

The Experience of Work Stress among Chinese Clinical Nurses: A Meta-Synthesis of Qualitative Studies

Li Song^{1,a}, Shi Kangli^{1,b}, Sun Yongpeng^{1,c}, Feng Guiying^{1,*}

¹Department of Nursing, Chengde Medical College, Chengde, 067000, China

^a2112166234@qq.com, ^b743623042@qq.com, ^c2370091185@qq.com

*Corresponding author: fgyllb126@126.com

Abstract: To systematically synthesize the experience of work stress among Chinese clinical nurses, it is expected to provide a reference for nursing managers to formulate relevant intervention measures to reduce the work stress of nurses and improve the quality of nursing. Besides, the eight databases published in Chinese and English were searched to retrieve Qualitative research literature on work stress of Chinese clinical nurses from the inception of the database to June 10, 2023. The quality of the studies was evaluated according to the quality evaluation criteria for qualitative research. Finally, a total of 20 articles were involved, 35 clear research results were extracted, similar results were summarized into seven categories, and three integrated results were synthesized. The results indicate the sources of work stress of clinical nurses in China are diverse. And nurses themselves and nursing managers should pay attention to the physical and mental discomfort experience under the work stress and use various ways to actively deal with the work stress of nurses to improve the quality of nursing.

Keywords: Nurse; work stress; qualitative research; meta-synthesis

1. Introduction

Work stress of nurses, also known as nurse occupational pressure, refers to the nursing work of various needs and the psychological and physiological state of a psychological imbalance [1]. As a group in close contact with patients, nurses are in the working environment with high occupational risk and heavy work. At the same time, the continuous improvement of work requirements lead to the great work stress of nurses. Related studies show that the nurse's work stress in the medium level [2-3], which can lead to physical and mental symptoms such as anxiety, fatigue [4] that affect the quality of nursing and patient safety. In 2023, the National Health Commission and the State Administration of Medicine issued the Action Plan for Further Improving Nursing Services, which proposed to reduce the burden of nurses, improve the quality of nursing, and promote the nursing services [5]. Therefore, reducing the work stress of nurses is vital for improving the quality of nursing. At present, qualitative studies on nurses' work stress are gradually increasing, but there are the disadvantages of single respondents. For example, the study of Lin DH [17] only focuses on the impact of work stress on the physical and mental health of nurses, while the research of Zhao J [24] focuses on the experience of work stress of nurses in the pilot ward of hospice care. In all, the conclusion of a single qualitative study cannot reflect the comprehensive experience of nurses in China. So this study through the method of Meta integration stress experience, integration of clinical nurses in China so as to fully understand and summarize the domestic nurses work stress experience, summarize stress strategies, in order to reduce the nurses work stress to promote nurses' physical and mental health, and improve the quality of nursing.

2. Methods

2.1 Search strategy

The Chinese search terms are "nurse"; "Work stress / career stress"; "Feel / psychology / experience", "Quality research / qualitative research", with "nurses / name *", "occupational stress/ job Stress"; "feeling/experience/psychology", "qualitative study / phenomenology / interview" as the English search term, The language is limited to both Chinese and English. They were searched in the database including CNKI (CNKI), Wanfang database, VIP database, VIP database, Chinese biomedical

journal database, PubMed, Web of Science, EMBase and Chochrone Library.

2.2 Literature inclusion and exclusion criteria

Inclusion criteria: Study subjects were clinical nurses with nurse certification; study type was qualitative study; and study subject was Chinese nurses.

Exclusion criteria: Literature with similar or repeatedly published content; study content is unrelated to this subject; review, conference papers, expert comments, case reports; cannot obtain the full literature.

2.3 Literature screening and information extraction

Two researchers who had systematically studied the evidence-based research independently searched the literature, eliminated the repeated literature, read the title, abstract and full text, and finally determined the literature included in the study. If the two researchers encountered differences, the third researcher will make the judgment. For the documents that meet the requirements, two researchers independently extracted the data, including the first author, the year, region of publication, research methods, research objects, phenomena of interest and the main results extracted.

2.4 Literature quality evaluation

The literature obtained after rescreening was independently evaluated according to the JBI evidence-based health care center qualitative research quality evaluation criteria [6]. There are 10 items in the evaluation criteria, and the literature quality is divided into 3 grades. Grade A indicates that the literature meets all the evaluation items; grade B indicates that the literature part meets the evaluation items; and grade C indicates completely unqualified. Documents with quality assessment results of grade A and B were included, and those with grade C were excluded. If the evaluation results are inconsistent, the third researcher should conduct the evaluation.

2.5 Meta integration

Using Australian JBI evidence-based health care center Meta integration method of convergence integration method [7], to collect data Meta integration, the researchers by reading each included in the literature research results, understanding, analysis of its meaning, similar results manually input and summary, combined, induction results, to form a new integration results and categories.

3. Results

3.1 Literature search results (Fig. 1)



Figure 1: Flow diagram of studies identified, screened, and included in this meta-synthesis.

680 articles related to the research topics were initially retrieved. After removing repeated documents, reading literature titles and abstracts for screening and 20 articles were finally included.

3.2 Basic characteristics of the included literature (Table 1)

Table 1: Study characteristics.

Study	Year	Area	Method/Analysis	Sample	Aim(s)	Themes	Quality Rating
Xu Qianyun ^[9]	2019	Shanghai city	Semi-structured interview	12 anesthesiology nurses in two third-grade A hospitals	To understand the occupational stress of anesthesia nurses and their impact on mental health.	Five topics: business stress, nature and characteristics of work, complex interpersonal relationship, confusion in career development, and the impact of occupational stress on mental health	B
Bao Han ^[10]	2018	Hubei Province	Semi-structured interview	10 new nurses from the third class A hospital	Investigate and analyze the work pressure of new local nurses.	Four topics: Language communication barriers and regional cultural differences, no sense of belonging in daily life, and uncertain residence	B
Chang Diansha ^[11]	2013	Shandong Province	Semi-structured interview	Sixteen male nurses in emergency departments from four general hospitals	To explore the stressors and countermeasures of male emergency nurses.	Three topics: heavy work and more complex working environment, greater emergency pressure, less countermeasures and more positive coping skills	B
Wang Qinglin ^[12]	2019	Henan Province	Semi-structured interview	22 nurses from the First Affiliated Hospital of Henan University of Traditional Chinese Medicine	Explore the experience of newly hired nurses in dealing with work pressure.	Four topics: gaining emotional support, building confidence and responsibility, receiving training, and improving clinical skills	B
Liang man ^[13]	2016	Chongqing city	Semi-structured interview	A hospital of traditional Chinese medicine 12 standardized training nurses	To understand the main pressure of standardized training of nurses in traditional Chinese medicine hospitals and give solutions.	Four topics: nature of work, professional knowledge and skills, examination and interpersonal communication	B
Tan Sumin ^[14]	2021	Fujian Province	Semi-structured interview	12 new nurses from a third-grade A hospital	To understand the pressure changes and adaptation of new nurses in different periods of clinical work.	Four topics: Stressors, social support and stress adjustment in different periods, analysis of stress impact, and suggestions for new enrolled nurses	B
Tang Xining ^[15]	2021	Guangxi Province	Semi-structured interview	16 nurses in the fever clinic of the Second People's Hospital of Nanning city	Understand work stressors for fever clinic nurses during the COVID-19 epidemic.	Four topics: worry about oneself or family infection, lack of working ability and lack of knowledge, strong nursing workload, shortage of protective materials	B
Xu Xiuyun ^[16]	2019	Shandong Province	Semi-structured interview	2 new nurses in the oncology department of grade A hospitals	To understand the initial work pressure of the new nurses in the oncology department.	Three themes: negative emotional experience, lack of communication skills, lack of life and death concept	B
Yan Yuzhu ^[17]	2016	Chongqing City	Semi-structured interview	Ten new nurses came to the children's hospital	Understand the main stressors of new nurses in children's hospitals.	Four topics: professional knowledge and skills, nature of work, assessment and inspection, interpersonal relationship	B
Wang ling ^[18]	2013	Beijing City	Semi-structured interview	11 ICU nurses of Xuanwu Hospital affiliated to Capital Medical University	Understand the problems faced by ICU nurses in the care of false patients and the nursing experience of nurses.	Three topics: poor cooperation between doctors, nursing and patients; occupational injury; increasing physical and mental load	B
Lin dehua ^[19]	2014	Fujian Province	Semi-structured interview	7 nurses in the cardiovascular medicine department of a second grade hospital	Dig into the stressor of cardiovascular medicine nurses in the nursing work.	Three topics: adverse reactions to physical and mental health, adverse reactions to family relationships, and adverse reactions to social relations	B
Liqin ^[20]	2021	Jiangsu Province	Semi-structured interview	16 new nurses from the Affiliated Children's Hospital of Soochow University	Understand the initial stress experience of the clinical work of the new nurses in the children's hospital.	Two topics: In the early stage of new nurses, benign stress experience; negative stress experience	B
Zhang Xiaolu ^[21]	2012	Xiamen Province	Semi-structured interview	An ICU nurse of a tertiary A general hospital under 30	To explore the real professional experience of young ICU nurses.	Three themes: Strong professional stress, gradually enhanced stress coping ability, and satisfaction of professional achievement	B
Ge Jing ^[22]	2016	Anhui Province	Semi-structured interview	10 post-80 pregnant nurses in the oncology department of a tertiary A hospital	To explore the experience and demand of pregnant nurses after 80s in oncology department.	Four topics: worry about miscarriage and premature birth, high work pressure, poor working environment, and interpersonal relationships	B

Fan Caiying ^[23]	2019	Shanghai city	Semi-structured interview	1 nurse in a grade II, grade a general hospital	To understand the real working feelings of nurses in Shanghai Grade A general hospital.	Three themes: work feeling, work pressure, work expectation	B
Zhaojing ^[24]	2020	China	Semi-structured interview	Nurses attending the National PhospCare Conference (Changsha)	Understand the real work experience of nurses in the pilot hospice care ward.	Three themes: Extract the harvest and growth, pressure and challenges, needs and expectations	B
Zhu Sujuan ^[25]	2016	Guangdong Province	Semi-structured interview	12 comprehensive ICU nurses from 2 grade A hospitals	Understand the emotional experience of comprehensive ICU nurses in tertiary hospitals.	three themes: sense of responsibility and pressure; pride and inferiority; contradiction and guilt	B
Zhai qinghua ^[26]	2020	Henan Province	Semi-structured interview	Ten nurses from the medical team have participated in the fight against COVID-19	Understand the work experience and stress sources of the first support nurses fighting COVID-19.	Two topics: work experience and response of anti-epidemic support nurses, sources of pressure of anti-epidemic support nurses	B
Zhang Liping ^[27]	2019	Sichuan Province	Semi-structured interview	30 emergency department nurses in 2 Grade A hospitals	Understand the real professional feelings of emergency department nurses.	six topics: lack of security of life, fatigue, burnout, worry about poor cooperation of medical care, fear of operation failure, worry about occupational exposure, strong sense of professional achievement	B
Zhangmin ^[28]	2019	Shandong Province	Semi-structured interview	13 new nurses from interventional operating rooms in 4 Grade A hospitals	Understand the working experience of new nurses in clinical positions in the interventional operating room	four topics: Complex and special working environment; high work pressure and many concerns; unclear career planning; lack of career achievement	B

3.3 The meta-integration results

The researchers extracted 33 results from the 20 included articles, and finally summarized similar results into 7 categories and 3 integrated results.

3.3.1 Integration results 1: The physical and mental experience of nurses

Category 1: Psychological experience of nurses

Tired: long-term work pressure heart and exhaustion, produce a sense of burnout ("constantly running between patients and patients, body and mind has been in a state of tension, if the rescue is more tired"^[23] lost confidence and enthusiasm to work...^[12]).

Conflict and guilt: conflict between work and family ("sometimes rest at home, need to go back to help, and because I had to cancel the event, they complained about me"^[23]).

Anxiety and tension: They need to pay attention to the patient's condition (" I still feel nervous in the rescue."^[23]).

Satisfaction: take care of the patient's satisfaction (" patients from illness to recovery make me happy." " I feel that only by being able to give patients a little more warmth and love in their last time can they truly reflect the significance of nursing work. "^[22])

Category 2: Physiological experience of nurses

Symptoms of various organs: gastroenteritis, stomachache ("I have gastritis, hungry and have no time to eat." ^[17]), backache ("Standing and walking for a long time make the body have backache..."^[12]), chest tightness ("... feel hard breathing, hard breathing, chest tightness"^[24]) and palpitations (" I felt my head burst and started having palpitations again"^[17]).

3.3.2 Integration results 2: the influencing factors of nurses' work stress

Category 3: Environmental factors

Heavy work: most clinical departments have the phenomenon of heavy workload ("very busy at work every day, almost no stop"^[25]).

High risk of occupational exposure: Nurses have a risk of occupational injury caused by drugs ("I have long-term exposure to chemotherapy drugs, will it have an impact on my health"^[8]).

Strange working environment ("entering a new hospital, the floor distribution of the hospital department, the location of the ward drugs are not familiar with, which affects their work efficiency"^[12]).

Frequent examinations ("We not only have to take the examination of the hospital and the nursing

department, but also the half-year examination organized by the department..." [9]).

Low social status (" my relatives all think that nurses are busy and poorly paid, unlike the lofty doctor profession..." [21]).

Category 4: Organizational factors

Complex interpersonal relationship: conflicts between nurses and patients are common, and serious cases suffer from violence in occupational places (" Being complained by patients, I feel very sad " [15] "... more than 20 people surrounded us, we were scared, hit 110, the doctor also got two blows. " [25]).

Poor pay ("... got very little last pay each month, not proportional to the return" [18]).

Career development (" we are now accurately call should be the anesthesiology nurse, not the anesthesia nurse " [7]).

Category 5: Personal factors

Lack of knowledge and skills (" feel that their knowledge reserve is far from enough to participate in clinical work " [18]).

3.3.3 Integration results 3: The way that nurses deal with work stress

Category 6: Self-response

Some nurses unable to self-discharge: not timely discharge of pressure ("long-term pressure state, not timely release, resulting in more and more unable to tolerate" [12]). The other nurses release stress by rest and entertainment ("usually eating, sleeping, reading books..." [17]).

Category 7: Seek external support

Some nurses choose to talk to friends and colleagues: vent the pressure ("to relieve the pressure is to talk to colleagues, complain, and then enlighten each other" [17]). Some nurses choose to seek experience and guidance from their colleagues ("At work, I constantly repeat what I have learned from my colleagues..." [10]).

4. Discussion

4.1 Methodology and quality evaluation methods of this study

In terms of literature inclusion, after systematic search and rigorous quality evaluation, 20 literature [9-28] were finally included, and the quality evaluation was grade B, and the overall quality was high. Because foreign medical system and cultural background are quite different from domestic ones, they are not included in foreign literature. The reason for the inclusion of a-level literature is mainly that the relevant domestic literature pays less attention to the following aspects: First, whether the philosophical basis and methodology are consistent. Second, explain the status of the researcher from the perspective of cultural background and values. Third, Explain the influence of researchers or research on researchers. It is suggested that the future related qualitative research should focus on the above aspects.

4.2 Managers should conduct reasonable intervention according to the nurse stressors

The work stress generated by nurses will affect the quality of nursing and patient safety [3]. Managers should pay attention to the stress of clinical nurses and the impaction, and take steps to relieve the stress of nurses. The intervention recommendations mainly include the following contents: Firstly, improve the status and recognition of nurses. At present, the public still generally believes that the nursing work is lowly [28], so it is necessary to strengthen the publicity of nurses and improve the recognition of their profession. Secondly, they should provide a platform for pressure relief: strengthen the construction of team culture in the department, and establish a Bahrain group [3] to carry out psychological mutual help activities to help nurses relieve stress. Thirdly, they need to allocate their human resources reasonably: optimize personnel allocation, appropriately increase staff when the department is busy, and implement flexible scheduling system [29]. Fourthly, they should focus on the career development of nurses: Nursing managers should give nurses more opportunities to learn to achieve a balance between personal career goals and organizational needs. Besides, they should establish a reasonable compensation system. Reasonable salary, welfare treatment can give play to the

enthusiasm of nurses, improve the recognition of the organization^[30]. In addition, paying attention to the occupational protection of nurses is important: conduct regular safety protection education for nurses, provide adequate protective equipment and facilities and provide free regular physical examination for nurses with long-term contact such as chemotherapy drugs and radiation, so as to ensure the occupational safety of nurses. Lastly, they can improve the communication ability of nurses: nurses should be trained by communication training to reduce unnecessary conflicts between nurses and patients.

5. Conclusion

This study uses the meta-integration method to integrate 20 qualitative studies and form three integrated results, which deeply explained the real experience of the pressure of clinical nurses in their work. In addition, it shows that work stress affects nurses' physical and mental experience and work stress is mainly divided into environment, organization, individual level, nurses stress is divided into self-coping and seek external support, managers should develop a reasonable plan to relieve the pressure of nurses. Future studies should explore the work stress experience of nurses with different characteristics, and vertically study the changes in the work stress status of nurses, and provide accurate reference for managers to develop intervention programs.

References

- [1] Li Xiaomei, *Introduction to Nursing [M]*. Beijing: The People's Health Publishing House, 2006: 66-84.
- [2] Ke Xiaohui, Yan Xiaoling. *Correlation analysis between occupational stress and burnout among ICU nurses [J]*. *Chinese contemporary medicine*, 2023, 30(1):172-174+179.
- [3] Zhang Liyao, Li Jingjing, Fang Xiaojie. *Investigation on occupational stressors of nursing staff in tertiary grade A hospitals [J]*. *Chinese Evidence-based Nursing*, 2023, 9(04):675-679.
- [4] Chen Cuihua, Zhang Chi. *Management Status on Occupational Stress of Domestic Nurses [J]*. *Hospital Administration Journal of Chinese People's liberation Army*, 2018, 25(5):456-459.
- [5] The National Health Commission. *Notice on the issuance of the Action Plan for Further Improving Care Services (2023-2025)[EB/OL]*. <http://www.nhc.gov.cn/yzygj/s7659/202306/1ba5e5b3291044cb8aa0a1bd2999c967.shtml>.
- [6] Lockwood C, Munn Z, Porritt K. *Qualitative research synthesis: methodological guidance for systematic reviewers utilizing meta-aggregation[J]*. *JBIEvidence Implementation*, 2015, 13(3): 179-187.
- [7] Hu Yan, Hao Yufang. *Evidence-based nursing [M]*. Beijing: The People's Health Publishing House, 2020.
- [8] Munn Z, Porritt K, Lockwood C, et al. *Establishing confidence in the output of qualitative research synthesis: the ConQual approach[J]*. *BMC medical research methodology*, 2014, 14(1): 1-7.
- [9] Xu Qianyun, Zhou Ping. *The occupational stress and its impact on mental health of nurse anesthetists: a qualitative research[J]*. *Contemporary nurses*, 2019, 26(03):5-8.
- [10] Bao Han. *A qualitative study on the work pressure of new field-enrolled nurses[J]*. *Contemporary nurses*, 2018, 25(9):120-121.
- [11] Chang Diansha, Cao Yunfang, Tan Feng. *Quality research on work pressure source of male emergency nurses and its coping measure[J]*. *Nursing research*, 2013, 27(27):2982-2984.
- [12] Wang Qinglin, Xu Qin. *A qualitative study of new entry nurses' experience with job stress[J]*. *Health Operation And Management*, 2019, 16(24):33-34.
- [13] Liang Man, Zhou Ping, Yu Xiaoyun, et al. *Quality study of work pressure of standardized training nurses in traditional Chinese medicine hospitals[J]*. *Chinese Journal of Modern Nursing*, 2016, 22(7): 992-995.
- [14] Tan Sumin, Fang Yan, Mo Jiuling. *Qualitative study on stress and adaptation of new nurses in different periods [J]*. *Chinese Journal of Modern Nursing*, 2021, 28(08):20-24.
- [15] Tang Xining, Mo Yuchun, Chen Jiayi, et al. *Qualitative study on workplace stress sources of nurses in fever clinics during the outbreak of coronavirus disease 2019[J]*. *Occupational health and emergency rescue*, 2021, 39(2):206-209.
- [16] Xu Xiuyun, Zhang Min, Luan Shunlian. *A qualitative study of work pressure on new nurses in oncology [J]*. *Chinese Journal of Modern Nursing*, 2019, 26(05):179-181.
- [17] Yan Yuzhu, Deng Zuoyong, Guo Xiaoli, et al. *Quality study on the work pressure of new nurses in Children's Hospital [J]*. *Chinese Journal of Modern Nursing*, 2016, 22(8):1117-1119, 1120.

- [18] Wang Ling, Wang Xinran, Liu Chang, et al. Experience and concerns of ICU nurses in caring for reckless patients [J]. *Chinese Nursing Management*, 2013, 13(06):64-66.
- [19] Lin dehua. A qualitative study of the working stress status of cardiovascular medicine nurses[J]. *Chinese Journal of Modern Nursing*, 2014(10):127-129.
- [20] Li Qin, Yao Wenyong, Ni Zhihong. A qualitative study of the initial stress experience of new nurses in clinical work [J]. *Medical and higher vocational education and modern nursing*, 2021, 4(5):393-397.
- [21] Zhang Xiaoluo. A qualitative study of career experience among young ICU nurses [J]. *Journal of the Qiqihar Medical College*, 2012, 33(20):2847-2848.
- [22] Ge Jing. A qualitative study of the work stress experience of post-80s pregnant nurses in oncology department [J]. *Journal of Bengbu Medical College*, 2016, 41(11):1530-1533.
- [23] Fan Caiying, Hong Cuiqin, Fang Jin. A qualitative study on the working experience of clinical nurses in grade II A general hospitals[J]. *Qilu Nursing Journal*, 2019, 25(23):80-83.
- [24] Zhao Jing, Zhang Yan, Wang Yu, et al. Study on the working experience of nurses in the pilot wards of hospice care [J]. *Journal of Nursing Science*, 2020, 35(11):56-59.
- [25] Zhai Qinghua, Ge Shuang, Guo Yunfei, et al. A qualitative study on the work experience and sources of stress among supporting nurses fighting COVID-19 [J]. *Henan Medical Research*, 2020, 29(34): 6337-6342.
- [26] Zhu Sujuan, Mo Beirong, Qin Yuju, et al. A qualitative study on the emotional experience of comprehensive ICU nurses in a tertiary hospital in Shenzhen [J]. *Chinese Journal of Modern Nursing*, 2016, 22(6):829-832.
- [27] Zhang Liping, Zhang Xia, Qing Mei. Qualitative study of professional feelings of nurses in emergency department[J]. *Chinese Journal of Modern Nursing*, 2019, 26(01):110-111.
- [28] Zhang Min, Han Zhinan, Li Ming'e. A qualitative study of the working experience of new nurses in the interventional operating room[J]. *Chinese Journal of Modern Nursing*, 2019, 26(08):169-171.
- [29] Sun Hui, Bao Guiqiu. Study on the correlation between psychological resilience of new nurses and transformative leadership behavior of head nurses [J]. *Journal of Nursing Administration*, 2016, 16(2): 80-82.
- [30] Yang Xining, Wei Liuqing, Lai Tianwei. Study on the relationship between stress and intervention management of nurses in intensive care medicine [J]. *Nursing practice and research*, 2012, 9(1):17-18.