

中文題目：在 COVID-19 期間能為我們的英雄們做些什麼呢？探討醫療工作者的失眠與威脅性感受之相關性研究

英文題目：What can we do for our heroes during COVID-19? Identifying associations between perceptions of threat and insomnia among healthcare workers

作者：謝宛蓁<sup>1</sup>，蔡宜珊<sup>2</sup>，陳錦華<sup>3-5</sup>，章峻福<sup>4</sup>，邊立中<sup>6</sup>，余明志<sup>7,8\*</sup>，陳可欣<sup>2,6,9-11\*\*</sup>

服務單位：<sup>1</sup>台北醫學大學-北醫·萬芳醫院內科部，<sup>2</sup>臺北醫學大學-北醫·萬芳醫院護理暨健康照護臨床實務應用研究中心，<sup>3</sup>台北醫學大學大數據科技與管理學系/管理學院，<sup>4</sup>台北醫學大學統計中心資料科學，<sup>5</sup>台北醫學大學-北醫·萬芳醫院教學研究部，<sup>6</sup>台北醫學大學學士後護理系，<sup>7</sup>台北醫學大學醫學院醫學系，<sup>8</sup>台北醫學大學-北醫·萬芳醫院內科部胸腔科，<sup>9</sup>考科藍台灣研究中心，<sup>10</sup>台北醫學大學-北醫·萬芳醫院護理部，<sup>11</sup>萬芳醫院實證知識轉譯中心

**Background:** During the coronavirus disease 2019 (COVID-19) pandemic, a 38.9% insomnia rate was reported. But risk factors for insomnia among healthcare workers (HCWs) are not well known when considering physical health conditions and COVID-19-specific issues. Hence, we attempted to investigate risk factors for insomnia among HCWs during the COVID-19 outbreak, as well as associations between perceptions of threat and insomnia.

**Methods:** A self-developed online anonymous questionnaire was used for data collection in May 2020 (ethical approval no.: N202005046). Demographic characteristics, physical health status, perception of threat, and insomnia were investigated. Participants who met all three of the following criteria were recruited: (1) incumbent hospital or clinic staff including physicians, nurses, other medical personnel, students assigned to a hospital, housekeeping staff, and administrative staff from all over Taiwan, (2) aged over 20 years, and (3) willing to participate in the survey. Those previously diagnosed with depression, anxiety disorder, or insomnia were excluded. Independent Student's t-test and Mann-Wallis test were used for descriptive analyses. A multivariable logistic regression was used to examine associations among demographic factors, perceptions of threat, and insomnia by R software (vers. 3.6). Forest plots of the adjusted odds ratio (aOR) addressed the risk factor of insomnia. A p value of < 0.05 was deemed significant in this study.

**Results:** In total, 1489 participants completed the questionnaire (for a response rate of 43%). Among them, 594 (40%) had been exposed to suspected or confirmed COVID-19 patients, and 379 (25%) worked in a fever-screening station or quarantine ward. The three most significant risks of insomnia were depression (aOR 1.11; 95% confidence interval (CI), 1.06~1.17), anxiety (aOR 1.11; 95% CI, 1.05~1.17), and a fear of passing COVID-19 on to others (aOR 1.49; 95% CI, 1.12~1.99). Other risk factors included living alone ( $p = 0.04$ ), having more than one underlying disease ( $p = 0.032$ ), using sleeping pills in normal times ( $p = 0.016$ ), and experiencing heavy stress at work ( $p = 0.03$ ). On the other hand, a female sex (aOR 0.67; 95% CI, 0.47~0.95) and an extremely good self-perceived general health condition (aOR 0.60; 95% CI, 0.41~0.86) were protective factors.

**Conclusions:** Our study verified socio-psychological factors of insomnia during a highly contagious disease outbreak. To improve sleep quality among HCWs during the COVID-19 pandemic, we recommend government officials and hospital managers pay greater attention to those who are afraid of passing COVID-19 on to others, who are feeling depressed or anxious, who live alone, and who have chronic diseases.