


## ORIGINAL ARTICLE

# The experiences of frontline nurses in Wuhan: A qualitative analysis of nurse online diaries during the COVID-19 pandemic

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## Abstract

**Aims and objective:** To explore the experiences of frontline nurses through analyzing nurse online diaries during the pandemic.

**Background:** Over 42,600 healthcare professionals took care of patients with COVID-19 in Wuhan in the initial months between 23 January 2020 and 8 April 2020. Many used to write online diaries on Sina Microblog and still wrote about their experiences in the front line on this site. However, there has been little research on frontline nurses' experiences in the initial months of the pandemic through analyzing their narratives.

**Design:** A qualitative descriptive design.

**Methods:** A qualitative content analysis was used to analyze online diaries written by frontline nurses in Wuhan. A total of 205 entries in online diaries were collected from 12 frontline nurses, as accessible to those who subscribed to Sina Microblog social media site, between 23 January 2020 and 8 April 2020. NVivo12 was used to help analyze the data, and COREQ reporting guidelines were also used in this study.

**Results:** Two themes were identified: constructing a better self and constructing a strong support network. A better self was constructed in describing positive emotions, commitment to care, pride and achievements, and whole-person growth. A strong support network was constructed through social support via different sources and gaining self-support via narrating their personal experiences in diaries.

**Conclusions:** Frontline nurses demonstrated personal growth, psychological well-being, and professionalism in the process of constructing a better self and a strong support network.

**Relevance to clinical practice:** The findings indicate that frontline nurses can use narratives as debriefing opportunities and a way of gaining self-support. We suggest that online communities of professional support be used as an essential platform for sharing narratives and gaining a more comprehensive understanding of frontline nurses in the COVID-19 pandemic and other global public health events.

## KEYWORDS

a better self, COVID-19, frontline nurses, online diaries, support network

## 1 | INTRODUCTION

After the outbreak of the coronavirus disease (COVID-19) in 2019, Wuhan entered a lockdown on 23 January 2020. Over 42,600 healthcare professionals participated in managing the care of patients during the pandemic in Wuhan and other parts of Hubei province (e.g., Mo et al., 2020; Xu et al., 2021). Healthcare workers took a heavy responsibility for taking care of COVID-19 patients and provided frontline services soon after the outbreak of COVID-19 (e.g., Mo et al., 2020; Smith & Ng, 2020; Song & McDonald, 2021; Turale et al., 2020). Nurses played an important role in the team of healthcare professionals and took the lead in managing the care of patients during the pandemic (e.g., Abuhammad et al., 2020; Xu et al., 2021). They showed their commitment and compassion in the front line of local Wuhan pandemic hospitals or Fangcang shelter hospitals (temporary hospitals rapidly built by converting existing public venues into healthcare facilities) to ensure the health and safety of patients and provide emotional support for patients (e.g., Mo et al., 2020). They were exposed to daily work challenges and put their own lives at risk during the pandemic in Wuhan. They cared for patients, worked with long hours, witnessed suffering and death of patients, felt frustrated, and tried to adjust themselves to the high-stress work environment in the front line. Nurses were physically exhausted and faced with high levels of psychological pressure, depression, anxiety, and fear (e.g., Mosheva et al., 2020; Ning et al., 2020). Nurses had poor sleep quality (e.g., Miguel-Puga et al., 2020), and some had sleep difficulties and depended much on the use of sedatives. Among the nurses working in the critical care units in Wuhan, a relatively large proportion of nurses have received specialized training to care for critically ill patients. Some had the habit of writing diaries and wrote about themselves on web-based tools, such as Sina Microblog or WeChat, to note down their personal daily experiences, interact with other bloggers or users, and vent their emotions. Many wrote about their experiences on Sina Microblog to express their feelings of encouragement when patients recovered and were discharged from the hospitals. They also described other feelings, such as the fear of getting affected, psychological stress, anxiety, grief, and loneliness especially when witnessing the death of patients. After the pandemic, nurses still have psychological symptoms resulting from the prolonged pandemic (e.g., Liang et al., 2020; Lusher et al., 2020). Existing research has primarily investigated nurse diaries in the form of daily activity diaries, ICU diaries, and reflective diaries in clinical settings in recent years. Although some studies have explored nurses' experiences through interviews or questionnaires after they came back from the front line, fewer studies have investigated the lived experiences of frontline nurses through their own narratives. Against this backdrop, this study aimed to describe the experiences of frontline nurses through analyzing their narratives in the form of diaries during lockdown in Wuhan.

### What does this paper contribute to the wider global clinical community?

- This study provides insights into frontline nurses' experiences of managing the care of patients during the pandemic.
- Narratives are important debriefing opportunities for frontline nurses to express themselves and relieve their work stress, and they are also ways of gaining self-support in the ongoing international public health emergency.
- Online communities of professional support can be used as an essential platform for sharing narratives and gaining a more comprehensive understanding of frontline nurses.

## 2 | BACKGROUND

### 2.1 | Studies on nurse diaries

Diary refers to "a document created by an individual who has maintained a regular, personal and contemporaneous record" (Alaszewski, 2006, p. 1). A diary can be used to record "events, experiences, thoughts, and feelings" (Alexander et al., 2016, p. 19) and daily life (Polit & Beck, 2010).

Existing research on diaries has mainly used daily activity diaries (e.g., Oddsdóttir & Sveinsdóttir, 2011; Sveinsdóttir et al., 2018) and clinic diaries (e.g., Hoeve et al., 2018; Johansson et al., 2019; Munyewende & Rispel, 2014) to explore the work-related experiences in clinical settings, and also has investigated the use of reflective diaries in nurse education (e.g., Hwang et al., 2018; Smith, 2021).

This line of research was centered on the use of diaries among nurses. It has been shown that writing diaries was cathartic for nurses (Munyewende & Rispel, 2014). Using diaries can offer a better understanding of nurses (Hoeve et al., 2018). Nursing dairies can help trainers understand nurses and develop nursing students' clinical judgement skills (Smith, 2021), and the process of writing about their emotions in diaries has healing effects (e.g., Glass et al., 2019). For example, Sveinsdóttir et al. (2018) analyzed nurses' daily activity diaries to describe the work activities of nurse managers in Iceland. Hoeve et al. (2018) used novice nurse diaries in a clinical setting to explore their experiences in the Netherlands. Hwang et al. (2018) used critical reflective journals written by senior nursing students to explore the common types of events that were used to reflect upon in the journals and assess their evaluations of the reflective journals.

### 2.2 | Studies on nurse online diaries

Online diaries or journals are termed as blogs (Papastavrou et al., 2016). Blogs are used to record personal experiences and interact

with others. A well-organized blog can attract a large readership. Blogs comprise of different types, such as corporate blogs, education blogs, and personal blogs. Personal blogs “offer insights into everyday living experiences” (Eastham, 2011, p. 353). Nurses write their personal experiences on the blog websites and participate in the online community (e.g., Castro & Andrews, 2018; Kung & Oh, 2014). Recent studies on nurse online diaries have mainly investigated the lives of nurses (e.g., Castro & Andrews, 2018) and the functions of nurse online diaries in nurse education (e.g., Abuhammad et al., 2020; Papastavrou et al., 2016). These studies highlighted the salient role of nurse online diaries, which is a way of gaining a deeper understanding of their work, life, and study. For example, Castro and Andrews (2018) conducted a thematic qualitative analysis of the work-life narratives written by four anonymous online bloggers. The study identified three themes, i.e., they cared about their work, they felt stressed and burned out, and they had frustration. This study was the first attempt to explore the values of using anonymous nursing blogs to analyze their work-life experiences. Papastavrou et al. (2016) explored the use of blogs as learning journals among 24 nursing students in a qualitative descriptive study. This study identified the main categories of using blog posts and peer comments and indicated that blogs can be used as learning spaces in short courses for nursing students. Abuhammad et al. (2020) evaluated the posts about nurse role published by local Jordanian Facebook nursing groups using content analysis. Three themes relating to Jordanian nurses' perceptions emerged: Jordanian nurses during the pandemic performed constructive roles and supported patients and their families, but their roles were ignored and underestimated by the media compared with other healthcare professionals in the front line.

### 2.3 | Studies on nurses' experiences

Nurses' experiences through pandemic response have been investigated in epidemics, such as the SARS, Ebola, and COVID-19 (e.g., Abuhammad et al., 2020; Briand et al., 2014; Miguel-Puga et al., 2020; Mo et al., 2020). During an infectious outbreak, nurses were exposed to the virus, had heavy work stress, and suffered negative emotions. The negative emotional states included anxiety, depression, sleep disruption, burnout, emotional exhaustion, etc. Previous research has discussed the negative impacts of epidemics (e.g., Briand et al., 2014; Mo et al., 2020) and the correlations between different negative psychological states and the precarious work environment, work stress, and other influencing factors brought by an international health emergency in different countries, such as China, Italy, Spain, and America (e.g., Luceño-Moreno et al., 2020; Mo et al., 2020; Shechter et al., 2020; Yurtseven & Arslan, 2021). For example, Mo et al. (2020) conducted a cross-sectional survey to investigate the work stress of frontline nurses and reported that nurses working in the front line in Wuhan were generally under pressure. Yurtseven and Arslan (2021) explored the anxiety levels of 270 nurses during the COVID-19 pandemic by using a questionnaire and a State

Anxiety Inventory. The study found that nurses had high anxiety levels during the COVID-19 pandemic. The line of research has mainly used quantitative research methods to investigate nurses' experiences in different epidemics.

Previous studies have offered valuable insights into the understanding of nurses' experiences through using diaries, questionnaires, and inventories in different contexts, but little has been known about what frontline nurses wrote about themselves in the form of narratives during lockdown in Wuhan. This study aimed to explore the experiences of frontline nurses, who managed the care of patients in Wuhan by analyzing their online diaries on Sina Microblog and using a qualitative content analysis.

## 3 | RESEARCH METHOD

### 3.1 | Design

This study adopted a qualitative descriptive approach (Neergaard et al., 2009; Sandelowski, 2010) to understand frontline nurses' experiences in managing the care of patients during the pandemic. This approach has the advantage of exploring the breadth of human experience and facilitates a deeper understanding of human experience (Tong et al., 2007). An inductive content analysis has the advantage of observing and clarifying both experiences and particular instances from the data. The report follows the Consolidated Criteria for Reporting Qualitative Research, consisting of 32 items (Supplementary File 1).

### 3.2 | Sample

The nurses were selected first through randomized sampling via surfing the Sina Microblog site, and then through purposeful sampling—a commonly-used sampling strategy for blog diary research. We surfed the Microblog site, selected 40 nurses, and then selected diary entries with similar length and within the same time span. The inclusion criteria were: (1) written by certified frontline nurses working in Wuhan pandemic hospitals or Fangcang shelter hospitals; (2) written 10 to 39 entries (an average of 17 entries); (3) written with similar length; and (4) written between 23 January 2020 and 8 April 2020.

Twelve nurses and a total of 205 diary entries were selected. The nurses were from hospitals of different provinces in China, and pseudonyms, such as Lili, Honghong, and Yingying, were used. After voluntarily signing up for the fight, they were assigned to different wards in Wuhan pandemic hospitals or Fangcang shelter hospitals. They worked on a 6-hour shift as required by the hospitals. They kept the habit of writing online diaries before going to Wuhan. After enrolling in managing the care of patients in Wuhan, they worried about the health of their family members, had physical and psychological exhaustion, and used Sina Microblog to write about their personal experiences and interact with other bloggers.

### 3.3 | Data collection

Data were collected from one of the most active social media sites—Sina Microblog (Sina Weibo in Chinese pinyin) in China. Sina Microblog users are from every walk of life and are required to submit personal details in order to be officially certified. The personal details include proof of employment, personal identification, professional certification, etc. A certified identity is characterized by a letter V after the username, which ensures trustworthiness and may offer bloggers a larger viewer list and fan list. Bloggers can write about their personal experiences, interests, etc. Nurses constitute a relatively large proportion of the users, and they use Microblog as an important medium to record their personal experiences and interact with other blog users. The present study only selected diaries written by nurses with a certified identity from the blog site. Based on Castro and Andrews' (2018) study, the study collected data in three steps: (1) choose Sina Microblog, one of the most active social media platforms in China; (2) use diaries written by certified frontline nurses working in Wuhan pandemic hospitals or Fangcang shelter hospitals, who shared their narratives publicly, had a comparatively large readership, and wrote about ongoing experiences in Wuhan between January 2020 and April 2020; and (3) use randomized and purposeful samplings to select 12 frontline nurses and a total of 205 diary entries. The length of entries totaled about 80,000 Chinese characters.

### 3.4 | Ethical considerations

After the consultation with the Research Ethics Board of the university, publicly accessible data research is exempted from their review. The selected blog diaries from a public social media site (Sina Microblog) are freely accessible and non-identifiable on the internet, and they are written for public online discussion. Online diaries are unsolicited narratives, and the selected diaries were not password protected. They were also publicly available to other bloggers. In this sense, the online diaries did not require informed consent from the authors, and ethical approval was not necessary for research (Åsenhed et al., 2014; Eastham, 2011; Thomas et al., 2018; Wilson et al., 2015). Pseudonyms were used instead of diary authors' real names or online pennames to ensure confidentiality of the nurses.

### 3.5 | Data analysis

The data were analyzed using qualitative content analysis proposed by Graneheim and Lundman (2004) and the qualitative research software NVivo12. We followed the coding scheme: (1) meaning units were developed, condensed, and abstracted into codes and categories; (2) the authors reviewed the codes and categories and had regular meetings to refine and develop the categories; and (3) a total of 591 meaning units and 6 categories were extracted, after

which the authors interpreted the meanings of all categories and identified two themes: constructing a better self and constructing a strong support network. We coded the data by copying all selected entries in Doc files into NVivo12.

### 3.6 | Rigor of the study

To ensure the trustworthiness and rigor, the study followed the criteria of credibility, transferability, dependability, and confirmability in qualitative analysis (Lincoln & Guba, 1985). An appropriate data collection method of frontline nurse diaries was used to ensure data credibility. Reading the diaries multiple times, discussion, and prolonged immersion with the data ensured the credibility of the study results. Transferability was enhanced by a description of the context, sampling, data collection, coding, and formulating categories and themes. Dependability was supported by giving a detailed description of data analysis and the research basis from which the data were analyzed. Confirmability was established by both independently coding the diaries by the first two authors and regular meetings to discuss preliminary findings, emerging codes and categories, and two themes. In order to establish the inter-rater reliability, the study followed four steps: (1) the first two authors studied the data together; (2) the first two authors coded 25% of the data separately; (3) Cohen's Kappa was calculated; and (4) an inter-rater reliability was 0.87. Differences or discrepancies were resolved through bringing in the third author to help make a final decision.

## 4 | RESULTS

The study explored the experiences of the frontline nurses who managed the care of patients during the pandemic in Wuhan, and two themes emerged: constructing a better self and constructing a strong support network. Frontline nurses constructed themselves as persistent and responsible nurses in managing the care of patients during the pandemic in the initial months in Wuhan. They used their professional expertise to care for patients and wrote about their personal experiences in their narratives. The narratives were of real-life personal experiences and first-hand materials and may facilitate the understanding of frontline nurses during the pandemic.

### 4.1 | Constructing a better self

All nurses expressed positive emotions and commitment to care during the pandemic and constructed a new version of self. Sina Microblog was used by the nurses to describe their personal experiences of managing the care of patients during pandemic. This theme is composed of four categories: expressing positive emotions, describing commitment to care, expressing pride and achievements, and reflecting personal growth.

#### 4.1.1 | Expressing positive emotions

All nurses wrote about the moments of positive emotions in the front line. Their feelings were varied and changed with time passing, but were generally positive. A nurse narrated how she gained positive emotions on the first day:

It's a vastly busy and significant day. Now I am on my way back to the hotel. Today 39 more patients were received, and the oldest one was over 90. This is the first time for me to wear the protective clothing to work, and I was not as calm as I used to think. To be frank, I was a bit nervous. But I also find today rewarding when I talked with one of the patients. She gave me very positive and encouraging feedback and thumbed up for my performance. All the fatigue and nervousness seemed to be gone, and I can live with my feelings now. (Lili)

Nurses tried to control emotions by writing about their experiences and depicted their more positive feelings after getting more used to the work environment and working a long time. This nurse described her feelings after working 40 days in Wuhan:

How time flies. It has been 40 days since I came to Wuhan. Walking on the empty street of the city, I was deeply absorbed in thinking. At the beginning, I felt quite anxious and terribly worried, but now I get used to it. I have encountered every conceivable kind of difficulties, experienced different types of feelings, and done heavy loads of work. When I recall what happened in the past 40 days, I am sure that all these efforts will get rewarded. (Honghong)

It is noteworthy that frontline nurses generally described their positive emotions in the process of caring for patients during pandemic in the online diaries.

#### 4.1.2 | Describing commitment to care

Nurses described their commitment to care through writing about their strong sense of responsibility and hope that both patients and the country will succeed in the battle against the virus. In terms of responsibility, they wrote that "I am a nurse, and I am very confident when I step into the ward of Fangcang shelter hospital" (Lili), and "I believe the winter will go away, and the spring will come soon" (Honghong). The responsibility for taking care of patients and serving the country motivated them to adhere to the professional duties:

In history, there was Fa Mulan who dressed herself as a man, took her father's place, and fought bravely in the war to save her country. Now being a nurse, I

follow Mulan's model and have my long hair cut first. I feel obliged to prove to be worthy of the name of a nurse. I should take my responsibility as a nurse. (Xinxin)

I think when I worked in the ward wearing the protective clothing and a mask, I should try my best to take good care of patients. I have chosen this career, and I should devote myself to the work and take the responsibility. (Minmin)

Many nurses quoted others to express their viewpoints and wrote about how their choice of the profession gave them opportunities to manage the care of patients in the front line:

I was a little girl when SARS took place in 2003. I remember that I wrote four Chinese characters "Zhongzhi Chengcheng (Unity is strength.)" in my diary. I could not understand what these four characters really meant at that time. Now I have been working as a nurse for more than 5 years. It's fortunate for me to choose nursing as my job. I also feel honored to have this opportunity to work in the front line, joining in the great work of protecting the citizens, the city, and the country. (Lili)

The respiratory expert Nanshan Zhong once said that practice in Medicine may not be your first choice, but you have to contribute yourself to the cause with loyalty and enthusiasm once you choose it. Being a nurse is the same with me. (Honghong)

A colleague asked me whether I was scared when I chose to come to Wuhan. I told him that I was scared, and I am still scared now. But as a nurse, I need to shoulder all my responsibility. We were united as one in 2003 when SARS took place, in 2008 when earthquake hit Wenchuan, and now when COVID-19 is threatening our life. I am proud of my country as well as myself. I am proud of being one of frontline nurses, a member of Chinese healthcare workforce. I saw many new faces with the same mission. At that time, I knew that it was the same cause that brought us here together. (Yueyue)

The commitment to care gave nurses hope in continuing their work, and this kind of hope benefited patients and other people who did not have frontline nursing experiences, as narrated by one of the nurses:

We are trying our best to take good care of patients although we are also scared of being affected. I am confident that we can bring hope to patients and people who are locked down at home and want to know

what is happening here. I believe that all the efforts are rewarded! (Xi Xia)

Their commitment was strengthened when seeing the looks of patients and the busy healthcare professionals wearing protective clothing and masks:

When I saw the patients with eager eyes and the healthcare professionals with a great sense of responsibility, I think I have made the right decision to take part in managing the care of patients. We are greatly touched and feel proud to be regarded as “counter-march people” (those who go to Wuhan to manage the care of patients in the initial months during the pandemic). I think that firm belief and confidence are better valued than gold. I am one of the warriors in the battle against the disease now, and I will shoulder my responsibility. (Xinxin)

#### 4.1.3 | Expressing pride and achievements

The nurses expressed the sense of pride and achievements when witnessing the recovery of patients and receiving patients' positive feedback. The pride motivated them to spirit up and continue managing the care of patients during the pandemic, as illustrated by nurses:

Working in the front line will be my most important life experience. This will be a precious gift in my whole life. I believe that things will work out. Today, I was awarded as a model nurse from the Wuhan government and received a letter showing the government's gratitude to me. I was really excited. I am proud of myself as one of the 42,000 healthcare workforce in China. (Yueyue)

This is the highlight moment of my life...We are racing with the pandemic as a young nurse, with our time, effort, courage, knowledge, and maybe life. We made the most of every minute and second to take care of the patients. I am proud of doing all my job. (Xinxin)

The achievements of working as a nurse enhanced their confidence in work despite the hardships and distress. The sense of achievement mainly came from the positive feedback of patients. Their written narratives were supplemented with photos of patients, who recovered and became friends of the nurses. Nurses narrated that “Half-a-month treatment was finally rewarded by the recovery of patients” (Lili), “I am really happy today because five patients in the ward were discharged from the hospitals” (Honghong). Patients' feedback, such as “You are my dear friend” (Liangliang) created a sense of achievement for nurses. This sense of achievement further motivated them to have a more positive

attitude towards taking care of patients and helped them gain more positive feedback, which may push them to work harder in the future.

#### 4.1.4 | Reflecting personal growth

Nurses experienced constant changes and challenges in the front line, had physical and psychological distress, and concerned about their family members. In spite of all the hardships, they showed their commitment to care, had sense of pride and achievements, and found a new self. The personal growth was demonstrated by a more positive attitude towards life and more empathy towards patients and work. For instance, “With all the sunshine in my heart, I believe we will conquer all the difficulties and succeed in the battle” (Honghong) and “Life will become much better with more encouragements, confidence, and expectations. I am confident that I will make it” (Meimei).

In addition to the positive attitude as a nurse, they communicated, maintained, and enhanced their empathy towards patients by understanding, connecting with, and conveying their feelings to patients. This can be illustrated by the cases of Lili and Xinxin. They expressed that “As a matter of fact, I really treated the patients as my family members” (Lili) while “No matter how difficult the communication between the patients is, I believe there is a way out there. We are a ‘family’” (Xinxin). The moderating role of empathy had strong positive effects on patients, in which patients were more willing to accept treatment and were full of confidence to accept what the nurses conveyed to them.

Nurses became a better self after experiencing the frontline services and the pandemic:

I came to Wuhan on 3 February 2020. I made this decision because I wanted to become a better self, and I wanted to care for patients. I believe that I would work harder if time could go back to 2020 without COVID-19 pandemic. Please treasure the present life and make every day count. (Xinxin)

### 4.2 | Constructing a strong support network

Nurses established a strong support network with both external and internal resources. They gained external support from patients, colleagues, family members, friends, significant others, and the social media while gaining self-support via narrating their own experiences on Sina Microblog. The dual effects of both social support and self-support facilitated a positive attitude and a deeper understanding of their commitment and themselves.

#### 4.2.1 | Social support via different sources

Nurses attributed the highest support to patients among the different social support resources. They wrote about how patients'

positive feedback influenced their feelings and highlighted the values of patients' recovery to their work. The feedback from patients included positive remarks (encouragement and praise), facial expressions (smile), body gestures (thumbing up and clapping hands), etc. Nurses expressed how they were moved by the patients' feedback in their narratives:

I raised my head up and saw a patient. She clasped her hands together to express her gratitude, tears rolling in her eyes. She said "Thank you for coming to Wuhan to save us and take care of us. I really appreciate for what you have done to save my life". At that time, I gained strong support from the patient's words. (Liangliang).

A patient was moved when she saw our names on the back of the protective clothing. She said that she wanted to give us a hug. She wanted to know how we look like... She invited us to visit Wuhan. I am touched by all her remarks, her smiles, and her recovery. I got much power from her words. (Yueyue)

Encouragements from colleagues were critically essential because they were in the same pandemic hospital, experienced the same hardships, and became supportive colleagues. Encouragement from colleagues strengthened their responsibility in work and gave emotional release, as demonstrated by nurses "We are courageous nurses. We are united to fight against the virus" (Honghong) and "I would like to express my heartfelt thanks to my colleagues, who gave me chances to make progress and become a better self" (Nana)

Support from family members enhanced their resilience and may have a buffering effect on nurses in adversity.

My mother and my aunt are the two who gave me the most encouragement and concerns in my family. Even before I decided to come to Wuhan, my mother told me to try my best to care for patients and take care of myself. In order to encourage me to go to Wuhan, she said in a joking way that she can look after herself and has stored enough food for half a year. (Nana)

Other encouraging remarks, such as "The encouragements from my Dad and Mum are the driving force for my daily work" (Meimei) and "I would like to express my sincere thanks to my family members, especially my husband and children" (Yueyue) also confirmed the positive influences of family support.

Support from friends facilitated them in facing up with the mixed emotions and fighting against the pandemic. The admiration from friends strengthened their confidence in completing the difficult task. They wrote that "The encouragements from all my friends gave me energy and confidence" (Honghong) and "I

really want to thank my friends who have been encouraging me all the time" (Yueyue)

Support from significant others promoted them to work despite the hardships as "When I noticed other bloggers share my online diaries with others, I did feel greatly moved" (Honghong). These expressions indicated that support from friends and significant others facilitated their stress-coping in gaining positive feelings while working in the front line.

It is important to note that support from TV and social media had positive influences on frontline nurses too. They appreciated what TV and social media have done for them, which encouraged them to be more committed to their work:

TV and social media have done quite a lot to report our deeds. Our roles are being appreciated by more and more people. When I watched TV programs or read news online, I became more inspired and encouraged. News reporting our nurses' work and deeds motivated me to carry on. (Honghong)

#### 4.2.2 | Gaining self-support via narrating their own experiences

Nurses regarded narrating their personal experiences as debriefing opportunities and a way of gaining self-support. They narrated their personal stories before, during, and after the outbreak of the COVID-19 pandemic, indicating that writing diaries was a way for them to vent their emotions and release their pressure. One nurse gave details about how she used online diaries as a way to vent her emotions:

Using Sina Microblog to record my frontline service experiences during lockdown was a kind of meaningful thing and encouragement to myself. It is one of the means to vent my mixed feelings. I also want to share my experiences with everyone who reads my blogs. As a nurse working in the front line, I can understand the huge pain patients had. Everyone was anxious and upset, including us. I even dreamed of fighting against the virus last night...I use online diaries to show my positive strength. (Honghong)

Nurses also used online diaries as a way of recording their daily life and coping with physical and psychological exhaustion. The following examples illustrated how they used diaries during their frontline services:

Today is sunny, and it is the 6th day of my coming to Wuhan. I used Sina Microblog to record the routine life. It can help me better recall what has happened in Wuhan when the fight comes to an end. (Yueyue)

After taking a bath and drinking my favorite tea, I typed what was in my mind on my blog. This calmed me and aimed me in a new and satisfying direction. I hope that COVID-19 will soon be under control. Finishing writing my diaries helps me have a better quality of sleep. (Linlin)

Today I had my hair cut, and now my hair became very short. I have found a new way of coping stress, which is writing. Writing not only helps me vent my negative emotions but also offers me a way of reflecting on my work and experience. Writing purifies my soul and improves my character. (Jingjing)

## 5 | DISCUSSION

The outbreak of the COVID-19 pandemic has great impacts on healthcare professionals providing frontline services in Wuhan. Nurses played an important role in the services and were confronted with both physical and psychological stress. A qualitative content analysis of 12 nurses' online diaries showed that writing online diaries facilitated the construction of a better self and a strong support network.

Nurses take a heavy responsibility for providing frontline services as an important part of the health workforce during lockdown in Wuhan (Song & McDonald, 2021). Encountering the experiences offered opportunities of showing commitment to care, taking pride in being a nurse, and making achievements as nurses working in the front. All the experiences enhanced personal growth and facilitated the construction of a new self. This better self was characterized by more confidence, optimism, and adaptation ability. The findings in terms of personal growth among nurses corroborate previous studies (e.g., Goh et al., 2021). Although nurses experienced some negative emotions in the front line and also expressed these emotions in their diaries, which are in line with recent studies (e.g., Labrague & De los Santos, 2020; Luceño-Moreno et al., 2020; Mo et al., 2020; Zhan et al., 2020), they discharged these negative emotions and expressed more positive emotions through interacting with patients, colleagues, friends, and significant others and narrating their own experiences via blog diaries. The findings also strengthened the functions of writing diaries during the pandemic, which resonate with previous studies focusing on the role of narratives (e.g., Lopez et al., 2018; Thomas & Revell, 2016).

Nurses in this study showed strong commitment to care all through their work. They encountered difficulties and had worries about the stressful work environment. However, the social support and psychological self-help facilitated an improvement in building up their confidence and embracing stronger commitment. This can be explained by nurses' protective attribute—nurse resilience (Cusack et al., 2016; Rushton et al., 2015). Their resilience can vary across different context and time (Atkinson et al., 2009) while social

support allowed nurses to focus on their own strong beliefs (Hart et al., 2014). As demonstrated in the study of Abuhammad et al. (2020), the nurses perceived themselves to “have an affirmative responsibility” (p. 4). The findings indicate that nurses adjust themselves to the work environment and overcome adversity. Moreover, the voluntary participation in the front line demonstrated their strong sense of professionalism, and their passion in the frontline further demonstrated their professionalism, which did not diminish but actually improved.

Nurses in this study wrote a lot about their pride and achievements in their diaries. The findings expand on Castro and Andrews' (2018) study. Castro and Andrews (2018) explored the work-life narratives written by four nurses in 2015 and reported that “nurses care about and are proud of nursing their patients” (p. 335). Our study added more evidence to nursing research and found that volunteer nurses used to take pride in the work but took more pride in the volunteer nursing work in the stressful work environment in Wuhan pandemic hospitals or Fangcang shelter hospitals. One possible explanation for this might be that frontline nurses were trained registered nurses with high professional practice. They had stronger sense of commitment to care during lockdown in Wuhan, as they shouldered responsibility for caring for the patients, and lived up to the expectations of the whole nation. The stressful environment and COVID-19 may both give nurses constant reflections on their experiences and might lead to personal growth, such as finding sense of pride and achievement in the process of working.

A better self was constructed after they completed the tasks with going through all the experiences. Their personal experiences as frontline nurses, helped the recovery of post-traumatic growth, both cognitively and emotionally. Their growth fit into the dimensions of post-traumatic growth proposed by Tedeschi and Calhoun (1996). Our study found that the nurses perceived changes in themselves (i.e., becoming more confident and empathetic) and in life philosophy (i.e., finding the values of their profession and meaning in life and a greater appreciation for life). This kind of growth was demonstrated by the narratives of personal experiences and further motivated them to better manage the care of patients during the pandemic.

The second theme was the strong support network that was constructed, comprising both social support via different sources, such as patients, colleagues, family members, friends, significant others, and the social media site, and psychological self-support via narrating their own experiences on Sina Microblog. The findings of social support corroborate recent studies (e.g., Goh et al., 2021; Song & McDonald, 2021), which examined the nurses' experiences working in a university health system in Singapore and in New Zealand respectively. We also found that external social support helped reduce the stress, anxiety, and depression, and strengthened their confidence in managing the care of patients during the pandemic. Another interesting finding is that nurses used Sina Microblog as a platform to seek psychological self-help. These findings echo with previous studies (e.g., Gu, 2018; Munyewende & Risepele, 2014), which highlighted the important role of narratives. The process of narrating their own



experiences may facilitate changes in their self-concept. This finding is consistent with McLean et al. (2007) study. Diaries, as an important genre of narratives, played a useful role in getting nurses involved in self-reflection, through which they sought a kind of psychological self-help. To the nurses who wrote online diaries, writing diaries had healing effect. It helped nurses record the events and reconcile with themselves. Therefore, they had better coping strategies and can better work in a second day with passion although feeling exhausted. Also, they used photos to share with the other bloggers, provide more frontline information, and receive more social support dynamically. The positive interaction gave them more encouragements to continue their work. It is therefore suggested that writing diaries be adopted in getting a more comprehensive understanding of frontline nurses and their experiences from their narratives.

## 6 | CONCLUSION

This qualitative study has explored the experiences of frontline nurses during lockdown in Wuhan, China. As an important part of the healthcare professionals, frontline nurses have made great contributions to managing care of patients during the pandemic. Through analyzing their narratives, we found that frontline nurses confronted with changes and challenges, demonstrated personal growth, psychological well-being, and professionalism by using different sources of social support and writing diaries to seek psychological self-help. In this sense, it is important that frontline nurses continually use the debriefing opportunity to write their personal experiences and get social support after the frontline service.

## 7 | LIMITATIONS

This qualitative study has two limitations. The sample was limited to Chinese frontline nurses working in Wuhan rather than novice nurses, nursing students, and nurses taking care of patients in hospitals in other parts of China. Future research may investigate the lived experiences of novice nurses, nursing students, and nurses working in other parts of China during pandemic. Furthermore, the data were from nurses rather than other healthcare professionals. It is therefore suggested that online diaries written by other healthcare professionals be analyzed to give more understanding of this ongoing international crisis, which will be conducive to the post-traumatic recovery of healthcare professionals in the future.

## 8 | RELEVANCE TO CLINICAL PRACTICE

Frontline nurses play an important role in caring for the patients with COVID-19 in Wuhan. This study has contributed to the understanding of the experiences of frontline nurses through the qualitative analysis of their online diaries on Sina Microblog. Writing about the daily experiences helps frontline nurses foster healing. Our findings

give a picture of frontline nurses' experiences from their narratives, which suggests that nurses use narratives as debriefing opportunities and gaining self-support to help themselves through the ongoing international crisis.

Psychological support to help nurses recover is necessary during and after the pandemic. We suggest that online communities of professional support be used as an essential platform for sharing narratives and gaining a more comprehensive understanding of healthcare professionals, which may be conducive to the recovery of frontline nurses during the COVID-19 pandemic. The diaries are principally written to benefit the writer and readers, who may read on an intermittent/adhoc basis. A more formal and structured method would be recommended for such an important area of investigation.

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## CONFLICT OF INTEREST

We confirm that there is no conflict of interest.

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## SUPPORTING INFORMATION

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