgroups based on gender and age. The SAS score more than 72 was considered as smart phone addicted population. Out of 496 students, 424(85.48%) students showed a SAS score more than 72. Based on gender, male (87.35%) were more addicted than female (83.40%). Based on the age, students with 20-21 years (89.28%) were more addicted.

Table 6: Prevalence of smart phone addiction.

CHARACTERISTICS	PREVELANCE OF SMART PHONE ADDICTION POPULATION (N = 424)	PREVELANCE OF SMART PHONE ADDICTION PERCENTAGE (%)
GENDER		
MALE (N = 261)	228	87.35%
FEMALE (N = 235)	196	83.40%
AGE		
16-17 (106)	92	86.79%
18-19 (152)	125	82.23%
20-21 (168)	150	89.28%
22-23 (70)	54	77.14%

DISCUSSION

The usage of smartphone become a mandatory for routine life, education, entertainment and for some cyper works too. The overusage of smartphone cause an alarming impact on individual's psychological condition, and as well in their physical health.[17,18] Though it consist of many drawbacks, it also contain many advantages. The impact of smart phone is based on the individual's usage. Based on the current situation, the study to observe the impact of smartphone usage and their impact on individual's sleep cycle become very important among younger generation.

SAS scale have excellent validity, reliability and internal consistency and it was proved in many research studies. So we decided to undergo study using SAS scale.[19] In study, the relationship between the smartphone usage and their impact on sleep are observed by separating the smartphone addicted individuals using cut off 72 of SAS scale. The cut off value was set in our study after observed from many other studies.[20] In Soni et al study, 33.30% and 53.60% were high and low smart phone usage individual respectively and male were highly addicted compared to female students.[15] In a study, 24.8% of prevalence of smartphone addiction is observed among junior high school students in South Korea.[21] In another study done on Swiss vocational school about the prevalence of smart phone addiction was observed as 16.9%.[22] In a prevalence study conducted among students and staff in Spain and Belgium was evaluated to be 12.8% and 21.5% respectively.[23]

We have planned to observe the impact of smartphone usage on the sleep cycle of an individual. so we decided to use Pittsburg sleep Quality Index scale in our study. PSQI scale is used by neurologist and psychiatrists to evaluate sleep quality and it is the most cited scale and it consist of good validity, internal consistency and homogeneity.[24] The value of the scale ranges between 0-21. The score of the scale evaluated above 5, it indicates that the individual have sleep disturbance.[25] Research studies majorly shows that students are restricted to use smartphone during the college hours. It is one of the reason for the increased screentime during the night time than the day time. This leads to decrease the sleep time among the smart phone users. If this situation continues the sleep quality gets decreased and simultaneously it affects the brain function.[16,26] It also shows it's impact on other functional impairments such as pain in the wrists and neck due to the posture of the head and blurred vision. It also affect the social attachment, family attachment and the very important effect is safety of the individual.[27-29] In a study conducted by Boonluksiri P using PSQI scale, they

reported that two third of their population were affected with sleep disturbance.[30]

Though the smartphone consist of many advantages and features, the limitless use of smartphone leads high impact on routine life activities and behaviours.[31,32] A study observes that many young people regularly taking selfies and posting on social media and also addicted to gaming in smartphone. This affects their mental health and physical health of the individuals.[33] In another studies conducted by Thomee S et al and Lemola S et al, these studies reported that the overuse of smartphone has an high impact in the sleep cycle and their social habits.[34,35] Based on the Kuss DJ et al, the overuse of smart phone by younger generation people affects their academic activities and social interaction.[36-38]

CONCLUSION

Smart phone addiction become a major public issues in the present society. Though it brings many useful feature like online education, communication, digital banking, digital shopping etc., it also causes addiction towards scrolling social media, online games and etc., It also have high impact on individual's psychological conditions such as causing depression, anxiety, sleep disturbance and etc., In order to avoid addiction, the individual should use the smart phone in an utile manner. There is an need for awareness program at community level involving all younger generation people and their parent and involving psychological professionals to make them aware of smart phone addiction and it's impact on their health. We should take a deep look into this issue as a public health issue and pay attention to conduct many future studies for more evidence about it's impact and discovering evidence based treatment methods to get rid of smart phone addiction.

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AUTHORS CONTRIBUTIONS

All the authors have contributed equally.

CONFLICT OF INTERESTS

Authors declares no conflict of interest.

ABBREVIATION

1. PwC: Price water house Coopers
2. SAS: Smartphone Addiction Scale
3. PSQI: Pittsburgh Sleeps Quality Index

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