

Stress of caring for COVID-19 patients among clinical nurses

Shu-Ing Gong, Feng-Lien Lin; Pao-Yu Chuang

2021.10.12

Background-1

- 2019 (COVID-19) pandemic has increased the risk of becoming infected in clinical nurses (Nie et al., 2020). In the hospital, nursing staff are the largest number of health caregivers, and they are directly involved in the care of patients for a long time, and even need to collect patient sputum samples. Nursing staff are under considerable stress. (Pappa et al., 2020).

Background-2

- Nursing staff feel helpless, frustrated, and feel bad, and when they are unable to help the patient, they have a high degree of psychological stress (Labrague & De Los Santos, 2020; Shorey & Chan, 2020). Anxiety and helplessness are related to the attention and accessibility of PPE. Stress is related to the willingness to leave their current job or nursing career (Rafi et al., 2021). The degree of stress is related to the willingness of nursing staff to continue working. Maintaining the nurses' willingness of caring for COVID-19 patients and applying the nurses' needs are the key components of the healthcare system.
- **This study aimed to explore nurses' stress and its influencing factors among clinical nurses when caring for COVID-19 patients during the coronavirus disease 2019 (COVID-19) pandemic in Taiwan.**

Methods

- This study adopts the **cross-sectional survey** method, using the stress scale developed by Zhuang and Luo (2005) for the care of patients with high-risk infectious diseases, and data collection by structured electronic questionnaire survey. The convenience sampling is adopted. With the consent of the Nursing Department of a medical center, an online questionnaire survey was conducted among the medical staff in the general ward and the intensive care unit.
- The descriptive study was conducted in an academic hospital. The questionnaire included items on the demographic characteristics and a scale to assess stress among clinical nurses caring for patients with highly infectious diseases. The scale of 0-3 (0: not at all, 3: more severe than usual) of each item is rated to assess the degree of stress. Descriptive statistics and ANOVA were used to analyze the data.

Results

- The high-stress scores were observed for the five items “wearing personal protective equipment (PPE) is time-consuming and unable to deal with patient problems immediately (2.36)”, “feeling overloaded(2.32)”, “fear of transmitting the disease to relatives and friends(2.32)”, “insufficient assistance in an isolation room (2.31)” and “uncomfortable with PPE, and the activities are limited(2.25)” (Table 1).

Table 1 The degree of work-related stress for COVID-19

	Overall (n=435)	① Contacted/cared for people who have been in quarantine (n=26)	② Cared for suspected cases (n=212)	③ Cared for suspected and confirmed cases (n=21)	④ No contact or caring experience (n=176)		
Item	mean± SD	mean± SD	mean± SD	mean± SD	mean± SD	p value	power
Overall	1.94± 0.63	1.85 ±0.64	2.00 ±0.58	1.49 ±0.90	1.95 ±.63	0.007	0.85
Difficulties and anxiety of infection control	1.96± 0.65	1.79 ±0.78	2.01 ±.59	1.50 ±0.90	1.98 ±0.63	0.003	0.90
1. Fear of being infected	2.23± 0.82	2.12± 0.86	2.37± 0.73	1.57± 1.08	2.14± 0.85	<0.001 ②>③④;③>④	
2. Inadequate understanding of emerging infectious diseases	1.46± 0.81	1.50± 0.99	1.44± 0.75	1.19± 0.87	1.51± 0.84	0.361	
3. Worry about whether the existing protective measures are safe enough	2.10± 0.91	1.85± 1.01	2.17± 0.88	1.67± 1.20	2.12± 0.87	0.045	
4. Relevant information such as sensory control measures often changes and is too late to adapt	2.19± 0.82	1.96± 0.87	2.28± 0.78	1.81± 1.03	2.15± 0.82	0.021	
5. Protection measures are not proficient in technology	1.71± 0.85	1.50± 0.95	1.67± 0.83	1.14± 0.96	1.87± 0.81	<0.001	
6. Deficiency of protective equipment	2.08± 0.99	1.81± 1.10	2.14± 0.98	1.62± 1.20	2.10± 0.95	0.060	
Protective equipment causes discomfort	2.04 ±0.72	2.02 ±0.72	2.05 ±.70	1.53 ±.96	2.08 ±0.70	0.012 Scheffe (③>②;④>②)	0.81
7. Wearing N95 or a protective mask feels difficult to breathe	1.89± 0.97	1.65± 1.06	1.90± 0.96	1.38± 1.07	1.97± 0.94	0.039	
8. Wearing protective equipment, the body is hot and uncomfortable, and the activities are not flexible	2.25± 0.86	2.12± 1.03	2.28± 0.82	1.76± 1.04	2.28± 0.85	0.047	
9. After putting on the protective paper and paper cap, the line of sight will be affected	2.17± 0.87	2.00± 0.98	2.24± 0.82	1.76± 0.99	2.16± 0.88	0.070	
10. Communication barriers due to protective equipment	1.77± 0.94	1.81± 0.90	1.78± 0.95	1.43± 1.08	1.80± 0.92	0.395	
11. It is inconvenient to go to the bathroom during work	2.03± 0.99	2.12± 0.99	1.92± 1.01	1.24± 1.22	2.24± 0.89	<0.001	
12. Eating and drinking during work will be restricted	2.08± 0.99	2.19± 0.90	2.01± 0.99	1.38± 1.28	2.23± 0.91	0.001	
13. Wearing a mask causes skin allergies and pressure injuries on the face	1.90± 0.99	1.85± 1.01	2.00± 0.96	1.57± 1.17	1.83± 1.02	0.161	
14. Frequently wash hands and use disinfectants to make hands rough and chapped	2.23± 0.02	2.42± 0.90	2.31± 0.84	1.76± 1.22	2.15± 0.95	0.023	
The burden of caring for the patient	2.15 ±.66	2.13 ±.71	2.19 ±.60	1.67 ±.96	2.15 ±0.66	0.007	0.84
15. Wearing protective equipment is time-consuming and unable to deal with patient problems immediately	2.36± 0.86	2.27± 0.96	2.47± 0.74	1.90± 1.18	2.31± 0.76	0.008	
16. The number of people entering the isolation room is limited and sufficient assistance cannot be obtained	2.31± 0.81	2.31± 0.74	2.39± 0.73	1.81± 1.21	2.28± 0.83	0.015	
17. Feeling overloaded	2.32± 0.87	2.42± 0.76	2.43± 0.77	1.71± 1.23	2.26± 0.92	0.002	

	Overall (n=435)	① Contacted/cared for people who have been in quarantine (n=26)	② Cared for suspected cases (n=212)	③ Cared for suspected and confirmed cases (n=21)	④ No contact or caring experience (n=176)	
Item	mean± SD	mean± SD	mean± SD	mean± SD	mean± SD	p value
18. Fear of the patient's condition worsening or death	2.18± 0.89	2.19± 0.94	2.20± 0.88	1.86± 1.06	2.18± 0.88	0.410
19. The patient does not cooperate with medical treatment, such as: self-extubation, wanting to rush out of the ward	2.15± 0.98	2.08± 1.06	2.12± 1.00	1.43± 1.12	2.27± 0.90	0.002
20. Worried about being unable to deal with the psychological ± emotional problems of patients and their families	2.01± 0.87	1.92± 0.94	1.98± 0.85	1.57± 1.08	2.10± 0.84	0.049
21. Ethical dilemma. Humane visits are prohibited due to isolation measures	1.69± 0.99	1.73± 1.08	1.71± 0.98	1.38± 0.97	1.70± 0.99	0.534
Fear of social isolation	1.73 ±.80	1.59 ±.84	1.79 ±.77	1.35 ±.94	1.73±0.79	0.086
22. Professional responsibility, cannot refuse to take care of patients	2.06± 0.99	1.85± 0.97	2.11± 0.97	1.38± 1.12	2.10± 0.97	0.007
23. Suspected symptoms of new coronary pneumonia	1.54± 1.19	1.35± 1.26	1.50± 1.19	1.19± 1.21	1.65± 1.18	0.249
24. Fear of being isolated	1.90± 1.06	1.62± 1.30	2.02± 1.02	1.67± 1.11	1.84± 1.05	0.100
25. Social activities and activities are restricted	1.84± 0.99	1.85± 1.01	1.90± 0.99	1.48± 0.98	1.82± 1.01	0.298
26. Worried about being infected with new coronary pneumonia by relatives and friends	2.32± 0.96	2.23± 0.86	2.39± 0.86	1.90± 1.22	2.30± 0.89	0.100
27. Worried about living with family members and not seeing children or family members	1.99± 1.07	1.9± 1.04	2.03± 1.07	1.57± 1.21	1.98± 1.06	0.314
28. Inconvenience to personally take care of children or family members, difficulties in settlement	1.55± 1.19	1.73± 1.19	1.62± 1.16	1.14± 1.15	1.49± 1.21	0.244
29. Discrimination or squeeze by others for yourself or your family	1.69 ±1.12	1.38± 1.13	1.79± 1.09	1.29± 1.19	1.66± 1.13	0.091
30. No shelter, no suitable place to live after get off work	1.43± 1.14	1.27± 1.12	1.43± 1.12	1.10± 1.22	1.48± 1.15	0.437
31. Relatives and friends do not support, requesting refusal to take care of new coronary pneumonia or resignation	1.17± 1.07	1.08± 1.09	1.23± 1.07	0.95± 1.12	1.14± 1.07	0.589
32. Don't dare to talk about work in public places	1.56± 1.10	1.38± 1.17	1.66± 1.09	1.24± 1.14	1.51± 1.09	0.198
33. Media exaggerated and false reports	1.72± 0.99	1.46± 0.99	1.77± 0.98	1.33± 1.11	1.74± 0.99	1.131
34. Afraid of being sick and dying	1.85± 1.03	1.77± 1.07	1.95± 1.01	1.24± 0.99	1.81± 1.05	0.019

Table 2 The difference of stress for sex, accommodation, and experience in caring for SARS cases

Item	Sex		<i>t</i>	<i>p</i> value	Accommodation		<i>t</i>	<i>p</i> value	Have taken care of SARS patients		<i>t</i>	<i>p</i> value
	①Male(n=14)	②Female(n=421)			①No accommodation(n=309)	②Accommodation(n=126)			①Never took care of SARS patients(n=346)	②Take care of SARS patients(n=89)		
	mean±SD	mean±SD			mean±SD	mean±SD			mean±SD	mean±SD		
Stress total score	2.03 ± 0.65	1.93 ± 0.63	0.59	0.56	1.96 ± 0.61	1.88 ± 0.67	1.18	0.24	1.94 ± 0.61	1.93 ± 0.69	0.03	0.98
Difficulties and anxiety of infection control	2.06 ± 0.61	1.96 ± 0.65	0.57	0.57	1.98 ± 0.63	1.91 ± 0.70	1.09	0.28	1.99 ± 0.63	1.84 ± 0.71	2.07	0.04
Protective equipment causes discomfort	2.02 ± 0.70	2.04 ± 0.72	-0.11	0.92	2.06 ± 0.71	1.98 ± 0.75	1.90	0.27	2.03 ± 0.71	2.07 ± 0.76	-0.41	0.68
The burden of caring for the patient	2.30 ± 0.59	2.14 ± 0.66	0.86	0.39	2.15 ± 0.65	2.14 ± 0.69	0.23	0.82	2.15 ± 0.64	2.15 ± 0.73	-0.02	0.99
	1.88 ± 0.77	1.73 ± 0.80	-0.69	0.49	1.76 ± 0.79	1.65 ± 0.81	1.35	0.18	1.72 ± 0.79	1.77 ± 0.83	-0.52	0.60

Among participants who had the experience of caring for patients with SARS, the stress of difficulties and anxiety of infection control was lower than those without the SARS experience.

Conclusions

- The burden of caring for COVID-19 patients was the major stressor for the participants, followed by the discomfort caused by PPE.
- The nurses' experience of caring for patients with as highly infectious diseases may influence the level of stress.

Thank you

