Supplementary Table 1. Sleep disorders during COVID-19 pandemic

Author/ Country/Year	Theme	Population	Methods/Measures	Findings
Abdulah/ Iraq/2020 [1]	Quantifying the severity of sleep difficulty and its association with duration of dealing with suspected/ confirmed cases of COVID-19 in physicians	268 physicians Age: 35.06 ± 7.61 years Male: 188 (70.1%)	Cross-sectional, convenience sampling/ AIS	Working with COVID-19 patients has a negative effect on the sleep of physicians.
Wang/ China/2020 [2]	Evaluating sleep quality and working pressure in HCWs	 118 healthcare workers 12 HCWs (Acquired COVID-19) 106 Healthcare workers (Healthy) Age: 30.5 ± 5.3 years 	Cross-sectional, convenience sampling/ PSQI, NSI	Poor sleep quality and high working pressure were positively related with high risks of COVID-19.
Beck/ France/2021 [3]	Examine sleep quality among 1005 general population and COVID-19 patients	1005 general population	Cross-sectional, convenience sampling/ Researcher developed	COVID pandemic is associated with severe sleep disorders among the French, especially young people.
Casagrande/ Italy/2020 [4]	Assessing psychological effects of the COVID-19 outbreak on aspects of sleep quality, general anxiety symptomatology, and psychological distress	2291 general population Age: 18.89 ± 11.5 years Male: 580 (25.3%)	Cross-sectional, convenience sampling/ GAD-7, PGWB, PSQI, PCL-5	COVID-19 crisis appears to be a risk factor for sleep disorders and psychological diseases in the Italian population.
Cellini/ Italy/2020 [5]	Investigating the change in digital media use before going to bed, sleep quality, and their association with depression, anxiety, and stress levels	1310 young adults aged 18 to 35 years Age: 23.91 ± 3.60 years	Cross-sectional, convenience sampling/ PSQI, DASS-21	The increase in sleep disorders was stronger for people with a higher level of depression, anxiety and stress, and related with the feeling of elongation of time.
Innocenti/ Italy/2020 [6]	Examine sleep disorders in Italy amid pandemic COVID-19	1035 general population Age: 30–50 years Male: 177 (17.1%)	Cross-sectional, convenience sampling/ PSQI	Disqualified sleep during COVID-19, might represent a risk factor for the development of chronic insomnia or other sleep disorders.
Kaparounaki/ Greece/2020 [7]	Examining the impact of the lockdown on the mental health behaviors in university students	1000 general population (university students) Age: 22.07 ± 3.3 years Male: 309 (30.99%)	Cross-sectional, convenience sampling/ STAI, CES-D, RASS	There was a 25-fold increase in possible clinical cases of depression and an almost 8-fold increase in suicidal thoughts.
Sheng/ China/2020 [8]	Examining the psychological status and sleep quality during the outbreak of COVID-19	95 nursing interns who isolated a general teaching hospital Age: 21.26 ± 1.01 years Male: 6 (6.5%)	Cross-sectional, convenience sampling/ SAS, SDS, PSQI	Results showed relatively high levels of anxiety and depression during the collective isolation that affected sleep quality.
Xiao/ China/2020 [9]	Identifying the social support influence on sleep quality and function of medical staff who treated patients with COVID-19 using SEM	180 medical staff who treated patients with COVID-19 infection Male: 51 (28.3%)	Cross-sectional, convenience sampling/ SAS, GSES, SASR, PSQI, SSRS	Health workers in China who were treating patients with COVID-19 infection during January and February 2020 showed levels of anxiety, stress, and self-efficacy that were associated with sleep quality and social support.

COVID-19, coronavirus disease 2019; AIS, Athens Insomnia Scale; CES-D, Center of Epidemiological Studies Depression Scale; GAD-7, Generalized Anxiety Disorder Scale, IAT, Internet Addiction Test; NSI, Nurse Stress Index; PCL-5, Posttraumatic Stress Disorder Checklist for DSM-5; PGWB, General Well-Being Questionnaire; PSQI, Pittsburgh Sleep Quality Index; RASS, Richmond Agitation Sedation Scale; SAS, Self-Rating Anxiety Scale; SASR, Stanford Acute Stress Reaction; SDS, Self-Rating Depression Scale; SSRS, Social Support Rate Scale; HCW, health care workers; SEM, structural equation modeling; DASS-21, Depression Anxiety Stress Scales 21; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2; HADS, Hospital Anxiety and Depression Scale; STAI, State Trait Anxiety Inventory; GSES, General Self-Efficacy Scale.

REFERENCES

- 1. Abdulah DM, Musa DH. Insomnia and stress of physicians during COVID-19 outbreak. Sleep Med X 2020;2:100017.
- 2. Wang X, Jiang X, Huang Q, Wang H, Gurarie D, Ndeffo-Mbah M, et al. Risk factors of SARS-CoV-2 infection in healthcare workers: a retrospective study of a nosocomial outbreak. *Sleep Med X* 2020;2:100028.
- 3. Beck F, Léger D, Fressard L, Peretti-Watel P, Verger P; Coconel Group. Covid-19 health crisis and lockdown associated with high level of sleep complaints and hypnotic uptake at the population level. *J Sleep Res* 2021;30:e13119.
- 4. Casagrande M, Favieri F, Tambelli R, Forte G. The enemy who sealed the world: effects quarantine due to the COVID-19 on sleep quality, anxiety, and psychological distress in the Italian population. *Sleep Med* 2020;75:12-20.
- 5. Cellini N, Canale N, Mioni G, Costa S. Changes in sleep pattern, sense of time and digital media use during COVID-19 lockdown in Italy. J Sleep Res 2020;29:e13074.
- 6. Innocenti P, Puzella A, Mogavero MP, Bruni O, Ferri R. Letter to editor: CoVID-19 pandemic and sleep disorders-a web survey in Italy. *Neurol Sci* 2020; 41:2021-2.
- 7. Kaparounaki CK, Patsali ME, Mousa DV, Papadopoulou EVK, Papadopoulou KKK, Fountoulakis KN. University students' mental health amidst the CO-VID-19 quarantine in Greece. *Psychiatry Res* 2020;290:113111.
- 8. Sheng X, Liu F, Zhou J, Liao R. [Psychological status and sleep quality of nursing interns during the outbreak of COVID-19]. J South Med Univ 2020;40: 346-50. Chinese
- 9. Xiao H, Zhang Y, Kong D, Li S, Yang N. The effects of social support on sleep quality of medical staff treating patients with coronavirus disease 2019 (CO-VID-19) in January and February 2020 in China. *Med Sci Monit* 2020;26:e923549.