

Review

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Research Progress on Mental Health Status and Influencing Factors of ICU Nurses Affected by COVID-19

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Abstract: In the COVID-19 outbreak, the negative psychological emotions of frontline medical staff can seriously affect their physical and mental health and work status. As the backbone of the fight against COVID-19, the mental health status of ICU nurses deserves attention. Based on the background of COVID-19, this paper reviewed the status quo of ICU nurses' mental health and its influencing factors, hoping to improve their mental health. Based on the background of COVID-19, this paper reviewed the status quo of ICU nurses' mental health and its influencing factors, hoping to help improve the mental health level of ICU nurses in the front line of epidemic prevention and control in China from these status quo and influencing factors.

Keywords: mental health; intensive care units nurses; COVID-19; review

1. The Current Situation of ICU Nurses' Mental Health in the Context of the New Crown Epidemic

Research has shown that healthcare workers on the frontline of the epidemic are one of three key populations in need of psychological attention [3]. Among them, ICU nurses, as the backbone of the anti-epidemic frontline, need more attention to their mental health. Among them, ICU nurses, as the backbone of the anti-epidemic frontline, need to pay more attention to their mental health status. Previous studies have shown that emergency department, psychiatry, and ICU nurses have long been at a low level of mental health among nurses in hospitals as a whole, and ICU nurses have an even lower level of mental health, with significant depression and anxiety [4]. The ICU nurses' mental health level was even lower, with obvious depression and anxiety. At the beginning of the new crown epidemic outbreak, ICU nurses' workload was even more heavy and arduous, and they were faced with a lack of supplies, insufficient protection, and higher risks of occupational exposure, which led to a lower sense of psychological belonging, a persistently low level of mental health, and more prominent mental health problems. These problems urgently need more attention from society.

1.1. Anxiety and Depression

According to a study in China, the SAS score of frontline nursing staff fighting the new Crown pneumonia epidemic was (56.39 ± 6.99) , with 79.25% of nurses having mild anxiety [5] of nurses with mild anxiety was 79.25%. This study showed that frontline nursing staff had significant psychological anxiety during the fight against the CKP epidemic, and that such a low level of psychological well-being could also seriously affect the daily care of patients by nursing staff. The study found that ICUs and respiratory units had the

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highest self-rated anxiety compared to other infection units, which may be due to the higher risk of infection in these units in the fight against the new crown epidemic, and the increased risk of infection may further increase the psychological stress of nurses [6-7]. A study by Ai-Qin Li and Xuan-Xuan Liu also showed that in the context of the new crown epidemic, nursing staff were more likely to experience anxiety, and even panic depression and suicidal tendencies [8-9]. This suggests that in the context of epidemic prevention and control, ICU nurses are more likely to be anxious during outbreak prevention and control work, resulting in a range of mental health problems. According to the study, when a public health emergency occurs, nursing workers experience a moderate degree of burnout, which may be related to factors such as risk of infection, social pressure, etc. [10]. Prolonged resistance to the epidemic can lead to situations where ICU nursing staff must face up to the negativity associated with the epidemic, such as the inability to save patients. After the epidemic, the surge in the number of infections and deaths will all have a greater impact on the psychology of ICU nurses. It can be concluded from the results of several studies on the mental health status of ICU nurses that in the context of the new crown epidemic, ICU nurses are in a state of low mental health, and such a state will not only have a negative impact on the ICU nurses themselves, such as panic, depression and suicidal tendencies, but also have a greater impact on the ICU nurses' day-to-day nursing care, and such a state of mental health will also seriously affect the front-line role played by ICU nurses in the fight against the epidemic.

1.2. Poor Psychological Resilience

According to a study by Chunhua Fu et al, ICU nurses have a relatively low level of psychological resilience, which is mainly affected by three factors: educational qualifications, years of working experience and night shift status [11]. The poor psychological elasticity of nursing staff is mainly manifested in the inability to effectively adapt to the changes in the working environment, work content and working hours, which leads to negative psychological emotions. Under the influence of the new crown epidemic, some clinical nurses will be dispatched to work in the epidemic work sites, which will further increase the nurses' inability to adapt to the work environment. The nursing work in ICU is already heavier than that in other departments, and the reduction in staff due to the epidemic will aggravate the burden of nursing tasks. Research has demonstrated that mental health status is negatively correlated with sleep quality [12]. The mental health status is negatively correlated with sleep quality. Long night shifts due to the epidemic will lead to a decline in the mental health of ICU nursing staff. At the same time, under the conditions of increased social burden due to the epidemic, nurses often need to take on heavier family pressures and complete more family tasks, and due to the specificity of their work, many nursing staff worry about the health status of their family members, or worry that the health level of their family members will be affected due to the increased risk of their own infections [13].

1.3. Post-Traumatic Stress Disorder (PTSD)

PTSD is a severe abnormal psychosomatic reaction that persists or is delayed long after an individual has directly experienced, witnessed, or indirectly experienced a traumatic event [14]. The study showed that the positive detection rate of PTSD among front-line caregivers of novel coronavirus pneumonia was 50.73% [15] which was higher than the positive detection rate of PTSD among emergency healthcare workers during non-influenza epidemics [16]. In addition, healthcare workers working in high-risk areas such as isolation wards were even two to three times more likely to contract high levels of PTSD than those who were not exposed to it [3]. This may be related to factors such as the length of time frontline caregivers work, their workload, protective materials, and the availability of information about protection against neocoronaviruses. At the beginning of the new crown outbreak, the lack of specific drugs for the new crown virus and the low worldwide

knowledge of the new crown virus, ICU nursing staff were under a long-term high-intensity, high-risk work environment, which may have generated fear and anxiety about the unknown virus, and the increased risk of their own infections during the fight against the epidemic and the high intensity of the workload continued to aggravate this negative emotion. For the prevention and treatment of new crowns, wearing protective gear is the most basic requirement for frontline nursing staff in the fight against epidemics, and prolonged wearing of protective gear, so that the pressure damage caused by long-term pressure on the face will also cause frontline nursing staff to suffer injuries, which leads to a higher likelihood of ICU nurses to develop PTSD. At the same time, nurses are often confronted with situations in which a patient cannot be resuscitated due to overconditioning, which may cause ICU nurses to experience psychological shock, resulting in severe psychological stress and leading to an increased likelihood of PTSD.

2. Factors Affecting the Mental Health of ICU Nurses in the Context of the New Crown Epidemic

2.1. External Factors

2.1.1. Working Environment

The sudden outbreak of the new crown epidemic has led to a gap in the supply of medical resources in society, with hospitals experiencing "difficulty in finding a bed" and a significant increase in the workload of ICU nurses. As ICU patients are often in serious condition and progressing rapidly, the environment of ICU is often closed, coupled with the management requirements of the isolation ward for the new crown outbreak, ICU nurses need to wear protective devices for a long period of time, which will cause hypoxia and other situations, and also need to reduce the number of drinking water and going to the toilet, which will lead to ICU nurses to worry about their own health, and the psychological burden they have to bear is even heavier, resulting in a negative cycle in the long run. negative cycle in the long run [17]. This leads to a negative cycle in the long run.

2.1.2. Nature of Work

According to research, clinical nurses are more likely to be infected when working on the front line of an outbreak [18]. The hidden and complex nature of novel coronavirus infection has led to an increase in the risk of ICU nurses' work. Patients admitted to ICUs are often in critical condition, so ICU nurses are required to keep an eye on patients' vital signs and maintain a high degree of tension and alertness. The long-term tension of the work state leads to ICU nurses are prone to the psychological burden of irritability and anxiety.

2.1.3. Human Resources

According to research, the mental health of ICU nurses decreases as nursing workload increases [19]. The outbreak of the new crown epidemic led to the need for hospitals to deploy unit nurses to work on the front line of the fight against the epidemic, and the per capita workload of ICU nurses increased. At the same time, the increase in the number of critically ill patients with new crowns has also led to more burdensome nursing tasks for ICU nurses. Thus, it has a significant impact on the psychological health of ICU nurses.

2.1.4. Interpersonal Relations

ICU due to the special characteristics of its patients are often in a closed management state, to provide better treatment conditions and environment for critically ill patients, but also makes the ICU nursing staff and other departments less communication, and the outbreak of the new crown outbreak largely exacerbated the ICU nurses less interpersonal communication. Due to the special requirements of the management of isolation wards, there is a greater lack of communication between doctors and nurses, nurses and nurses,

and nurses and patients, and less communication with their families, which leads to increased psychological pressure on ICU nurses and makes them prone to negative psychology [18]. The ICU nurses' psychological pressure increases, and they are prone to negative psychology.

2.1.5. Social Environment

The occurrence of the new crown epidemic led to the ICU nurses in isolation wards can only obtain information about the epidemic through mobile phones, the number of new crown infected cases, false statements about the new crown virus, some clinical infections, etc., and nurses in isolation wards are difficult to determine the authenticity of this information, the acceptance of these psychological or denial of the nurses will be the impact on the psychology of the nurses, a single source of information for a long period of time will The long-term single source of information will lead to the psychological health of nurses being affected [20]. The long-term single source of information will lead to the psychological health of nurses being affected.

2.2. Internal Factors

2.2.1. Years of Work Experience

Studies have shown that there is a positive correlation between the professional competence of nursing staff at work and the length of service, with nurses with more years of service being more experienced [21]. The more years of working experience, the more experienced the nurses are. The ICU nurses with shorter years of service have poorer stress resistance, weaker ability to use professional knowledge, and are prone to anxiety and adverse psychological conditions [22].

2.2.2. Academic Qualifications

According to the study, frontline nurses felt more anxious in the fight against the epidemic than clinicians, and their educational qualifications were positively correlated with their level of anxiety. This may be related to the difference in the professional fields of healthcare professionals, as physicians are better able to use their knowledge of protection and are more confident in self-protection, whereas nurses have greater psychological stress due to their limited education and knowledge of infectious diseases [23]. The nurses' limited education and knowledge of infectious diseases led to greater psychological stress.

2.2.3. Gender

Female nurses are more psychologically sensitive compared to male nurses.[24] . They are more likely to be affected by negative emotions during the anti-epidemic work. Male nurses have a stronger sense of conviction than female nurses in the anti-epidemic process, and are more likely to gain self-satisfaction from their work, and are less affected by negative emotions [25]. According to the study, female nurses were exposed to more sources of stress in the new crown epidemic, and women tended to take on more social roles and were subject to greater psychological pressure.

2.2.4. Marital Status

Against the backdrop of the new crown outbreak, ICU nurses were required to stay at the frontline of the outbreak, and support from the family side was even more important to them. Increased pressure from the family and problems in the process of identity transformation tend to occur, which leads to married ICU nurses often under greater pressure, and some nurses who are married do not have the understanding and support of their family members when there is a poor family communication situation, and such a situation will have a greater impact on their work [26]. The situation will have a greater impact on their work. Some studies have shown that married ICU nurses can get more

help and support from their families, which enables them to be more involved in their work [27]. It has also been shown that healthcare workers who live with their children experience more negative emotions when fighting a new crown, and having to worry about their child's infections while dealing with intense nursing care on a daily basis can lead to more anxiety and depression [28]. The differences in the results of these studies may be due to the differences in the sample size of the studies, and the way the studies were conducted. However, the results of all of these studies can confirm that marital status is a major factor that affects the level of mental health of ICU nurses.

3. Conclusion

In summary, in the context of the new coronary pneumonia, the mental health of ICU healthcare staff nurses needs to be improved urgently, and their mental health needs to receive further attention from society. Low mental health level will not only have a negative impact on the nursing staff itself, but also have a negative impact on the nursing staff's own work. Factors affecting their mental health include work environment, nature of work, human resources, interpersonal relationships, gender, education and marital status. Hospitals should pay attention to ICU nurses' mental health problems and improve their mental health. The influencing factors affecting nurses' mental health status should be comprehensively explored from multiple perspectives to enhance the actual effects of psychological interventions, with a view to improving the mental health of ICU nurses in the future.

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