A STUDY ON ASSESMENT OF IMPACT OF MOBILE PHONES ON INCIDENCE AND PREVALENCE OF STRESS RELATED SLEEP DISORDERS AMONG YOUNG ADULTS.

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ABSTRACT

Aim and Objectives: The Present Study is involved in assessment of impact of Mobile Phones on incidence and prevalence of stress related Sleep Disorders among young adults .

Methodology: It is a Prospective, Observational interventional Study and was conducted for a period of 4 months (from October 2019 to January 2020) among 200 Young Adults (Students), R.T Nagar area, Bangalore, Karnataka, India. All the required data for the Statistical Analysis of Present study was collected from people by using data collection forms that are filled after thorough personal interviews. People with and aging above 15 years and below 35 years and who are Maximum addicted to mobile usage. Microsoft excel was used to record and calculate the data of Recruited Subjects in the present study and mean while Descriptive Statistics like Mean, Standard Deviations were used. P-Value was calculated by using Prism Graph Pad Software.

Results: A total of 200 subjects were selected for the study, in which 121 (60.5%) subjects were males remaining 79 (39.5) of patients were females. Age group in between 15-20; 12 subjects were found to be addicted for less than 10 hours, 28 subjects were found to be addicted stating for 10-15 hrs, 16 subjects were found to be addicted stating for 15-20 hrs. Age group in between 21-25; 5 subjects were found to be addicted for less than 10 hours, 9 subjects were found to be addicted stating for 10-15 hrs, 11 subjects were found to be addicted stating for 15-20 hrs. Age group in between 26-30; 5 subjects were found to be addicted for less than 10 hours, 7 subjects were found to be addicted stating for 10-15 hrs, 10 subjects were found to be addicted stating for 15-20 hrs. Age group in between 31-35; 9 subjects were found to be addicted for less than 10 hours, 7 subjects were found to be addicted stating for 10-15 hrs, 2 subjects were found to be addicted stating for 15-20 hrs. Age group in between 15-20; 2 subjects were found to be addicted for less than 10 hours, 9 subjects were found to be addicted stating for 10-15 hrs, 12 subjects were found to be addicted stating for 15-20 hrs. Age group in between 21-25; 8 subjects were found to be addicted for less than 10 hours, 6 subjects were found to be addicted stating for 10-15 hrs, 16 subjects were found to be addicted stating for 15-20 hrs. Age group in between 26-30; 3 subjects were found to be addicted for less than 10 hours, 5 subjects were found to be addicted stating for 10-15 hrs, 7 subjects were found to be addicted stating for 15-20 hrs. Age group in between 31-35; 4 subjects were found to be addicted for less than 10 hours, 3 subjects were found to be addicted stating for 10-15 hrs, 4 subjects were found to be addicted stating for 15-20 hrs. Incidence and Prevalence of different types of Disorders among both Male and Female Populations stating that 32 subjects with percentage of 16 are reported with Obstructive sleep apnea, 16 subjects with percentage of 8 are reported with Upper airway resistance syndrome, 26 subjects with percentage of 13 are reported with Periodic limb movement disorder, 29 subjects with percentage of 14.5 are reported with Restless leg syndrome, 25 subjects with percentage of 12.5 are reported with Narcolepsy, 30 subjects with percentage of 15 are reported with REM Sleep Behavior Disorder, 42 subjects with percentage of 21 are reported with Insomnia. Conclusion: The Present Study clearly concludes that Mobile Phone addictions are leading to different types of Sleep Disorders.

Key words: Sleep Disorders, Mobile Phones, Prism Graph Pad Software, Prospective, Observational interventional Study, Young Adults..

INTRODUCTION

Sleep Disorders

The sleep disorders are defined as the group of disorders that disrupts or affects or involves sleep [1].

Types of Sleep Disorders

These are the different types of sleep disorders "Obstructive sleep apnea, Upper airway resistance syndrome, Periodic limb movement disorder, Restless leg syndrome,Narcolepsy ,REM Sleep Behavior Disorder and Insomnia".

Impact of Mobile Phones on Sleep Disorders

Nowadays people are much more addicted to mobile phone usages which in turn leading to disturbances in sleep recent research findings also proven that long exposure of mobile phone usages leads to different types of Sleep Disorders [3,4,5].

AIM: To Study the Impact of Mobile Phones on Incidence and Prevalence of stress related Sleep Disorders among Young Adults.

OBJECTIVES: The main objectives of the present study include the following:

- To assess the Impact of mobile phones on incidence and prevalence of sleep disorders among young adults.

- To assess the relationship of duration of sleep with respect to towards the incidence and prevalence of sleep disorders among young adults.

- To assess the future risks of sleep disorders involved in addiction of mobile usage and lack of duration of sleeping hours among young adults.

METHODOLOGY

Study Design: The Present Study is designed as Prospective, Observational and interventional Study.

Study Period: The Present study was conducted for a period of 4 months (from October 2019 to January 2020).

Study Site: The Present study was conducted among Young Adults (Students), residing in R.T Nagar area, Bangalore, Karnataka, India.

Sample Size: 200 People.

Source of Data: All the required data for the Statistical Analysis of present study was collected from people by using data collection forms that are filled after thorough personal interviews.

Inclusion Criteria: People with and aging above 15 years and below 35 years and are Maximum addicted to Mobile Phone

usage.The People who are willing to participate in the Present Study.

Exclusion Criteria: People who are not willing to participate in the Present Study.

Method of Data Collection: All the subjects who are satisfying the inclusion criteria Young Adults (Students), were selected from R.T Nagar, Bangalore, and Karnataka, India. Necessary information for statistical analysis was collected from people by using data collection forms that are filled after thorough personal interviews during the study.

STATISTICAL ANALYSIS

Microsoft excel was used to record and calculate the data of Recruited Subjects in the present study and mean while Descriptive Statistics like Mean, Standard Deviations were used. **P-Value** was calculated by using Prism Graph Pad Software.

RESULTS

Table 1: Gender Wise Distribution of Subjects:

Gender	Number	Percentage
Male subjects.	121	60.5
Female subjects.	79	39.5
Total=	200	100

Table1 shows Gender Wise Distribution of Study Population .A total of 200 subjects were selected for the study, in which 121 (60.5%) subjects were males remaining 79 (39.5) of patients were females.
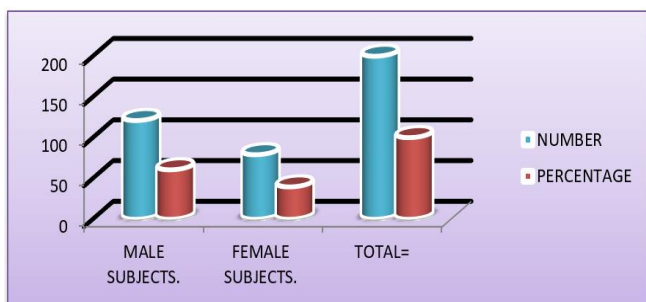

Fig. 1: Showing Gender Wise Distribution of Subjects.

Table 2: Age Wise Distribution of Male Subjects:

S.NO	AGE	NUMBER OF MALES	PERCENTAGE
1.	15-20	56	46.28099
2.	21-25	25	20.66115
3.	26-30	22	18.18181
4.	31-35	18	14.87603
8.	TOTAL=	121	100

Table2 shows Age wise distribution of male population, in this study total of 200 subjects were enrolled in the study. The male's population is 121. The age wise male population ranges from the 56 subjects were in the age group of 15-20 years (46.28099%). 25 subjects were in the age group of 21-25 years(20.66115%). 22 subjects were in the age group of 26-30 years (18.18181%). 18 subjects were in the age group of 31-35 years (14.87603).
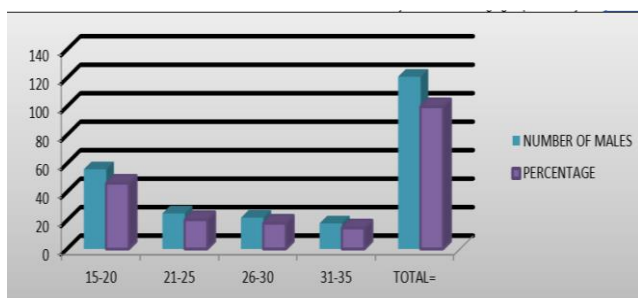

Fig. 2: Showing Age Wise Distribution of Male Subjects.

Table 3: Age Wise Distribution of Female Subjects:

S.NO	AGE	NUMBER OF FEMALES	PERCENTAGE
1.	15-20	23	29.11392
2.	21-25	30	39.97468
3.	26-30	15	18.98734
4.	31-35	11	13.92405
8.	TOTAL=	79	100

Table3 shows Age wise distribution of Female subjects, in this study total of 200 subjects were enrolled in the study. The Female's population is 79. The age wise male population ranges from the 23 subjects were in the age group of 15-20 years (29.11392%). 30 subjects were in the age group of 21-25 years(39.97468%). 15 subjects were in the age group of 26-30 years (18.98734%). 11 subjects were in the age group of 31-35 years (13.92405).
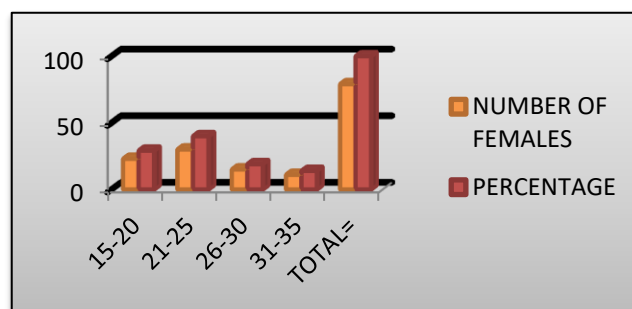

Fig. 3: Showing Age Wise Distribution of Female Subjects.

Table 4: Showing the distribution of Hourly based Mobile Addictions of Males.

S.No	Age	Below 10 hrs	From 10 to 15 hrs	From 15 to 20 hrs
1.	15-20	12	28	16
2.	21-25	5	9	11
3.	26-30	5	7	10
4.	31-35	9	7	2
8.	TOTAL=	31	51	39

Table 4 Showing the age wise distribution of Male population along with their hourly based addictions towards the mobile phones usage. Age group in between 15-20; 12 subjects were found to be addicted for less than 10 hours, 28 subjects were found to be addicted stating for 10-15 hrs, 16 subjects were found to be addicted stating for 15-20 hrs. Age group in between 21-25; 5 subjects were found to be addicted for less than 10 hours, 9 subjects were found to be addicted stating for 10-15 hrs, 11 subjects were found to be addicted stating for 15-20 hrs. Age group in between 26-30; 5 subjects were found to be addicted for less than 10 hours, 7 subjects were found to be addicted stating for 10-15 hrs, 10 subjects were found to be addicted stating for 15-20 hrs. Age group in between 31-35; 9 subjects were found to be addicted for less than 10 hours, 7 subjects were found to be addicted stating for 10-15 hrs, 2 subjects were found to be addicted stating for 15-20 hrs.
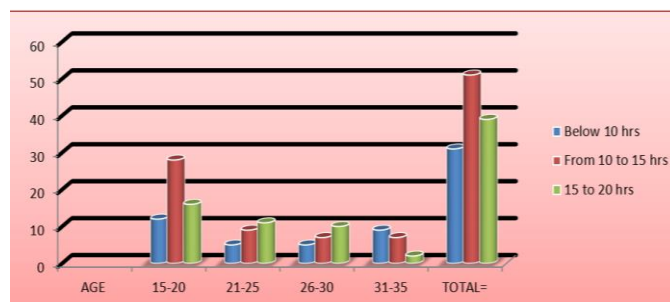

Fig. 4: Showing the distribution of Hourly based Mobile Addictions of Males.

Table 5: Showing the distribution of Hourly based Mobile Addictions of Females.

S.No	Age	Below 10 hrs	From 10 to 15 hrs	From15 to 20 hrs
1.	15-20	2	9	12
2.	21-25	8	6	16
3.	26-30	3	5	7
4.	31-35	4	3	4
8.	**TOTAL=**	**17**	**23**	**39**

Table 5 Showing the age wise distribution of Female population along with their hourly based addictions towards the mobile phones usage. Age group in between 15-20; 2 subjects were found to be addicted for less than 10 hours, 9 subjects were found to be addicted stating for 10-15 hrs, 12 subjects were found to be addicted stating for 15-20 hrs. Age group in between 21-25; 8 subjects were found to be addicted for less than 10 hours, 6 subjects were found to be addicted stating for 10-15 hrs, 16 subjects were found to be addicted stating for 15-20 hrs. Age group in between 26-30; 3 subjects were found to be addicted for

less than 10 hours, 5 subjects were found to be addicted stating for 10-15 hrs, 7 subjects were found to be addicted stating for 15-20 hrs. Age group in between 31-35; 4 subjects were found to be addicted for less than 10 hours, 3 subjects were found to be addicted stating for 10-15 hrs, 4 subjects were found to be addicted stating for 15-20 hrs.
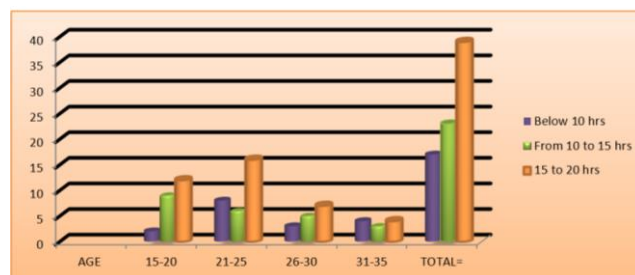

Fig. 5: Showing the distribution of Hourly based Mobile Addictions of Females.

Table 6: Showing Incidence and Prevalence of different types of Disorders among both Male and Female Populations:

TYPE OF SLEEP DISORDER	TOTAL NUMBER BOTH (MALES AND FEMALES).	PERCENTAGE OF BOTH (MALES AND FEMALES).
Obstructive sleep apnea	32	16
Upper airway resistance syndrome	16	8
Periodic limb movement disorder	26	13
Restless leg syndrome	29	14.5
Narcolepsy	25	12.5
REM Sleep Behavior Disorder	30	15
Insomnia	42	21
TOTAL =	**200**	**100**

Table 6 Showing the Incidence and Prevalence of different types of Disorders among both Male and Female Populations stating that 32 subjects with percentage of 16 are reported with Obstructive sleep apnea, 16 subjects with percentage of 8 are reported with Upper airway resistance syndrome, 26 subjects with percentage of 13 are reported with Periodic limb movement disorder, 29 subjects with percentage of 14.5 are reported with Restless leg syndrome, 25 subjects with percentage of 12.5 are reported with Narcolepsy, 30 subjects with percentage of 15 are reported with REM Sleep Behavior Disorder, 42 subjects with percentage of 21 are reported with Insomnia.

Fig 6: Showing Incidence and Prevalence of different types of Disorders among both Male and Female Populations:

P-Value: The **P-Value** for the present study is **0.001** which states that the present study is highly significant.

DISCUSSION

A total of 200 subjects were selected for the study, in which 121 (60.5%) subjects were males remaining 79 (39.5) of subjects were females. The age wise male population ranges from the 56 subjects were in the age group of 15-20 years (46.28099%). 25 subjects were in the age group of 21-25 years(20.66115%). 22 subjects were in the age group of 26-30 years (18.18181%). 18 subjects were in the age group of 31-35 years (14.87603). The Female subjects are 79. The age wise male Patients population

ranges from the 23 subjects were in the age group of 15-20 years (29.11392%). 30 subjects were in the age group of 21-25 years(39.97468%). 15 subjects were in the age group of 26-30 years (18.98734%). 11 subjects were in the age group of 31-35 years (13.92405). Age group in between 15-20; 12 subjects were found to be addicted for less than 10 hours, 28 subjects were found to be addicted stating for 10-15 hrs, 16 subjects were found to be addicted stating for 15-20 hrs. Age group in between 21-25; 5 subjects were found to be addicted for less than 10 hours, 9 subjects were found to be addicted stating for 10-15 hrs, 11 subjects were found to be addicted stating for 15-20 hrs. Age group in between 26-30; 5 subjects were found to be addicted for less than 10 hours, 7 subjects were found to be addicted stating for 10-15 hrs, 10 subjects were found to be addicted stating for 15-20 hrs. Age group in between 31-35; 9 subjects were found to be addicted for less than 10 hours, 7 subjects were found to be addicted stating for 10-15 hrs, 2 subjects were found to be addicted stating for 15-20 hrs. Age group in between 15-20; 2 subjects were found to be addicted for less than 10 hours, 9 subjects were found to be addicted stating for 10-15 hrs, 12 subjects were found to be addicted stating for 15-20 hrs. Age group in between 21-25; 8 subjects were found to be addicted for less than 10 hours, 6 subjects were found to be addicted stating for 10-15 hrs, 16 subjects were found to be addicted stating for 15-20 hrs. Age group in between 26-30; 3 subjects were found to be addicted for less than 10 hours, 5 subjects were found to be addicted stating for 10-15 hrs, 7 subjects were found to be addicted stating for 15-20 hrs. Age group in between 31-35; 4 subjects were found to be addicted for less than 10 hours, 3 subjects were found to be addicted stating for 10-15 hrs, 4 subjects were found to be addicted stating for 15-20 hrs. Incidence and Prevalence of different types of Disorders among both Male and Female Populations stating that 32 subjects with percentage of 16 are reported with Obstructive sleep apnea, 16 subjects with percentage of 8 are reported with Upper airway resistance syndrome, 26 subjects with percentage of 13 are reported with Periodic limb movement disorder, 29 subjects with percentage of 14.5 are reported with Restless leg syndrome, 25 subjects with percentage of 12.5 are reported with Narcolepsy, 30 subjects with percentage of 15 are reported with REM Sleep
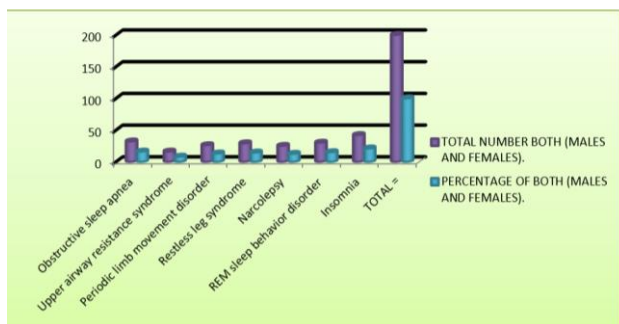
Behavior Disorder, 42 subjects with percentage of 21 are reported with Insomnia.

CONCLUSION

The Present Study clearly concludes that Mobile Phone addictions are leading to different types of Sleep Disorders .I hope the present study will serves as reference as well as boost up for future works related to the present field of study.

REFERENCES

1. Jing-wen he etal.,(2020) effect of restricting bed time mobile phone use on sleep,arousal,mood, and working memory: a randomized pilot trial PLOS ONLINE 15(2):e028756.
2. Jong cheol shin etal., mobile phone interventions for sleep disorders and sleep quality: systematic review JMIR Mhealth Uhealth.2017 sept;5(9): e131.
3. Mehran zarghami etal.,the impact of using cell phones after light-out on sleep quality, headache, tiredness, and distractability among students of a university in north Iran Iran J Psychiatry Behav Sci.2015 Dec;9(4):e2010.
4. Panossian etal., review on sleep disorders Medclin north am.2009 mar; 93(2): 407-25,ix. doi: 10.1016/j.mcna.2008.09.001.
5. Lori.APansonnian MD etal., https://doi.org/10. 1016/j.mcna.2008.09.001 review on sleep disorders journal of sleep disorders Elsevier.
6. Haruka tamura etal., association between excessive use of mobile phone and insomnia and depression among Japanese adolescents. int. J. Environ. res. public health 2017,14,701;doi:10.3390/ijerph 1407701.
7. Jong etal., mobile phone interventions for sleep disorders and sleep quality: Systematic review. JMIR M health unhealthy.2017 sep; 5(9):e 131.
8. Fahdah A etal., the effect of smart phone usage at bed time on sleep quality among Saudi non-medical staff at king Saud university medical city.
9. Gladius Jennifer H etal., A study of mobile phone usage on sleep disturbances, stress and academic performances among medical students in Tamil Nadu international journal of community medicine and public health Jan 2018 5(1).
10. Babak arma etal., the association of sleep and late-night cell phone use among adolescents jornal de pediatria,93(6) 2017.