

Based on in-depth interviews to analyze the real experience of front-line medical staff facing the new coronavirus pneumonia epidemic

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Abstract: *Objective: From the perspective of front-line medical staff, to understand the real experience and feelings of front-line medical staff in the face of the new coronavirus pneumonia epidemic. On the one hand, the physical and mental conditions of medical staff are directly related to the results of epidemic prevention, and we also need to pay attention to the health of medical staff. Psychological experience, so as to provide a basis for later psychological intervention, improvement of emergency plans, and public health management. Methods: This article adopts the semi-structured in-depth interview qualitative research method to conduct in-depth interviews with 12 clinical medical staff who are directly exposed to the epidemic in our province, record the interview content, and use the Colaizzi 7-step analysis method to analyze and summarize the interview data. class. Result: After reading the interview transcripts carefully and analyzing it line by line, a total of 3 themes were generated. Theme group 1: Perceptual experience; Theme group 2: Body experience; Theme group 3: Life experience; Conclusion: For medical staff in COVID-19 In the epidemic, there are psychological feelings such as anxiety, fear, frustration, and fear of being infected. There are also problems such as high work intensity, insufficient supplies, and lack of respect and understanding. The focus should be on perception and experience and self-reported by frontline medical staff. Outcome is the evaluation dimension, providing comprehensive psychological guidance and humanistic care for clinical front-line medical staff.*

Keywords: *new coronavirus; new coronavirus pneumonia; front-line medical staff; in-depth interviews;*

1. Introduction

New type of coronavirus pneumonia (COVID-19), referred to as "new coronary pneumonia", the main clinical manifestations are fever, cough, fatigue, nasal congestion, runny nose, some patients are also accompanied by gastrointestinal symptoms, severe cases can quickly develop into acute respiratory distress Syndrome, septic shock, difficult to correct metabolic acidosis, and even death [1]. Because the mechanism of infection and invasion is not clear, there is a lack of targeted drugs for the virus. At the same time, the disease has the characteristics of long incubation period, strong contagion, and general susceptibility, which not only caused huge social panic, but also greatly tested public health. The ability to protect. At the time of the outbreak, the whole country actively responded to the call and entered the anti-epidemic mode, especially the clinical medical staff. Faced with insufficient protective materials, disease transmission routes and treatment conditions are not clear, they are under tremendous pressure both physically and mentally, They bravely fight the epidemic. This study is to interview medical staff directly involved in the fight against the epidemic, to record and summarize the experience and life experience of participating in treatment and nursing, and to record and summarize their participation in rescue work through interviews with the frontline medical staff directly involved in the fight against the epidemic Experience, in order to supplement the existing quantitative research, and provide a reference for timely addressing the needs of medical staff and the follow-up management measures of new coronavirus pneumonia.

2. Materials and methods

2.1 General information

The study adopted the purpose sampling method, and selected 12 medical staff who participated in the epidemic prevention and control in various municipal hospitals in Shaanxi Province from February 10 to February 21, 2020 as the research objects. Inclusion criteria: ①Medical staff involved in the fight against the epidemic ②Willing to communicate and express their feelings; ③Able to cooperate in completing the visit. Exclusion criteria: Those who have previously had psychological barriers or cannot cooperate. The sample size is repeated based on the interviewee's data, and the principle of saturation is determined [2]. There are a total of 12 subjects in this study, including 5 males and 7 females; aged from 26 to 49 years old and (33.38 ± 4.95) years old; see Table 1 for general information of medical staff.

Table. 1 General information table of medical personnel working directly in contact with the epidemic (n=12)

Coding	Department	Education	Age	Working hours(year)	Gender	Occupation	Marital status
N1	Emergency Department	Master	38	10	Male	Physician	Married
N2	Nephrology	Master	49	23	Male	Physician	Married
N3	Respiratory	Bachelor	36	12	Female	Nurse	Married
N4	Infectious Diseases	Doctor	42	11	Male	Physician	Married
N5	ICU	Bachelor	28	6	Female	Nurse	Married
N6	Neurology	Bachelor	38	15	Female	Nurse	Married
N7	Geriatrics	Bachelor	29	6	Female	Nurse	Married
N8	Respiratory	Master	34	8	Male	Physician	Married
N9	Infectious Diseases	Bachelor	41	18	Female	Nurse	Married
N10	Respiratory	Junior college	36	17	Female	Nurse	Married
N11	Cardiology	Master	32	5	Male	Physician	Married
N12	ICU	Bachelor	26	3	Female	Nurse	Unmarried

2.2 Research methods

As a research tool, the researcher himself, as a research tool, agrees with the interviewee and uses a combination of WeChat video and recording to conduct the interview. Both parties conduct the interview in an independent and quiet environment. Before the interview, the researcher first informs the interviewee in detail this time The purpose and method of the interview, and the interview process follow the principle of voluntariness and confidentiality. After obtaining the informed consent, the interview was started. The duration was about 30 minutes. During the interview, the whole process was recorded, focusing on key words, repeated words, and fluctuations in the interviewee's tone and mood. When the interview reached the 12th place, the subject information was saturated, and the interview was ended. The researchers reviewed the literature, combined with the research overview of the new coronavirus, and discussed the characteristics of the task, and finally formulated an interview outline. The details are as follows: ①Why did you come to participate in this support work? ②Have you ever had experience in treating major public health incidents? ③How did you feel when you first came into contact with an infected patient? ④What difficulties did you encounter during the treatment or care of patients with new coronary pneumonia? ⑤What was the most memorable thing you encountered during the fight against the epidemic? ⑥What do you want to do most after the epidemic is over?

2.3 Data analysis

After the interview, the recording will be transcribed word by word, and then compared with the recording to ensure the authenticity and completeness of the original data. For the transcribed text data, the Claizzi phenomenological analysis method is used, the results are integrated, the detailed description is reduced to form a structural framework, and the recurring and meaningful views are marked, classified, and summarized, and the theme is extracted.

2.4 Quality Control

Before the preparation of the formal interview outline, we consulted the expert team of our hospital. Based on the epidemic situation, relevant guidelines and literature review, interview questions were initially drawn up. After conducting pre-interviews with 3 medical staff, the open-ended questions were revised based on the results. Analyze the interview data and review the questions with the interviewee to improve the credibility of the data. Data analysis is carried out by at least two researchers to avoid the influence of personal values on the results.

3. Results

3.1 Theme group 1: Perceived experience

3.1.1 A sense of mission and responsibility

Through interviews, it was found that most of the medical staff immediately filled out the application form after receiving the notice to sign up for the Hubei medical team. Express their courage and determination to fight the epidemic at the first time. N4: "I am a party member and have experience, I will go first." N2: "I am a medical worker. The prevention and control of the epidemic is a severe struggle to protect the lives and health of the people. In this struggle, the original intention of medical workers must be written on the front line of the epidemic." N3: "The medical front is the battlefield. The frontline of the epidemic is the warrior. In times of crisis, when the motherland needs medical personnel most, I want to do my best." N12: "The head nurse, let me go. I am from Hubei, so communication is convenient." N9: "One party is in difficulty, all parties support." Wuhan is our epidemiological site. As a doctor in the infectious disease department, this is my responsibility and my duty, so when I know the Wuhan epidemic the first time I want to sign up. Just now the State Administration of Central Management has established the Shaanxi Medical Team, I am actively participating. Only when the Wuhan epidemic is well controlled can the whole country be peaceful, The whole country is peaceful Shaanxi can be peaceful, our family can be peaceful. N8: "The epidemic is the order, and the prevention and control is the responsibility. As a member of the medical team, I deeply feel the mission and responsibility shouldered by the medical team. I resolutely obey the call of the party and the people, charge forward, make selfless dedication, and remember the trust and humiliation. The mission is to carry forward the spirit of Sun Simiao's "great doctors", give full play to the advantages of traditional Chinese medicine and integration of traditional Chinese and Western medicine, cooperate sincerely, overcome difficulties, and resolutely win the battle against epidemic prevention and control." N7: "The responsibility and obligation of a doctor is dedication. I am very proud and proud to be needed by Wuhan and to be able to do my best."

3.1.2 Shock, Worry

Respondents were shocked by the speed of the epidemic, the wide range of impact, the great uncertainty, and the rising fatality rate. N3: "The entire city of Wuhan suddenly encountered a "closure" when it had never been aware of danger before. This extreme emergency response shocked us." N5: "The number of people infected with new coronary pneumonia is constantly updated on TV. Many hospitals are full of beds, and there is no timely and effective rescue." Although all the interviewees voluntarily asked to fight, at the beginning of the outbreak, they lacked sufficient knowledge of the new type of coronavirus pneumonia, and they went to a strange city or hospital for rescue, took the care of their families, and risked that they might be infected. There are many concerns about the future life. N11: "According to CCTV's report at the time, the case fatality rate of the new crown was about 4%. I was full of contradictions and worries. On the one hand, I was very excited and felt that it could save the wounded, and on the other hand, I was very afraid of being infected." N7: "I went to Wuhan without telling my parents. The child was still young, just over 3 years old, and stayed in his hometown. Everything is unknown when I went out this time. I was worried that the child would cry and find me, and miss the child in my heart." N6: "Because I have a bit of cough, I take my temperature frequently within a day, and the values are clearly within the normal range. I still feel that I am in line with the symptoms of new coronary pneumonia." N8: "I see that the model of each batch of masks is different, some are N95, some are 3M, some are domestically produced, and some are imported. I am always worried that the quality of masks is not up to standard."

3.1.3 Sympathy and helplessness

Some medical staff said that many patients can only travel back and forth between home and

hospital, and a large number of patients with mild illnesses can only self-isolate at home and ask God not to infect their relatives. And some patients may end up dying at home without anyone confirming whether it is new coronary pneumonia. The medical staff felt sympathy and helpless for the patients who died without timely treatment. N10: "There are a lot of critically ill patients, and there are many critically ill patients among them. However, the medical and nursing personnel with critical medical qualifications and experience are relatively insufficient, and it is difficult to achieve the best treatment effect. Therefore, we treat patients while participating in training to ensure treatment as much as possible". N11: "The hardware conditions of the hospital can't keep up, and the early oxygen supply problems can't be solved, let alone ECMO (extracorporeal membrane oxygenation), so the usual skilled treatment technology can not be developed, and sometimes feel helpless , I feel so useless".

3.1.4 Warmth and comfort

The country and the government began to support Wuhan with a nationwide effort. As more and more aid teams joined, the efficiency of treatment continued to improve, which largely eased social panic. Medical staff participating in the rescue have gradually stabilized their emotions and actively engaged in work. In addition, the families of medical staff far from the frontline also feel the support and asylum granted by the state. The government and hospital leaders provide protective equipment for the families of frontline personnel, regularly distribute daily necessities to the families of frontline personnel, and unattended frontline personnel. Senior citizens and minor children are in charge of the neighborhood as needed. The community where the elderly is located will assist in arranging custody and care, and the children's school will arrange delivery services until the end of the epidemic prevention and control task. For the spouses of frontline personnel, the work unit may adopt remote. Appropriate care and support are provided through office, flexible working system, and reasonable arrangement of rest periods, to meet their needs for caring for the elderly and children; for the immediate family members of frontline personnel to see a doctor, each medical institution opens green channels and implements priority medical treatment; N10: "My father Diabetes for many years. During the epidemic, he had to be hospitalized because of his severe illness. He could not accompany him to take care of him. After learning about the situation, the hospital leaders went to the ward to visit my father and sent milk, eggs, biscuits and other condolences. The hospital treats my father with meticulous care and care, and formulates personalized nutritional recipes based on the condition, so that I can devote myself to the fight against the epidemic without any worries." N11: "Although it is hard every day, I can receive messages of condolences from colleagues and relatives almost every day. There are so many people who are still thinking about us, and they still feel warm in their hearts."

3.2 Theme Group 2: Physical Experience

3.2.1 Insomnia

In a study on the mental stress of Chinese medical workers during the epidemic, it is shown[3] that more than one-third of medical workers have symptoms of insomnia. Related factors include education level, isolation environment, and psychological concerns about the new crown pneumonia epidemic. Doctor profession, etc. The medical staff of the interviewees also talked about the experience of insomnia. The main reason is the negative emotions caused by the epidemic. When the new coronavirus pneumonia epidemic is raging, whether it is in the online media. All kinds of news about the virus are spreading wildly, and it is difficult to distinguish between the true and the false. Some people say that they are relaying false information in the group. In the face of the epidemic, these rumors pose a great threat to attack the military's morale and confuse the truth. They are another type of "virus." Medical staff will inevitably have a negative impact. N6: "Although the protective equipment has been made in place, double-layer masks, double-layer gloves, isolation caps, foot covers and protective glasses, but under the daily "bombing" of huge amounts of information and patients, I still worry about being infected. I spend every night in this kind of entanglement and anxiety."

3.2.2 Physical and mental exhaustion

The Chinese research team extracted data on COVID-19 patients in Wuhan from December 2019 to March 8, 2020 from the infectious disease reporting system on March 9th [4]. Based on the important time node of the spread of the Wuhan epidemic, they divided the study into 5 stages. The statistical analysis of this study identified that in the third stage between January 10 and February 11, the rate of confirmed cases among medical staff was much higher. In the general population, the daily confirmed case rate per million population at this stage is also the highest, which indicates that the risk of hospital infection is high. Faced with more and more infected patients, the work intensity of medical staff has

"closed to the limit". Especially when facing severely ill patients, the task of medical care is very heavy, and many situations are unexpected. N9: "Looking at the comrades around me falling down a lot, my tears were about to shed. I really cried many times. Then I told myself, what good is crying? I have to eat. I have always been a For people who love beauty, I have been losing weight. In this case, I just have to let myself eat, drink and sleep well, and keep health." N11: "I have never had work experience of this intensity before. I have nearly 10 hours of work a day. I have to line up to take off my protective clothing and change clothes after get off work. When I return to the resting place, I am tired exceedingly."

3.2.3 Physical stress response

Studies on past outbreaks have shown that medical staff suffered the most casualties. During the severe acute respiratory syndrome (SARS) epidemic in 2003[5], medical staff working in fever clinics in 8 military hospitals across the country were evaluated, and 97% of them had somatization symptoms, including exhaustion and fear and society contact. Persistent insecurity, inadaptability to changes in the new environment, and the special nature of protection, the body has many stress responses. N5: "The pressure on the mask is a headache, and the breathing is not smooth. After a long time, I feel dizzy and nausea." N8: "When I first came here, I felt a little uncomfortable. I couldn't eat well, and I always had a stomachache. It was inconvenient to wear this protective suit. In addition, protective materials are very scarce, frequent replacement is not practical. Those few days were really hard."

3.3 Theme group 3: Life experience

3.3.1 Physical fitness

N4: "The body is the capital of the revolution, and health is the wealth of life. To accomplish something, you must have a variety of qualities, but all of these must rely on a prerequisite, a healthy physique. During the anti-epidemic period, everyone was under immense psychological pressure and work intensity. How can we not be overwhelmed? Healthy physique, positive and optimistic attitude will make you overcome difficulties." In the future work and life, we must pay more attention to the health of medical workers. Only when the health of medical staff is guaranteed can the health of the masses be better protected.

3.3.2 Caring more for family

On the question of what they most want to do after the epidemic is over, the interviewees have expressed their desire to spend more time with their families. The company of family members will increase the sense of security, reduce the fear of the epidemic, and enhance personal happiness. N1: "After the epidemic is over, I want to spend time with my family." N3: "I want to go hiking with my family, breathe fresh air, exercise, and cherish the current good life." N6: "What I want to do is to have a good meal with my family and take a family portrait with my family." N10: "Go home with the child's father to see the child, and have a reunion dinner together".

4. Discussion

4.1 Strengthen the psychological support of medical staff

In this study, it was found that medical staff all showed varying degrees of negative psychological experience, including shock, worry, fear, and helplessness. On the one hand, I worry about myself and my colleagues being infected by the virus, especially when medical protection is insufficient, this worry will be more obvious. At the same time, I worry about my family and relatives, and feel guilty for being unable to be with my family. On the other hand, due to the lack of rest time, as the epidemic prevention and control time lengthens, the body and mind will be very exhausted, and there is a sense of uncertainty about when this situation will end, resulting in pessimistic aversion. If such negative emotions cannot get timely and effective psychological support, long-term psychological problems such as post-traumatic stress disorder will remain after the event [6]. It is worth mentioning that during the outbreak of the new coronavirus pneumonia, the personnel in the isolation point, The total score of the SCL-90 scale for women is significantly higher than that for men. In particular, women need to be given more attention and understanding, and necessary measures should be taken to alleviate their negative emotions [7]. In combination with the current status of psychological intervention in my country, passive psychological treatment is mostly adopted, and there are few active interventions. Psychological intervention is an important part of responding to public health emergencies and cannot

be ignored. A complete crisis prevention and control system should include Prevention and monitoring of public psychological behavior [8]. Therefore, both hospitals and society should always pay attention to the mental health of medical staff, early, proactive and effective psychological intervention, timely psychological counseling and humanistic care, to maximize their physical and mental health.

4.2 Strengthen social support

Protecting and caring for medical staff is an important guarantee for winning the battle against the epidemic. Since the outbreak of the new crown pneumonia, the majority of medical staff have actively responded to the call of the Party Central Committee and are fighting bravely at the forefront of the fight against the epidemic. Medical staff are faced with difficulties such as heavy work tasks, high risk of infection, limited work and rest conditions, and high psychological pressure. First, we must improve the working and rest conditions of medical staff. Previous studies have shown that environmental factors are one of the main stressors for nurses. Under certain circumstances, there is still the risk of being infected, and special protection is required. Nurses are under tremendous physical and psychological pressure [9]. Gray et al. [10] found in the study that patient death and nursing work overload are the main stressors for nurses. Therefore, it is necessary to strengthen the construction of occupational exposure protection facilities and equipment for medical staff, and focus on the transformation of doctors' offices, duty rooms and rest rooms. Provide good logistical services for medical staff to ensure adequate sleep and food. In addition, the treatment of medical staff must be implemented. Grant subsidies to frontline medical staff and epidemic prevention personnel, and open a green channel for medical staff injury identification. It is also necessary to strengthen humanistic care for medical staff, mobilize and organize social forces to condolences front-line medical staff, establish communication channels for front-line medical staff and their families, and provide corresponding assistance to the families of front-line medical staff with family difficulties.

4.3 Enhance the value of medical staff

Medical humanitarianism is the essence of the tradition of medical ethics. It emphasizes respecting, caring for, sympathizing, and caring for people, and maintains the patient's life as the highest criterion. Therefore, we must earnestly strengthen medical professional ethics education, and correct "morality" and "interests" "Relationship. At the same time, we should also actively practice the new medical ethics that combines humanity and benefits. It is necessary to ensure the existence of the essence of traditional medical ethics, that is, to treat patients with a humanitarian attitude, but also to take into account the interests of society, patients and doctors, consider the interests of doctors, and always put the interests of patients in the first place. When the epidemic broke out, countless medical staff rushed to Wuhan to bring hope to the city. However, the epidemic has not yet ended. Medical staff need a safer practice environment. Those who harm medical staff during epidemic prevention and control work must be resolutely investigated and dealt with in accordance with the law to maintain normal medical and health order. Medical staff are the guardians of people's health and risk their lives. In fact, they are just ordinary people and have their own families. They should be respected and understood by society. Only when medical staff truly have a sense of gain and honor can more outstanding people choose medical careers as their lifelong careers, and the people's health can be guaranteed!

5. Summary

Through in-depth interviews, we learned about the common negative emotions and physical experiences of frontline medical staff involved in the fight against the epidemic. Depression, anxiety, helplessness, and physical stress such as insomnia, dizziness, and abdominal pain occur frequently. Not only will it affect the normal quality of life of medical staff, but it will also have a negative impact on the results of the fight against the epidemic. In an environment where the epidemic is severe, intervention and improvement of the physical and mental health of medical staff is an essential component. Therefore, it is necessary to strengthen the intervention and guidance of the physical and mental crisis of front-line medical staff, reduce the pressure on medical staff, and provide timely and adequate personnel for the prevention of new coronavirus pneumonia. In addition, various safety precautions are strictly implemented to create a safer practice environment. Those who discriminate against or isolate front-line medical personnel and their family members must be criticized and educated in a timely manner. Those who are serious must be dealt with in accordance with the law, and those who harm medical personnel must be investigated and dealt with in accordance with the law.

Carry forward professionalism, enhance confidence and gather strength for epidemic prevention and control.

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