

## ORIGINAL ARTICLE

# The influence of experiences of involvement in the COVID-19 rescue task on the professional identity among Chinese nurses: A qualitative study

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**Abstract**

**Aims:** To explore the influence of experiences of involvement in the COVID-19 rescue task on professional identity among Chinese nurses from a qualitative method perspective.

**Background:** Professional identity of nurses is not static and easily affected by many factors. The COVID-19 epidemic brings the tremendous physical and psychological challenges for rescue nurses. At present, there are limited data on the influence of rescue experiences on the nurses' professional identity.

**Methods:** This study used a face-to-face interview with semi-structured questions to learn about the influence of rescue experiences on the professional identity of nurses. Purposeful sampling was used to collect participants ( $n = 14$ ), and interview data were analysed following the Colaizzi's phenomenological analysis.

**Results:** The 'impression of exhaustion and fear', 'feeling the unfairness', 'perceiving incompetence in rescue task' and 'unexpected professional benefits' were the main factors affecting the professional identity of rescue nurses.

**Conclusion:** The present study showed that special attention and targeted support measures should be provided to improve the professional identity of rescue nurses.

**Implications for Nursing Management:** Nurse managers should make a post-epidemic recovery plan to help nurses to improve the professional identity. Designed education programmes and complete disaster response system should be developed to deal with infection disease in the future.

**KEYWORDS**

COVID-19, nurse, professional identity, qualitative study, rescue experience

## 1 | INTRODUCTION

In December 2019, coronavirus disease 2019 (COVID-19) was first reported in Wuhan, Hubei Province in China, and then, it expanded quickly, resulting in unprecedented remarkable threats to the public health, not only to China, but also worldwide. To efficiently stop the rapid spread of the epidemic, Chinese government adopted multiple response policies including traffic control, home isolation, modifying

the regular wards into isolation wads and building new hospitals for infected people. Meanwhile, medical workers echoed actively calls for mobilization from National Health Commission of China to support the epidemic control. As a result, patients were successfully treated and mortality decreased gradually and the COVID-19 epidemic ultimately was under the control in China.

The nurses constituted the major front-line rescue workforce in combating the COVID-19 epidemic. It is estimated that totally

28.6 thousand nurses are recruited from across China to support the patients in Hubei during the breakout, accounting for 68% of all front-line medical workforce (Government of Hubei Province of China, 2020). Studies have reported that nurses play the paramount roles in infection management including infection prevention, infection containment and infection surveillance during the outbreak (Mo et al., 2020; Smith, Ng, & Ho Cheung Li, 2020). In addition, nurses are expected to maintain a high level of awareness towards the spread of the infectious disease and ensure the safety of the public. Given the crucial role of nurses in combating this epidemic, it is imperative to focus on the impact of the rescue experience on nurses, not only through this crisis but also after it is all over.

Professional identity often referred to as career, occupational or vocational identity (Holland, Johnston, & Asama, 1993) can be enhanced by the 'position within society', 'interactions with others' and their 'interpretations of experiences' (Sutherland, Howard, & Markauskaite, 2010). Professional identity helps to construct the core or essential aspects of an individual's professional value (Johnson, Cowin, Wilson, & Young, 2012). It is inextricably related to, yet separated from self-concept and can be measured and studied (Kroger & Marcia, 2011). Nurses' professional identity is defined as 'the values and beliefs held by nurses that guide her/his thinking, actions and interactions with the patients' (Fagermoen, 1997). A positive and flexible professional identity of nurses has been viewed as a key factor to function at a high level and provide quality care to better meet the needs of patients (Cronenwett et al., 2007; Johnson et al., 2012). Previous studies have revealed that nurses' professional identity has a continuous relevance to the nursing manpower because professional identity is determined to have a strong relationship with the intention to leave the profession (Cowin, Johnson, Craven, & Marsh, 2008).

Because of the novelty and sudden nature of COVID-19, the risk, transmissibility and treatment of the disease were not well understood. Therefore, a large number of infected people flooded into the fever clinics and infectious disease units at the beginning of the outbreak. Nurses who involved in epidemic rescue task were drained by caregiving, both physically and psychologically and faced a high risk of infection. Studies have revealed that front-line nurse caring for patients with COVID-19 have higher risks of mental health problems, such as anxiety, depression, insomnia, fear and stress (Liu et al., 2020; Mo et al., 2020). Meanwhile, qualitative study has reported that nurses from different background are frequently assigned to new roles and required to perform tasks that are beyond the scope of their previous practice, consequently making nurses feel powerless and guilty for inability to improve patient outcomes (Liu et al., 2020).

McNeese-Smith and Crook (2003) indicated that professional identity of nurses is not static but is constantly developed and re-constructed from before undertaking nursing education, continuing to long-term study and clinical experience, and extending to lifelong career. The formation and evolution of nurses' professional identity can be altered by many factors, including from the macrolevel of socio-economic changes to the microlevel of individual expectations and experiences (Johnson et al., 2012). For example, a number of

studies highlighted the global demographic changes such as increasing ageing population, cultural changes caused by immigration and advancing information technology have increased the demands for nurses and potentially altered their professional identity (Horton, Tschudin, & Forget, 2007; Zabalegui Yarnoz, 2002).

Given the fact that nurses have been faced with great challenges during the outbreak, we are interested in finding out whether the experiences of involvement in combating the COVID-19 affect the nurses' professional identity. Thus, the aim of this study was to explore the influence of experiences of involvement in the COVID-19 rescue task on professional identity of nurses from a qualitative method perspective, so as to develop the targeted intervention strategies to improve the nurses' professional identity and retain nurse manpower.

## 2 | METHOD

### 2.1 | Study design

This report is the qualitative part of a sequential mixed-method study. In the quantitative part of the mixed-method study, we found that the experiences of involvement in the COVID-19 epidemic rescue task affected the professional identity of nurses (in another article). In order to gain more insight into the factors influencing the professional identity of nurses in the rescue experience, we used an empirical phenomenological approach (Creswell, 2013) in the qualitative study. Phenomenology as a methodological framework focuses on seeking reality in individuals' narratives and capturing the essence of the lived experiences of a phenomenon (Colaizzi, 1978; Creswell, 2013).

### 2.2 | Sample

A purposeful sampling approach was used to recruit nurses who involved in the rescue task from four 3A-class designated hospitals in Wuhan city, Hubei province. The 3A-class designated hospital is a grade-A tertiary hospital that was designated to provide the medical treatment for people infected with COVID-19. The eligible criteria of nurse participant were as follows: (a) each participant went voluntarily to the front-line isolation ward to care for patients; (b) each participant stayed in front-line isolation ward for the task duration of more than 7 days; and (c) each participant directly participated in the rescue of infected people. The sample size was not sure until theoretical saturation was achieved (i.e. no new themes emerged) (Sandelowski, 1995).

### 2.3 | Data collection

The study was conducted between March 2020 and May 2020, when COVID-19 was generally considered to be under control in

China and the hospitals have also resumed normal operations gradually. Semi-structured, audio-recorded, face-to-face interviews were the major means of data collection. In order to familiarize the interviewers with the method, the interviewers were previously trained in qualitative interview. Before conducting the interview, an interview guide based on extensive review of relevant literature about the professional identity of nurses was developed to facilitate the interview. The interview questions asked in this study are presented in Table 1.

All of the interviews were conducted through Internet video because of the policies of traffic control and home isolation. The objectives and procedures of study were explained to eligible nurses, and oral informed consent was obtained before interview. During the interviews, interviewer wrote notes about participants' body language and their own reflection as far as possible in order that the participant's perspectives were correctly stated and comprehended. With participant's permission, all interviews were audio-recorded by a mini-recording device and lasted between 25 and 45 min. Appropriate pauses or changes in topic were applied whenever participants seemed to feel uncomfortable and upset during the interviews.

## 2.4 | Data analysis

Qualitative data were analysed following Colaizzi's method of phenomenological analysis (Colaizzi, 1978). In the first step, the researchers read all of transcripts several times to gain an understanding of meanings conveyed. Then, significant statements and phrases were identified from each transcript and restated in general terms. In the third step, the researchers described and analysed the data hidden in significant statements of each transcript. The researcher then integrated all of the results into a narrative exhaustive description, whilst they created and validated formulated meanings through research team discussions to reach consensus. In the fifth step, formulated meanings were sorted into clusters of themes and categories. Then, the researchers identified the fundamental structure of the experience and developed a full description of themes in clear statements. In the final step, the research asked the participants if the findings captured the essence of their experiences to validate the study.

## 2.5 | Rigour

Credibility, dependability, confirmability and transferability were used to ensure the trustworthiness of a qualitative study (Polit & Beck, 2016). To achieve credibility, the interviews were guided by interview questions that were based on a comprehensive literature review and the interviewer had previous training of performing qualitative interviews. To enhance the confirmability, two researchers independently analysed the transcripts (Polit & Beck, 2016). Thereafter, findings from researchers were compared and discussed by the team meetings until consensus was achieved. For dependability, quotations from the interviews were presented to corroborate each theme. In order to ensure all analysis steps could be traced back to original interviews, the audit trail was maintained. Transferability was established through detailed and clear description of the research design, participants, data collection and analysis.

## 2.6 | Ethical considerations

Ethical approval was obtained from a university ethics committee before beginning the study. The hospital at which the study was conducted granted approval for this research. The participants were reminded that his/her participation was voluntary and could decline or withdraw from the study at any time if the interview affected them negatively. Anonymity and confidentiality were maintained by using numbers to replace names (e.g. nurse N1, N2) and removing identifying information from the transcripts. Only the interviewer knew the participants' identities. All original audio-recordings and transcripts were kept in a password-protected computer and used only for this project. In addition, no one outside the research group had access to the collected data.

## 3 | RESULT

Of the 21 nurses were invited to participate in the interviews, 7 nurses refused participation for the main reason that they were 'do not have time'. In the end, 14 nurses were interviewed, with 11 females and 3 males. Their average age was 32 years (range:

No.	Question
1	What were your feelings and thoughts about nursing after completing COVID-19 rescue task?
2	What changes have you experienced in isolation wards? Can you tell me more about that?
3	Please tell me what factors impede/promote your professional identity during the outbreak? Can you give an example?
4	Can you describe any situations which affected your professional identity? Can you explain further?
5	Do you have anything else to share with us?

**TABLE 1** Semi-structured interview guide

23–40 years). The characteristics of the 14 nurses are presented in details in Table 2.

Four themes emerged from the interviews. The experiences of involvement in epidemic rescue task were described as facing the complex challenges including impression of exhaustion and fear, feeling the unfairness and perceiving incompetence in rescue task, which had a negative impact on nurses' professional identity. On the other hand, nurses also got unexpected professional benefits from the special experiences and improved the professional identity to some extent.

### 3.1 | Impression of exhaustion and fear

Due to the highly contagious nature of the COVID-19 and lack of prevention and control measures in the beginning of the outbreak, a large number of people were infected and entered into the isolation wards to accept treatment. In face of so many patients, the number of nurses was far from enough. As a result, every nurse suffered overwhelming exhaustion to meet the needs of numerous patients.

It is a distressed memories... it is too busy. I play the role of a hard labor to complete endless tasks and I almost break down... I do not want to experience it anymore.

(N1, F)

Nurses repeatedly expressed that their exhaustion was also related to wear personal protective equipment (PPE) for long hours. The thick

airtight PPE increased the physical and professional challenges and made nurses be more tired.

Walking and nursing procedures become slow and clumsy when wearing the PPE, which increases the difficulty of the work.

(N4, F)

A large number of infected people made nurses feel threatened. They naturally had great fear of catching this fatal infection, especially when witnessing the infection and death of medical workers. In addition to be afraid of being infected by patients, they also worried about the possibility of infecting their family.

Too many people, even medical workers are infected and die ... I feel close to death and live with fear...

(N7, F)

...I am afraid to spread the virus to my family. I have young children, what if I give the virus to my children?

(N9, F)

### 3.2 | Perceiving incompetence in rescue task

There was no specific medicine to cure it because of the unknown nature of the COVID-19. When nurses tried their best but patients' condition showed deteriorated or patients died, they often felt powerless and distressed, even questioned their ability to be a qualified nurse.

**TABLE 2** Characteristics of the participants

Participant number	Gender	Age	Marital status	Education level	Years of experience in nursing
N1	F	34	Married	Bachelor degree	10
N2	F	37	Married	Bachelor degree	15
N3	M	27	Single	Bachelor degree	3
N4	F	38	Married	Advanced diploma level	23
N5	F	23	Single	Bachelor degree	1
N6	F	36	Married	Master degree	13
N7	F	40	Married	Advanced diploma level	18
N8	M	36	Single	Bachelor degree	14
N9	F	32	Married	Bachelor degree	11
N10	F	33	Married	Bachelor degree	12
N11	M	32	Single	Master degree	8
N12	F	26	Single	Bachelor degree	2
N13	F	29	Married	Bachelor degree	5
N14	F	25	Single	Bachelor degree	2

Abbreviations: F, Female; M, Male.

You don't know how powerless I am at that time, I witness the death every day but there is nothing I could do, I keep asking myself whether I could be a nurse.

(N6, F)

Involvement in the rescue task was perceived as being a work with high expectation and a great deal of responsibility, both regarding patient care and towards the rescue team. However, the majority of the nurses had no previous working experiences in an infectious disease or dealing with critically ill patients. Therefore, entering the isolation ward was viewed as being stressful for concern about inability to make correct decisions.

There are fewer nurses in the night shift... you must make decisions independently when an emergency occurs... I feel stressful and anxious because I am not familiar with the care model of critically ill patients.

(N3, M)

In general, Chinese family members or family-paid caregivers had a role in providing bedside care and assisting with activities of daily living for hospitalized patients. Additionally, family members were viewed as the important psychological support for patients. However, patients were only accompanied by the medical staff because of the isolation policy, and thus, the basic care and emotional support were mainly provided by nurses. Because of heavy workloads, few clinical experiences in infectious intensive care, and their own physical and emotional stress, it was difficult for nurses to meet the complex needs of patients.

When patients groan in pain, I know that I need accompany them and keep encouraging and comforting them, but I have no time to do it because there are too many patients waiting for care....

(N11, M)

.... I feel stressful and depressed in isolation wards.... how can I comfort and calm patients down? I cannot even keep myself in a good mood.

(N10, F)

### 3.3 | Feeling of unfairness

Physicians and nurses had different division of labour in respective position to provide the best care for patients. The patients were treated with supportive care mainly because of no effective interventions or therapies. Thus, nurses need spend more time providing intense and prolonged nursing care through the closest contact with patients compared to other health care staff, which meant a greater risk of being infected by patients. Given the particular working environment of isolation wards, nurses were more likely to magnify

the differences in workload, as a result contributes to the feeling of unfairness.

I remain at the besides around the clock to provide care for patients, while other medical staff such as physicians only enter into the isolation wards during the rounds or the patients' condition is unstable. Nursing is the hardest and most dangerous profession.

(N8, M)

Nurses played crucial roles in treating patients with COVID-19 and suffered physical and emotional challenges during the outbreak. Government and local hospitals awarded the nurses' financial bonuses and reputation certificate for their unique contributions. However, some nurses mentioned inequality in awards between nurses and other medical workers.

Other medical workers get more financial rewards than nurses in the hospital, it is not fair. We also try our best to save life and have high risk of infection.

(N12, F)

### 3.4 | Unexpected professional benefits

All the nurses reported they received various forms of support from the public, colleagues and hospital leaders. With the logistical support from their hospitals, encouragement from the public and help among colleagues, nurses felt a sense of safety and had more courage and motivation to combat the epidemic. Meanwhile, nurses received the financial and honorary rewards for their contributions during the outbreak, which made nurses feel valued and the improvement of social image.

Hospital leaders provide medical protective supplies and comfortable accommodations, the public volunteer to donate food and fruit to us. I have more courage to join the fight.

(N13, F)

I have now become a permanent employee... social media is full of praise for nurses. I feel that the nurses' social image has improved.

(N5, F)

Nurses viewed the rescue experiences as learning opportunities that made them achieve the transition of going from being new to being experienced in the isolation ward. They mastered the infectious intensive care, self-protection and communication skills, which contributed to their self-growth and future nursing practice.

...This is a meaningful experience. I have become qualified for care of critically ill patients and my communication skills have also improved... which can be helpful for my career development.

(N7, F)

Nurses showed great courage and potential to overcome the challenging jobs. When seeing the patients' condition was improved and the outbreak was under control successfully, nurses had a deeper understanding of the essence of nursing and developed the confidence.

I feel a great sense of achievement for winning the battle and helping people to return to a normal life... Now, I have understood that nursing is a very important profession.

(N14, F)

I feel that I still have potential... you could accomplish what you originally think is impossible if you have the confidence.

(N2, F)

## 4 | DISCUSSION

Owing to insufficient understanding of risk, transmissibility, pathogenicity, prevention and control measures of COVID-19, there was a surge of infected people in the early stages of the outbreak, resulting in the most serious shortage of nurses than ever. In addition, similar to many new infectious diseases, such as Ebola and SARS, there was no effective antiviral medicine, and patient care was primarily supportive nursing care. Thus, each nurse who wore thick PPE kept long shifts, less sleep, even not eating or drinking to avoid the toilet breaks in order to meet the increasing caregiving needs of numerous patients (Liu et al., 2020). Such heavy workload made nurses suffer the physical and psychological exhaustion, which was associated with significantly lower nurses' job satisfaction and influenced professional identity to some extent (Havaei, MacPhee, & Dahinten, 2016; Jiang et al., 2017).

Indeed, shortage of nurses and heavy workloads prolonged the close contact with patients, therefore increasing the risk of infection. Nurses' perception of the threat of infectious diseases mainly stems from the number of confirmed cases of infection and the death toll (Kako, Mitani, & Arbon, 2012). Up to date, there have been 87,457 confirmed cases and 4,664 deaths in China (World Health Organization, 2020). Besides, more than 3,000 medical workers in Hubei province have been infected (State Council Information Office of the People's Republic of China, 2020). As a result, with the situation of highly contagious nature of the virus, the closet contact with patients and infection happening to their colleagues, nurses experienced the fear of infection to themselves and their families as previously reported (Liu et al., 2020; Wong, Wong, Lee, Cheung, & Griffiths, 2011).

Owing to no effective antiviral medicine, nurses experienced a strong sense of powerlessness about patients' suffering and the sudden death. Furthermore, nurses who had heavy workload were faced with challenges in adapting to a new working environment, mastering technical procedures of equipment and collaborating with a new medical team. On the other hand, due to the isolation policy during the outbreak, family members and family-paid caregivers and psychotherapists were not allowed into the isolation wards, and only nurses took responsibility for basic care and emotional support. Thus, the more skills, knowledge, psychological and physical preparedness, the more likely nurses are to access their caring capabilities to respond epidemic in a difficult situation (Lam, Kwong, Hung, Pang, & Chiang, 2018). However, most nurses in this study had few clinical experiences in infectious intensive care and specialty knowledge in psychological care. Therefore, nurses had difficulty meeting the complex care needs of patients and felt incompetence to the rescue task. Chinese have a strong awareness to seek the professional value in own position, just like what the Chinese proverb says, 'To be in one's place, seek one's duty'. Therefore, nurses had the low professional identity when perceiving inability to perform their professional responsibility.

Consistent with previous study by Shih et al. (2009) in the SARS outbreak, our interview found that the some nurses felt unfair because of the inequality in workload and rewards between nurses and other medical workers. Patients were treated with supportive care mainly because of no effective medicine, leading to more workloads for nurses and higher possibility of being infected by patients. In the dangerous and busy working environment, nurses were more likely to magnify the inequality in workload. In addition, the phenomenon of inequality in rewards means that the crucial roles and the extraordinary individual contributions of nurses in combating the COVID-19 were ignored by the hospital and society. Therefore, the feeling of unfairness was emerged inevitably. Tallman and Matheson (2009) indicated that the unfair distribution of organisation decreases the job satisfaction and diminishes their willingness of hard work and commitment to the organisation. Thus, the feeling of unfairness among nurses reduced their job satisfaction and consequently affected the professional identity of nurses.

In face of the COVID-19, nurses showed great professional dedication and personal sacrifice to cope with the challenges at the forefront. Nursing value and critical importance were visually exemplified, and the praises portrayed as 'hero' or 'soldier' was provided. In addition, nurses received the logistical support from the hospitals, encouragement from the public, and financial and honorary rewards from government. The social identity theory argued that the nurses' professional identity is closely related to the nursing images obtained from society and is boosted when nurses assume a good image from society (Tajfel & Turner, 1986). Therefore, when receiving full-scale support and praises, nurses may perceive a positive image that society thinks well of them, resulting in the improvement of professional identity.

Although the interview found that nurses received the professional benefit from the rescue experience including the improvement

of nursing image, confidence and professional and personal growth, the rescue experiences had overall a negative influence on the professional identity among nurses in the quantitative data. One possible explanation for the phenomenon is the interview was conducted at the end of COVID-19, when nurses had more immediate negative feelings from the traumatic experience, which prevented nurses from feeling a sense of meaningfulness and experiencing positive aspects in caregiving. Perhaps the negative impact of rescue experiences on professional identity will change over time, which needs to be explored in future longitudinal studies.

#### 4.1 | Limitation

However, some limitations of the study should be acknowledged. First, only the nurses from Wuhan province were investigated. Thus, the results cannot be generalized to all Chinese nurses. Moreover, some nurses of involvement in the COVID-19 epidemic rescue refused to join semi-structured interviews. These potential participants may provide information additional to this research.

## 5 | CONCLUSION

The study increased understanding of the influence of experiences of combating the COVID-19 on professional identity of nurses. The professional identity of rescue nurses need be improved through strategies based on alleviating the negative experiences of exhaustion, fear, powerlessness and unfairness, and providing the professional benefits. Besides, the present study could also draw attention to professional identity of rescue nurses and serves as model to improve the professional identity of rescue nurses and retain nurse manpower for other countries.

#### 5.1 | Implications for nursing management

The results of this study stressed that the support for nurses should remain critically important not only through this crisis but also after it is all over. Therefore, nursing management should make post-epidemic recovery plans to improve the nurses' professional identity. First of all, nurse managers should conduct the supportive conversations to help rescue nurses to focus on the professional benefits from the rescue experiences and mitigate the negative professional perception. Then, health sector and nurse managers should develop the clear policies to ensure the fairness in rewards such as financial bonuses, promotion of profession and honorary certificate between physicians and nurses. Besides, in order to avoid the sense of unfairness in workload, it is necessary for nurse managers to ensure sufficient number of nurses in key areas and arrange shifts reasonably to protect nurses from overwork in future epidemic.

The results of this study confirmed that public image on nurses was essential for nurses' professional identity. So developing

strategies to change the public's stereotypical image and boost the position in health care organisations should be a priority for nurse managers. Nurse managers can use the media including short video APP, TV and Internet news to give more visibility of nursing role to inform the public understand nurses' professionalism and boost a good nursing image.

Numerous episodes of infectious disease outbreaks have emerged across the globe without warning in recent times (Cowling et al., 2015). As a result, it is urgency to focus more on providing education and training in pandemic response for nurses to strength nurses' ability in decision-making and problem-solving in the future epidemics (Imai et al., 2008; Lam et al., 2018). For example, it is suggested to establish the designed educational programmes such as disaster drill simulations to increase the knowledge and skills in epidemic response, and invite the senior nurses who involved in previous infectious disease rescue to offer experience sharing (Hsu et al., 2006). Besides, it is necessary for nurse managers to develop complete response guidelines and protocols of novel infection disease in compliance with World Health Organization guidelines, so as to deal with infection disease in the future effectively and efficiently.

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#### CONFLICT OF INTEREST

The authors declare no conflict of interest in this study.

#### AUTHOR CONTRIBUTIONS

CC, QS, XZ and XW designed the study. QS, XZ and XW collected the data. QS and CC analysed the data. CC supervised the study. QS, CC and XZ wrote the manuscript.

#### ETHICAL APPROVAL

The study has received ethical approval from the Ethics Committee of School of Health Sciences, Wuhan University (2020-JK912).

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