

# Nurse Leaders' Reflections and Difficulties Fighting the NCP Epidemic – A Qualitative Study

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## Research Article

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# **Nurse leaders' reflections and difficulties fighting the NCP epidemic: A Qualitative Study**

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## **Abstract**

**Objective.** To understand the difficulties and survival strategies in nursing during NCP outbreak, and to reflect and summarize the experience.

**Background.** Since December 2019, the highly infectious novel coronavirus pneumonia overwhelmed health care systems and medical workers who had to provide care in situations involving high personal risk and stress, some becoming infected and dying. Nurse leaders had to develop new strategies for nursing care.

**Methods.** Using the phenomenological research method in qualitative research, 8 head nurses who participated in NCP treatment were interviewed in-depth, and then Colaizzi 7-step analysis method was used to summarize.

**Results.** Working under great pressure, nursing leaders led the team through a period of crisis: shock and fear, learning in chaos, supporting nurses, and rewarding nurses.

**Conclusion.** As important intervention performers in the crisis, nurse leaders need to have their own outstanding leadership to effectively manage internal conflicts and interpersonal relationships, strengthen teamwork training and establish supportive system so as to better deal with the management of similar public health events in the future.

**Relevance to clinical practice.** Findings will assist nurse leaders to prepare themselves in the outbreak. It is hoped that the results of this study will contribute to disaster management in similar infectious outbreaks in the future.

**Key words:** novel coronavirus pneumonia, nursing, leadership, qualitative study

## **Introduction**

Since December 2019, an increasing number of cases of novel coronavirus pneumonia (NCP) have been identified in Wuhan. The outbreak spread to the surrounding cities, Southeast Asia, America and Europe, causing more than 3000 deaths. The source and mode of transmission of the virus have not been determined[1] [2] [3] [4] [5]. Its spread has been aided by the developed transportation system[6].

The sudden NCP panic brought a heavy blow to the medical staff in the province. Hospitals and public health institutions in Wuhan and its surrounding areas were overwhelmed. Unprotected medical workers, including nurses, doctors and emergency workers, bore the brunt of the crisis. Many medical staff were infected or quarantined, suffering from psychological and physiological pressure. Medical workers account for about 29% of the incidence

rate[3]. By the beginning of March, more than 3000 medical workers had been infected in China. Few healthcare professionals, doctors and nurses, especially nursing leaders were prepared to deal with NCP effectively, in terms of protective equipment, psychology or cognition.

In the early stage of NCP prevalence, the competent authorities failed to inform the outside world of the spread of the disease and the risks involved in its care. With the aggravation of NCP crisis, health institutions, doctors, nurses, microbiologists, scientists and laboratory staff all over the world are trying their best to investigate the epidemiological data of NCP[4], and try and study the methods to fight against NCP. However, up to now, the research on diseases has focused on medical research[5], and there are few researches on nurse management.

Although in early March 2020, China's epidemic situation was effectively controlled and the mortality rate decreased, the NCP threat is still continuing. Therefore, it is not only necessary to continue to explore the clinical manifestations and nursing precautions of the disease, but also necessary to reflect and summarize the experience of the head nurses in this international public health event, which will help them lead the nursing team to nurse in a dangerous environment.

## **Aims**

This study explored the difficulties encountered by the head nurses in the face of NCP epidemic and the experience and reflection of survival strategies adopted by them. The findings will help the head nurses prepare for similar public health events in the future.

## **Methods**

### **Design and Sampling**

This study describes the real experience of 8 head nurses in our hospital when they experience NCP. They are 25-45 years old. (Table 1).

This study has been approved by the People's Hospital of Zhongxiang(N2020009) ethics committee. All methods were carried out in accordance with relevant guidelines and regulations, and agreed by the interviewees to participate in it orally and in writing and sign the informed consent after they have been informed of the purpose, significance and duration of the interview, and the principle of confidentiality. We collected the general data of the interviewees, conducted the interview according to an outline for 20-40 minutes to each participant in a quiet and independent space and made a recording[7].

"Conversation" is the real process of the interview, including the description of their experience and their reflection on it. The interview was conducted in the form of focused conversation. In order to avoid omission, a semi-structured interview outline was designed before the interview, which includes: ① what do you think when the epidemic comes? ② whether you feel that you can bear it psychologically or physically? ③ what kind of support or help do you want most? ④ what is your greatest experience through this treatment? During the conversation, the methods of spying and guidance were used to make the participants dig out their thoughts, feelings, concerns and worries at the beginning of the NCP outbreak. Some questions like "can you tell me more about this?" were also asked. The subjective experience of the head nurses who have taken care of NCP patients was recorded and regarded as the real experience of all the head nurses who had participated in the fight against NCP, as a channel for others to understand the experience. After each interview, all conversations were completely recorded and printed for manual analysis.

Colaizzi's 7-step analysis method is used to try to integrate the interviewees' experience without following the established research rules: ① carefully read all the records; ② extract the significant statements; ③ code the repeated opinions; ④ collect the opinions after coding; ⑤ write a detailed description without omission; ⑥ identify the similar opinions; ⑦ return to the participants for confirmation. The research method itself does not require a large amount of data, but these typical examples represent the experience of most people. Researchers integrate the subject words to make their contents have a certain degree of internal relevance.

## **Results**

After in-depth interviews, four themes were extracted: shock and fear in the face of the epidemic, learning in chaos; supporting nurses; rewarding nurses.

### **Theme 1 shock and fear**

NCP broke out in Wuhan, the capital of Hubei Province, and then spread to other counties and cities in the province. Participants described that when healthcare professionals and the media reported the severity of the epidemic, they were overwhelmed and shocked. Hospitals and public health systems couldn't withstand the huge impact of NCP. The city where our hospital is located has been blocked. Four hospitals have become designated hospitals for treatment. More and more medical staff are infected and quarantined. Others, facing great risk of infection, felt scared and vulnerable. Their sense of vulnerability and helplessness highlights a deeper personal focus on the crisis

they are facing. All the participants mentioned that medical staff, including doctors, nurses, pharmacists, toll collectors, logistics personnel, etc. were all in a state of tension, hoping to get the latest news about the unheard-of disease. The gradually increasing number of confirmed cases and suspected cases of infection increased the tension.

Interviewees' statements include:

"Although we are nursing leaders of the hospital, the head of our hospital did not answer our questions about this life-threatening disease. "

"My colleagues have been infected and some have been quarantined for observation. I wonder whether our protective equipment is safe, whether I will be infected, whether my family will be infected by me. "

"At present, we don't know the source and transmission way of the virus, no effective drugs, no vaccine, increasing confirmed cases and number of deaths. Will the cured patients have the risk of necrosis of the femoral head in the long term, like SARS, and will the lungs have fibrosis... Who can be immunized? "

## **Theme 2: learning in chaos**

As things progressed, researchers found that there were more questions than answers about the route of NCP transmission, so the treatment and care options remained unclear and uncertain. Two weeks after the outbreak of the epidemic, the number of cases in our city has increased significantly. 18 nursing units, such as emergency department, respiratory department, infectious department and joint surgery, have successively joined in the treatment of the epidemic, that is to say, the head nurses of some departments changed their roles and became the head nurses of infectious department. Participants hoped:

"I hope that experts in epidemic crisis management will help. I need the following information: caregiver plans and equipment and material requirements, useful infection control strategies."

"In order to reduce the incidence of nosocomial infection, we should consult the hospitals that have experienced SARS and H7N9 highly pathogenic avian influenza about the strategies of infection control."

"The government has arranged a team of aid experts from other provinces and cities to give appropriate suggestions, improve the relevant process of infection control, and minimize the occurrence of nosocomial infection."

Due to the different nursing models and theories of nursing leaders from different medical centers, there is no consensus on the nursing agreement. Therefore, we seek the help of superior administrative departments, hold remote seminars to share clinical experience, and provide advice to head nurses and front-line nurses. Updating

nursing procedures has become the daily work of senior nurse managers. Participants continued to build rapport with various health associations and international and domestic experts. They passed the updated and reliable information to other leaders and front-line nurses of different health institutions and nursing associations. Nurses and clinicians constantly update their nursing strategies to meet the needs of patients. They hold seminars when necessary to share concepts and experience in nursing. Through the accumulation of experience and cooperation between nursing teams, participants began to have confidence in crisis management and its ability to provide better care for victims.

### **Theme 3: supporting nurses**

After the outbreak of the epidemic, all hospitals were lack of protective equipment, masks and protective clothing. In order to save the protective clothing, the nursing staff should keep working for 8 hours to avoid wasting. In this case, participants proposed to actively contact with classmates and friends outside to collect protective equipment, and the hospital purchased it.

For the nurses who are transferred to the front line, strict pre-job training should be carried out to reduce the chance of nosocomial infection and provide them with psychological support to ensure the nursing quality of NCP patients.

After the NCP outbreak, most of the patients can fully trust and cooperate with the medical staff. Some who do not cooperate have promptly been punished. A civil servant in Wuhan who provoked workplace violence has been promptly removed from his post. This kind of news increased nurses' enthusiasm for work. As a nursing leader, we should provide enough care and support to nurses.

Special lounges, dining rooms, bathrooms and daily necessities, and delicious and nutritious food should be provided.

Assignment of nursing staff during pregnancy and lactation to the front line to carry out anti-epidemic tasks should be avoided as far as possible.

### **Theme 4: rewarding nurses**

Identify individuals' contributions to their health institutions and care professions and provide tangible rewards. In addition to their sense of mission, nurses have to choose to stay in the nursing profession because they need nursing work to continue to provide stable income and maintain their social status. As nursing managers have limited resources, they can not provide more practical rewards for their employees, so they can only inspire their colleagues' commitment to serve others by treating them as valuable professional honors.

In the early stage, due to the confusion of diagnosis and the lack of effective treatment plan, the number of infection and death of doctors and nurses is increasing, and the government officials are proposed with the proposal that the safety of nurses, working conditions and appropriate financial support should be met. With the development of NCP epidemic, the contribution of front-line nurses and nursing leaders has received the highest level of government care. Medical staff do not need to pay attention to the inpatient cost of NCP patients, and medical staff in the anti-epidemic front-line can get additional government subsidies. Through tangible means to meet, including financial bonuses from the government and local hospitals, and get professional promotion; the opportunity to go to higher level hospitals for further study; the policy that children of anti-epidemic personnel can be taken care of when they go to school. As the epidemic gradually came under control, positive feedback from the public and leaders in the nursing and medical fields made nurses feel fulfilled.

However, doctors and nurses are ridiculed by medical staff for the financial subsidy provided by the government. Most nurses think that the amount of subsidy not only insults the nursing profession, but also damages their personal contribution.

## **Discussion**

The analysis, induction and sorting-out of the psychological experience of the head nurses in the primary hospitals to fight against NCP reflect, to a certain extent, the psychological needs and expectations of the first-line clinical head nurses who participate in NCP treatment.

### **1. Self-cultivation of nursing leaders**

Adaptability is an important quality for nursing leaders. The method used five years ago may no longer be applicable[8]. Nursing leaders must be prepared for potential public health emergencies. Keep calm when such incidents happen, and provide full support for medical staff, patients and their families. During the period of NCP prevalence, communication was hindered by increasing pressure, information overload, environment disorder, service interruption, personnel infection and death. Influential leaders must successfully control the environment[9, 10], and ensure teamwork throughout the organization by building trust relationships and developing processes that allow teamwork[11].

The head nurse is an important executor of health disaster intervention. During the NCP crisis, the past healthcare knowledge is usually limited, the medical agreement of interdisciplinary medical team is confusing, and the quality of patients' assessment and treatment plan is questionable. In the face of the uncertainty brought by the development

of crisis, participants at all levels of administration must face the main challenge, that is, to determine how to empower themselves and colleagues, and to help develop effective agreements acceptable to members of the health team[12]. Nursing leaders need to have critical emotional ability to effectively manage interpersonal relationships in the event of a disaster[13].

The working environment of the hospital is under great pressure[14, 15]. For nursing leaders, they need to deal with the following situations calmly: life and death critical illness; heavy workload; physical consumption; dangerous working environment; lack of adequate protective equipment; personnel problems; need to operate new equipment, such as ventilator, which is not proficient in training; and have the obligation to report to the competent department[16]. Nursing leaders must assist clinicians to supervise the quality of nursing work, prevent the occurrence of nosocomial infection, and assist the medical team to reach a consensus to prevent the decline of patients' nursing quality.

## **2. Team training plan**

In the event of NCP and other outbreaks, the preparedness plan of public places and medical institutions is crucial. For hospitals, it is necessary to plan the communication mode of the whole organization, educate patients and staff, and recruit immediate response teams. The head nurse is the ideal person to coordinate these work.

Nursing leaders should immediately establish an effective nursing command system, concentrate the whole hospital's efforts on the rational allocation and batch supplement of nursing human resources, so as to achieve the optimal allocation of human resources and ensure the adequacy of human resources in front-line nursing units. Strengthen the pre-job training work, and significantly improve nurses' confidence in nursing skills[17].

The ability of nurses directly affects the safety of patients and the quality and effectiveness of patient care[18]. However, the researchers found that nurses and other medical staff were less prepared[19, 20]. This study further proves that nurses who received short-term pre job training still have deficiencies in NCP knowledge, attitude and skills, especially in providing psychological preparation for disaster nursing. Nurses need more and better education and training for backup. It can be planned and prepared for education by staff of different disciplines with different professional knowledge. It also needs learning and teaching strategies that can promote the development of critical thinking ability and ability of nurses. These teaching methods should be combined with practical experience through exercises and emergency exercises, such as advanced simulation; and then appropriate plan assessment should be carried out to continuously and effectively improve their education and training[17, 21].

Little research has been done on the implementation of a more comprehensive education and training programme, which focuses on all aspects of the knowledge and skills required to provide care to the affected[22, 23]. In particular, preparation is needed to establish the necessary psychological attributes and resilience[23, 24]. There is an urgent need to enhance the skills of nurses to provide psychological support for the victims and themselves, which is an integral part of their preparation for disasters. Public health events can cause psychological problems, such as PTSD. In this study, nurses still have deficiencies in understanding how to care for PTSD patients[25].

Nurses must be a source of support and have the resources to respond to and instill courage in victims and their families. At the same time, nurses also need support to be able to take care of others effectively. Through counseling, early intervention and prevention of PTSD to provide psychological support[26]. This is equally important for nurses and for the caregivers[27]. A good level of psychological preparation can also alleviate the psychological health of nurses when they are dealing with the pain in the disaster[28], we must consider the possibility of PTSD[28, 29] [30]. In addition, training should be an ongoing process, taking into account the definition of nurses' role in post public health event preparedness[20, 31].

### **3.Establishing nursing support system**

In the early stage of NCP, due to the lack of protective equipment and personnel, nurses were traumatized and stressed. Many people were physically and mentally tired, worried about their families and their own health, and it was difficult to take care of colleagues emotionally. Nurses were under great pressure[15], because they must not only work to respond to disasters, but also solve the conflict between family roles and professional roles.

Social support system plays an important role in disease control[32], which can be used as a prerequisite to reduce the occurrence or buffering effect of disease after adverse life events. This study shows that the full support of society, family, colleagues and friends can help maintain nurses' morale and motivation against NCP in stressful times. At the same time, during a public health event, the support of the supervisor is crucial because the supervisor is responsible for protecting the nurse from unnecessary pressure.

As nurses have unique views on healthcare, patients and family needs, and reliable experience[33], every nurse is qualified to become a health policy expert[34]. Nurse leaders, through their training and experience, know better than anyone how to redefine strategies, plans, services and methods, and have interprofessional skills and knowledge to adapt to the changing medical environment[35]. However, nurses' voices are usually silent in the process of policy-making, especially in the field of legislation and supervision. Nursing staff and health differences

are examples of policies prescribed by law. As health care policies are changing, nurses have little say. As a nursing leader, you can learn from Arizona scholars[36].

Nursing education, practice and research should combine the preparation of disaster health care with the possible disaster conditions of health care. It is necessary to allocate sufficient human and material resources to improve the health care system[37].

### **Limitations**

This study is limited to the head nurses of primary hospitals. Although efforts are made to improve the rigor of data collection, there may be some interviewers who want to maintain confidentiality, and the private concerns of some participants may not be fully discussed. Secondly, the participants are all women, and men may have different views on the experience of emergency crisis management.

### **Conclusion**

The study showed that limited training, equipment, support and manpower were involved in fighting NCP outbreaks. Leaders have the responsibility to take preventive measures and respond positively to crises. The clinical significance and psychosocial response to future epidemic disasters include: the head nurse needs to develop clear treatment and nursing plans for clear communication path, team cohesion, practical return, high cooperation between health colleagues and managers, clear disease information resources and promote development.

The NCP epidemic has declined in cities around Wuhan. However, the corresponding emergency support system should be established so as to improve the overall response to the outbreak. It is hoped that the results of this study will contribute to disaster preparedness in the future.

### **Compliance with Ethical Standards**

#### **Conflict of interest**

The authors declare that they have no conflict of interest.

#### **Ethical Approval**

Ethical approval was waived by the local Ethics Committee of the People's Hospital of Zhongxiang in view of the retrospective nature of the study and all the procedures being performed were part of the routine care.

## Informed Consent

Informed consent was obtained from all individual participants included in the study.

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## Figure legends

Table 1 general information of interviewed nurses

Nurse Leader	Gender	Age	Duration of total nursing career	Educational level	Marital status	Professional position
N1	Female	38	18	College	married	Nurse-in-charge
N2	Female	26	5	University	unmarried	Nurse-in-charge
N3	Female	33	13	University	married	Nurse-in-charge
N4	Female	40	20	University	married	Nurse-in-charge
N5	Female	42	23	University	married	Nurse-in-charge
N6	Female	42	23	College	married	Nurse-in-charge
N7	Female	37	19	College	married	Nurse-in-charge
N8	Female	45	27	University	married	Co-chief superintendent nurse