SLEEP QUALITY AND ITS ASSOCIATION WITH COVID-19 SAFETY BEHAVIOURS AMONG IT EMPLOYEES

ABSTRACT

Various safety measures are necessary to prevent the unprecedented coronavirus infection, but following it excessively can have itsimpact on psychological health causing problems in sleep quality. The present study aims to explore the level of sleep quality among IT sector employees and its association with COVID-19 safety behaviourin the southern region of India. Data was collected through online survey (n=163)usingSleep Quality Scale (SQS), COVID-19 Safety Behaviour Checklist (CSBC-11), and demographic datasheet. Results revealed that 15% of the sample suffer from poor sleep quality while 14% follow the COVID-19 safety behaviours excessively. Further, the two factors of sleep quality showed significant positive association with total CSBC.

Keywords : *Covid-19, Excessiveness, IT Employees, Sleep Quality, Safety Behaviours*

INTRODUCTION

The corona-virus disease 2019 (COVID-19) has posed an overwhelming threat to the whole world since its initial case in Wuhan, China, in December 2019 (Varma et al., 2021). In India, the second wave of the pandemic was far more intense and rapid than the first wave (Faruqui et al., 2021). It began around the mid of February 2021 and the daily cases reached three times than the first wave during April 2021 (Ranjan et al., 2021). Due to the rapid increase in the daily cases, hospitals were struggling to function to their fullest capacity due to problems such as inadequate bed facilities, oxygen supply, medicines, etc(Kaur et al., 2021). Hence, the mortality rates also increased leading to lengthy queues in the crematoriums. These factors induced panic everywhere like a collective trauma, especially among the infected patients (Menon et al.,2021).

People's behaviour shifted globally following the lockdown measures. The nationwide lockdown and disruption to the routine work schedule have resulted in changes in eating habits, exercise routines, and mental health, all of which have had an impact on the quality and duration of our sleep (Banthiya et al., 2021).

Even a healthy person without any clinical symptoms frequently suffers from adverse psychological effects due to their home isolation (Al-Otaibi et al., 2022). Various studies reported about the consequences of quarantine including acute stress disorders, anxiety, irritability, poor concentration and indecisiveness, declining work performance, post-traumatic stress disorders, severe psychological distress, cyberchondria, depressive symptoms, and sleeplessness (Gualano et al., 2020; Zackiya& Venkatachalam, 2022). Studies also revealed that an increase in anxiety may lead to disturbances in sleep (Mai et al., 2020; Wang et al., 2021).

Sleep is an essential factor for both physical and mental health and also for the proper functioning of the immune system (Majumdar et al., 2020).Recent research across diverse populations has demonstrated that the pandemic's societal and environmental changes influence the sleep quality and quantity, resulting in an enormous psychological impact on healthcare personnel who were already working under stressful conditions (Al-Otaibi et al., 2022). A new term was coined called 'coronasomnia' which denotes the sleep impairments related to Covid-19 (Semyachkina-Glushkovskaya et al., 2021).

Several studies have reported on the psychological consequences of health care workers. Besides the health

S. AAMIRA ZACKIYA
Ph.D. Research Scholar, Department of Psychology, Periyar University, Salem, Tamil Nadu, India.
J. VENKATACHALAM
Department of Psychology, Periyar University, Salem, Tamil Nadu, India.

sector, employees of other sectors also faced various issues pertaining to their mental health during this pandemic. Millions of employees have lost their employment as numerous firms and industries were forced to shut down. Many IT employees were forced to domandatory work from home (WFH) as a result of the lockdown (Kniffin et al., 2021). This impacted negatively on many employee families and has created a variety of challenges for employees who have no prior WFH experience (Ozcelik&Barsade, 2018; Shimazu et al., 2020; Cho, 2020).

Employees become more vulnerable to mental health problems including anxiety, stress and depression as a result of all these uncertainties and the deteriorating working circumstances (Brooks et al., 2020; Qiu et al., 2020).Due to the fear and anxiety, they tend to follow the safety measures to prevent the infection of the virus, such as washing hands thoroughly and frequently, staying inside homes, using hand sanitisers/disinfectants, etc. Although these activities are important for maintaining public health, they can be detrimental if utilized excessively (Jokic-Begic et al., 2020). This kind of excessiveness will have an impact on the employees' overall mental health causing disruption in their sleep which may ultimately deteriorate their performance and productivity levels.

Methodology

Aim of the Study

The present study aims to explore the level of sleep quality among IT sector employees and its association with COVID-19 safety behaviours in the Southern region of India during the second wave of the COVID-19 pandemic.

The research objectives are,

- To find out the level of sleep quality and COVID-19 safety behaviours among IT employees during the COVID-19 pandemic
- To assess whether there is any significant gender difference in sleep quality and COVID-19 safety behaviours among IT employees during the COVID-19 pandemic
- To examine whether there is any significant association between sleep quality and COVID-19 safety behavioursamong IT employees during the COVID-19 pandemic.

Procedure

This study was carried out among 163 employees working in the IT sector of which 70 were males and 93 females from the Southern region of India. The age range is from 23 to 40 years (Mage=27.32, SD=5.26).A descriptive survey method was adopted and the data was collected through an online survey in which the link was shared through e-mails. Participation was entirely voluntary and online consent was also obtained.

Measures

Sleep Quality Scale (SQS -28; Hyeryeon et al - 2006)

The scaleconsists of 28 items with six factors - daytime dysfunction, restoration after sleep, difficulty in falling asleep, difficulty in getting up, satisfaction with sleep, and difficulty in maintaining sleep. Four-point Likert scale was used. The total score ranges from 0 to 84, with a higher score indicating poor sleep quality. It has an internal consistency of 0.92, test-retest reliability of 0.81 and has good construct validity. Cronbach's a for the overall SQS-28 is 0.84 indicating high internal consistency in the present study.

COVID-19 Safety Behaviour Checklist(CSBC-11;Lauri Korajlija& Jokic-Begic - 2020)

It is an 11-item checklist which evaluates individuals' usage of COVID-19-prevention behaviours (e.g., handwashing, avoiding strangers, not leaving the house). Items are scored in a five-point Likert scale (0=never to 4=always). Internal consistency in the present study is 0.83

Demographic Datasheet

The demographic details of the participants such as age, gender, family type, number of hours using internet, and a few questions related to COVID-19 (e.g. Have you been infected with COVID-19) were collected.

Statistical Analysis

The data was analyzed for descriptive and inferential statistics using the SPSS (Statistical Package for the Social Sciences) software to test the hypotheses.

Results

Table 1
Demographic Characteristics of the Study Sample

Characteristics	Category	Frequency	Percentage	M	SD
Gender	Male	70	42.9	1.57	0.49
	Female	93	57.1		
Type of family	Nuclear	101	62	1.38	0.48
	Joint	62	38		
Area of living	Rural	61	37.4	2.02	0.87
	Semi-Urban	38	23.3		
	Urban	64	39.3		
Marital status	Unmarried	123	75.5	1.25	0.43
	Married	40	24.5		
Internet usage per day	< 2 hours	33	20.2	3.64	2.57
	2-5 hours	99	60.7		
	> 5 hours	31	18.9		

Note:N = 163

The demographic characteristics of the sample are shown in Table 1. Female respondents (n = 93) are higher in number than male respondents (n = 70) in this survey. While 62% (n =101) of the sample belong to the nuclear family, 38% (n =62) belong to the joint family. 37.4% (n =61) of the sample reside in rural areas, 23.3% (n=38) live in semi-urban areas, and the rest live in urban areas. The distribution of the sample based on marital status revealed that about 75.5% (n =123) of the sample is unmarried and 24.5% (n=40) married. About 20.2% used the Internet for less than two hours per day, 60.7% spent two to five hours per day, and 18.9% spent more than five hours per day.

Table 2
COVID-19 Related Factors among Participants

COVID-19 Related Factors	Category	Frequency	Percentage
1. No. of people infected with COVID-19		27	16.6
2. Know people infected with COVID-19 in immediate social circle	Yes	114	69.9
	No	49	30.1
3. Witnessed death in immediate social circle due to COVID-19	Yes	74	45.4
	No	89	54.6

Note:N = 163

The COVID-19 related factors among participants are shown in table 2. From the table, it was evident that about 16.6% of the sample was infected with COVID-19 and 69.9% of the sample knew people in their immediate social circle such as their family, friends, and relatives who were infected with COVID-19. Further, 45.4% of the study sample witnessed death in their immediate social circle due to COVID-19.

Table 3
Manifestation of Study Variables in the Study Sample

Variables	Level	Frequency	Percentage
Sleep quality	Better	31	19
	Moderate	107	66
	Poor	25	15
COVID-19 Safety Behaviours	Low	33	20
	Moderate	107	66
	Excessive	23	14

Note:N = 163

The level of sleep quality and COVID-19 safety behaviours among IT employees is shown in table 3. 15% of the IT employees were suffering from poor sleep quality and excessive level of following COVID-19 safety behaviours is exhibited among 14% of the IT employees.

Table 4
Gender Difference in the Study Variables

Variable	Gender	M	SD	t
SQS - F1	Male	14.0	8.18	1.23
	Female	15.5	8.02	
SQS - F2	Male	5.4	2.14	1.38
	Female	5.9	2.50	
SQS - F3	Male	3.2	2.50	2.06*
	Female	4.0	2.85	
SQS - F4	Male	3.6	1.92	1.01
	Female	3.9	2.00	
SQS - F5	Male	4.0	2.26	0.79
	Female	3.8	2.32	
SQS - F6	Male	1.9	1.65	1.13
	Female	2.2	1.64	
SQS Total	Male	32.2	13.23	1.70
	Female	35.5	11.54	
CSBC Total	Male	25.3	8.06	4.87*
	Female	31.2	7.15	

Table 4 presents the gender difference in sleep quality and COVID-19 safety behaviours among IT employees. It was evident that there is a significant gender difference in factor 3 of the sleep quality scale namely difficulty in falling asleep and in the total COVID-19 safety behaviours (t = 2.06 and 4.87; p<0.05). Females were found to have higher scores in factor 3 of sleep quality scale (difficulty in falling asleep) and in the overall COVID-19 safety behaviours score compared to males.

Table 5 shows the inter-correlation of sleep quality factors and COVID-19 safety behaviour checklist. The total score of COVID-19 safety behaviour checklist is significantly positively related with the two factors of sleep quality namely difficulty in falling asleep and difficulty in maintaining sleep. (r = 0.20; p< 0.01 and r = 0.16; p<0.05). Furthermore, all the sub-factors of sleep quality scale namely daytime dysfunction, restoration after sleep, difficulty in falling asleep, difficulty in getting up, satisfaction with sleep and difficulty in maintaining sleep are significantly positively correlated with the total sleep quality score respectively (r = 0.85, 0.15, p< 0.01; 0.69, p< 0.05; 0.55, 0.46 and 0.62; p< 0.01).

Table 5
Inter-Correlation between Sleep Quality and COVID-19 Safety Behaviours

Measure	M	SD	1	2	3	4	5	6	7	8
SQS - F1	14.90	8.10	—							
SQS - F2	5.72	2.36	-0.19*	—						
SQS - F3	3.71	2.73	0.42**	0.07	—					
SQS - F4	3.81	1.97	0.40**	-0.06	0.32**	—				
SQS - F5	3.92	2.29	0.12	0.36**	0.27**	0.15*	—			
SQS - F6	2.10	1.65	0.38**	0.11	0.58**	0.26**	0.26**	—		
SQS Total	34.16	12.37	0.85**	0.15**	0.69**	0.55**	0.46**	0.62**	—	
CSBC Total	28.70	8.07	0.14	-0.05	0.20**	0.03	-0.11	0.16*	0.13	—

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Discussion

The present study was carried out to examine the association between sleep quality and COVID-19 safety behaviours. One important finding of this current study is that the internet usage has increased to a large extent, which could be attributed to the increased reliance upon the internet during the pandemic lockdown. Major offline events and activities have been transferred to the online mode due to the imposed lockdown and the fear of getting infected with the virus (Pandey & Pal, 2020). 16.6% of the sample infected with virus and 70% of the people from their immediate social environment got infected which shows the widespread proliferation of the virus in the country. Further,45.4% of the study sample witnessed death in their immediate social circle. Similar observations were reported by Ranjan et al., (2020).

The following of COVID-19 safety behaviours in an excessive manner is manifested in 14% of the study sample. These behaviours include washing hands frequently, following news related to COVID, using sanitisers, etc. Even though these behaviours are essential for the prevention of getting infected by the virus, following it excessively can cause individuals to feel anxious and apprehensive which will have a detrimental effect on mental health (Marazziti et al., 2020).

One important finding of the study revealed that about 15% of IT employees suffer from poor sleep qualityand same was found by Florea et al (2021). Sivertsen et al, (2019) reported that extensive usage of social media will lead to problems in sleep quality. Further, there is a gender difference in following COVID-19 safety behaviours and sleep quality factor, difficulty falling asleep. Females have higher tendency

to follow COVID-19 safety behaviours in an excessive manner and are at a greater risk for sleep disturbance than males, which might be attributed to their over-concern. These results showed similar trends with previous study where women are at risk category for various sleep disturbances during the COVID-19 pandemic than males (Gupta et al., 2020).

COVID-19 safety behaviours have a significant positive relationship with two factors of sleep quality namely difficulty in falling asleep and difficulty in maintaining sleep. The employees experienced problems in their sleep such as falling asleep, tossing and turning, not being able to sleep once awakened, easily waking up due to noise, etc. these issues can be due to the social jet lag where the sleep timings have been altered because of the changes in the work schedule.

Conclusion

The current study found that a significant number of IT employees tend to follow COVID-19 safety behaviours in an excessive manner and suffer from poor sleep quality. Further, it is revealed that there is significant association between, following COVID-19 safety behaviours and sleep quality among IT employees. These findings highlight the significance of arranging psychological therapies to alleviate the distressing effects of increased anxiety during the pandemic phase, perhaps preventing long-term mental health implications. There is a need to address sleep through promoting healthy sleep habits, providing adequate sleep time, and managing mental and emotional health through the development of online platforms to promote good sleep.

Author Note

1. Ms. S. Aamira Zackiya, https://orcid.org/0000-0001-5984-4556, Research Scholar, Department of Psychology, Periyar University, Salem-636 011, Tamil Nadu, India.

2. Dr. J. Venkatachalam , https://orcid.org/0000-0003-0281-6575, Professor, Department of Psychology, Periyar University, Salem-636 011, Tamil Nadu, India.

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