The Real Experience and Management Strategies Analysis of Chinese Nurses Aiding COVID-19 Epidemic: A Qualitative Study

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Abstract

Objective: Emergent public health events, such as coronavirus disease 2019 (COVID-19), have been the focus of attention of researchers at home and abroad. In China, nurses are an important group contributing to the prevention and control of the COVID-19 pneumonia epidemic.

Methods: Using semi-structured interviews, qualitative interviews were conducted with 23 nurses who supported the novel coronavirus pneumonia epidemic, and the data were collated and analyzed using Colaizzi analysis.

Results: The work experience of Chinese nurses can be summarized into 4 major themes: they had different emotional experiences during aiding periods, aiding work had a double impact on the nurses, there were certain difficulties in aiding work, and there were significant age differences in aiding work experience.

Conclusions: It is necessary to strengthen the psychological construction of nurses. All hospitals must coordinate and manage various safety tasks, and ensure the precise, scientific, and streamlined deployment of rescue work. Humanized management, shift adjustment, performance allocation weight, and organizational care are also the top priorities of human resource management.

Since December 2019, pneumonia caused by coronavirus disease 2019 (COVID-19) infection has been discovered in Wuhan, Hubei, China, and throughout the country. At present, the National Center for Disease Control has included it in the category of national Class B infectious diseases and taken measures for the prevention and control of Class A infectious diseases. Guo Yanhong, supervisor of the Medical Administration of the National Health Commission, introduced at the press conference of the Joint Defense and Joint Control Mechanism of the State Council on February 29, 2020, that 42,000 elite medical forces were sent nationwide, including 28,600 nurses, which accounts for 68% of the total number of medical teams. Embodying the noble spirit of blessing life, saving lives, and the willingness to give and love without bounds, they have become the main force in the fight against the epidemic.

With the development of the epidemic, the number of diagnosed and suspected patients is increasing, and the workload and work pressure of clinical front-line nurses in the fight against the epidemic have also increased.1 Chairman Wu Xinjuan pointed out that nurses were faced with not only heavy workloads and great psychological pressure, but also the risk of being infected in intensive care unit (ventilator care, airway management, emotional management, basic care, disinfection and isolation prevention, kidney replacement therapy). Previous studies mostly used the form of scales to assess the psychological state of clinical front-line staff, and few used qualitative research methods to dig deeply into the work experience and emotional needs of nursing staff during the major public health event periods. This study takes the COVID-19 pneumonia epidemic as an example to discuss the work experience of clinical front-line nurses in depth.

Participants included nurses who supported the novel coronavirus pneumonia epidemic from January 22 to February 28, 2020. Inclusion criteria: age ≥18 y old; directly involved in clinical front-line work on epidemic rescue; obtained the nurse’s qualification certificate, volunteered and actively participated in the interview. Exclusion criteria: infection due to rescue work and there is a significant psychological stress disorder. A total of 23 nurses who worked in the epidemic were selected. A transcription analysis was also performed. Each participant was interviewed for approximately 30 min. Three people repeated the interview.

The interviews were based on the pre-set interview outline: Why did you choose to participate in COVID-19 epidemic? What are your psychological feelings in the process of participating in the treatment of COVID-19 epidemic? Or what kind of emotional experience? If
In this study, the participants were 23 nurses, including 15 females. Regarding educational level, 18 (78.26%) had a bachelor’s degree. In terms of marital status, 12 (52.17%) are unmarried and 11 (47.83%) were married. Regarding duties, 5 were head nurses and 18 were nurses (see Table 1). Finally, after reviewing the literature and expert opinions, they were merged into three 4-level coding themes. The following 3 themes were identified: (1) they had different emotional experiences during the aiding period, such as (a) shock and heartache, (b) fear and anxiety, (c) excitement. (2) Aiding work had a double impact on the nurses: (a) positive effects included self-improvement, such as it has greatly improved in management skills, first-aid prevention and control systems, coordination and communication, and professional skills, and satisfaction, such as nurses believed that the professional care can be understood by the patients and supported by the leaders. (b) Negative effects included low sense of achievement, such as nurses sometimes felt deep lost in the development of human health in today’s society, meeting the challenges, and truly become adherents of various crisis events, highlighting the importance of nurses. (3) There were certain difficulties in aiding work: (a) relatively insufficient medical resources, (b) uncertainty in the occurrence and development of the epidemic, and (c) significant age differences in aiding work experience. Young people have better pressure resistance, stronger perseverance, and a strong sense of responsibility than their predecessors. They want to help patients as much as possible to fight against death and the epidemic. The senior nurses pay more attention to infection prevention, scientific management, and first-aid skills.

Results

In this study, the participants were 23 nurses, including 15 females (65.22%) and 8 males (34.78%), with an average age of 31.48 ± 2.30 y. In terms of educational level, 18 (78.26%) had a bachelor’s degree and 5 (21.74%) had a master’s degree. Regarding marital status, 12 (52.17%) are unmarried and 11 (47.83%) were married. Regarding duties, 5 were head nurses and 18 were nurses (see Table 1).

Discussion

During the period of support for the epidemic in Hubei, the nursing work environment is special and the risk is high. Nurses not only face the risk of COVID-19 infection, but also need to make a strong psychological stress response in a short time. At the personal level, we first actively encourage nurses to enhance their personal psychological potential and regulate negative emotions. On the 1 hand, some psychological methods, such as mindfulness breathing exercises, establishing close links with family members, watching videos, listening to music, talking to colleagues, and looking for favorable support systems, can effectively alleviate the psychological burden of aiding nurses.

Implications for Nursing Management

The implications of this study fell into 3 areas: — clinical practice, policy, and future research. For clinical practice, during the epidemic prevention and control period, it is necessary to strengthen the psychological construction of nurses and pay attention to the psychological quality education of nurses. All hospitals must coordinate and manage various safety tasks, and ensure the precise, scientific, and streamlined deployment of rescue work. For policy, humanized management, shift adjustment, performance allocation weight, and organizational care are also the top priorities of human resource management for epidemic prevention and control. It is also necessary to cultivate young nurses who love the nursing industry to make them have a good sense of social responsibility. Future research can observe the trajectory of emotional changes...
before and during nurse assistance during the new coronavirus epidemic, and the related needs of managers and management strategies in nursing work. Second, scientific nursing human resource management strategies and psychological nursing intervention research are urgently needed.

**Author Contributions.** Linbo Li conceived the idea. Yongchao Hou and Suping Li performed the statistical analyses and wrote the first draft of the manuscript. Fengying Kang and Linbo Li played a major role in the field survey. All the authors have checked and approved the final manuscript. Conducted the interview: Fengying Kang. Conceptualization: Linbo Li, Fengying Kang. Data curation: Linbo Li, Yongchao Hou. Formal analysis: Suping Li. Investigation: Linbo Li, Yongchao Hou. Methodology: Linbo Li, Fengying Kang. Software: Juan Zhao. Writing, original draft: Linbo Li, Yongchao Hou. Writing, review & editing: Linbo Li, Fengying Kang.

**Ethical Standards.** Ethical approval was obtained from the First Hospital of Shanxi Medical University Ethics Committee (No. K-K018). The study did not use data from experimental animals and human tissues, and only aimed to real experience and emotional needs of Chinese nurses during the work for supporting of 2019 novel coronavirus pneumonia to provide more support and guarantee for nursing staff in the prevention and control of major public health incidents and accumulate experience. The study was consistent with the Helsinki Declaration. The participants were informed about the aims, objectives, and methods of the study and informed consent was taken. The voluntary nature of participation was ensured. All participants were able to withdraw from the study at any time without providing a reason. The transcribed interviews did not include any data identifying the participants. The collected data were kept in locked files, and only researchers had access to them. This study was conducive for nurses to fully express their feelings during night shift communication, and it did not cause any physical and psychological harm to the participants.

**Table 1. General information of the participants (n = 23)**

| No. | Age (y) | Gender | Marital Status | Fertility Status | Education | Title | Working Age | Position |
|-----|---------|--------|----------------|-----------------|-----------|-------|-------------|----------|
| 1   | 23      | Female | Unmarried      | Unbred          | Bachelor  | Nurse  | 1           | Nurse    |
| 2   | 24      | Male   | Unmarried      | Unbred          | Bachelor  | Nurse  | 1           | Nurse    |
| 3   | 25      | Male   | Unmarried      | Unbred          | Bachelor  | Nurse  | 1           | Nurse    |
| 4   | 26      | Male   | Unmarried      | Unbred          | Bachelor  | Nurse  | 1           | Nurse    |
| 5   | 26      | Male   | Unmarried      | Unbred          | Bachelor  | Nurse  | 1           | Nurse    |
| 6   | 29      | Female | Unmarried      | Unbred          | Master    | Nurse practitioner | 1 | Nurse    |
| 7   | 34      | Female | Married        | Bred            | Bachelor  | Nurse-in-charge | 9 | Nurse    |
| 8   | 35      | Female | Married        | Bred            | Bachelor  | Nurse-in-charge | 10 | Nurse manager |
| 9   | 36      | Female | Married        | Bred            | Bachelor  | Nurse-in-charge | 12 | Nurse    |
| 10  | 36      | Female | Married        | Bred            | Master    | Nurse-in-charge | 12 | Nurse manager |
| 11  | 41      | Female | Married        | Bred            | Bachelor  | Nurse-in-charge | 17 | Nurse    |
| 12  | 45      | Female | Married        | Bred            | Master    | Associate professor of nursing | 22 | Nurse    |
| 13  | 50      | Female | Married        | Bred            | Bachelor  | Associate professor of nursing | 30 | Duty    |
| 14  | 23      | Female | Unmarried      | Unbred          | Bachelor  | Nurse  | 1           | Nurse    |
| 15  | 24      | Male   | Unmarried      | Unbred          | Bachelor  | Nurse  | 1           | Nurse    |
| 16  | 25      | Male   | Unmarried      | Unbred          | Bachelor  | Nurse  | 1           | Nurse    |
| 17  | 26      | Male   | Unmarried      | Unbred          | Bachelor  | Nurse  | 1           | Nurse    |
| 18  | 26      | Male   | Unmarried      | Unbred          | Bachelor  | Nurse  | 1           | Nurse    |
| 19  | 29      | Female | Unmarried      | Unbred          | Master    | Nurse practitioner  | 1 | Nurse    |
| 20  | 34      | Female | Married        | Bred            | Bachelor  | Nurse-in-charge | 9 | Nurse    |
| 21  | 35      | Female | Married        | Bred            | Bachelor  | Nurse-in-charge | 10 | Nurse manager |
| 22  | 36      | Female | Married        | Bred            | Bachelor  | Nurse-in-charge | 12 | Nurse    |
| 23  | 36      | Female | Married        | Bred            | Master    | Nurse-in-charge | 12 | Nurse manager |

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