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Individual-Related Factors on Burnout Experience of Nurses during the COVID-19 Pandemic

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Introduction

The novel coronavirus disease (COVID-19) pandemic has placed an increased stress on healthcare workers (HCWs) and systems. Prolonged periods of stress and vigilance can lead to elevated rates of chronic stress, anxiety and job burnout among HCWs.[1-3] Understanding the risk of or protective factors on psychological wellbeing of HCWs is useful in developing targeted interventions for HCWs.

Aims

To examine the impact of work environment, workplace support and individual-related factors on burnout during the COVID-19 pandemic.

Methodology

This was an analytical cross-sectional study conducted in a hospital in Singapore that nursed confirmed and suspected COVID-19 patients between 12 March and 25 May 2020. An email invitation was sent to all nurses to participate in an online survey. The Perceived Stress Scale-4, Generalized Anxiety Disorder-7 and Physician Work Life Scale were administered to assess perceived levels of stress, anxiety and job burnout.

Multivariable logistic regression analysis was conducted to examine associations between burnout and work environment, workplace support and individual-related factors.

Results

Eight hundred fifty-five nurses responded to the survey. Response rate was approximately 24%. Most of the respondent were female (86%), and plurality were Chinese (49%). Majority of the nurses are currently married (52%). Refer to table 1 for demographic information.

Variables	Nurses (n= 855)
	Mean (%)
Age	34.88 (10.55%)
Gender	
Male	120 (14%)
Female	735 (86%)
Race	
Chinese	422 (49%)
Malay	197 (23%)
Indian	88 (10%)
Others	148 (17%)
Religion	
Buddhism / Taoism	161 (19%)
Christianity / Catholicism	252 (29%)
Hinduism / Sikhism	55 (6%)
Islam	236 (28%)
Free thinker/ Atheist	143 (17%)
Others	8 (1%)
Marital Status	
Single	314 (48%)
Currently Married	441 (52%)

Table 1: Demographic information

In the multivariate analysis, we found that those working in high-risk areas were 1.62 times more likely to report burnout (95% CI: 1.072 –2.454; p=0.022) compared to those working in low-risk areas. Nurses who felt that their team are not working well together were 1.63 times more likely to experience burnout (95% CI: 1.067; 2.492; p=0.024) than those who had good teamwork.

Results

Compared to nurses who reported feeling always appreciated by their department/hospital, nurses who reported they never felt appreciated was 14.81 times more likely to report burnout (95% CI:3.52 0- 62.328; p<0.001) while those who reported rarely feeling appreciated were 3.168 times more likely to report burnout (95% CI: 1.736-5.781; p<0.001). Those with better self-rated health were less likely to report burnout, with every point increase resulting in about three times less likely to report burnout (OR 0.348; 95% CI: 0.264-0.460; p<0.001) (Table 2).

Variables	Burnout	Burnout
	Coefficient	Odds Ratio
Location (Ref = Low Risk)		
High Risk	0.483** (0.069 - 0.898)	1.622** (1.072 - 2.454)
My work team has been working well together. (Ref = Yes)		
No/Neutral	0.489** (0.064 - 0.913)	1.630** (1.067 - 2.492)
I feel appreciated by my department/hospital. (Ref = Always)		
Never	2.695*** (1.258 - 4.132)	14.811*** (3.520 - 62.328)
Rarely	1.153*** (0.552 - 1.755)	3.168*** (0.961 - 2.495)
Sometimes	0.437* (-0.040 - 0.914)	1.548* (0.961 - 2.495)
Self-rated Health (Continuous)	-1.055*** (-1.333 - -0.777)	0.348*** (0.264 - 0.460)
Gender (Ref = Female)		
Male	0.219 (-0.315 - 0.753)	1.245 (0.730 - 2.122)
Age (as of last birthday)	-0.046*** (-0.080 - -0.013)	0.955*** (0.923 - 0.987)
Race (Ref = Chinese)		
Indian	0.721** (0.122 - 1.320)	2.056** (1.129 - 3.744)
Malay	0.447** (0.014 - 0.881)	1.564** (1.014 - 2.413)
Others	-0.339 (-0.882 - 0.204)	0.713 (0.414 - 1.227)
Marital Status (Ref = Single)		
Currently married	-0.230 (-0.630 - 0.171)	0.795 (0.532 - 1.186)
Constant	3.361*** (1.672 - 5.051)	28.824*** (5.322 - 156.102)

Table 2 : Logit regression with burnout as outcome *** p<0.01, ** p<0.05, * p<0.1

Discussion

In our study, the individual-related factors such as age and race were associated with the experience of burnout but not gender; however, studies done in China, reported that female nurses had reported more severe symptoms on all outcomes, particular those working in Wuhan province where the virus originate.[4,5] The increase in psychological demand during the pandemic may have resulted in the experience of burnout among older nurses. This finding is supported by a study done on nurses by Hatch and colleagues, whereby it found decrements in psychological work ability with older age at higher levels of burnout.[6] The responses to our survey may not be generalizable to all nurses in our setting, given our response rate of approximately 24%. However, other authors have concluded that the response rate tended to be inversely proportional to the number of surveys sent out, i.e., the larger the nursing population, the worse the response rates.[7] Nevertheless, our sample population's distribution of race and gender are representative of our population.

Conclusion

Nurses working in high-risk areas such as wards that are designated for isolation and acute respiratory infections patients are at higher risk of experiencing burnout. Perceptions of good teamwork and feeling appreciated emerged as important mitigating factors of burnout. Therefore, administrators and nurses will need to co-design interventions on how to show care and appreciation and create an environment that encourages teamwork. Especially for nurses working in high-risk areas, they require immense support and interventions that build esprit de corps in order to prevent burnout during the pandemic.