



# Comparison of Stigmatization and Mental Health Between Physicians and Nurses in the Early COVID-19 Pandemic Outbreak

Cheng-Yi Fan<sup>1</sup>, Chih-Wei Sung<sup>1</sup>, James Chien-Tai Huang<sup>2</sup>, Cheng-Heng Liu<sup>3</sup>, Chi-Hsin Chen<sup>1</sup>, Jia-How Chang<sup>1</sup>, Jiun-Wei Chen<sup>1</sup>, Shou-Kuen Huang<sup>1</sup>, Tony Szu-Hsien Lee<sup>4,\*</sup>, Edward Pei-Chuan Huang<sup>1,2,\*</sup>

<sup>1</sup>Department of Emergency Medicine, National Taiwan University Hospital Hsin-Chu Branch, Hsinchu, Taiwan

<sup>2</sup>Department of Emergency Medicine, National Taiwan University Hospital, Taipei, Taiwan

<sup>3</sup>Department of Medical Education, National Taiwan University Hospital, Taipei, Taiwan

<sup>4</sup>Department of Health Promotion and Health Education, National Taiwan Normal University, Taipei, Taiwan

## To the Editor

Coronavirus disease (COVID-19) is a raging pandemic worldwide since the beginning of 2020.<sup>1</sup> Among the healthcare providers, both physicians and nurses, especially those working in the critical and emergency departments, experienced grim mental stress.<sup>2,3</sup> Healthcare providers became even more vulnerable when they faced social discrimination and stigmatization.<sup>4</sup> The frontline healthcare providers, physicians, and nurses, continued to fight against diseases while tolerating solid stress. Only a few studies have investigated mental health and compared the differences between physicians and nurses. Our study investigated the differences in stigmatization and mental health between physicians and nurses, focusing on the early stages of the COVID-19 pandemic.

We recruited respondents by using a population-based chain sampling technique in March 2020. The respondents were asked if they had ever contacted suspected or confirmed COVID-19 patients, defined as working in a primary health care setting on patients within the study period. The primary outcome was social distance, including the viewpoints of being discriminated against and being attacked. The sec-

ondary outcomes were anxiety and depression, which were evaluated using the State-Trait Anxiety Inventory (STAI) and Center for the Epidemiological Studies of Depression (CESD) scores. The STAI cut-off scores of 37 and 44 were used to classify the levels of anxiety (minimal symptoms, moderate symptoms, and severe symptoms).<sup>5</sup> Respondents with CESD scores greater than 10 indicate depressive disorder.<sup>6</sup>

A total of 1,421 eligible subjects (357 physicians and 1,064 nurses) responded to the questionnaire within the study period (Table 1). In general, the mean ages of the physicians and nurses were 38 and 36 years, respectively. Both the groups had an experience of > 10 years. Physicians had a higher rate of contact with COVID-19 patients than nurses (59.10% vs. 38.06%,  $p = 0.001$ ). No significant difference was found between the two groups ( $16.33 \pm 4.07$  vs.  $15.99 \pm 3.99$ ,  $p = 0.165$ ) in terms of the social distance scores. Regarding the aspect of discrimination, nearly one-fifth of the physicians and nurses faced discrimination. Nurses were more likely to be discriminated against or attacked by others, though the difference was not significant. In addition, approximately 90% of both physicians and nurses demonstrated moderate or high anxiety. The mean score of the anxiety assess-

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\*Corresponding author: Tony Szu-Hsien Lee, PhD, Department of Health Promotion and Health Education, National Taiwan Normal University, No. 162, Sec. 1, Heping E. Rd., Taipei City 106308, Taiwan. E-mail: tonylee@ntnu.edu.tw; Edward Pei-Chuan Huang, MD, MS, Department of Emergency Medicine, National Taiwan University Hospital Hsin-Chu Branch, No. 25, Ln. 442, Sec. 1, Jingguo Rd., North Dist., Hsinchu City 300195, Taiwan. E-mail: edward56026@gmail.com

**Table 1** Comparison of demographic characteristics, social distance, anxiety, and depression between physicians and nurses

Variable	Nurse (n = 1,064)	Physician (n = 357)	<i>p</i>
Age (years)	36.09 ± 7.86	38.27 ± 8.68	< 0.001
Sex (male), n (%)	32 (3.01)	230 (64.43)	< 0.001
Education			< 0.001
High school, n (%)	6 (0.56)	0 (0)	
College, n (%)	961 (90.32)	276 (77.31)	
Graduate and above, n (%)	97 (9.12)	81 (22.69)	
Working years	13.12 ± 7.81	11.38 ± 8.00	0.001
Past epidemic diseases, n (%)	184 (17.29)	50 (14.01)	0.147
COVID-19 contact	405	211	0.001
Social distance			
Total score	15.99 ± 3.99	16.33 ± 4.07	0.165
Discrimination			0.227
Not likely being discriminated, n (%)	867 (81.48)	301 (84.31)	
Very likely being discriminated, n (%)	197 (18.52)	56 (15.69)	
Attack			0.392
Not likely being attacked, n (%)	955 (89.76)	326 (91.32)	
Very likely being attacked, n (%)	109 (10.24)	31 (8.68)	
Anxiety			
Total score	55.78 ± 12.56	55.28 ± 12.2	0.508
No or low anxiety, n (%)	106 (9.96)	30 (8.40)	0.057
Moderate anxiety, n (%)	115 (10.81)	55 (15.41)	
High anxiety, n (%)	843 (79.23)	272 (76.19)	
Depression			
Total score	9.94 ± 6.39	8.62 ± 5.77	< 0.001
Depressive disorder, n (%)	522 (49.06)	144 (40.34)	0.004

ment was 55 points in both groups. The subjects in the two groups had high degrees of anxiety. Half of the nurses, which was a significantly higher proportion than the physicians, were vulnerable to depressive disorder (49.06% vs. 40.34%,  $p = 0.004$ ). However, in our study, physician contacted more COVID-19 patients. This discrepancy might be originated from a higher proportion of female nurses than physicians, as mental health disorders were higher in women health workers than men.<sup>7</sup> In our study, females comprised 96.99% of nurses and 35.57 of physicians ( $p < 0.01$ ).

The present study highlights the stigmatization against physicians and nurses during the early outbreak of the COVID-19 pandemic. The study period focused on the early stage because some factors like

the lack of knowledge toward the pathogen, uncertainty of the global pandemic status, and limited supplies of personal protective equipment strengthened the mental burden on healthcare providers.<sup>8</sup> Our results demonstrated the effect of the pandemic on the stigmatization of frontline fighters and showed similar patterns in social distance, anxiety, and depression.

It has been 1 year since the World Health Organization declared COVID-19 as a pandemic. Our study found that the mental burden, including stigmatization, anxiety, and depression, on physicians and nurses could be observed even during the early period of the pandemic outbreak. Authorities should be more aware of the situation and prevent it before it worsens.

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