

RESEARCH ARTICLE

The COVID-19 pandemic: Narratives of front-line nurses from Wuhan, China

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Abstract

This study aimed to explore the experiences of nurses in Wuhan Hospital as front-line workers during the COVID-19 pandemic. A descriptive qualitative study of such nurses was conducted from a tertiary hospital in Wuhan. Semi-structured individual interviews were undertaken with 8 registered nurses who were front-line health workers in one of the COVID-19 wards and 3 nursing managers from the response team. Five discrete themes were identified from the narratives of nurses' experiences during the COVID-19 outbreak in Wuhan: "content of fundamental care," "teamwork," "reciprocity," "nurses' own worries," and "lifelong learning and insights." Nurses in the front line of care during the COVID-19 pandemic can contribute important information from their hands-on experience for providing a holistic response to an infectious outbreak like COVID-19. The concerns nurses raised at both personal and professional levels have implications for nursing education and clinical practice settings, particularly in the time of a pandemic when nurses' well-being requires attention, and at the same time for considering organizational factors that enable nurses to provide care to patients with confidence. Hospital policies and nursing management need to be ready and adhere to flexible work planning systems and approaches during a pandemic.

KEYWORDS

coronavirus, COVID-19, nurses, pandemic, personal experiences, qualitative

Key points

- Nurses' experience of pandemic-specific challenges in providing care to clients and families affected with COVID-19 will help inform clinical policies and protocols in managing pandemics.
- Pandemic conditions required nurses to have balanced expertise in addressing the physical and psychological needs of patients in a holistic manner outside their usual clinical scope.
- Nursing teamwork in pandemic management might need to identify and further expand bases of emotional support and morale boosting among team members.

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1 | INTRODUCTION

The World Health Organization declared the novel COVID-19 outbreak to be a pandemic on March 11, 2020 (World Health Organization., 2020). Data collected globally have shown that 15 days after the WHO's declaration of the pandemic, the global cases reached over a quarter of a million (John Hopkins Corona Virus Resource Center, n.d.). The outbreak started in Wuhan, Hubei Province, China, where the first cases of an unknown type of respiratory illness causing pneumonia-like symptoms were detected (Wang et al., 2020). To date, countries continue the battle against COVID-19 and its subsequent variants. The pandemic has affected the lives of millions of people and the economies of both developing and developed countries. Since then, a series of reports and articles have been published about COVID-19 centered on efforts towards vaccine and treatment, epidemiological projections and impacts, not only in health but also in terms of social and economic implications at various levels in different countries particularly for the health care workforce (Baker et al., 2020; Lurie et al., 2020; Stebbing et al., 2020). The current qualitative study explored the experiences of nurses in Wuhan Hospital as frontline workers during the COVID-19 pandemic.

2 | BACKGROUND

The role of nurses during the pandemic outbreak is undoubtedly a major contribution that kept the health care systems running (Liu et al., 2020; Vázquez-Calatayud et al., 2021). At the time of writing, countries are in different levels of implementing countermeasures to control the COVID-19 spread. As vaccination for COVID-19 became available in early 2021, some countries have already contained the COVID-19 outbreak and have eased lock-down restrictions. Other countries are currently still battling the new variants of COVID-19 (Karim & Karim, 2021) using firmer public health orders than those that were implemented in the earlier months of the year 2020. Since then, a major impact has been observed among the health care workforce, which has caused emotional and moral distress (Greenberg et al., 2020). In China, despite being resilient, nurses have reportedly been feeling exhausted, severely distressed, and mentally drained, which has impacted not only their job performance but their personal relationships with their own families (Huang et al., 2021). In general, the global health systems were severely challenged in managing the pandemic, particularly for health workers who were in the front line of care (Williamson et al., 2020). Nurses are among these front-line health workers. Nurses do not just administer medical treatment to patients, but also provide psychological and other fundamental care. The COVID-19 pandemic has continued and is now in its second year since first detected in Wuhan. In the last 2 years, global research has produced important understandings of and information about the virus, helping to inform the appropriate infection control measures that hospitals, businesses and communities should follow. However, it is important to consider the role of the nursing workforce with an eye towards the management of new pandemics in the future, particularly

for unknown strains of infectious diseases (i.e., new variants). In this article, we report the first-hand experiences of front-line staff at the very beginning of the COVID outbreak in Wuhan, China, when nurses and other health care workers provided care for patients infected with a disease that was not well understood at that time. Our article documents the nursing perspective based on the narratives of front-line nurses who worked in a COVID-19 ward in Wuhan Hospital, in the period when COVID-19 was first experienced. This paper provides insights on how these nurses and nurse managers experienced the outbreak, illustrating thereby the management efforts that are likely to be implemented in an early stage of an unknown future pandemic.

3 | METHODS

3.1 | Design

A qualitative descriptive design was employed in this research, which built on nurses' narratives about their experience during the COVID-19 outbreak in a hospital in Wuhan, Hubei Province. The paucity of qualitative evidence from nurses' involvement with the COVID-19 pandemic requires a more meaningful interpretation of their experience, which can be undertaken by collecting and analyzing stories from "straight descriptions of the phenomena" (Sandelowski, 2000 p. 339).

3.2 | Sampling

A purposive sampling approach was utilized for participant recruitment. Selection of participants was based on a pre-defined set of selection criteria to satisfy the necessary characteristics or profile of the participant who could match the overall aim of the study. Participants were invited if they are licensed registered nurses in China who worked at Wuhan Hospital either (i) as staff in a COVID-19 specified ward during the COVID-19 pandemic; or (ii) as nurse managers and part of the response team providing care to patients diagnosed with COVID-19.

3.3 | Ethics

Ethical approval was granted by the Human Research Ethics Committee of the Second Affiliated Hospital of Zhengzhou University (Reference: 2020006). Participation was voluntary, informed written consent was obtained prior to interviews, and participants were informed that they could withdraw from the study at any time. Participant pseudonyms were used to maintain confidentiality regarding content reported in the results sections.

3.4 | Recruitment and data collection

Each nursing staff member and manager was informed about the study via email and requested to identify a convenient time to attend

the interviews. Written and verbal information about the study were given to all participants. There were 17 nurses and three nursing managers who initially responded to the invitation; however only eight nurses and three nurse managers decided to pursue participation. The data were collected between February and March 2020 from participants who consented to be interviewed. The ward where we recruited participants was the first ward in Wuhan Hospital providing care to COVID-19 patients. The interviews were conducted 2 weeks after the Chinese government declared that the COVID-19 incidence rate was under control. Before the interview, an interview guide was developed by the research team and pilot tested among four nursing staff in the hospital. Based on suggestions and comments from the nurses in the pilot interview, we slightly changed the prompt questions. The semi-structured interviews were undertaken by a research assistant appropriately trained in qualitative interview techniques and not known to the participants (Goodell et al., 2016). The individual interviews were conducted face-to-face at a venue convenient for the participants such as a private office space in the hospital and lasted for 30–40 min including preparation time. The interviews were recorded, but were kept strictly confidential. After the 11 interviews, there was no new information emerging from the participants narratives.

During the interview, both the interviewees and the interviewees used personal protective equipment (PPE) and were tested for COVID-19 with a negative result in order to participate in the interview. The interview guide included open-ended questions such as: “How do you describe the experience as a whole?,” “What are the most important things that you have learned from the experience?,” and “What is your message to other nurses who are still fighting the virus in the other parts of the world?” To facilitate natural conversation, verbal and non-verbal probes were used during the interview, such as: [Nodding,] “Describe what you were feeling when you first heard that you were assigned to take care of COVID-19 patients,” and “As a frontline nurse, what were your thoughts on the challenges of the current pandemic situation?”

3.5 | Rigor

To ensure rigor, Temple and Young (2004) proposed that caution should be taken when managing data from multilingual interviews to ensure retention of original meaning and thoughts expressed by the participants. For this reason, our team undertook back translation of the translated data, which was conducted and checked by a bilingual researcher fluent in both English and Mandarin (the corresponding author), and another member of the research team, who did not see the original transcripts in Mandarin. Consensus and agreement on the accuracy of the translated and back translated versions were reached during a meeting with all authors. Data were systematically checked, focus was maintained, and the fit of data and the conceptual work of analysis and interpretation were monitored and confirmed constantly by three researchers. Due to the situation at the time of data collection, we were not allowed to conduct member checking and peer debriefing because of strict infection control protocols, which was a challenge. However,

the richness and the depth of the data collected from the participants convinced the researchers of the dependability and confirmability of the actual experiences of the nurses interviewed in this study.

In terms of transferability, we have collected data from front-line nurses providing care for patients infected with COVID during the first outbreak of the pandemic experienced in China, and we have consulted literature on the management of infectious outbreaks, which informed how we constructed our semi-structured interview questions. While the transferability of findings is closely related to the similarity of contexts and settings in a pandemic, there is also great potential to inform qualitative studies in crisis management during other outbreaks particularly for new infections.

3.6 | Data analysis

We have used Braun and Clarke's (2006) step-by-step process for thematic analysis. The audio recordings and notes were transcribed professionally, and de-identified by a research assistant. Two authors reviewed independently for accuracy and manually coded all transcripts to ensure inter-coder reliability. Generally, an inductive approach was undertaken in identifying salient features and repeated patterns of meaning within and across the interview data in relation to the participants' experiences, views, and perspectives (Clarke & Braun, 2017). Following the thematic analysis framework, the analysis started by achieving familiarity with the data by repeatedly reading and rereading the transcripts and then identifying codes, which led to the identification of salient patterns and subsequently resulted in themes, which was done by the three authors. Initially, provisional themes were identified and were then later agreed upon by the three authors after refinement and further analysis of coded data, which led to identified themes. (Braun & Clarke, 2006; Clarke & Braun, 2017). The themes were described and then discussed by the entire research group (all authors) until consensus was achieved. The reliability of the research was guaranteed by the triangulation of the results among the authors working independently.

4 | RESULTS

4.1 | Participants' characteristics

Eleven nurses consented to be interviewed for this project. All of the interviewed nurses took part in providing care for COVID-19 patients in varying roles. Three of the participants were nurse managers and eight were nurses working on the floor. Of the eight nurses working in the COVID-19 wards, three of them were usual staff nurses in the hospital and five were volunteers who came from other hospitals or regions to help out during the outbreak. All participants were females between 22 and 52 with an average age of 28.5. The working experience ranged from 2 to 22 years with an average of 3.9. All nurses possessed a bachelor's degree. Three nurses and two nurse managers were married with children, two were married without children, and four were single without children.

4.2 | Themes

Five discrete themes were identified from the narratives of nurses' experiences during the COVID-19 outbreak in Wuhan. The five themes are: "beyond fundamental care," "teamwork," "reciprocity," "nurses' own worries," and "lifelong learning and insights." These themes are presented here with supporting narratives describing nurses' experience. (See Table S1 in the Supporting Information).

4.3 | Theme 1 – Beyond fundamental care

The first theme was about the delivery of fundamental care, which nurses considered as one of the most important aspects of care provided to patients and at the same time the most challenging one during the COVID-19 pandemic. Fundamental care provided to patients with COVID-19 extend beyond routine care and has required a holistic approach, which included clinical and non-clinical tasks. Nurses described tasks that are normally outside their clinical roles but were considered fundamental at the time of the outbreak.

One nurse narrated their experience of extended workload and nursing roles, doing tasks they do not normally do as part of the job.

The nurses experienced an overwhelming workload in the isolation wards, because they have multiple roles to play. In the early days of the outbreak, there were no cleaners, no health care assistants, because these people were terrified and they quit their jobs. As a result, the nurses were doing not only their nursing duties, but also other tasks, which was on top of what they were doing, such as cleaning, ward disinfection, meal delivery to every patient and feeding very ill patients. (ID01)

The nurses recognized that fundamental care was not only for physical needs, but they also saw the great importance of providing psychological care to the patients. One of the nurses narrated that in the time of the pandemic, the content of fundamental care required a balance of nursing skills, as it not only included specialized skills within the intensive care environment but also the physical, psychological, and psychosocial components of care. One nurse summarized how all of these take place in one setting:

We were really good at taking care of the patients, particularly with the critically ill ones in intensive care units. Patients need personal care, such as hygiene and nutrition. However, with the pandemic, we also made sure that patients talked to their families through social media to relieve their anxiety. For example, a 66-year-old patient rings the bell, almost every 5 min because he was terrified, insecure, and needed someone to talk to him. Patients, particularly those who were diagnosed positive and then knew about the sudden death of their love ones led to an emotional storm, feelings of helplessness, hopelessness, and anxiety. Although I am not a mental health nurse, my patients were in

desperate need for emotional support, which at that time was beyond treating pneumonia. (ID06)

Nurses must not only perform routine nursing duties but also have the psychological and psychosocial knowledge and skills needed in the event of an outbreak.

One nurse manager stated:

Nurses do not only need to adjust themselves to cope with high pressure and demands from activities of daily nursing tasks but also meeting the demand for reassuring patients, their families and relatives as well as mental support and psychological issues. (ID02)

4.4 | Theme 2 – Teamwork

The second theme identified from the data was about teamwork which nurses found invaluable in the time of the pandemic. The experience of nurses working as a team during the COVID-19 outbreak was described as more than the common definition of teamwork as they had to combat their own emotional and physical exhaustion. Teamwork in extraordinary situations like a pandemic requires frequent restructuring of roles and a responsive approach to the pandemic's unique workforce demands. One nurse manager expressed the importance of the teamwork as follows:

I have realized the significance of teamwork. Regardless of where you come from, we need to unite together for the same purpose, we are like a family taking care of each other and learn from each other. Teamwork helped us a lot even our preparation and our processes were not perfect at that time. (ID10)

Nurses related that the peer support and working together kept them hopeful and alive:

It is more like we were marching on a battlefield, but I am so proud that we are a united team rather than fighting alone. Before I came here, I did not know anyone, but the team I have worked with are extraordinary people. I gained friendship from this journey. (ID08)

4.5 | Theme 3 – Reciprocity

The third theme was about a trusting relationship with patients and families and the reciprocity that nurses received from patients during the pandemic. Nurses felt that this unique experience from the pandemic gave them a sense of being valued from the patients' perspectives. There was a more profound sense of mutual appreciation provided than in their usual day-to-day work experience as a nurse.

We worked with patients like a tandem. When we approach the patients' bedside, they [patients] will automatically wear the mask, and say "Thank you for saving my life, I must protect you from getting infected, so I will wear the mask while I talk to you." (ID07)

Two nurses who came to Wuhan as volunteers narrated:

What I learned in the Wuhan pandemic is that we (me and my patients) are saving each other. When I see a patient suffering in anguish and pain, I wish I would do more to help them. We were trying to make them feel better by reassuring them and talking to them. Patients were responding with the same kind of caring to us, they expressed care by asking: Have you eaten yet? When will you go home? This is new to us, and is a brand-new way of how we perceive ourselves as a health care professional and made us stronger and resilient to meet future challenges. (ID8)

We wish our patients will recover soon, and our patients wish all staff could go back to their own home as soon as possible. The mutual trust between patients and staff had impressed me. (ID04)

4.6 | Theme 4 – Nurses' own worries

The fourth theme described nurses' personal worries in the time of COVID-19 pandemic. Nurses cannot deny that they were anxious about their own health and possibly transferring the disease to their families. The everyday exposure to infected patients posed a lot of uncertainties and worries. Two nurses (ID2, ID5) recalled particular experiences:

One day, I carried over thirty lunch boxes to the quarantine area, and then I felt short of breath and felt like dying. Meanwhile, a million thoughts came to my mind: Am I infected? What did I do in the last fourteen days? Am I too close to my patients? Well, actually, we have very close contact with our patients every day, sometimes social distance might not even exist. For example, if the patient cannot hear what you said, you need to come close to them, and speak louder and closer to their ears. I thought, 14 days ago, I might have been infected. Thankfully it was a false alarm. I was just exhausted and short of breath due to the adhesive tapes sticking in my mouth and nose. I ripped it off straight away. I was able to breathe, such a relief. (ID2)

In retrospect, when I thought about Wuhan, that was the first time I felt so close to death. Before I came to Wuhan, I cried, and I was terrified. I thought I might die in Wuhan. (ID05)

One nurse expressed her worry and experience of physical distress as follows:

While caring for COVID-19 patients, I sometimes felt short of breath or felt like I might faint. I would have a lack of energy and a severe headache, all because I was so worried!

Nurses were not allowed to leave the hospital during the outbreak. One young nurse expressed her worries about the welfare of her family while she knew that they also were very worried about her:

My parents never watch TV news, but now they are always waiting for the live broadcast and wanted to know more about the pandemic. I know they were very worried about me, and they were not showing it, just keeping it inside themselves whenever I talk to them. Sometimes, I just want to hear my parents yelling at me than to make them very worried about me as I am away from them. (ID4)

4.7 | Theme 5 – Lifelong learning and insights

The last theme was about lifelong learning from the pandemic and how it has influenced nurses' development of useful insights both professionally and personally. One nurse narrated how her outlook in life has changed from her experience of the pandemic:

When I volunteered to join the medical team to Wuhan, I am aware of the responsibility and the risk, and I felt so much pressure and I think I suddenly become mature. I was at first very worried and scared. But I found courage along the way, to live or die, nobody knows which comes first. I learned to be courageous and to express my love to my family, friends, and colleagues. (ID01)

Participants also related that their experience with the pandemic changed their insights about the value of life. One nurse expressed her reflection as follows:

At this very moment, I found my utmost desire to live, and it happens when I am facing with a matter of life and death. I can truly know what I want. I am lucky to be alive, what should I do? I will treasure my life. (ID06)

The pandemic has influenced nurses' professional expectations and future study plans. One young nurse gave this expression of her plans when returning home from the pandemic:

There are so many things that I need to do. Once I come back home, I will do further studies to upskill myself. I should continue to learn to be able to meet and cope with future challenges such as pandemics. (ID03)

5 | DISCUSSION

5.1 | Recognizing multidimensional fundamental care

Fundamental care provided by nurses to patients in day-to-day practice is multidimensional, which includes physiological and psychological aspects of care (Flagg, 2015; Frisch & Rabinowitsch, 2019; Kitson et al., 2014). In a pandemic, fundamental care to COVID-19 patients extends beyond roles, job description, or previous clinical expertise and experience. Nurses have to utilize their skills not only in providing treatment and practicing effective infection control measures but also in providing reassurance to patients, which means identifying patients and families who are getting depressed and with poor coping strategies. The need for these skill sets, which are common within the specialized practice of mental health nurses, has posed challenges to those who were untrained and lacked the expertise (Arnold & Mitchell, 2008; Fisher et al., 2008; Kerrison & Chapman, 2007; Mackie et al., 2018). The majority of registered nurses and health care professionals deployed in past outbreaks like SARS and MERS have acute and emergency nursing backgrounds, but had little to do with mental health issues in patients (Lung et al., 2009; Wu et al., 2009). From this cohort of Chinese nurses, it may be noted that the nursing education system in mainland China was historically preparing nurses to be generalist care providers with limited to no exposure to specialty nursing areas. The Chinese nursing education curriculum is highly biomedicalized and a comprehensive nursing education

framework was only implemented and introduced in the early 2000s (Xu et al., 2000). Our study has highlighted the need for self-coping strategies for nurses themselves and for more training on patient psychological care during the pandemic crisis.

5.2 | Teamwork and reciprocity

Teamwork is one known attribute in previous nursing studies, which resulted in positive client health outcomes as well as a high level of nurses' job satisfaction (Baik & Zierler, 2019; Dilig-Ruiz et al., 2018; Kalisch et al., 2010). Teamwork has been examined as effectively occurring at an organization or unit levels among nurses, particularly in clinical settings where nurses are exposed to high work pressures and busy demands (Baik & Zierler, 2019). Nursing teamwork in a pandemic is rarely explored (Mayo, 2020). Our findings did not capture specific examples of how teamwork occurred, but instead teamwork was identified within the context of the peer support and optimism among nurses. In this study, five participants were volunteer nurses from other hospitals. These nurses may perceive the work environment differently, which may have influenced the whole notion of teamwork. However, judging from the results of our interviews, the participants' feedback about the teamwork was positive, and these external volunteers come from other hospitals in the same city, so the hospital environment is not much different. Current and previous practice guidelines written for nurses and other health care professionals in the management of a public health crisis have incorporated a teamwork approach (Ciemins et al., 2016; Engum & Jeffries, 2012). For example, in one report infection protocols and procedures were outlined targeting a team-based utility among nurses and members of the health care team (Rosen et al., 2018). Teamwork in crisis management might need to locate and further expand the basis for emotional support and morale boosting among team members using a simple and meaningful approach.

The value of positivity in interactions was not only noted among nurses' working relationship during the pandemic but also with the patients' display of reciprocal concern to nurses. In different settings, nurses and health care professionals have previously experienced significant tension and pressure coming from clients and families, which resulted in undesirable outcomes for both parties (Cohen & Sarter, 1992; Davidson, 2010; Hopia et al., 2005).

While nurses' reflections on certain events are highly dependent on individual cultural backgrounds, educational preparation, and core values (Ma et al., 2011; Pappa et al., 2020), their collective experience revealed a balancing act between their personal health concerns while performing their duties during the time of the pandemic. Nurses' health and well-being have been tested in the time of the COVID-19 pandemic in a manner similar to accounts of nurses during the SARS outbreak and previous epidemics (Lung et al., 2009). Globally, at the time of this writing, more serious concerns are evident and experienced by nurses, some which have unfortunately led to nurse mortality (Nyatanga, 2020; Xiang et al., 2020). Strengthening nurses' resilience and mental health are issues that have been noted in the literature (Lung et al., 2009). However, resiliency studies have not

considered crises such as potentially long-term pandemics with an increased likelihood of personal protective equipment shortage. The nurses in this study were confident enough to volunteer anticipating the risks, however not all of them had the educational preparation suited for the pandemic response, which might have impacted how they have physically and psychologically coped with the pandemic. Globally, theoretical integration of pandemic response within the nursing curriculum is limited if not almost non-existent. The current pandemic experience will help inform future programs to better prepare nurses for public health crises scenario on either a local or global scale.

5.3 | Limitations

This study was limited to the views of the nurses who agreed to be interviewed and were willing to share their experience about the COVID-19 outbreak. It was understandable that collecting and gathering information immediately after the pandemic might not be suitable for other nurses who could have provided their stories and experience of the COVID-19 pandemic. Despite the limited sample size, a balanced perspective was collected in this current study with nurses and nurse managers sharing their views and experiences. Future qualitative exploration of nurse's experiences in providing care to patients affected by COVID-19 may need to further consider nurses' roles in managing the unintended consequences occurring during a pandemic.

6 | CONCLUSION

Nurses being in the front-line of care during the COVID-19 pandemic could contribute important insights from their hands-on experience towards a holistic response to an infectious outbreak like COVID-19. The concerns nurses raised at both personal and professional levels have implications for nursing education and clinical practice settings, particularly in a time of pandemic, which means nurses' well-being and preparation to be able to provide care to patients with confidence needs attention. Our findings also highlighted the importance for hospital policies and nursing management to be prepared for a pandemic and to adhere to flexible work planning systems and approaches (i.e. rooster and skills mix) that can change rapidly.

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AUTHOR CONTRIBUTIONS

Study design: Mu-Hsing Ho, Hui-Chen (Rita) Chang. **Data collection:** Wei Qing Zhang, Fang Yuan. **Data analysis:** Jed Montayre, Hui-Chen

(Rita) Chang. **Manuscript writing:** Mu-Hsing Ho, Jed Montayre, Hui-Chen (Rita) Chang.

RELEVANCE FOR CLINICAL PRACTICE

Nurses' experience of pandemic-specific challenges in providing care to clients and families affected with COVID-19 will help inform clinical policies and protocols in managing pandemics. Nursing teamwork in pandemic management might need to identify and further expand bases of emotional support and morale boosting among team members.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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