

Innovations

Exploring Relationship between Smartphone Addiction on Dietary Behaviour, Poor Quality of Life, Sleep Quality and Obesity among Housewives Injaipur: A Cross-Sectional Study

Sheenam Popli

Assistant professor, NIMS College of physiotherapy and occupational therapy, Jaipur, Rajasthan,
(ORCID-0000-0001-9607-2292)

Janvhi Singh

Assistant professor, NIMS College of physiotherapy and occupational therapy, Jaipur, Rajasthan
,(ORCID-0000-0001-8847-4857)

Dharmita Yogeshwar

Assistant professor NIMS College of physiotherapy and occupational therapy, Jaipur, Rajasthan,
(ORCID-0000-0003-3588-8049)

Correspondence author: **Sheenam Popli**

Abstract:

Background: -Smartphone addiction typically involves compulsive phone use and behaviour, such as repeatedly checking messages and excessive use of the device leading to dietary changes, affecting sleep, and impairing quality of life which leads to obesity. The present study aims to evaluate the relationship between all the components **Methods:** A cross-sectional study was conducted among 139 Housewives aged 18-75 years were participated in the study from Jaipur, using the convenience sampling method. Data was collected with the help of an online Google form. To assess the relationship between smartphone addiction on dietary behaviour, sleep quality, quality of life and obesity among females smartphone addiction Scale short version (SAS-SV), Dutch Eating Behaviour Scale (DEBQ), Pittsburgh Sleep Quality Index (PSQI), SF-36 for quality of life outcome measures were used for Obesity Body mass index were calculated by weight in kilogram divided by height square **Result:** Smartphone addiction showed a positive significant correlation with dietary behaviour, sleep quality, poor quality of life and obesity with p-value (0.03) **Conclusion:** The study shows a moderately significant relationship between smartphone addiction on dietary behaviour, sleep quality, quality of life and obesity among housewives across Jaipur

Keywords: Smartphone addiction, Dietary behaviour, Sleep quality, quality of life, obesity

Introduction:-

The concept of addiction is complex and difficult to define. According to the expert committee of WHO, addiction is divided into two types - drug addiction and behavioural addiction. Smartphone addiction is a type of behavioural addiction that is very common among adults. [1]

There were four addiction symptoms indicated by Leung (2007), namely, "losing control and receiving complaints", "anxiety and craving", "withdrawal/escape" and "productivity loss". Social pressure, social

and entertainment application use, emotional gains, and personality traits (Leung, 2007) are some predictive factors of smartphone usage (Zhitomirsky-effect and Blau, 2016) [2]

Studies have shown that females are more likely to develop smartphone addiction than males, although some studies indicate the opposite. [3]

Smartphone addiction typically involves compulsive phone use and behaviour, such as repeatedly checking messages and excessive use of the device. This can lead to dietary changes, affect sleep, and impair quality of life. Previous research has linked smartphone addiction to poor sleep quality and sleep disturbance, which can have negative effects on physical and mental health. Spending excessive time on the phone before sleep can affect sleep quality, leading to unproductivity and poor work performance, especially among females. [4]

Good physical health and mental well-being depend on good sleep quality and poor sleep quality can lead to obesity and cardiac metabolic disease. Smartphone addiction has also been found to have a significant effect on mental and physical health, affecting eating behaviour, daily activities, and interpersonal relationships. [4] High incidences of food addiction have been observed in women with eating disorders, diabetes, and schizophrenia [6]

Smartphones have proved to be a particularly disruptive force by providing low-cost and more convenient access to services such as voice-over-internet protocol, social networking apps, online music and short videos, online shopping, online payments, and mobile wallets (Ficci, 2016) [2] Based on these findings, it is hypothesized that smartphone addiction affects sleep quality, eating behaviour, and quality of life, which can lead to obesity. This hypothesis will be tested through a survey conducted among housewives aged 18-75 years old [6]

Need of study:-

Smartphones have become an integral part of our lives, but excessive usage can lead to addiction and negative impacts on our health and well-being. However, by understanding the connections between smartphone addictions, eating behaviour, sleep quality, and quality of life this study aims to explore the connections specifically among housewives and provide policy recommendations to support women in adopting healthy habits. Promoting limited screen time and adopting healthy sleep habits

Methodology:-

It's a cross-sectional study, for this study, a Google form was created with the help of four outcome measures for data collection. The form was then circulated in various WhatsApp groups, and all female participants using smartphones were informed about the nature of the study through a description. Consent was obtained from all participants via the same Google form, and data was collected using non-probability sampling. The sample size was calculated using G*power, and a total of 139 housewives aged between 18-75 years from Jaipur were included in the study based on the given inclusion and exclusion criteria.

Inclusion criteria:-

18-75 years old females

Housewives who use smartphones

Exclusion criteria-

Males

Mental illness

Inco-operative patient

Data collection tools:-

Smartphone addiction scale -short version (SAS-SV)

The short version controlled these factors and reduced the test to ten questions. The (SAS-SV) was determined to have good reliability and validity. A score of 22 or below indicated no addiction and a score of 34 or above indicated a potential addiction. Researchers explain that this scale should be used more as an assessment tool to screen for the risk of smartphone addiction rather than as a diagnostic tool

Dutch Eating Behaviour Scale (DEBQ)

The DEBQ is a 33-item questionnaire designed to measure restrained, emotional, and external eating behaviour. Emotional eating is assessed through 13 items, while external and restrained eating behaviours are assessed through 10 items each. The questions that assess the three different behaviours appear in a random order in the questionnaire and are answered using a Likert scale with the scoring system as follows: 1 = never, 2 = seldom, 3 = sometimes, 4 = often, and 5 = very often. However, for item 21, the scoring system is reversed, with 1 = very often and 5 = never.

Pittsburgh Sleep Quality Index (PSQI)

.The PSQI is a seven-item questionnaire that assesses the following: duration, quality, latency, efficiency, and disturbance of sleep.Each received a score ranging from 0 (no difficulty) to 3 (extreme difficulty) on the PSQI. The global score, which ranges from 0 to 21, is calculated by adding the component scores. Higher scores correspond to poorer disruptions to sleep quality, usage of sleep medication, and functioning during the day.

SF-36:-

SF-36is a 36-item questionnaire measuring General health,physical health, emotional health,social health, and mental health scoring the SF-361 (Excellent) or 5 (poor).The component score is summed to produce scoreSF-36 scores ranging from 0 (worst)to 100 (best)

BMI:-

Body mass index was calculated by weight in kilogram divided by the square of height

Statistical Analysis:-

Statistical analysis is done by SPSS version 20 to evaluate the distribution of data. Anon-parametric test was used for dataconduction, and then the mean and standard deviation for correlation Spearmancorrelationcoefficient was used

Result:-

The mean value of age is 39.85 (SD =11.12) according to statistical reports out of 139 respondents 95% of females (n =119)werehighly affected bysmartphones 3% of females (n =20) they have moderately affectedby mean value of smartphone addiction among females is 1.85 (SD =.352)

Smartphone addiction showed a positive significant correlation with dietary behaviour, sleep quality and poor quality of life DEBQ (n =131) affected (n=8) non-affected with P value (0.038),PSQI (n=133) affected (n=6) non-affected with p-value (0.030),SF-36 (n=60) non-disabled (n=79) disabledwith p-value(0.031) on the other hand it shows weakly positive correlation with BMI (n=11) underweight (n=30) normal weight (n= 40) overweight (n=58) obesity with p-value (0.017) The Descriptive data in Tabulated form

| Characteristics | | Frequency | Mean & SD |
|-----------------|-------------------|-----------|--------------|
| Age | 18-75 years | 139 | 39.856±11.12 |
| SAS-SV | Moderate affected | 20 | 1.856±.3522 |
| | Highly affected | 119 | |
| DEBQ | Non disabled | 8 | 1.942±.2337 |
| | Affected | 131 | |
| PSQI | Unaffected | 6 | .96±.204 |
| | Affected | 133 | |
| SF-36 | Non disabled | 60 | 1.856±.3522 |
| | Disabled | 79 | |
| BMI | Underweight | 11 | 2.525±.8369 |
| | Normal weight | 30 | |
| | Overweight | 40 | |
| | Obesity | 58 | |

| Characteristics | Correlation coefficient | P value |
|-----------------|-------------------------|---------|
| SAS-SV | .165 | 0.052 |
| DEBQ | .075 | 0.038 |
| PSQI | .087 | 0.030 |
| SF-36 | 1.00 | 0.031 |
| BMI | .202 | 0.017 |

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

Discussion:-

This study sought to determine how smartphone addiction among housewives in Jaipur affected their eating habits, sleep patterns, low quality of life, and obesity. While prior research had indicated relationships among other populations, no study had examined relationships between all the components together. Our study suggests that being glued to the phone might cause a lack of awareness of hunger cues or satiety signals, which might lead to either excessive eating or not eating enough. Chronic phone use can disrupt regular meal times, causing erratic eating schedules and increased chances of skipping meals or substituting them with quick, unhealthy snacks which lead to weight gain. Previous study supports the present study (Kamran H, et al 2018) research showing that individuals with smartphone addiction among college-going students are more likely to consume snacks and carbonated drinks. Participants in online gaming typically further restricted their eating habits to accommodate their playing, missing meals and consuming junk food and soft drinks which leads to obesity.

Interrupted Sleep: During the night, notifications, calls, or messages can cause fragmented and lower-quality sleep. Mentally stimulating activities such as social media, games, or even work-related tasks on smartphones can lead to increased arousal, making it difficult to wind down and relax before bedtime. Furthermore, a number of studies have shown that using a smartphone right before bed disrupts the circadian rhythm, cerebral blood flow, and even heart rhythms, all of which contribute to poor sleep quality. (Andrzejak R, et al 2008) Time spent on smartphones was linked to an elevated risk of clinical depression symptoms, mediated by sleep disturbances, according to a sample of 11,831 Chinese adolescent pupils. (Fu h, et al 2020) The study concludes that smartphone addiction can have a negative impact on various aspects of life among females, including dietary habits, sleep quality, and overall quality of life.

Conclusion:-

Our study confirms the relationship between smartphone addiction with dietary behaviour, sleep quality, poor quality of life and obesity in accordance with to result Establishing "phone-free" zones or times during meals can help promote mindful eating and encourage more balanced eating habits. Mindfulness practices, awareness of emotions that trigger eating habits, and developing a balanced meal routine can also help mitigate the impact of smartphone addiction on eating behaviour. To combat smartphone addiction, one must establish better routines and limits for using devices, which can enhance sleep quality and lead to a more contented existence. Modifications in these habits prevent smartphone addiction in females

Conflict of interest- Author is not having any conflict for the study.

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