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Social Media Addiction That Affecting Physical Activity and Sleep Deprivation Among Middle Aged Working and Nonworking Women

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Abstract: BACKGROUND: The World Health Organization has identified digital addiction as a rising worldwide issue that has a detrimental effect on energy, sleep quality, and time management. To be addicted to social media means to be unable to control one's use of social media, which has detrimental effects on one's interpersonal and personal life. Overuse of social media, particularly by women who have several socio-familial responsibilities, has been connected to poor sleep, physical inactivity, and a lower health related quality of life. In order to create strategies that encourage healthier lifestyle choices, it is essential to understand this association.

METHODS: A cross-sectional study was used. A purposive sample method, composed of 100 middle aged working and non-working women aged 25-59 years in and around Ernakulam. The participants were selected according to inclusion and exclusion criteria. The outcome measures used were Bergen Social Media Addiction Scale (BSMAS) for assessing social media addiction, Pittsburgh Sleep Quality Index (PSQI) for assessing sleep quality and International Physical Activity Questionnaire (IPAQ) for assessing physical activity.

RESULTS: A total of 100 individuals (50 working and 50 non-working women) who satisfied the inclusion criteria participated in this study. In accordance with statistical analyses there is a positive correlation between social media addiction and sleep deprivation among working ($r = 0.276$) and non-working women ($r = 0.531$). A positive correlation was found between social media addiction and physical activity in working women ($r = -0.43$), and a negative correlation among non-working women ($r = 0.043$). physical activity demonstrated a negative correlation with sleep quality in both working ($r = -0.179$) and non-working women ($r = 0.094$).

CONCLUSION: The study concludes that social media addiction is positively correlated with sleep quality in working women, whereas in non-working women.

Social media addiction shows a positive correlation with physical activity in working women and negative association with physical activity in non-working women. Physical activity is negatively associated with sleep quality in both working and non-working women.

Keywords: Social media addiction, physical activity, sleep quality, Bergen Social Media Addiction Scale, Pittsburgh Sleep Quality Index, International Physical Activity Questionnaire.

1. INTRODUCTION

The general definition of social media addiction, a subtype of behavioural addiction, is obsessive use of social media platforms that seriously impairs a user's ability to function in key areas of their lives, including relationships with others, productivity at work or school, and physical health. [1]. The World Health Organization has officially acknowledged digital technology addiction as a global issue, with excessive internet use and online activity resulting in disrupted sleep patterns at night and an inability to manage time, energy, and attention during the day.[2]

In general, social media refers to third-party online platforms that emphasize communitybased inputs, social interactions, and content sharing among their user base. These platforms only display user-generated content and do not license content from third parties. Social media platforms like Facebook, Instagram, and TikTok are well-known examples of social networking sites that enable people to maintain connections online despite obstacles like geographic distance. According to recent data, social networking sites have grown in popularity among teenagers as an outcome of the stringent COVID19 pandemic prevention measures put in place by numerous nations, such as social distancing, "lockdowns," and quarantine regulations. It's interesting to note that social media is utilized for more than just entertainment and social communication; it's also used for opinion sharing, education, networking, and starting group projects. Social media use has been connected in a growing number of studies to detrimental mental health outcomes, including anxiety, loneliness, and suicidality, despite its pervasiveness in people's lives and the amazing benefits it provides for instantaneous social interaction. Concern over social media's impact on mental health has been widely voiced by a number of sources.[3]

The study's goal is to comprehend and pinpoint how social media negatively affects working women. It leads to a number of psychological issues, including stress, boredom, anger, and hypertension. On popular social media sites like Facebook, Twitter, YouTube, Skype, LinkedIn, and WhatsApp, women are far more active than men. Women are more attached to social networks than men are. They convey aspirational messages, which occasionally have detrimental effects. Because of this risk, users might cause issues.[4] According to Hall and Irvine (2009), mothers who are unemployed frequently use internet for social support and information sharing. Parents frequently use internet for their children's medical needs, according to Skranes et al. (2014). Working mothers, on the other hand, have to manage the household and effectively contribute to the demands of their jobs, which may leave little time for internet browsing.[5]

Physical activity is any skeletal muscle-driven movement of the body that requires the use of energy. It is possible to quantify the energy expenditure in kilocalories. Sports,

hobbies, household chores, occupational activities, and other activities can all be considered forms of physical activity in daily life.[6] Physical activity, which includes both low-intensity activities that are frequently found in learning and work environments, like sitting, standing, and walking, as well as high-intensity exercises like swimming and running, is an essential part of daily life. Frequent physical activity is essential for maintaining a healthy lifestyle, as it improves mood, lowers the risk of lifestyle-related diseases, and benefits the cardiovascular, respiratory, neurological, and musculoskeletal systems18. Conversely, a sedentary lifestyle brought on by a lack of physical activity and an over-reliance on the internet can eventually have a detrimental effect on one's physical health, lower one's quality of life, and raise the prevalence of mental health problems. [7]

Lack of sleep, irregular sleeping patterns, inadequate sleep, or a disturbed sleep-wake cycle are all signs of sleep deprivation. To maintain optimal attentiveness throughout the day, it was defined as not getting enough sleep in relation to one's physiological and developmental demands.[8]Sleep latency (the time it takes to fall asleep), awakenings (the number of times one wakes up during night), wake after sleep onset (the amount of time spent awake after first falling asleep), and sleep efficiency (the ratio of time asleep to time spent lying in bed) are the four main components that determine the quality of sleep.[9] A persistent lack of sleep can result in a condition known as sleep deprivation, even though our sleeping patterns and habits may change regularly. It is a condition that occurs when we don't regularly get enough sleep. Due to the growing number of social media users, there are more people who are sleep deprived on these platforms. Even though sleep is crucial for daily functioning, allocating hours of sleep to social media use causes sleep to vanish. Numerous earlier studies that examined the relationship between social media use and sleep have found that more social media use, especially right before bed, results in worse sleep patterns. Notifications from social media are often linked to disruptions in brain functions throughout the day, which makes it hard to unwind before bed and interferes with sleep.[10]

2. METHODOLOGY

Study Design :Cross-sectional study.

Study Setting :Women residing in and around Ernakulam.

Sample Size :100 participants (50 working and 50 non-working women).

Sampling Technique:Convenient sampling.

Study Duration: 3 months.

OUTCOME MEASURES

[1] Bergen Social Media Addiction Scale (BSMAS)

[2] Pittsburgh Sleep Quality Index (PSQI)

[3] International Physical Activity Questionnaire – Short Form (IPAQ-SF)

Inclusion Criteria

Women aged 25–59 years

Working and non-working women

Willing to participate

Exclusion Criteria

Diagnosed psychological or neurological disorders

Diagnosed insomnia

Physical disability affecting mobility

Study procedure

The subject will be selected(based on inclusion and exclusion

criteria)

Bergen social media addiction scale will be used to assess addiction

levels

Data will be collected on social media usage pattern,sleep quality

and physical activity level through validated questionnaires

Pittsburgh sleep quality index(PSQI) will evaluate sleep quality

International physical activity questionnaire (IPAQ) will

measure physical activity level

Correlation between social media addiction, sleep deprivation,and

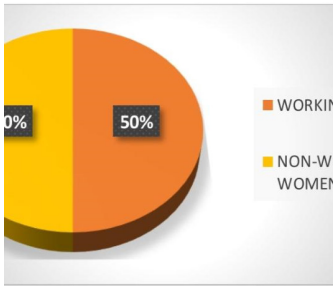
physical activity

3. DATA ANALYSIS AND RESULTS

CATEGORY	FREQUENCY	PERCENTAGE
WORKING WOMEN	50	50%
NON-WORKING WOMEN	50	50%

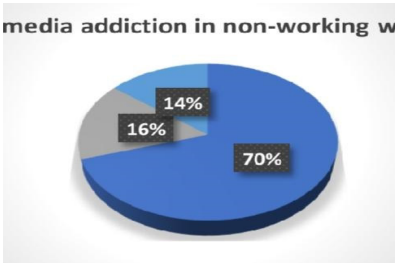
The above table shows the number of working and non-working participants in the study

4. SOCIAL MEDIA ADDICTION

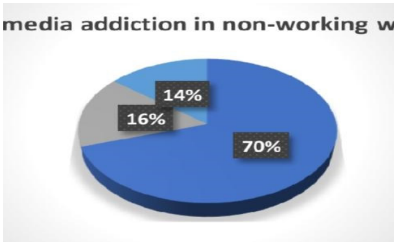


SOCIAL MEDIA ADDICTION	WORKING WOMEN	NON-WORKING WOMEN
LOW	74%	70%
MODERATE	14%	16%
HIGH	12%	14%

The above table shows the social media addiction of working and non-working women.



The above pie chart shows the social media addiction in working women.

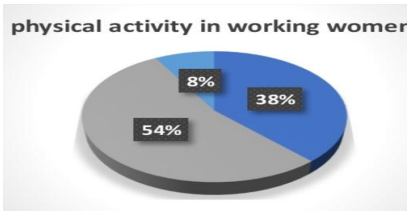


The above pie chart shows the social media addiction in non-working women

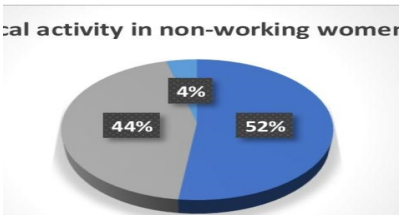
5. PHYSICAL ACTIVITY

SOCIAL MEDIA ADDICTION	WORKING WOMEN	NON-WORKING WOMEN
LOW	38%	52%
MODERATE	54%	44%
HIGH	8%	4%

The above table shows the physical activity of working and non-working women.



The above pie chart shows the physical activity of working women.



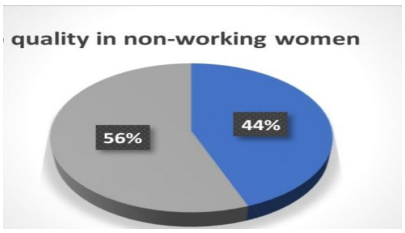
The above pie chart shows the physical activity of non-working women.

6. SLEEP QUALITY

SLEEP QUALITY	WORKING WOMEN	NON-WORKING WOMEN
GOOD	54%	44%
POOR	46%	56%

The above table shows the sleep quality of working and non-working women.

The above pie chart shows the percentage of sleep quality of working women.

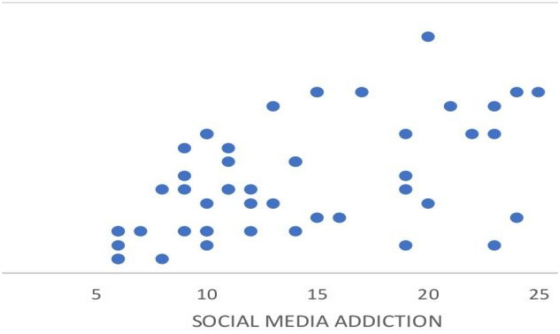


The above pie chart shows the percentage of sleep quality of non-working women.

7. CORRELATION BETWEEN SOCIAL MEDIA ADDICTION AND SLEEP QUALITY IN NON-WORKING WOMEN

VARIABLES	n	PEARSON CORRELATION	LEVEL OF SIGNIFICANCE
Social media addiction and sleep quality	50	r=0.531	P<0.001

Correlation between social media addiction and sleep quality in nonworking women



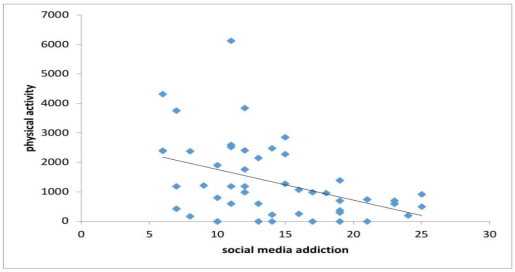
Correlation between social media addiction and sleep quality in nonworking women

In this graph, X-axis shows the score of social media addiction and Y-axis shows sleep quality. According to statistical analysis there is moderate positive correlation between social media addiction and score of sleep quality among non-working women with r=0.531 and is statistically significant P<0.001. But high score in the sleep quality scale indicates more sleep disturbance; the correlation coefficient indicates that as the social media addiction are high, there is high sleep disturbance.

8. CORRELATION BETWEEN SOCIAL MEDIA ADDICTION AND PHYSICAL ACTIVITY IN NON-WORKING WOMEN

VARIABLES	n	PEARSON CORRELATION	LEVEL OF SIGNIFICANCE
Social media addiction and physical activity	50	r=0.043	P>0.05

Correlation between social media addiction and physical activity in nonworking women

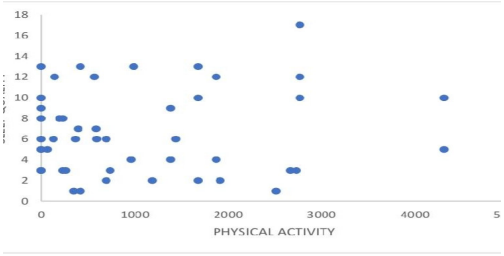


In this graph, X-axis shows the score of social media addiction and Y-axis shows physical activity. According to statistical analysis there is very weak positive correlation between social media addiction and score of physical activity among non-working women with r=0.043 and is statistically significant P>0.05.

9. CORRELATION BETWEEN PHYSICAL ACTIVITY AND SLEEP QUALITY IN NON-WORKING WOMEN

VARIABLES	n	PEARSON CORRELATION	LEVEL OF SIGNIFICANCE
Physical activity and sleep quality	50	r=0.094	P>0.05

Correlation between physical activity and sleep quality in non-working women

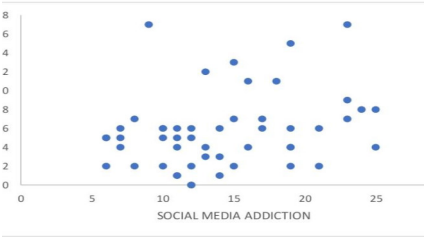


In this graph, X-axis shows the score of physical activity and Y-axis shows sleep quality. According to statistical analysis there is very weak positive correlation between physical activity and score of sleep quality among non-working women with r=0.094 and is statistically significant P>0.05.

10. CORRELATION BETWEEN SOCIAL MEDIA ADDICTION AND SLEEP QUALITY IN WORKING WOMEN

VARIABLES	n	PEARSON CORRELATION	LEVEL OF SIGNIFICANCE
Social media addiction and sleep quality	50	r=0.276	P<0.05

Correlation between social media addiction and sleep quality in working women

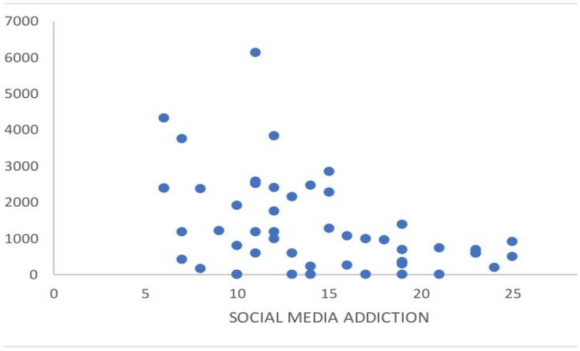


According to statistical analysis there is very weak positive correlation between social media addiction and score of physical activity among non-working women with r=0.043 and is statistically significant P>0.05

11. CORRELATION BETWEEN SOCIAL MEDIA ADDICTION AND PHYSICAL ACTIVITY IN WORKING WOMEN

VARIABLES	n	PEARSON CORRELATION	LEVEL OF SIGNIFICANCE
Social media addiction and sleep quality	50	r=-0.43	P<0.01

Correlation between social media addiction and physical activity in working women



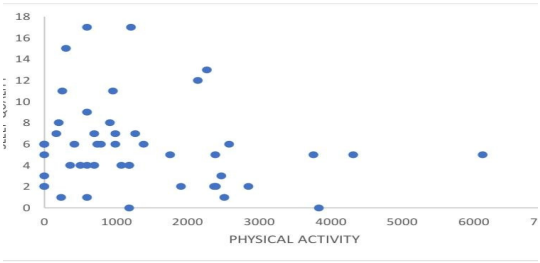
According to statistical analysis there is moderate negative correlation between social media addiction and score of physical activity among working women with r=-0.43 and is statistically significant P<0.01. The correlation coefficient indicates that as the social media

addiction are high, there is low physical activity.

12. CORRELATION BETWEEN PHYSICAL ACTIVITY AND SLEEP QUALITY IN WORKING WOMEN

VARIABLES	n	PEARSON CORRELATION	LEVEL OF SIGNIFICANCE
Social media addiction and sleep quality	50	r=-0.179	P>0.05

Table-10: Correlation between physical activity and sleep quality in working women



According to statistical analysis there is very weak negative correlation between physical activity and score of sleep quality among working women with r=-0.179 and is statistically significant P>0.05

13. DISCUSSION

This study aimed to find the correlation of social media addiction, sleep quality and physical activity among middle aged (25-59) working and non-working women.100 subject were selected according to inclusion and exclusion criteria. Out of this ,50 were working women and 50 were non-working women .The outcome measures used in this study were the Bergen social media Addiction Scale (BSMAS), which assesses the level of social media addiction among individuals; the International Physical Activity Questionnaire (IPAQ), which evaluates the type and intensity of physical activity as well as the time spent sitting to estimate total physical activity in MET-min/week; and the Pittsburgh Sleep Quality Index (PSQI) which assesses sleep quality over a one-month period. The result was analysed using the Pearson correlation coefficient.

According to earlier research, excessive Internet use, especially at night, tends to interfere with circadian rhythms, shorten sleep duration, and lower the quality of sleep overall. Overuse of the Internet has been linked to poor sleep quality, which has been linked to increased stress and anxiety, impaired cognitive function, and dysfunction during the day. Individuals with higher levels of internet addiction exhibited poorer sleep quality and decreased psychological well-being. The results of our study demonstrated a weak positive correlation between social media addiction and sleep quality among working women (r = 0.531) and a weak positive correlation non-working woman (r = 0.276). This suggests that higher levels of social media use are linked to increased sleep disturbances and reduced

sleep quality. Among women, particularly those balancing multiple social and occupational responsibilities, this can further exacerbate fatigue and emotional stress. [6]

Our study revealed a moderate negative correlation between social media addiction and physical activity among working women (r = -0.43), whereas a very weak positive correlation among non-working women (r = 0.043). This variation could be attributed to differences in lifestyle and purpose of social media engagement. Working women may use social media platforms for professional networking, health monitoring, or motivational fitness content, which may indirectly encourage physical activity. In contrast, non-working women might use social media primarily for entertainment and social connection, leading to sedentary behaviours and reduced physical activity. Increased digital addiction was associated with lower physical activity levels among adults, particularly those with less structured daily routines.[7]

The study's overall results support the findings of previous research by indicating a significant correlation between sedentary behavior, poor sleep quality, and digital addiction. These dicisions suggest that by lowering levels of physical activity and interfering with regular sleep cycles, excessive social media use may indirectly lead to health issues. People who spend a lot of time online, especially on social networking sites, are more likely to stay idle for long stretches of time, which throws off their circadian rhythm and reduces the quality of their sleep. The study also emphasizes the need for intervention programs that support healthy habits and balanced technology use, particularly for women who may experience particular psychosocial pressures related to online engagement, body image, and social comparison. Preventive measures can be taken by putting public health strategies into practice, such as initiatives that promote regular exercise, awareness programs on screen-time management, and educational campaigns about digital hygiene. According to the study's findings, encouraging young women to use social media responsibly, manage their time well, and exercise could help lessen the negative effects of excessive digital engagement and eventually improve their mental and physical health.

14. CONCLUSION

The study concluded that social media addiction showed a weak positive correlation with sleep quality among working women (r=0.276) whereas a moderate positive correlation was observed among non-working women (r=0.531). Social media addiction demonstrated a moderate negative correlation with physical activity in working women (r=-0.43) and a very weak negative correlation in non-working women(r=0.043). Furthermore, physical activity showed a very weak negative association with sleep quality in both working(r=- 0.179) and non-working women. (r=0.094). The study revealed that the association of social media addiction with physical activity and sleep quality among working and nonworking middle-aged women was weak to moderate. Understanding these correlations can help in promoting awareness, encouraging healthier lifestyle behaviours, and developing strategies to reduce the adverse effects of social media addiction on physical and sleep health.

15. LIMITATION AND SCOPE OF STUDY

15.1 LIMITATION OF STUDY

[1] The study was limited to women only, so the results cannot be generalized to men.
[2] Participants were restricted to the Ernakulam region, which may not represent other areas or populations.
[3] The age group was confined to 25–59 years, excluding younger and older individuals.

[4] Data were collected using self-reported questionnaires, which may lead to personal basis or inaccurate responses.
[5] The study followed a cross-sectional design, so cause-and-effect relationships could not be determined.
[6] External factors such as diet, stress, and medical conditions that affect sleep and activity were not considered.
[7] The short duration of the study limited observation of long-term changes in lifestyle and behaviour.

15.2 SCOPE OF STUDY

[1] The study helps to understand how social media addiction affects physical activity and sleep quality among middle-aged working and non-working women.
[2] The findings can guide physiotherapists and healthcare professionals in developing awareness and lifestyle modification programs.
[3] It emphasizes the importance of maintaining healthy routines, responsible digital usage, and proper sleep habits.
[4] The study can serve as a foundation for future research including men, younger and older age groups, and larger populations.
[5] Future studies can use digital or objective tools for more accurate measurement of social media use, activity levels, and sleep quality

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