

IMPACT OF COVID 19 PANDEMIC AND LOCKDOWN ON SLEEP

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ABSTRACT

India has been greatly affected due to the Corona virus disease since January 2020. We aimed to assess the sleeping pattern of our students, faculties, colleagues, friends and relatives during the outbreak, and to explore the various factors which influenced the patterns. Using a web-based survey we collected data from 135 self-selected people with generalized information of medications, use of gadgets before sleep, anxiety, difficulties observed for acquiring sleep, change in sleeping hours

KEYWORDS

COVID-19, Sleeping patterns, sleep quality

INTRODUCTION

In the current COVID 19 pandemic situation people are globally home imprisoned due to lockdown. Whole countries are on lockdown, the economy has ground to a halt, and many people are afraid for themselves and their loved ones. The coronavirus pandemic doesn't affect everyone in the same way. Of course, patients with the virus and front-line medical workers face the brunt of the direct impacts of the disease. But normal people are facing different problems. Most individuals are exposed to an unprecedented stressful situation of unknown duration. This may not only increase daytime stress, anxiety and depression levels but also disrupt sleep. Sleep is one of the most important health behaviours affecting immune function, mental and physical health, and quality of life. Sleep problems during confinement may be an important issue for everyone, but some individuals are at a higher risk to develop sleep problems than others. Increase in stress/worries at bedtime is associated with moderately impaired sleep (Akerstedt *et al.*, 2007).

Stress and the social situation at work are strongly linked to disturbed sleep and impaired awakening, that gender and, even more so, age may modify this and that the inability to stop worrying about work during free time may be an important link in the relation between stress and sleep (Akerstedt, *et al.*, 2002). Sleep disturbances are highly prevalent and greatly affect consecutive emotional reactivity, while sleep quality itself can be strongly affected by reactions

to previous emotional events (Altena, E. et al., 2016). Sleep and the circadian system exert a strong regulatory influence on immune functions. Prolonged sleep curtailment and the accompanying stress response invoke a persistent unspecific production of pro-inflammatory cytokines, best described as chronic low-grade inflammation, and also produce immunodeficiency, which both have detrimental effects on health (Luciana Besedovsky *et al.*, 2012).

The Pittsburgh Sleep Quality Index (PSQI) is an effective instrument used to measure the quality and patterns of sleep in adults. It differentiates “poor” from “good” sleep quality by measuring seven areas (components): subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medications, and daytime dysfunction over the last month.

METHODOLOGY

Study design

To prevent the spread of SARS-CoV-2 through contact we did a web-based survey in which an online sleep related survey of selected individuals pertaining to lockdown was prepared. This web-based survey was of the effect of COVID-19 Pandemic and lockdown on sleep was sent through Google form with the help of WhatsApp, an email like public platform.

Data Collection

Participants answered the questionnaires sent through Google form. Complete questionnaire covering demographic data, disturbed sleeping patterns, usage of mobile and other electronic devices, sleep quality, were made and encouraged participants to answer carefully. Total 135 participants who completed the questionnaires were included in the analysis.

Ethical consent

This study was conducted in accordance with declaration of individual participants by electronic informed consent which was obtained before the start of investigation also after the completion of the questionnaire.

Measures

Demographic information

Demographic variables included gender (female or male), age (we included the age group starting from 10-50 yrs), occupation, (we included students between the age group of 17-

25, Teachers, Health care workers, Home makers, other working professionals), blood group (O, A, B, AB) and residential area (urban or rural)

Sleep quality

To study the impact of COVID 19 pandemic and lockdown on sleep, we have done a survey for students, faculties ex-students, their parents, friends, relatives to increase our sample size.

We also calculated the PSQI index of sleep. We circulated it among the students to monitor the score of each student of the Biotechnology Department. The PSQI Scale contains seven components (subjective sleep quality, sleep duration, sleep latency, habitual sleep efficacy, use of sleep medications, sleep disturbance, daytime dysfunction). The score of each component ranges from 0 to 3 points. The global PSQI score ranges from 0 to 21, with higher scores indicating more severe sleep disorders. We also made a questionnaire to keep a check and monitor their sleep cycle for about a month.

RESULTS

Table 1: Analysis questionnaire asked during the survey

Variable sample	n (%)
Gender	135
Female	96 (71%)
Male	39 (28%)
Age	
Less than 25	102 (75%)
More than 25	33 (25%)
Occupation	
Health care workers	01 (0.7%)
Teachers	11 (8%)
Students	89 (69%)
Other working professionals	34 (25%)
Blood Group	
O	57 (42%)
A	36 (26%)
B	25 (18%)
AB	13 (9.6%)

Sleeping hours	
6-7hrs	100 (74.07%)
7-9hrs	29 (21.48%)
More than 9 hrs	06 (4.44%)
Effect of lockdown on sleep	
Yes	70 (51%)
No	43 (31.85%)
Maybe	22 (16.29%)
Disturbance in sleeping pattern	
Yes	84 (62.22%)
No	51 (37.77%)
Physical activity/exercise	
Yes	79 (58.51%)
No	56 (41.48%)
Time required to get sleep	
10-15Mins	40 (29.62%)
15-30Mins	54 (40%)
Above 30 min	41 (30.37%)
Stressful	
Yes	44(32.59%)
No	39(28%)
Maybe	52(38.51%)
Usage of mobile during lockdown	
1-2hrs	17 (12.59%)
2-4hrs	42 (31.11%)
More than 4 hrs	76 (56%)
% of people taking prescribed medicines	
Yes	01 (0.74%)
No	134 (99.25%)
People who smoke	
Yes	02 (1.48%)
No	133 (98.5%)
People who consume alcohol	
Yes	08 (6%)
No	127 (94%)
Residential area	
Urban	123 (91%)
Rural	10 (7.40%)
Panchayat	02 (1.48%)

Demographic character

The characteristics of participants were shown in Table 1 of the 135 samples analyzed 96 (71%) were females and 39 were male (28%). This shows females were keen in the survey. Participants were of age group less than 25 years were more as compared to more than 25 years age. Among the participants 01 (0.7%) was health care worker, 89 (69%) were students, 11 (8%) were teachers and 34 (25%) were the other working professionals and homemakers which showed maximum participation of students. Blood group was also analysed which showed O Blood group of 57 (42%) A Blood group 36 (26%) participants, B blood group of 25 (18%) participants and 13 (9.6%) participants of AB Blood Group. It indicated O Blood group was more generalised. Smoking pattern was also considered in which 02 (1.48%) were smoking, rest 133 (98.5%) were Non-smokers. Drinking of alcohol was also a parameter asked which we thought might affect their sleep pattern. Among which only 08 (6%) were drinkers rest 127 (94%) were not consuming alcohol. Residential area was also taken into account and those living in urban areas were 123 (91%) were living in urban cities while 10 (7.40%) were living or went to rural areas, and 02 (1.48%) were living in Panchayat. So most of the samples were from urban town/city.

Hours of sleeping were monitored which was noted that 6-7 hours showed 100 (74.07%) participants it was the new sleeping time as people were more anxious, worried rather than sleeping for 7-9 hours so only 29 (21.48%) number of participants slept for 7-9 hours and participants who slept for more than 9 hours were 06 (4.44%)

It was also asked whether lockdowns have affected their sleeping pattern. The answers were quite surprising as 70 (51%) participants said yes and 22 (16.29%) participants were confused state, rest 43 (31.85%) were not affected by their sleeping pattern.

Does exercise also hamper the sleep as most of the participants were taking minimum sleep and were exercising which helped them to sleep better at night 79 (58.51%). Rest 56 (41.48%) participants were not exercising thus would sleep only at night.

Average number of minutes required to get sleep during this pandemic and lockdown minimum 10-15 minutes required were 40 (29.62%) participants, than 15-30 minutes required were 54 (40%) and 41 (30.37%) were the participants which required 30 minutes to get sleep as there may be different reasons for not getting early sleep it may differ from person to person.

Due to pandemic unnecessary stress scary situations have occurred whether people get COVID-19, when we will move out, How the situation will be normalised, will the exams take place,

economy decline so such anxiety 44 (32.59%) experienced stress. 39 (28%) Participants didn't experience stress due to getting habitual rest 52(38.51%) participants were not sure whether they were in stress or not.

Due to lockdown and work from home all electronic gadgets were used excessively especially mobile phone, 17 (12.59%) participants were using mobile for 1-2hrs, 42(31.11%) participants were using mobile for 2-4hrs, and 76(56%) participants were using mobile for more than 4hours, laptops, televisions, online teaching students were also using mobile, laptops due to sudden switch to E-learning.

People are more health conscious thus taking medicine for sleeping was not favoured by many participants and only 01 (0.74%) participants showed intake of medicine rest 134 (99.25%) did not need to depend upon the medication.

Disturbance in sleeping routine as there is sudden announcement of lockdown thus initially the sleeping routine was disturbed. 84 (62.22%) participants showed disturbed sleeping patterns and 51(37.77%) participants didn't notice any disturbance in sleeping routine.

CONCLUSION

In conclusion we identified there was a burden due to the outbreak of COVID-19 Younger people were spending too much time on mobile phone before sleep, stressed related to cancelled examinations, experiencing disturbed sleep patterns, effects on the daily sleep routine, unnecessary over thinking, thus accepting the situation, Doing regular exercise, meditation, physical activity having positive mind-set, indulging in your passion, being constructive, productive will decrease the anxiety and bring back the sleep routine of younger generations.

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