Research Article

Chinese Migrant Nurses under COVID 19: A Scoping Review

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Abstract

A scoping review was used in this article to investigate the status and possible difficulties faced by Chinese nurse migrants during the COVID-19 pandemic. Relevant data was gathered from both academic and grey literature and the process resulted in 23 relevant empirical studies, which we review in this article. These studies focus on two main themes, Chinese nurses' experiences of and engagement with international migration (including the US, New Zealand, and Finland), and how COVID-19 affected work experiences for nurses in China, and those overseas. Four main factors influencing Chinese nurse migration under COVID-19 emerged, including cultural shocks related to working in a new environment; racial discrimination; psychological factors, and professional identity. This scoping review provides information and policy guidance to nurse academics, nurse managers, and international nurse support workers regarding the consequences of the COVID-19 pandemic on the status and wellbeing of Chinese nurses both in China and those who have engaged in international migration.

Introduction

The impact of COVID-19 has highlighted and reinforced the dilemmas faced by Chinese nurses, especially female nurses both in China and overseas. In this paper we examine how COVID-19 has informed the experiences of Chinese trained nurses working overseas, and we also consider whether the COVID-19 pandemic might contribute to increasing interest in international migration for Chinese nurses. We answer this question using a scoping review of relevant literature.

Much of the research on nurse migration has focused on Southeast Asian countries such as the Philippines and India, relatively less research has been conducted on Chinese nurse migration. However, a 2008 study showed that due to the lack of job opportunities in China, low wages and low job satisfaction, Chinese nurses could become a potential source of migrants to other countries [1-3]. Contributing to this situation is the fact that China has not invested enough to employ all the nurses educated domestically. Even for those who have secured employment, the working conditions are reportedly poor, and surveys indicate that only 58% of Chinese nurses are 'fairly satisfied' or 'satisfied' with their jobs [4]. The ability for Chinese nurses to participate in international opportunities to seek better working conditions, however, has been constrained by the relatively high costs of international migration when compared to nursing salaries in China [5]. Immigration employment agency fees vary from U.S.\$4,0000–15,000, meanwhile, a survey in 2017 shows that almost 40 percent of nurses earn a monthly salary of less than 3000 RMB (about U.S.\$600) [6]. Even if the Chinese government implements health care financing reforms that lead to an increase in nursing positions and improved working conditions, there will likely still be a degree of surplus nursing capacity based on the recent expansion of undergraduate nurse training [7]. Therefore, unless these conditions change, China may become a growing source country for migrant nurses for the global community.

Nurses in China under COVID-19

TThe COVID-19 pandemic has focused attention on the existing global shortage of nurses (approximately 6 million) [8]. Additionally, research on gender bias and care has revealed the dilemma women have faced during the pandemic. Global health systems rely on women as available labour in formal and informal caregiving roles, yet women's needs, and domestic care responsibilities are often ignored and made invisible (WHO, 2019). In China, as with the position of nurses more generally [9] concern for nurses during COVID-19 is limited to appreciation of their selflessness rather than calls for better treatment. Compared to doctors, nurses' disadvantaged position in terms of salary levels, social evaluation and professional recognition has not been addressed. In the following sections, we elaborate on the specific manifestations of these disadvantages.

Because most nurses are women, the status of women also affects the status of nurses in society. The state of the pandemic lockdown makes women more vulnerable to gender-based violence, and women mostly work in precarious professions and fields where they are disproportionally exposed to infection [10]. By the end of April 3, 2020, there were more than 50 dead and 3,000 COVID-19 infected health-care workers in China [11]. Female healthcare workers working on the frontline are at a higher risk of infection than men, since women make up 70% of the health sector workforce [12]. For example, in early 2020, two-thirds of the 42,600 medical staff working in Hubei were women, of these, 25,300 are female nurses, accounting for 90% of the total 28,600 nurses. In the context of COVID-19 outbreak, the female nurses from across the country have encountered a variety of challenges. Their roles are not only as nurses, but also the care workers, cleaners, and porters, they also suffer from longer working hours [13].

The professional discrimination faced by female nurses in China has not been alleviated by increasing the number of nurses. The gender pay gap in China's healthcare industry reached 38.4%, with female healthcare workers earning only 60% of what men earn [14,15]. Female nurses also face imposed pressure from management to project an image of sacrifice that suggests nurses are not due normal workplace protections and supports [16]. For example, during the first wave of COVID-19 a hospital in Gansu forced female nurses to shave off their hair to show their determination to fight the virus [17]. Propaganda films about China's fight against COVID-19 also easily dismissed the contribution made by female nurses, with one film about health workers at the front lines titled "Chinese doctors' [18]. A similar situation can be seen in the various individual awards published in the media, namely that it is mainly male doctors who receive recognition and awards, with fewer nurses and women being acknowledged for their contributions. Male doctors are often asked in interviews to give their professional opinion on how to treat patients, but most reports about nurses focus on their gender, how they sacrifice their femininity to fight COVID 19 (e.g. shaved heads, mask marks, red and swollen hands), how their gender role as mothers and wives conflicts with their professional responsibilities [19]. This has the effect of positioning nurses as conflicting with wider social expectations of women as mothers and homemakers, as opposed to the state and societal promotion of male doctors as heroes [20].

In China 98% of nurses are women and the traditional gender division of labour results in home-based care work being carried out primarily by women. As a result, Chinese attitudes towards women extend to female nurses, which affects public perception of nurses and the occupation of nursing [21]. For example, Wuhan nurse Liu Fan, who died during the COVID-19 pandemic, was described as "just a woman who gave injections". There are also videos showing patients scolding nurses as they clean bathrooms, saying that this is 'her job' [22]. As in many other contexts, Chinese society's expectations of femininity naturalizes the match between women and nursing, while the limited financial rewards and poorer status of the profession (compared to medicine) results in dissuading males from entering the profession, which contributes to the continued devaluing of the nursing occupation.

Nurses are perceived by the public as doctors' assistants and requiring little formal education [23-26]. This is largely caused by China's nurse education and training system. 'Gaokao' grades, a Chinese version of SAT), hold great importance in Chinese society because the whole society believes that these grades largely reflect one's intelligence and determine people's career paths. Before the Economic Reform of 1978, there were few nursing colleges in China and many nurses had overseas study experience, indicating that nursing was a scientific and technical job. However, as Economic Reform and the progress of marketization progressed in China, nursing education at all levels in China developed rapidly, and universities began to expand programs, as well as lowering the 'gaokao' grade needed for entry [27].

The Nursing Act of 1994 issued by Chinese Ministry of Health regulates the nursing profession [28]. According to the Nursing Act, there are three levels of nursing education considered as adequate in China: mid-associate degree programs, 'zhuanke' programs, and baccalaureate programs. Mid-associate degree programs start right after nine-year mandatory primary education and consist of 2 to 3 years of studies and training. This is the lowest level of professional healthcare worker in China, and students with this degree are not eligible to apply for the Council of Graduates of Foreign Nursing Schools (CGFNS) or NCLEX examines needed in order to pursue employment as a nurse in the United States. Nurses with this type of education currently make up 85-95 percent of the current workforce in China (Study Group [MOH] for Nursing Demand 2003). 'Zhuanke' means "professional training" and can

be understood as vocational junior college, which also consists of 2 to 3 years of studies and training. Societal views are that only those with poor grades choose 'zhuanke' or mid-associate degree programs in China. Baccalaureate programs lead to a Baccalaureate degree and consists of 4 to 5 years of education and training post mandatory education. Graduates from baccalaureate programs are automatically granted a nursing license, while graduates from mid-associate degree programs and 'zhuanke' programs must complete the National Nursing Licensure Examination to achieve the status of registered nurse [6,29]. This variable educational pathway into the nursing profession has the effect of undermining wider societal respect for nurses and contributes to a general perception that links nursing to "bad academic performance" [29]. In contrast, high grades are required to enter medical school in China, which has led to an increased preference for medical (physician) training as opposed to nursing. The questioning of the professionalism of nursing also makes it difficult for nurses to reach higher levels of management and decision-making positions [30], in addition to the lack of established education in advance nursing practice [7].

While doctors in China also face poor financial compensation, violence and assault ('yinao'), and heavy workloads, a 2017 report shows that nurses generally experience greater work pressures and career difficulties than doctors [31]. Chinese nurses face long working days, disharmonious nurse-patient relations, disrespect from the public, deficient salary, and limited career progression possibilities. All of this results in poor professional status, with nurses exiting the sector and leaving hospitals, resulting in an imbalanced ratio of doctors to nurses [6]. This has a negative impact on the wider public health system.

Immigrant Nurses

The global COVID-19 pandemic has challenged health care systems worldwide. Immigrant nurses are playing a critical role during the COVID-19 pandemic [32,33]. The increased demand for health services combined with the aging of the health-care workforce and accelerating retirements and departures, has exposed the profession to crushing coronavirus caseloads [34,8]. Several countries, including EU member states, and the USA, have expanded temporary access for immigrant health care workers to add to the surge capacity needed to support their health care systems [35]. The pandemic reasserts the importance of access to internationally trained health workers for high income nations.

While the pandemic has shown the increasing need for immigrant nurses to fill gaps in health systems, the year 2020 still marked a sudden break in mobility across international borders. Governments around the world engaged in border closures, travel restrictions, and bars on asylum to restrict human mobility and contain the spread of virus [36,37]. Yet, even as the overall picture of human mobility in 2020 is of movement dramatically curtailed, nurse migration from China has faced more difficulties than the

restrictions emerging from COVID-19.

Historically, China has not been a nurse-exporting country [38,39]. It was not until the Chinese government started Economic Reform in 1978 that China emerged as an increasingly important source country for immigrant nurses [38, 39]. Although China is currently facing a serious shortage of nurses, with very little budget allocated to staffing, there is a surplus of nurses due to the limited funding for nursing positions allocated in the country's healthcare system. As a result, a significant number of graduating Chinese nurses are unable to enter the hospital system each year [5]. Alongside this, Chinese nurses consider nursing in Western countries to be more prestigious and valued than working at home [40].

Despite these country specific factors, Chinese migrant nurses' experiences are similar to those of international nurses in general [41,42]. Their challenges range from personal and cultural to economic and social integration [43]. Immigrant nurses often find it difficult to process their nursing license due to regulatory issues [44,45]; they must deal with racial discrimination and racism; and experience stigmatization and marginalization from other nurses, patients, and sometimes their families and communities [42]. The skills of these nurses are often underused; salary is low compared with other nurses who are not migrants [46,47]. While the use of employment agencies might provide guidance, agencies often shift more risks onto workers and gain more profit for themselves [36,48]. Meanwhile, there may be a change in internationally mobile nurses' perceptions of the relative attractiveness of different destination countries, shaped by how countries responded to COVID-19 [8]. For example, the two largest OECD destination countries for nurses' pre- COVID-19 were the United States and the United Kingdom, which are also two countries with high rates of death per 100,000. A recent report from Public Health England (PHE) (2020) has highlighted that the proportion of infections and death in the nursing workforce was disproportionately high among Asian ethnic groups (3.9%), who increased risk of infection may be linked to their precarious status in country; for example, Filipino nurses working in UK expressed concern that if they refused work during COVID-19 their visa status might be negatively affected [49,50].

Thus, for nurses in China, their work experience is shaped by gender discrimination at home, which influences their workload, employment, health security, social standing, and salary. If they seek overseas employment, they may face racialized workplace segregation, status precarity and barriers to full social and economic inclusion. These factors can both drive interest in, and undermine the appeal of, international migration for Chinese trained nurses. How has COVID-19 informed the attraction and uptake of international migration for Chinese nurses? We answer these questions using a scoping review.

Methodology

A scoping review is a process used to evaluate and integrate existing literature and other sources of information focused on a certain issue. Scoping reviews can be useful for answering broader questions than those addressed using systematic reviews. Therefore, a scoping review was conducted with the entire process guided by the refined version of Arksey and O'Malley's methodological framework (2005). The steps taken in this study are depicted in the following sections.

Identify the Research Question

How has COVID19 informed the current interest in international migration for Chinese nurses? We formulated this question considering the pre-existing context for nurses working in China as detailed earlier in the paper; how this may have been intensified by the demands of the COVID-19 pandemic, and whether increased interest in global migration for Chinese nurses has emerged in response to developments.

Identification of Relevant Studies

Multiple databases were searched; these include MEDLINE; Taylor & Francis; Cochrane Library, CINAHL; Google Scholar; PubMed; Web of Science and Chinese database CBM and CNKI (Figure 1). Due to the sudden onset of COVID-19, grey literature including worldwide news reports were consulted, alongside peer reviewed material. This scoping review search was undertaken from July–August 2021 and using a list of relevant search terms: "COVID-19" and "nurse migration" and "Chinese nurses" and "experience" and "international nurse".

Inclusion and Exclusion Criteria

Articles identified in the initial search that mentioned Chinese nurse migration and Chinese medical workers during COVID-19 were downloaded. In the further review process, inclusion criteria were used to filter eligible articles. Inclusion criteria were both of the following: (i) empirical studies involving immigrant Chinese-educated nurses; (ii) empirical studies focused on Chinese-educated nurse during Covid-19; (iii) studies focused on how Covid-19 informed nurse migration trends worldwide. We defined Chinese-educated nurses as those who had basic nursing education in Mainland China, Hong Kong, Taiwan or Macau [40].

Papers were excluded for any one of the following: (i) written in languages other than English or Chinese; (ii) not focusing on registered nurses; (iii) focused on nurse migration from countries other than China; (iv) Non-empirical studies; (v)published before 2000; (vi) duplicates.

During the process, a total of 13,877 citations were retrieved, of which 3,528 were duplicates and automatically removed by Endnote (Figure 1). After titles were screened and checked for relevance, 9,706 were removed, and 643 records were screened by reading the abstract. Of which 498 articles were removed. 145 articles were reviewed for full text and 124 were considered irrelevant as they neither focused on international nurse migration nor considered the impact of COVID-19 on nurses, leaving 21 empirical articles to be included in the scoping review. Two additional relevant news reports about Chinese immigrant nurses in the US during COVID-19 were found by checking references, bringing the total to 23.

Of the 119 non-empirical research articles that we removed, this included relevant literature reviews, reflections and appeals on Chinese nurse migration, policy reviews and Chinese government reports. Although these 119 articles were not included in the scoping review, they were consulted to provide context on the issue of Chinese nurse migration during COVID-19, providing important background information. The authoritative reports issued by the Chinese government and International Organizations also provide useful sources of data [35,51-53].
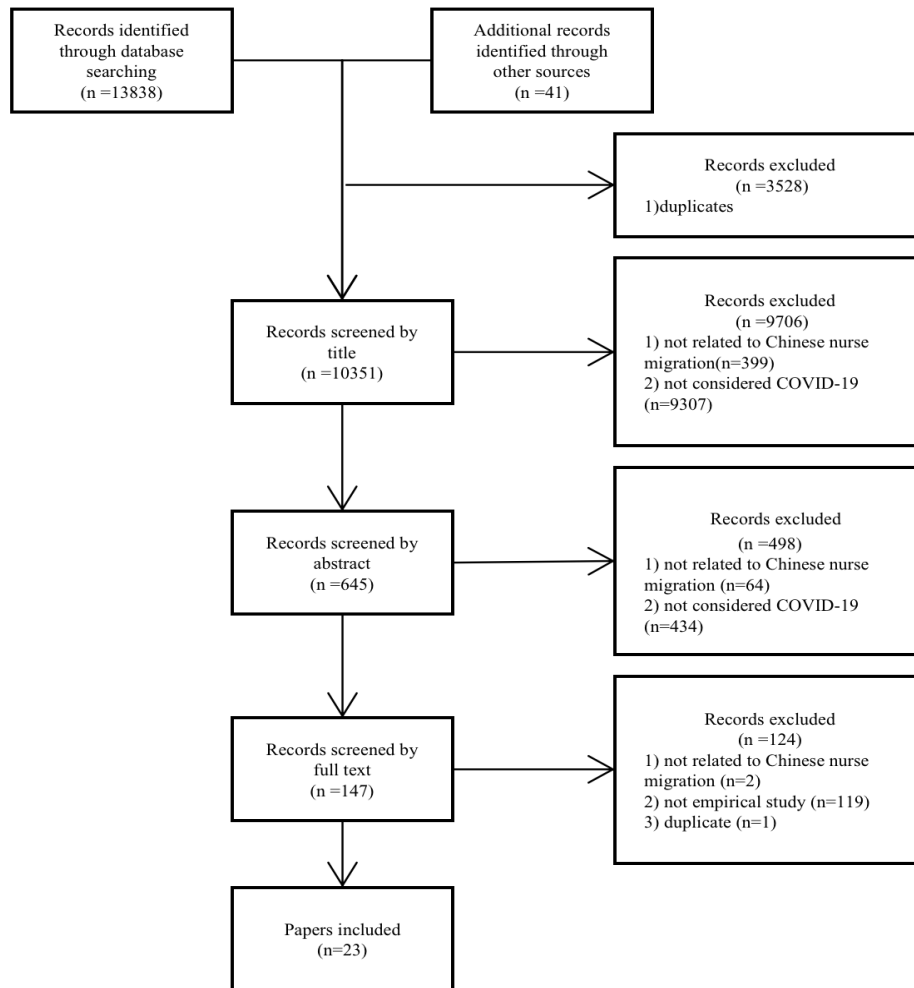
Figure 1: PRISMA Flow chart (n=23).

Data Extraction

Data extraction was carried out independently by the first author, and in case of disagreements were discussed with the second author. Information extracted included author, year, publication type, participants, sample size, location, methodology and key themes related to the broad question. However, we do not appraise the quality of the included articles, which is consistent with guidance on scoping review conduct. The data extracted from 23 papers were reviewed and descriptively tabulated (Table 1).

Author(s)	Year of publication	Publication type	Participants	Sample size	Location	Methodology	Key themes		
							Chinese nurse migration	Chinese nurse under COVID-19	Nurse migration worldwide under COVID-19
Zhang, C. Q., Zhang, K, Lu, Y., Liu, H, Kong, S, Baker, J. S., & Zhang H.	2021, Jan	Journal	China-educated nurses	323	China	Cross-sectional online survey		√	
Zhou, Y., Windsor, C., Theobald, K., & Coyer, F.	2011, Nov	Journal	China-educated nurses	28	Australia	In-depth interviews	√		
Zhou, Y., Windsor, C., Theobald, K., & Coyer, F.	2010, Mar	Journal	China-educated nurses	28	Australia	In-depth interviews	√		
Wong, W., Lu, L., Kelifa, M. M., Yu, Y., He, A., Cao, X., Zheng, S., Tan, Q., & Yang, Y.	2020, Dec	Journal	Chinese healthcare workers	1063	China	Cross Sectional Study		√	
Zhou, Y., Rossiguo, C., & Sun, Q.	2015, Aug	Journal	China-educated nurses	28	Australia	Secondary analysis	√		
Song, J., & McDonald, C.	2021, Mar	Journal	China-educated nurses	51	New Zealand	Online questionnaire and a thematic approach			√
Goh, Y. S., & Lopez, V.	2016	Journal	International nurses	146 China-educated nurses	Singapore	Cross-sectional, correlational design	√		
E. M. Willis &L. D. Xiao	2014	Journal	China-educated nurses	24 immigrant nurses	Australia	In-depth interviews	√		
Ma, A. X., Griffin, M. T, Capitulo, K. L., & Fitzpatrick, J.J.	2010	Journal	China-educated nurses	128	America	Descriptive correlational study	√		
Zhou, Y.	2014, Sep	Journal	China-educated nurses	28	Australia	In-depth interviews	√		
Wang, H.	2017, Nov	Master's Thesis	China-educated nurses	9	Finland	Semi-structured in-depth interviews	√		
Hu, Y.C.	2002	PhD Thesis	Taiwanese nurses	5	America	In-depth interviews	√		
Cheng, C. Y.& Liou, S. R.	2011	Journal	Asian nurses	66 China-educated	America	Correlational and comparative	√		
Qu, M. & Zeng, L.	2020	Journal	China-educated nurses	849	China	Sampling survey method		√	
Luo, Y, Feng X, Zheng, M, Zhang, D, Xiao, H, & Li, X.	2021, Jan	Journal	China-educated nurses	1330	China	Cross Sectional Study		√	
Sheng, Q, Zhang, X, Wang, X., & Cai, C.	2020	Journal	China-educated nurses	14	China	In-depth interviews		√	
Zhou, X, Guo, C, Wang, X, Zhang, C, & Wang Z.	2020	Journal	China-educated nurses	26	China	Online questionnaire		√	
Cai, S., Jiang, Y., Shi, Q., Zhang, L., Kang, D., Qiao, M., & Cha, J.	2020	Journal	China-educated nurses	453	China	Cross-sectional online survey		√	
Zhu, J., Sun, L., Zhang, L., Wang, H., Fan, A., Yang, B, Li, W., & Xiao, S.	2020	Journal	China-educated nurses	86 China-educated nurses	China	Cross-sectional online survey		√	
Mo, Y, Deng, L, Zhang, L, et al.	2020	Journal	China-educated nurses	180	China	Cross-sectional online survey		√	
Li, L., Hou, Y., Kang, F., Li, S., &Zhuo, J.	2020	Journal	China-educated nurses	23	China	Semi-structured in-depth interviews		√	
Jan, T.	2020	News report	China-educated nurses	6	America	In-depth interviews			√
Lu, J.	2020	News report	Taiwanese nurses	3	Australia	In-depth interviews			√

Table 1: Data extraction (n=23).

Review of the Published Material

The 23 articles extracted through the scoping review focus on various themes, including Chinese nurses' experiences of and engagement with international migration (including the US, New Zealand, and Finland), and articles examining how COVID-19 affected work experiences for nurses in China, as well as those overseas.

International migration experiences of Chinese Nurses

Zhou, et al. provide a useful study of the multiple reasons why Chinese nurses migrate using 46 semi-structured interviews with 28 Chinese-educated nurses [39]. Cultural factors (personal need to see more of the world and cultures, positive perceptions in China of those who emigrate or have overseas experiences); work environment factors (better working conditions, higher pay and more career options); and social factors (better living conditions and lifestyles) are included. This study showed that the migration decisions of Chinese-educated nurses are based not only on economic expectations, but cultural factors also play an important role.

Zhou, et al. use ambivalence as a theoretical concept to understand the experience of Chinese-educated nurses working in two major cities in Australia (Brisbane and Adelaide). Arguing that ambivalence is a fundamental feature of the immigrant experience, which is grounded in specific social structures that both facilitate and constrain the experiences of Chinese nurses [26]. Goh and Lopez

explore the relationship between acculturation, work environment and quality of life for international nurses working in Singapore. Using cross-sectional correlational to study 814 international nurses, including 146 mainland Chinese nurses. Results showed that immigrant nurses from mainland China had the lowest level of acculturation among all international nurses. Acculturation was found to have a positive relationship with quality of life, whereas a negative opinion of the work environment related to a lower level of acculturation.

Willis and Xiao [54] use in-depth interviews and focus group discussions with 24 Chinese-educated migrant nurses in Australia and explore the process of adaptation to the Australian environment experienced by Chinese nurses. The article argued that the main difficulty for Asian nurses is language proficiency and the shock of a new cultural environment. This affects not only their ability to safely perform professional nursing tasks, but also their own feelings of being listened to and understood. Zhou [42] use symbolic interaction to analyze data collected from 28 in-depth interviews with Chinese-educated nurses working in the Australian health care system. This paper explored the social construction of difference and the related intersection of difference and racialization. This paper focused on the interaction between human actions and structural factors, it emphasized the importance of overall social structure. The paper argued that the difficulties faced by Chinese nurses in Australia largely stem from the local social structure. Zhou [42] used a constructivist grounded theory method to gather 46 in-depth interviews with 28 China-educated nurses in two major cities in Australia and found that Chinese-educated nurses perceived international migration as a means to achieve a better lifestyle. However, they were unprepared for the struggles that accompanied migration, and experienced different degrees of challenge regarding their professional identity, cultural change and experiences of racial discrimination.

Ma et al., [64] considered the needs of Chinese nurses who immigrated to the USA using a descriptive correlational study design. The study included 128 Registered Nurses who graduated from Chinese nursing schools and immigrated to the USA less than 20 years prior. The results of the study indicated that there was a significant negative correlation between the demand for immigration and length of stay in the USA. The authors' suggested that this is because Chinese nurses in the US face racial discrimination and experience lower professional identity issues than immigrants from other countries.

Wang [30] used qualitative research with nine Chinese migrant nurses in Finland to understand how they interpret themselves as professionals. This study found that Chinese nurses appreciated the better working environment, which included further educational opportunities, more time to focus on each patient, and greater social respect, which made the nurses appreciate their

professional status in Finland. Language barriers and cultural difference were identified as potentially causing damage to the nurses' self-confidence as professionals.

Ho [65] set out to understand the cross-cultural communication and integration experiences of five Taiwanese nurse immigrants working in the United States. Data collection included focus group interviews, individual interviews, and background information surveys. The findings revealed that language barriers and knowledge of American hospital culture were critical to the integration of Asian nurses.

Cheng and Liou [66] used a cross-sectional postal survey design to measure the predictability of cultural orientation on organizational commitment, perception of practice environment and intention to leave amongst Asian nurses working in US hospitals, and included 64 Chinese-educated nurses. The study showed that working environment and organizational commitment was correlated with intention to leave. Asian nurses seen as being are more collectivist-oriented were more willing to accept the goals and values of the organization, and possessed less intention to leave.

COVID-19 and Changing Working Conditions for Nurses in China and Overseas

Ma, et al. investigate the work stress among Chinese nurses who are supporting Wuhan in fighting against COVID-19 [55]. An online questionnaire was completed by 180 nurses from Guangxi who fought against COVID-19 and a cross-sectional survey was used to analysis the data. The study reveals that Nurses who fight against COVID-19 were generally under extreme pressure at work. Zhu, et al. [56] use a linear regression model to understand the anxiety and depression symptoms in frontline COVID-19 medical staff in China. A total of 79 doctors and 86 nurses participated in the survey. The research finds that nurses were more likely to be anxious than doctors (27.9%/11.4%), while both had similar depression rates (43.0%/45.6%). Among both doctors and nurses, women were more vulnerable and suffered from more severe mental health problems than men.

Li, et al [67] employ a survey and self-assessment questionnaire with 908 health care workers to analyze the changes in their psychological status during the COVID-19 pandemic and provide a theoretical reference for effective psychological and social intervention. The study discovered that clinical nurses experienced a wide range of mental and psychological symptoms during the COVID-19 pandemic, most of which appeared as mild anxiety and crisis reactions. Zhang, et al. [13] conduct their study based on data from 323 nurses from 25 hospitals in China focused on sleep difficulties and mental disorders among Chinese nurses, suggesting that reducing cognitive fusion and improving cognitive reappraisal can help nurses to better alleviate mental health

problems and sleep difficulties that occurred during COVID-19.

Wang et al [68] exam the impact of Medical Workplace Violence (MWV) on the mental health of Chinese healthcare workers during COVID-19, using propensity score matching through 1063 online questionnaires. The study reveals that 20.4% of healthcare workers experienced MWV during the COVID-19 outbreak and it had a negative impact on the mental health of healthcare workers in China. Zhuo, et al. [56] look at sleep and mental health issues among health care workers under COVID-19. The Insomnia Severity Index (ISI) and the Chinese version of the Self-Reporting Questionnaire (SRQ-20) are used to evaluate the severity of insomnia and mental health status. Medical and nursing staff with insomnia showed clear signs of comorbid sleep apnea attributable to stress.

Cui et al [69] use a self-administered online questionnaire and online cross-sectional study and collected 481 responses, of which 453 were valid. The study finds that participants who had the following characteristics had more mental health problems while fighting COVID-19: female, have a fear of infection among their family members, regret their choice of being a nurse, have less rest time, more night shifts, have children, exhibit a lack of confidence in fighting transmission, do not have adequate emergency protection training, and possess a more negative professional attitude. Sheng etal [70] use a face-to-face interview with semi-structured questions to learn about the experiences of the rescue task on professional identity among Chinese nurses during COVID-19. They consider the negative feelings and experiences nurses held during COVID-19 were the main factors affecting their professional identity.

Luo et al [71] use a cross-sectional study of 1,310 nurses from six tertiary hospitals and find that the vast majority were willing to participate in front-line COVID-19 work. They considered that this relates to cultural contexts, and the deep commitment to taking collective action emphasizes in Chinese society.

Song and McDonald [72] Investigate the experiences and challenges of Chinese nurses working in New Zealand during COVID-19 using an anonymous online questionnaire and a thematic approach. The results show that 47.06% participants (n=24) reported negative working experiences including racial discrimination, workplace bullying and judgement, while 52.94% (n=27) participants reported positive working experiences. Some reports suggest that Asian nurses in the US, in addition to the health risks of exposure to the coronavirus, face racial discrimination and prejudice compared to immigrant nurses from other ethnic backgrounds, with some patients even refusing to receive treatment from nurses with Chinese ethnicity [57].

Research Findings

The factors influencing Chinese nurse migration under COVID-19 were extracted by the themes that were reported above. From the detailed literature review, the main factors identified were: pressures of new working environments; racial discrimination; psychology conditions and professional identity.

Working Environment

The shock of the new working environment includes cultural discomfort and language barriers immigrant nurses' encounter. Of the 23 articles included in the scoping review above, 14 discussed the shock in a new working environment experienced by Chinese immigrant nurses abroad. Nurses arriving to a new host country experience an overwhelming cultural shock as they have to be accustomed to new environments, master another language and experience indifferent perceptions in a host country [26,30,39,42,54]. These work obstacles also affect their feelings of being heard and understood. Further, Asian nurses in Australia face significant difficulties compared to earlier waves of migrants due to the geopolitical relationship between Asian countries and Australia [54].

However, research also shows that Asian nurse immigrants tend to be among a more privileged class compared to their compatriots who remain in China [58-60]. Better working environment and remuneration and higher social status in the receiving country can encourage Chinese nurses to migrate [39]. Migration is seen as a way for Chinese nurses to escape what is perceived as a high-risk and low-quality health care work environment at home, and migration means they do not have to leave the nursing profession [41]. For Chinese nurse immigrants, therefore, the working environment in China is crucial to their decision to emigrate. However, work environment shocks after migration also occur due to cultural and language barriers.

Racial Discrimination

In this scoping review four articles reported the racial discrimination immigrant nurses may face while overseas [42,57] and this was heightened during the COVID-19. Chinese nurses overseas had already scored highly with regard to the influence of 'discrimination'. Asian nurses overseas noted that they endured racial discrimination from patients and society in general since the outbreak of COVID-19, which required that they had to fight racism and the coronavirus simultaneously [42,57].

Psychological Conditions

In this scoping review, eight papers detailed the psychological conditions of nurses during the COVID-19 pandemic and emphasize the need to pay more attention to nurses' mental health [31,56]. Nurses suffer from anxiety, stress and sleepless. This is particularly true of female nurses. Chinese nurses who are the only child in their families were also more stressed because they worried that became infected their parents may lose their only

child. What's more, long working hours increased stress and the chance of getting infected.

Professional Identity

Nursing is a professional occupation, however, in China nurses are seen more as doctors' assistants. Therefore, understanding nurses' interpretation of their identity in China contributes to understanding their interest in international migration. Four of the articles included in scoping review talked about the professional identity of Chinese nurses [21,30,42] These studies found that immigrant nurses' interpretation of professional identity can be enhanced through the better working conditions and enhanced respect they receive in host countries, but it can also be damaged by the language barriers they encounter [30]. Moreover, some Chinese nurses in American felt they were excluded from jobs in the best facilities and felt less professional status after migration [61-63]. The experience of participating as front line workers during COVID-19 also had an impact on the professional identity of Chinese nurses, since they experienced feelings of unfairness and exhaustion, all of which significantly weakened nurses' job satisfaction and professional identity. At the same time, receiving public support and praise results in the improvement of a sense of professional identity [21]. However, for Chinese nurses, quantitative data shows COVID-19 experiences had overall a negative influence on their professional identity.

Conclusion

COVID-19 resulted in intense demands being placed on nursing personal globally. In China the conditions of employment reveal the professional status of nurses suffers from societal perceptions of nurses as doctors' assistants and selfless heroes who sacrifice themselves for the collective good. This undermines the status of rewards of nursing work causing damage to health systems and the promotion of health and wellbeing for nurses themselves and Chinese society more broadly. These conditions contribute to the factors that might encourage nurses to engage in international migration, but costs and other barriers also preclude large scale mobility. China is considered an increasingly important potential source for trained nurses, and poor working conditions and low respect for the profession add to those pressures. The outbreak of COVID-19 brought about a worldwide surge in demand for nursing, but it also intensified pressures for Chinese nurses at home and overseas. COVID-19 increased the challenges faced by Chinese nurse migrants in the US, UK, Australia and New Zealand because of racial and xenophobic discrimination and intensified workplace pressures. These conditions increased psychological stress and undermined nurses' sense of professional identity.

The descriptive findings of this scoping review highlight the current difficulties faced by Chinese nurse migrants under COVID-19. Challenges in China are framed by weak public recognition of the status of nursing, lack of clear professional training structures, and a subordinate relationship to the medical professions. While international mobility may offer a remedy to these deficiencies, the COVID-19 pandemic has heightened negative experiences faced by Chinese migrant nurses because of racism, increased psychological stress, and integration challenges that undermine professional identity and sense of self.

Acknowledgement

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