

Understanding Human Resource Wastage in the Nursing Shortage: Lessons Learned from Chinese Nurses Leaving Nursing Practice

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By discussing the lessons learned from Chinese nurses leaving nursing practice, this paper reports on the currently neglected issue of nursing wastage in the nursing shortage in China. The nursing shortage needs to be understood locally and resolved globally. However, a lack of understanding of the root causes and consequences of nurses leaving nursing practice in their home countries has impeded the implementation of effective strategies in resolving nursing shortage nationally and worldwide. This qualitative study draws on a grounded theory approach. In-depth interviews with 19 nurses who had left nursing practice were theoretically sampled from one provincial capital city in China. Managerial and organizational support from the current Chinese nursing workforce management to retain qualified nurses is lacking. While hospital managers claim that nurses' voluntary leaving is an individuals' problem rather than an institutional problem, participants view their leaving nursing practice as the way to pursue personal freedom and value in response to their dissatisfaction and stress in nursing. The lessons from Chinese nursing perspective indicate that nursing wastage may not only occur when nurses choose voluntary leaving, but also happen when they resort to passive staying. The wastage of nursing human resources in Chinese Grade Three hospitals is arguably the most pressing nursing crisis in regards to the nursing shortage nationwide. The study suggests that nursing wastage may be avoided if nurses have greater autonomy to achieve more reasonable career prospects, thereby ensuring nurses' professional value and contribution to be properly rewarded with managerial and organizational support.

Keywords: China, Nursing shortage, Power, Workforce management, Wastage

Background

Nursing Shortage Worldwide and in China

Nursing shortage is defined as an imbalance between the nursing requirements and the actual available nurses (Zurn et al. 2002). The distribution of the health workers in selected WHO member countries has provided an overview of the nursing workforce imbalance worldwide in the recent decade (Table 1).

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Table 1. *The Distribution of Health Workers in Selected WHO Member Countries*

Countries	Physicians	Registered Nurses		Ratio of nurses to patients		Other health workers	Year	Sources
	<i>Density per 1,000 population</i>	<i>Density per 1,000 population</i>	<i>Number</i>	<i>Day shifts</i>	<i>Night shifts or holiday shifts</i>	<i>Density per 1,000 population</i>		
Mainland China	1.06	1.05	1,358,000	1:15-20	1:40-45	0.82	2001	(1,4,5)
	1.55	1.11	1,426,339				2006	(1,2)
	1.40	1.00	1,301,240				2008	(8)
	1.42	1.38	1,854,818			0.83	2011	(9)
India	0.60	0.80	865,135				2003	(1,9)
	0.60	1.30	1,430,555			0.50	2011	(8)
Japan	1.98	7.79	993,628				2002	(1)
	2.10	9.50	1,210,633				2008	(8)
	2.06	4.14	531,210				2011	(9)
UK	2.30	12.12	704,332	1:7.5-7.6	1:9.1-10.7	2.78	1997	(1,6)
	2.30	12.80	740,731				2008	(8)
	2.74	10.30	621,755				2011	(9)
USA	2.56	9.37	2,669,603				2000	(1)
	2.60	9.40	2,669,603	1:5	1:5	14.66*	2008	(3,7,8)
	2.67	9.82	2,927,000				2011	(9)

*: The other health workers in the USA include 510,000 licensed practice/vocational nurses (LPS) and 1,474,000 nursing assistants who support the registered nurses.

Sources: (1) WHO 2006 (2) Chinese Health Statistic Digest 2006-2007 (3) Aiken and Cheung 2008 (4) Ren 2001 (5) Liu et al. 2003 (6) Employment Research 2007 (7) Conway et al. 2008 (8) WHO 2008 (9) WHO 2011.

The population-based indicators clearly demonstrate that nursing shortage is a worldwide problem. The United States has the biggest registered nursing pool and a relatively high number of other health workers compared with those of other countries; however, there still will be a national shortage of 300,000 to 1 million registered nurse (RN) jobs in the USA in 2020 (Juraschek et al. 2012, Van den and Aiken 2013). Although Chinese health workforce has slightly increased and exceeded the WHO minimum workforce threshold since 2006 (WHO 2006), China was one of a few countries that have more doctors than nurses in the past decade, with the doctors to nurses ratio being 1:1.07 by 2015 (MHPRC 2016). The inadequacy of nursing staffing has resulted in a far more demanding clinical situation in Mainland China than in most industrialised countries.

In reality, there is a shortage of nurses willing to work under the present conditions (Buchan 2006). Some Japanese nursing researchers highlight that as many as about 650,000 inactive nurses (53.7% of qualified nurses) existed in Japan in 2008 (Nakata and Miyazakis 2008). Although there is a lack of follow up reports from Japan, the forecast and its possible consequences might explain a sharp decline in the Japanese nursing workforce in 2011 (Table 1). In India, only 40% of the total nursing workforce is active, as a result of low recruitment, emigration and drop-out due to the poor work conditions (Government of India 2005). In China, a high rate (over 70%) of intention to leave nursing has been reported in different areas nationwide (Sun et al. 2001, Ye et al. 2006, Lu et al. 2007), while there is a lack of official statistics to monitor the exact number of nurses who have actually left their posts.

Nevertheless, comparing the increasing trend of nurse workforce in India, China and USA with the decreasing trend in Japan and UK, it is hard to say which countries could resolve the nursing shortage. The reliability and validity of health workforce statistics would require consistent monitoring from the policy makers if they wish to understand appropriate nursing workforce participation. Lewis (2002) further suggested that the shortage is not merely about numbers, but also a matter of how these numbers are most effectively deployed in the health care system.

The Limitation of Studies on "Nursing Turnover" in the Chinese Context

The majority of studies on nursing shortage and turnover are mainly from the USA, while the remainder comes from other industrialized countries (Aiken et al. 2001, Tierney 2003, Goodin 2003, Black 2005, Snaveley 2016). These studies advocate that solving the problem of nursing shortage is wholly dependent on cooperation between the government and the nursing profession in these countries. The cooperation includes encouraging recruitment from a broad base, improving retention, attracting former nurses back into the workforce and increasing international recruitment from abroad (Sheilds and Ward 2001, Buchan 2006, Rafferty et al. 2007). Different strategies to retain their nurses have been actively adopted by Western hospitals (Aiken et al. 2001, Finlayson et al. 2002, May et al. 2006), although there is a lack of evidence in terms of whether these strategies are effective in relieving the nursing workforce crisis.

There are only a few nursing shortage studies in developing countries, most of which focus on the issue of immigration, including Mainland China, India, Philippines and some African countries (Fang 2007, Aiken and Cheung 2008, Buchan 2008, Gill 2011). International nursing recruitment trends predict that China will become an important source of nurses for developed nations (Xu 2003, Kingma 2006, Fang 2007). Nurses who left clinical care became an attractive recruitment source in many countries because they appear to offer a relatively quick, effective solution to the nursing shortage (Buchan 2006). However, there is a lack of feasible strategies to retain and attract nurses back to nursing in China (Fang 2007, Yun et al. 2010). The Chinese Nursing Association (CAN) has provided overwhelming support for Chinese nurses to work abroad (Xu 2003, Kingma 2006, Fang 2007). The ethical issues in international recruitment have been widely debated on, since even minimal numbers of migrants represent significant losses in some small countries with scarce nursing human resources, particularly in African countries. Nevertheless, international outflow of Chinese nurses may be visible but still represents only a relatively small numerical loss compared with the internal flow of nurses leaving nursing practice for other sources of employment within China.

The available mainstream studies of nursing shortage and turnover in developed countries, as well as immigration studies in developing countries, have had little to contribute to understanding nursing mobility and shortage in a Chinese context. Compared with the great efforts to recruit and retain the nursing workforce in most industrialized countries, Chinese nurses face unique historical,

political, cultural and educational difficulties in trying to resolve the problem of the nursing shortage by retaining nurses. There is a need to understand why Chinese nurses leave nursing practice and how this issue impacts Chinese health care. The present study seeks a theoretical explanation for nurses' voluntary leaving nursing practice in China from Chinese nursing workforce's perspective.

The Study

Aim

The aim of the study is to understand why nurses leave nursing practice by exploring their career decision-making process from entering to exiting nursing practice in Mainland China. The research questions focus on:

- How do leavers describe their experiences of being clinical nurses during their entering, practising and leaving nursing practice?
- How do they explain their reasons for their leaving nursing practice in Mainland China?

Design

A qualitative study design was based on symbolic interactionism by drawing upon the grounded theory approach (Glaser and Strauss 1967, Glaser 1978). In-depth interviewing nurses who left clinical care is the main method used to collect data (Zhu 2012).

Participants

The research site is located in one provincial capital city in the east of China, which is regarded by nurses as one of the most attractive cities to work in. This means that the research setting is not a region where there are particular difficulties relating to nursing shortage. The participants interviewed included 19 leavers who had worked in all areas of clinical care (except mental health care), and had left their nursing practice from Grade Three hospitals during the past 5 years. The selection criteria for the next interviewee always followed the previous interview analysis in the field, which was guided by the principle of theoretical sampling (Zhu 2012).

Data Collection

The data collection began in July 2009 and finished in March 2010. The face to face interviews were recorded and all interviews were transcribed verbatim immediately after the interview for analysis. A persistent problem in field work was to find out who the researcher needed to talk with, listen to,

query, or observe about a given issue important to the research. The secondary data include the data naturally available to the research field, such as informal conversations or observational notes made during the research process, as well as the all the relevant literature and nursing policy, hospital documents, archival data, work contracts or work-exit documents.

Trustworthiness

Trustworthiness in this study is a primary consideration in all phases of the research process. The details have been discussed in a previous report (Zhu et al. 2015).

Ethical Considerations

Ethical approval was granted by the Research Ethics Committee of the University of Edinburgh. Organizational gatekeepers were not used to identify the potential participants from Chinese Health authorities, since it was believed that nurses who left their nursing practice were professionals who had the knowledge and the ability to understand the nature of the study, and could therefore participate in the study based on informed consent without any organizational approval. Pseudonyms were used in the study report so as to avoid identifying individuals.

Data Analysis

In this study the constant comparative analytic process as outlined by Glaser and Strauss (1967) and Glaser (1978) was used. The data were given considerable thought regarding open, selective and theoretical coding, and the process of theoretical sampling by focusing on generating ideas that fit and work (Zhu et al. 2015).

Findings

Four categories emerged from the data: accepting nurses as replaceable labour; struggling to make career progression; losing enthusiasm in promotion; pursuing personal freedom under organizational control. The findings suggest that there is a lack of managerial and organizational support to retain nurses who would have preferred to stay rather than to leave the ideal workplace.

Accepting Nurses as Replaceable Labour

Yun typified the view of many participants who expected professional respect from their nursing managers as a valuable member of the organization.

Appreciation about my work from the nursing managers could reduce my intention to leave. ... Actually they did not care about losing nurses; there are plenty of young nurses available to replace us. (Yun)

The acknowledgment of the nurses' value and contribution from nursing managers has a significant impact on the participants' nursing career decisions. Chinese nursing managers, however, regard nurses as easily replaceable labour and are not committed to keeping experienced nurses. Based on the power imbalance in the employment market between nurses and hospitals, individual nurses rarely possess bargaining power equal to their employment status. Xue was hesitant to quit her nursing job initially; however, when the nursing managers forced her to be obedient to their authority, she decided to give up her intention to stay.

I was hesitating whether to quit the job or not at that moment. The head nurse was angry and accused me of not being grateful to her. The director of nursing just criticised me about the sick leave. ... I wondered how I could continue to work in such a work environment. Then I asked her to accept my resignation immediately. I was disappointed that the hospital did not care about our leaving. It is a loss for hospitals, but they did not care about the cost in recruiting and training new nurses which needs time, money and energy. It is not good for patients. On the contrary, they may think that they can save some money by recruiting nurses with a new contract, right? And the new nurses are more obedient. They will do whatever the nursing managers asked them to do. The senior nurses have their own ideas in practice and they don't always agree with the leaders. (Xue)

Xue felt that experienced nurses deserve respect for their professional value and autonomy. Qun also expressed her disappointment when the nursing director did not make any attempt to retain her for her compassion and commitment to nursing.

Other nurses who left nursing might feel a release, but you know I left without choice.... Many excellent nurses did not work efficiently within the hospital. I absolutely felt that I had no bright future as a nurse. I lost my sense of the value of being a nurse.... But sometimes I thought that if I had to stay in nursing for life as other colleagues, I might still work as a happy nurse. (Qun)

Voluntarily leaving was regarded as a loss to individual nurses rather than a loss to organizations and society. Gao was suffering serious back pain and expected the director of nursing to help her to transfer to a suitable workplace in the hospital. Nevertheless, not only did the director fail to recognize Gao's contribution of more than ten years' service in the hospital, but one also failed to possess a humanistic attitude towards staff with health problems. Gao said that it was then did she become determined to "quit grandly" in order to prove that her leaving was the hospital's loss by becoming a lawyer.

It seems I became famous in the hospital after leaving. When I went back to the hospital sometimes, even the young nurses who I did not know treated me as a

heroine. They told me that the director of nursing warned them during the hospital-level meeting: "You must work hard unless you are capable enough to become a lawyer, like Gao". (Gao)

It was ironic that Gao's voluntary leaving was used by the director of nursing to ridicule the self-respect of the stayers. The managers viewed that nurses had to stay because they did not have the capability or the power to leave nursing practice and they were also afraid that such a case may have had a negative impact on the morale of the current nursing workforce. The individual leavers' efforts do not appear to affect the situation of other nurses experiencing a greater-than-ever indifference from the nursing manager. Chinese nurses had to accept themselves as replaceable labour. It is understandable that the participants who left clinical care and entered into a new career successfully were regarded as models for their colleagues. This further encouraged and empowered capable nurses to leave their posts.

Struggling to Make Career Progression

Following similar criteria to the medical career path, Chinese nurses are required to pass regular examinations and spot tests at hospital, provincial, and national levels, and to fulfill publication requirements in order to make career progress within the hospital.

The regular nursing skill test might be necessary to maintain a standard in nursing procedures, but frankly, while I was able to do all the things in standard ways in the tests, I didn't follow all the rules in work because if I did I could not finish the tasks. ... By the way, nurses frequently had to take regular theoretical and nursing skill tests, but we had to use our free time to prepare and take the tests, so we became irritated and felt very stressful. (Ling)

Ling typified the views of many participants that passing the tests could not ensure nurses carrying out standard practice with a heavy workload due to limited time and shortage of hands. While nurses had accepted regular official checks and examinations, this has resulted in a great discrepancy between their daily practice and their ideals and values of professional nursing. In other words, it further negatively impacted on participants' professional identity. Whether they were good at taking the examination or not, nearly all participants commented that these examinations did not improve the quality of care for daily clinical practice, but had become extra burdens for nurses. The common challenge is that opportunity is needed to discuss whether the examination is reasonable or not within the hospital.

Except for several junior nurses who were not required to write an essay for their professional posts, the majority of participants regarded the essay and publication requirement as a meaningless, tough task without academic value.

No matter how well you have done in clinical care, you could not achieve a senior professional post without publications. The evaluation system is problematic. I

think that our country wasted nurses' time and money by forcing the clinical nurses to publish articles in a miserable way. (Chun)

Writing essays or publishing articles was a normal requirement for nurses who wished to rise to medium and senior professional posts. Although career progress in nursing seems equal to medical professional development and has been used to emphasise nursing's professional status by the nursing managers, the strict examinations, research and publication requirement that follow medical criteria seem to undervalue nursing expertise and discourage nursing's clinical development. This evaluation about nursing work performance does not properly reward the great efforts made by nurses. There is a potential danger for nursing to be de-professionalised by pursuing nursing career development. Nurses in this study lost enthusiasm in their career development. The majority of participants left nursing since they thought that they did not have any prospects as a clinical nurse, like Chun said:

I could not find a meaningful goal in my nursing career. It was a waste of time, money and energy. Why do I go through so much pain to insist on making an effort? (Chun)

Losing Enthusiasm in Promotion

Many participants thought that the limited opportunities for nursing promotion were not openly acknowledged under the bureaucratic management system.

The limited chances might depend on how well you work, but the more important is how much social resources and network you established. It is very tiring. I think the leaders' favorite will be selected. (Qun)

As the only participant who expressed satisfaction about her promotion, Xia frankly confirmed that the above view was common. The participants believed that nursing managers could be promoted through their professional efforts in nursing. The presidents of the hospital and the medical directors have the ultimate power in controlling the human resources within the units and at hospital levels. Under the bureaucratic management system, the chance and criteria of promotion were based on the different levels of leaders' personal preferences rather than those of their professional evaluation. Gao articulated a similar feeling to many participants who were unhappy to be supervised by less qualified nursing managers.

I was very clear that one of the head nurses could not do nursing well by herself as I worked closely with her. She was the kind of person who did not follow the formal procedures in practice. When there was nobody nearby, she would throw the infusion tube, without separating the needle, into the bin with disinfectant ... She recorded the blood pressure on the report without measuring the patients. She had a very bad work relationship with colleagues. However, the director of nursing liked her very much and she was promoted to be our head nurse. When

she became the manager, she would blame us in turn ... I felt very sad when she came to examine me. (Gao)

By challenging their managers' incompetence, some ambitious participants felt that the hospital managers undervalue their professional capability. However, it needs to be cautioned that the majority of nurses working in the Grade Three hospitals are highly qualified and well educated. This means that the limited managerial positions for promotion in a nursing career could not meet the needs of all nurses.

Nursing managers tend to avoid problems they cannot resolve and often ignore the nurses' explicit suggestions for an active solution. Many participants felt emotionally hurt by the rude and dehumanising attitudes of their nursing managers. This led them to diminish their respect for nursing managers.

I just feel that they do not treat you as a human being. I wouldn't like to have a life humiliated by the director of nursing. (Yang)

Meanwhile, the interpersonal conflicts between nursing managers and clinical nurses also influenced proper staff evaluation and financial reward. Many participants agreed that keeping good relationships with managers and colleagues was important in order to avoid being isolated in the workplace.

The head nurse and the group of charge nurses who were close to her liked to exchange material gifts. I did not like it, so they would isolate me from their group. They would not offer any help when I needed immediate assistance to cope with the overload of tasks in the workplace. (Rao)

The evidence has illustrated that nurses had to balance the conflict between their interpersonal and professional relationships. The appearance of harmony covered up the different levels of implicit personal and professional conflict between nurses and nursing managers. This has had a negative impact on effective team work during clinical care.

Although some participants indicated that poor interpersonal relationships did negatively influence some nurses' decisions to stay, the majority of participants thought that they usually had a good relationship with the head nurses. They did not comment negatively on their nursing managers.

My head nurse was an honest and kind person. I thought that she really dedicated herself to nursing. She was 45 years old and had never been married. She really trusted me and let me take the responsibilities. No matter how hard the work was, we shared the responsibilities and happiness working together in the unit. I would continue the hard work as usual since I valued the friendship. ... But once she could not control her tears when she was blamed for an incident occurred in her unit and had to confess in front of all staff of the hospital. I doubted whether such dedication for the hospital was worth for me to follow. Anyway, with her full understanding and support, I decided to leave nursing. (Yun)

This group of participants truly valued and admired their nursing managers' hard work and professional contribution by maintaining close working relationships with them. In recent years explicit or implicit age discrimination in nursing promotion became rife and was manipulated by the president of the hospital. Low morale was pervasive among current hard working nursing managers, since they perceived that what they valued as long term service and contribution to the hospital had not been properly rewarded. Not only were the powerless nursing managers with low morale unable to support the participants, but often it was the very same group of managers who gave their personal support and encouraged their favourite staffs to leave nursing practice rather than stay for a promotion. It is perhaps understandable, then, that the participants generally lost enthusiasm to join in the highly competitive but unpromising promotion process.

Pursuing Personal Freedom Under the Organizational Control

Nearly all participants are acutely aware that leaving nursing practice usually means permanently leaving a nursing career. It is not common yet that in China reasonable nursing workforce mobility occurs between units or hospitals. It needs to be noted, however, that there were several participants who were successful in moving within the hospitals with support from the hospital leaders.

We made great efforts to find a way to directly contact the president of the hospital through my husband's social network. It was very difficult, but later I was transferred to the X-ray department with the president's support. It was a very good position for a clinical nurse, where I was only responsible for the patients' register and a few X-ray catheters. (Gao)

A good position working in the hospital for Chinese clinical nurses usually means less stressful workplaces and being exempted from night shifts. The main factor for being successful in moving was that those nurses had support from the leaders of the hospital and the health authority or even possessed greater authority than their direct nursing managers. This view was supported by four other former nurses who are currently working in non-nursing positions in different hospitals.

The more powerful social resources the nurses have, the more easily they would be able to transferred into less stressful, non-nursing work environment in the hospital. This group of nurses who are doing non-nursing job is estimated to be about 9 to 15% of the whole Chinese nursing workforce (Yang and Chen 2004, Liu et al. 2005). The wastage caused by the hospital administrators not only increased the workload of the remaining clinical nurses, but also negatively impacted on the morale of clinical nurses. It is understandable that the participants who had more social resources could gain greater autonomy over their social mobility in the hospital. This could mean a faster climb to a higher nursing position. However, these participants clearly realized that the hospital leaders actually did not respect nursing as a profession, nor did they value the nursing contribution. This awareness tended to undermine the authority of nursing managers and the value of

a nursing career, since staying in a nursing career could not help them to increase self-esteem and gain respect as a professional nurse.

Furthermore, the organization not only used financial punishment to limit sick leave and maternity leave to a minimum, but also set up a compulsory contract which reaffirms the legal position of the hospital and forces the nurses to accept penalties for unapproved leaving. It was surprising that Xue said that she was happy to pay 5,000 yuan (approximately £500) for leaving the hospital after she had worked there for 9 years.

Why? Because if there was no such condition for leaving, for example, some hospitals do not need to renew the contracts, they would not allow you to leave. That would be troublesome. So, I can understand that if I want to leave I would give money for freedom. (Xue)

When individual nurses lost hope of achieving their individual expectations in their nursing career, leaving nursing practice was interpreted by participants as the way to pursue personal freedom. As having been a clinical nurse for just a year, Yan had to pay 15,000 yuan to leave, which was nearly equal to her annual income. Many participants mentioned that some colleagues could not afford the penalty for leaving or the cost of losing their jobs. The workplace became a trap to keep some nurses staying for life and they might then also adjust their expectations of nursing for concordance.

Participants also confirmed that it was rare for nurses to go back to Grade Three hospitals after they had left. Shao went back to the hospital after she self-funded to complete her Masters' degree education in Australia, but she later found that not only had she lost her original status but also received lower payment than her colleagues who entered the hospital together with her in the same cohort despite having garnered a Master's degree.

I was the same as you with enthusiasm in nursing, and really wanted to improve myself in order to be suitable for the highly competitive nursing environment in the hospital. More education should increase the morale of nursing, but I am pessimistic now ... since nobody cares how much effort you made. It is worthless to improve your education in nursing. Do not think that nurses' leaving is a problem for nurses since nowadays they have freedom to choose their career. (Shao)

Shao challenged the popular Chinese view that nurses' leaving is the problem of individual nurses, since people have freedom to choose a proper career with further education. Overall, the most highly educated and competent nurses clearly expressed that they hoped to achieve their career expectations in nursing. However, they left nursing when the hospitals took the highly competitive nursing environment for granted and failed to properly reward the highly motivated individual nurses. While nurses could not move around between different hospitals in China, under the static nursing workforce practices in the Grade Three hospitals, working or studying abroad has perhaps become more attractive for them. Chinese nurses regard working abroad as a way to re-seek freedom and professional value of being a nurse. An increasing trend of nurse emigration from China in the next

few years was predicted by Kingma (2006). In fact, according to the Chinese nursing migration studies (Xu 2003, Fang 2007), the nurses who work abroad as clinical nurses are usually the best educated nursing graduates with the best English language skills.

Discussion

The literature on nursing turnover presumes that the policy makers and hospital managers have a common awareness that retention of staff is an important issue based on the situation of nursing shortage (Hayes et al. 2006, 2012). It is understandable that the concerned researchers assumed that the hospital managers expected to learn different effective strategies to deal with the nursing shortage by retaining the qualified nurses. Nevertheless, the data show that the leavers hold the common view that nurses' leaving is not a problem for the hospitals but an individual problem for the nurses themselves. This study demonstrates that the Chinese Grade Three hospital nursing managers who regard nurses as easily replaceable labour might not have a similar awareness and the motivation to retain qualified nurses.

Redfern (1978: 239) defines that "Wastage is a measure of loss from the manpower system whereas labour turnover looks at the system as a whole, both losses and additions". This study found that the meaning of leaving nursing practice for Chinese nurses is different from the concept of "nursing turnover", which has been widely accepted in the current literature. The leavers expressed that they were normally aware that leaving their current post was equivalent to leaving nursing and was not a reversible process, since it is not feasible to see normal mobility in the Chinese nursing workforce management system. The crucial point from this study is that in order to pursue their personal freedom, the individual nurses with a higher perception of individual power realized that they had to give up their hopeless fight for professional nursing status under the organizational control, which resulted in "voluntary leaving". Those with lower perception of individual power did not have the freedom to make a decision about leaving and had to accept the powerless status of the current nursing workforce as normal, which resulted in "passive staying". It is confirmed that nursing wastage is not only caused by nurses voluntarily leaving nursing practice, but also occurs when the nurses resort to passive staying, through which they give up nursing autonomy without managerial and organizational support. This not only has caused the morale of nursing to deteriorate, but also has resulted in a lack of nurses in the remaining employment pool from which lower grade hospitals in less attractive rural areas could recruit. Unfortunately, the Grade Three hospital managers do not think that the knock-on effects of the nursing shortage nationwide should be their priority, although the Chinese Nurse Association calls for the hospital to recruit and retain as many nurses as possible to resolve the nursing shortage.

When compared with the higher rate of nurses' turnover in the West where personnel management is flexible and relatively equal (Aiken et al. 2001, Lu et

al. 2007), a relatively lower rate of actual leaving was seen in China (Sun et al. 2001, Ye et al. 2006). We would argue that the actual rate of voluntary leaving depends on how nurses perceive their individual power and the meaning of leaving for them shapes their responses to dissatisfaction and stress. This study does not support the widely accepted view that low level of turnover is an indicator of good practice (Hayes et al. 2006, 2012, O'Brien-Pallas et al. 2006). Powerless nurses are ineffective nurses. The meanings of leaving that the participants perceived raised some fundamental questions as to how "voluntary leaving" and "passive staying" would differently impact on an effective and sustainable nursing workforce.

The current nursing literature on nursing shortage does not fully reflect the fact that nursing shortages might no longer be an issue for upper-level hospitals in some relatively affluent metropolitan areas. This is particularly true in Chinese Grade three hospitals, which are the subject of my study. The Grade Three hospitals can select the well-educated and best qualified nursing graduates since there are plenty of candidates on the waiting list to enter these high status hospitals (Zhu et al. 2015). When supply exceeds demand, a surplus exists locally. The Chinese Grade Three hospital managers take the current surplus of nursing graduates for granted, based on the local oversupplied employment pool. Anand et al. (2008) has reported the imbalance of distribution of doctors and nurses in China due to the inequality of social-economic development and the limitations of the current health care system. This has also been confirmed in the Chinese health statistical database (MHPRC 2008, 2010). It is noteworthy that the Chinese standard staffing ratio was initiated in 1978, and may underrepresent the nursing shortage in China.

The inequality of health care workforce distribution exists both in developed and developing countries, although comparative nursing literature fails to show the degree of difference. In the USA, Brewer and Kovner (2001) found that the balance in supply and demand for registered nurses varies from state to state and among geographical regions within states. Meanwhile, nurses are often a target for cost-cutting by employers, particularly under the current global economic recession, so it is not surprising that there are not so many clinical practice jobs available in some metropolitan cities, which has resulted in unemployment and underemployment due to a variety of reasons in different countries (Spetz 2011). Apart from the high ratio of inactivity in the nursing workforce which has occurred in Japan (53.7%) and India (60%) (Nakata and Miyazakis 2008, Gill 2011), the literature further demonstrated that wastage due to the unemployment and underemployment of nurses also existed in Canada, Australia and the UK (Duffield and O'Brien-Pallas 2002, Spetz 2011). An inability to realize the full potential of their available workforces has also caused internal wastage in African countries (Dovlo 2005). Western scholars argue that the loss of nurses from developing countries to developed countries is exploitation (Kline 2003). However, the study shows many Chinese nurses who lost the hope to pursue a prospect nursing career in Chinese top hospitals regard working or studying abroad as an alternative way of seeking personal freedom and professional value of being a nurse. It raises the question of

whether the ethical concerns about nursing migration is fully understood in the same context as in the developed and developing countries.

This study supports the argument that the nursing shortage is not merely about numbers, but a matter of how these numbers are effectively deployed in the health care system (Lewis 2002, Buchan 2017). It highlights that wastage is arguably the most pressing and potentially serious crisis for the Chinese nursing workforce management. Our study suggests that while meeting the target number of registered nurses tends to be the main concern, nursing educational bodies, clinical institutions and the governments have omitted or avoided to discuss the urgent issue of nursing wastage. They have not got a comprehensive understanding of the causes of relative surplus and the consequences of wastage as an important issue related to the nursing shortage. To avoid nursing wastage, the retention strategies should consider supporting nurses' active staying in a nursing career rather than trap them into passive staying for life under organizational control. It is essential for nursing managers to retain the nurses who hold strong perception of individual power and wish to be respected for their nurses' professional value and contribution, as they are the hope of Chinese nursing and will become the backbone of Chinese nursing development by their active staying.

Conclusion and Implications

The lessons learned from Chinese nurses leaving nursing practice built a bridge to understand the relationships between the nurses' voluntarily leaving, nursing wastage and nursing shortage and to move towards effective nursing workforce management. Our study supports the idea that nursing shortage needs to be understood locally and resolved globally (Buchan and Aiken 2008). Based on the findings of this study, we advocate that nursing wastage may be avoided if nurses have greater autonomy to achieve more reasonable career prospects, which would ensure nurses' professional value and contribution to be properly rewarded with managerial and organizational support.

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