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Letter to the Editor

Insomnia during COVID-19 pandemic and lockdown: Prevalence, severity, and associated risk factors in French population



A B S T R A C T

In response to Voitsidis et al. (2020) published in *Psychiatry Research* addressing the paucity of research on insomnia during a pandemic, we obtained data from an online cross-sectional survey by documenting the prevalence of clinical insomnia and its contributing factors in a French general public sample. Participants ($N = 556$) completed the Insomnia Severity Index, UCLA Loneliness scale, and provided information on sociodemographics, antecedents of mental and physical health conditions, and COVID-19-related stressful life events. In our sample, 19.1% met the diagnostic criteria of clinical insomnia, which was twice lower than that reported in the study by Voitsidis et al., but close to those found among Chinese and Italian populations. We confirmed COVID-19-related worries and loneliness to be the major contributing factors to clinical insomnia, in addition to education status, being infected by the virus and pre-existing mental health illness. These findings underscore that sleep-related problems should be an important component of mental health interventions during pandemics.

Dear Editor,

The novel and lethal coronavirus disease (COVID-19) outbreak, emerging from Wuhan, China, in the late of 2019, unexpectedly dawned on Western European countries. In France (the fifth most affected country worldwide in terms of COVID-19 deaths toll), the first case of infection was officially confirmed on January 24 and the government announced public health emergency responses by March 17 when the national health care infrastructure began to be overwhelmed. As time elapsed, the preventive measures, including national lockdown, have become sources of overwhelming stress and health-related fears.

Periods of epidemics are sources of severe physical and mental health problems, bouts of negative emotions (Brooks et al., 2020; Cénat et al., 2020) and, relatedly, abrupt disruptions in regular sleep habits/patterns (circadian rhythms). However, very little research has provided evidence-based information on sleep-related disorders as a consequence of epidemics in the past. Ongoing COVID-19 studies are also paying less attention to the risk factors of insomnia (Huang and Zhao, 2020; Rossi et al., 2020; Voitsidis et al., 2020). In the present online cross-sectional, observational data, we documented the prevalence of insomnia and its contributing factors in a French general public sample.

The survey was conducted, from May 3 to 16, using an anonymous online questionnaire. The data collection adopted purposive and snowball sampling strategies. Participants completed the Insomnia Severity Index (ISI; Morin, 1993), 4-item UCLA Loneliness scale (Russell, 1996), and provided information on sociodemographics, antecedent of mental and physical health conditions, and COVID-19-related stressful life events. The study procedures complied with the provisions of the Declaration of Helsinki of 1975, as revised in 2008. The protocol study was approved by the Ethics Commission of the Faculty of Psychotherapy and the Faculty of Psychology, Sigmund Freud University (LBP2CFYKAO1BEX87902).

The sample included 556 adult participants (75.5% female) with age ranging from 18 to 87 ($Mage = 30.06$ years), 48 of whom were infected by the COVID-19. In respect to the period of data collection, we verified whether participants in the survey before the end of

confinement was announced ($n = 462$) and after the announcement ($n = 94$) differed in the outcome variable. No significant difference was found ($p > 0.47$), then both subgroups were pooled. In the overall sample, the mean total ISI scores was 9.2 ($SD = 5.66$) with 19.1% meeting the diagnostic criteria of clinical insomnia ($ISI \geq 15$). In contrast to Voitsidis et al. (2020) study, neither gender nor living area was associated with insomnia severity, however education attainment did ($F[2, 553] = 13.87, p < 0.0001$, partial $\eta^2 = 0.03$) such that individuals with postgraduate levels had reported lower levels of insomnia severity than participants with primary and college education levels. Through multivariate logistic regression analyses, we found that while compared with individuals with postgraduate levels, those with undergraduate levels (odds ratio [OR] = 2.59, 95%CI: 1.34–5.02) and those attending college (OR = 2.41, 95%CI: 1.05–5.53) were more than twofold at greater risk for developing clinical insomnia. Higher levels of worries about the COVID-19 (OR = 1.39, 95%CI: 1.09–1.78), being infected by the virus (OR = 0.43, 95%CI: 0.19–0.97), pre-existing mental health illness (OR = 1.22, 95%CI: 1.12–1.33), and loneliness (OR = 0.41, 95%CI: 0.23–0.72) increased the likelihood of being diagnosed with clinical insomnia. This model explained 25.1% (Nagelkerke R^2) of the variance in clinical insomnia, and correctly classified 82.4% of cases.

In this study, the prevalence of clinical insomnia reached the upper worldwide insomnia prevalence, estimated at 3.9% to 22% (Kay-Stacey and Attarian, 2016). However, it appeared twice lower than those found by Voitsidis et al. (2020) among a Greek population but close to those found by other researchers (Huang and Zhao, 2020; Rossi et al., 2020) among Chinese and Italian populations respectively, during the COVID-19 pandemic. Addressing a large set of predictor variables, the present study confirmed COVID-19-related worries and loneliness to be the major contributing factors to clinical insomnia as identified by Voitsidis et al. (2020), in addition to education status, being infected by the virus and pre-existing mental health illness. The ongoing virulent pandemic has caused overwhelming worries related to fear of contamination and, at societal levels, health, economic and financial crisis that may affect sleep habits and quality. Worry provokes uncontrollable cognitive arousal which is one of the major mechanisms

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inducing anxiety, dysregulation in cardiac rhythm and sleep quality (Kalmbach et al., 2018). Our findings confirmed the well-established relationship between sleep disturbances and variety of psychiatric and medical conditions. It appeared however in our model that individuals with history of mental health illness were at greater risk. The relationship between loneliness and sleep-related disorders is bidirectional (Griffin et al., 2019), however given the item contents of UCLA Loneliness scale reflecting poor interpersonal functioning it stands to argue that loneliness set out the field for clinical insomnia during the COVID-19 crisis period.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Author contribution

Concept and design: OM, CKKK, DL.

Acquisition, analysis, and interpretation of data: CKKK, OM.

Drafting of the manuscript: CKKK, OM.

Critical revision of the manuscript: MK, OM.

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