Chinese nurses' perceptions of heart health issues facing women in China: a focus group study

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Abstract

Background: China is in a state of rapid economic growth and epidemiological transition. Morbidity and mortality relating to heart disease in women has increased dramatically.

Objectives: To obtain the views of nurses regarding heart health issues for women in contemporary China.

Design: Focus group interviews

Settings: Convenience sampling was used to recruit nurses working in acute care hospitals in metropolitan China.

Methods: Five focus groups containing 28 female participants were conducted. Focus groups were moderated by two bilingual Chinese nurses, audio-taped, and analysed using thematic analysis.

Results: Four themes emerged from the focus group data: (1) Mixed perceptions of disease burden in women; (2) Modern life impacts upon women's health; (3) Need for focus on prevention and coordination; (4) Education and support are keys to driving health care improvements.

Conclusions: Heart disease, as a significant health issue for women in China, is underappreciated among Chinese nurses.

Key words: China, heart disease, nurse, women,

Introduction

China is experiencing tremendous economic growth. Accompanying this change is a dramatic shift in social and epidemiological circumstances. Globally, coronary heart disease (CHD) is a leading cause of morbidity and mortality [1]. CHD is expected to contribute to 82% of the future increase in mortality in developing countries[2]. Along with the ageing population, rapid economic development and urbanization, China has experienced a transition from infectious to chronic diseases [3]. These changes are accompanied by rapid social, political and economic shifts that inevitably impact on the health care system.

The health of women in China extends beyond reproductive and infectious diseases [4, 5]. Heart disease and cerebrovascular disease are the first and second most common causes of death in Chinese women, and the second and third causes of death for men [6]. A study among Beijing residents illustrates that women's knowledge of heart attack symptoms was comparable or lower than those described in the western regions more than a decade ago [7]. Similar to international findings describing inferior outcomes experienced by women following an acute cardiac event [8, 9], Jiang and colleagues found that the short- and long-term prognoses in women is far worse than men after acute myocardial infarction (AMI) [10]. Not surprisingly, CHD places a heavy economic burden on families and society. The direct medical cost of CHD in people aged 35 to 74 was approximately￥17.5 billion (around $2.6 billion) annually [11].

Furthermore, there is a positive relationship between CHD and socio-economic deprivation [12] which is likely exacerbated by the fee-for-service model.

Nursing in China

Nursing in modern China has evolved due to the influence of Western missionaries who began arriving in China in the 1880s [13]. China established Asia's first 5-year Bachelor of Nursing degree in 1920. However, abolishment of post-secondary nursing education 32 years later, along with the nationwide restructuring of the higher education system, meant the progression of this program ceased [13, 14]. Since recommencement of the higher education system in 1984, five levels of nursing education have been available in China. These levels are secondary, associate, bachelor, masters and doctoral degrees. Nurses in China are predominately female and work full-time in hospital settings. Post-secondary degree holders account for only 1% of the entire nursing workforce [15]. The doctoral degree was established recently through the cooperation of nursing schools of Peking Union Medical College and Johns Hopkins University [16].

Nurses play a crucial role in developing innovative models of care [17, 18]. There is a traditional Chinese saying that just thirty percent of healing depends on the treatment received while the remainder depends on the nursing care. The Chinese nursing ethos reflects the underlying beliefs of Chinese people and their cultural understanding of health [19]. Their receptivity to change is dependent on their knowledge, attitudes and

beliefs as well as their perception of need [20]. A study undertaken by Guo showed that cardiology nurses were receptive to innovation and collaboration [21]. To date, there has been minimal discussion and debate concerning women and heart disease in China [22]. This is in contrast to the emerging literature in countries such as the United States, Australia and the United Kingdom [23-25]. In order to develop nursing strategies to improve the heart health of women in China, we considered it important to source the views of nurses working in a range of clinical settings.

Method

Ethical approval was obtained prior to undertaking this study. Focus groups were used to capture the shared views of study participants regarding the risks of heart disease in women and how nurses individually and collectively can intervene to improve health outcomes. Focus groups consist of 5-15 participants who discuss and share their views and opinions and experiences with the facilitation of a moderator [26]. Focus groups are particularly useful as they facilitate interaction and assist in eliciting a range of views and perspectives that may not always be anticipated by the researcher [27-29].

Setting

Hospitals have been classified as Level 1, 2 or 3 since the Chinese hospital management system reform was implemented in the late 1980s. Level 1 hospitals are community hospitals with limited inpatient capacity; Level 2 hospitals have at least

100 inpatient beds and provide acute medical care and preventive care services to populations of at least 100,000; Level 3 hospitals are major tertiary referral centres in provincial capitals and major cities [30]. Patients can choose to visit any hospital. The higher classified hospitals charge more for the same service than lower level ones. In China, most people self-fund their own medical treatment and others have some kind of health insurance, such as basic health insurance, labour health insurance, private health insurance, and so on [31].

This study was undertaken in a capital city and participants were from either Level 2 or 3 hospitals. Participants were approached in various ways. Initially colleagues of the researcher (YC) were invited to participate. They were asked to invite any of their colleagues who they considered would be interested in participating. The initial focus groups were held in the early evening after work where refreshments were provided. Upon arrival, the procedures and processes were explained to participants and informed consent obtained. The focus groups were conducted in Chinese with Chinese-speaking moderators. The question route for the focus groups was generated to elicit participant's views and perspectives. These questions were informed by a literature review [22] and a preliminary series of discussions undertaken with Chinese-born nurses in Australia. The question route is shown in Table 1. With participants' permission, the focus group discussions were audio-taped. The method of Halcomb & Davidson was used to manage the study data given the need for both the student and supervisor to have access to the data [32]. Furthermore, it was

considered that verbatim translation of the transcripts may distort nuances of Chinese conversation. Two bilingual Chinese nurses with cardiovascular nursing research experience (YC and HD) facilitated group discussions. The following steps depict the data collection and management process:

Step 1: Interviews were audio-taped in conjunction with concurrent note-taking.

Step 2: Reflective journaling by moderators immediately followed the interviews.

Step 3: Researchers listened to audiotapes to verify and clarify field notes and observations.

Step 4: Preliminary content analysis was conducted. Soon after the two moderators agreed that their field notes accurately represented the interactions that occurred in each interview, analysis elicited common themes between interactions.

Step 5: Secondary content analysis was conducted by an additional research team member who was not involved in the data collection. This researcher reviewed the analysis to validate the themes from the data.

Step 6: Thematic review was conducted. In this process, the researchers reviewed secondary content analysis by re-listening to audiotapes and making necessary changes. The process was repeated until researchers were confident the themes illustrated the participants' perspectives.

Qualitative data analysis

A reflective and iterative process was used to maximise the validity of data interpretation and minimise external bias of the data [33]. Data collection and analysis of

the focus groups were carried out simultaneously to maximise the capacity to document group dynamics. Data analysis was conducted on recordings taken during the focus groups, hand-written field notes and the researcher's own thoughts following each group that were recorded in a reflective journal. The researchers who conducted the focus groups repeatedly listened to the audiotapes of the focus group discussions to immerse themselves in the data. Qualitative thematic analysis was applied to elicit common themes. This involved classifying words into categories based on their conceptual significance [34]. This type of data coding and categorizing assisted in retrieving and reviewing emerging data. Attention was also placed on the range and diversity of experiences and perceptions within group and across groups [33]. The initial themes were validated through subsequent probing of these topics during ensuing focus groups. Data from field notes and personal notes helped the researcher to interpret and understand the emerging themes.

Findings

The five focus groups consisted of 28 female Chinese hospital-based registered nurses. The characteristics of the participants are detailed in Table 2. Four themes emerged from the focus group data. They were: (1) *Mixed perceptions of disease burden in women*; (2) *The impact of modern life on women's health*; (3) *Need for focus on prevention and coordination*; and (4) *Education and support are keys to driving health care improvements*.

Mixed perceptions of disease burden in women

The health issues reported by participants to be the most significant health concerns in women were gynaecological and breast conditions, cancer, depression, and musculoskeletal diseases. Heart disease was rarely identified and was attributed to older women. Participants' views about health issues for women were reflective of their personal and professional experiences.

> *At least 80 or 90% women have a kind of gynaecology disease, including pelvic inflammatory disease, uterus prolapse, uterine myoma or cancer. Last year I had an operation and was told I had 37 uterine myoma. It was shocking…look the women around you, nearly almost suffer from this or that gynaecology disease. (P7)*

> *I've seen so many women with breast cancer, or fibroadenoma. I think breast cancer may be No 1 killer for women. They talk about a lot about breast cancer on TV, newspaper and radio. (P15)*

> *I thought heart disease was a big health threat when I worked in cardiology ward… Now I'm working in oncology ward and I find cancer may be the No. 1 killer for women. (P11)*

Participants also noted the lifestyle changes that have accompanied the rapid social-economic development in China.

Have you noticed this phenomenon?... In the supermarket, it is often crowded with so many obese people instead of skeleton as before. Nowadays people have sufficient 'good' food, not much physical labour work. They eat as much as they want and won't walk stairs if there is a lift. They enjoy things they could not get before and not think it may impact on their health at all…(P11)

Heart disease is often seen in men or women after 50 or 60s. People should be aware there are more victims of so-called fashionable diseases such as hypertension, hyperlipidemia, diabetes and coronary heart disease. (P10)

Modern life impacts upon women's health

Participants discussed the health consequences of increased pressure placed on women from both society and family.

Nowadays so many women have insomnia or depression. This is because of high pressure on them. (P2)

Being women, we have obligation by nature to rear our children, help them on their study in order to get them into a good university and find a job later on; do the housework; look after the elders; and we also have to work hard and keep studying to maintain the current employment. (P6)

We could say, too much pressure on women is the first of all culprits for health problems in women. I feel myself like a machine, start busily running from waking up in the early morning. (P4)

Nearly all diseases have some kind relationship with high pressure, such as insomnia, depression, breast disease, heart disease, hypertension, thyroid disease. (P19)

Need for focus on prevention and coordination

Participants discussed the lack of awareness of heart disease, a lack of health knowledge, health insurance coverage, and the view that individuals have less control over their health.

Generally speaking, health knowledge is far less than enough among Chinese population…it's understandable as we Chinese just get rid of starvation and poverty. I heard of health campaign a few times, but not once about heart disease. (P16)

People don't have the awareness to maintain or improve health in daily life… focus on health only when diagnosed with a disease. (P20)

Even though some people know prevention is important, but not able to afford regular screening which plays an important role for early diagnosis and treatment…, it's so sad to see so many patients with curable disease give up treatment because not able to pay… (P25)

Participants readily described their view that there is a need for nurses to undertake interventions, to improve clinical outcomes for women with heart disease. The explained that increasing public awareness is a crucial step in this process.

Concept is the most important thing, sometimes attitude decides everything. First to do is to wake up the public that heart disease is a big health threat for women. Prevention is better than treatment. (P23)

I only know a few health campaign done in the past…never heard any about heart disease in women…we may do it… (P8)

Secondly, participants discussed a need to reform the contemporary nursing care model. They described streamlined processes between the communities to hospitals that can provide high risk populations with improved care.

> *The patients will not be cared after discharge as no one I hand over to…we should have communication with the community nurses. (P24)*

> *For nurses in community, they are at good position and could do more in terms of prevention, screen…than us hospital-based nurses. (P4)*

Hospitalisation is a critical time for people to focus more on their health. For hospital-based nurses, the delivery of holistic nursing care from admission to discharge, instead of functional nursing care was perceived as important.

> *…on admission, from collection of history of disease, nurses should find out patients' risk factors of heart disease…decide caring plan accordingly, nursing intervene to decreasing high risks, followed by regular check up… (P22)*

Thirdly, there is an opportunity for nursing roles to extend into the area of health education. A range of methods in accordance with individual circumstances were mentioned by participants, including media such as radio, television, and internet,

distributing health information booklets, and organizing health education campaigns, especially in remote areas.

> *…we could provide the information booklet or advertise health information on TV or at public places…radio is preferred media for women in country as it does not disrupt women from doing housework and it's cheap. (P8)*

> *At the outpatient department, especially at medical clinic, is an ideal place for nurses to convey the health information to public. We could put the information on screen, talk to the people, edit some booklets displayed at the waiting area…(P1)*

Education and support are key to driving health care improvements

Participants perceived barriers to improve the nursing role to address women's heart health. The barriers discussed included the limited education opportunities with nurses, the need for increasing the professional profile of nursing, and support for advanced practice and the limitations associated with limited health insurance coverage available in China.

Honestly,…some nurses do not have adequate professional knowledge and skills…some only got the information about heart disease in classroom many years ago… ”(P28)

…nursing like medicine is a profession needs the staff keep studying otherwise you left yourself behind… (P8)

…the extreme busy clinical nurses are also occupied by lots of workload those not belong to nursing such as cleaning, safeguard the stuff. (P14)

…the most headache and saddest things is to persuade patients to pay when they owe the hospital money and monitor them not escaping from the hospital…(P11)

I have the knowledge and ability to write a booklet about health education on diet, exercise, etc. It's convenient for people to get it when they visit hospital, but nobody gave me the money to do it. (P4)

Furthermore, participants expressed a desire for more education and training, particularly in research, improved professional networking opportunities and support from their organisations.

…we like to have opportunity to work with other academics…. (P2)

...it's very meaningful to do some research work to improve patients' outcome…we would like to, but we need support from the hospital and need to improve our knowledge and skills to do this. (P8)

Discussion

The general education level has improved among Chinese nurses along with the re-establishing higher education in nursing. Despite these initiatives, there is still a gap between nurses' perception of the issues and the actual burden facing Chinese women. To our knowledge, this is the first study to explore nurses' perceptions of women's heart health in China. Nurses' perceptions are associated with their personal and professional experiences and are influenced by media and people around them. For instance, these data suggest that exposure to health issues resulted in increased awareness. Those who realised the relevance of heart disease to women were currently or previously working in a cardiology setting. As evidenced in this study, nurses' knowledge, attitudes and beliefs are associated with their behavioural intention and clinical practice [20, 35]. Further research is needed to describe Chinese nurses' knowledge, attitude, beliefs and clinical behaviours to improve women's heart health.

Economic burden was perceived by participants as a significant factor influencing women's health. In China, only 55% of urban and 21% of rural populations have

health insurance [36]. The average cost of a single hospital admission is almost equivalent to China's annual per-capita income and is more than twice the average annual income of the lowest two deciles of the population [36]. "*Too difficult to see a doctor, too expensive to see a doctor*!" became one of the top issues in China's opinion polls [37]. In accordance with these findings, the medical service cost and absence of funded regular screenings are factors that emerged and are associated with not focusing on prevention. Not surprisingly, non-adherence to medications and deferring treatments were not uncommon circumstances reported by nurses.

Recommendations

Heart disease is an emerging problem in Chinese women [6]. Nurses are in a good position to improve patients' clinical outcomes and challenge health transitions [38]. It is necessary to strengthen the confidence of nurses and the public regarding the importance of the nursing role in improving people's health. Until recent times a number of factors, particularly limited access to ongoing education, have limited development of nursing in China [13]. Strategies to increase the professional profile of nursing through leadership roles are important in developing innovative nursing models.

Secondly, nurses need more support to undertake ongoing education to enable them to be equipped to deal with the issues facing contemporary China. Reform of nursing curricula at the undergraduate and postgraduate levels, as well as continuing

education programs, is warranted. Increasing investment in forging international cooperative research programs and nurse-led models of nursing care and activities that support health promotion are also warranted. Further, investment in social marketing campaigns such as the *Go Red for Women* campaign [39, 40] that are culturally appropriate are necessary to increase the awareness of the Chinese public of the burden of CHD.

Finally, the very limited health insurance coverage has an impact on coping with the high prevalence of chronic disease such as CHD in China. As complaints regarding the cost of medical services increase, expanding health insurance coverage and enabling greater access to medical care should be priorities of health care reform in China.

Limitations and strengths of the study

This study used convenience sampling in a metropolitan area in China. Findings may not reflect the perception of other nurses, particularly in remote areas. A further limitation is that participants may not have expressed divergent views to save other's face due to cultural pressures. In spite of these limitations, focus groups are a useful method to obtain comprehensive and detailed descriptions about perceptions of CHD in women. The capacity to undertake the study in Chinese has elucidated key issues nurses face in improving the heart health of Chinese women.

Conclusion

Heart disease among women is a growing problem. Internationally, there are strategic initiatives to increase this awareness. In China, addressing this problem is hindered not only by a lack of public awareness but also within the nursing profession. Shifting the focus from treatment to prevention and reform will require leverage both internal and external to the nursing profession. This study has shown that the awareness of heart disease as a problem for women was not evident and this is consistent with other studies. Efforts to improve awareness should involve nurses at individual, administrative, and public health levels.

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Summary and Implications

- Coronary heart disease is a an emerging and growing problem in China
- There is a limited focus on heart disease in women in China
- Improving education and increasing awareness is important to address the growing numbers of Chinese women with heart disease.

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Table 1 Question route for focus groups

1 What do you think are the biggest health problems facing women in China?
2 In what way do you think nurses can assist women in addressing these health problems?
3 What are your thoughts concerning heart disease in women in China?
4 In what way can you, as a nurse, develop strategies to help women address their health problems?

Table 2 Illustrate characteristics of 28 female participants

Participant	Age	Years qualified as RN	Nursing qualification	Clinical area at interview	Cardiac work experience (yes/no)	Hospital level
1	22	1	Associate degree	Ophthalmology	No	3
2	40	21	Bachelor	Internal medical clinic	Yes	3
3	22	3	Secondary level	Internal medical ward	No	3
4	42	22	bachelor	Medical clinic	No	3
5	27	6	Associate degree	ENT	No	3
6	42	24	Associate degree	Dermatology	Yes	3
7	43	24	Bachelor	Paediatric	No	3
8	57	40	Associate degree	Nursing quality control office	No	3
9	29	9	Associate degree	Cardiology	yes	3
10	27	7	Associate degree	Cardiology	Yes	3
11	40	21	bachelor	Ontology	Yes	3
12	26	7	Associate degree	Nephrology	No	3
13	27	8	Associate degree	Dialysis	No	3
14	28	9	Associate degree	Dialysis	No	3
15	22	1	Associate degree	Ontology	No	3
16	38	18	Associate degree	Gynecology and obstetrics	Yes	2
17	22	2	Associate degree	Orthopedics	No	2
18	45	26	Secondary level	Gynecology and obstetrics	Yes	2

19	46	28	Bachelor	Gynecology and obstetrics	Yes	2
20	24	1	bachelor	Gynecology and obstetrics	Yes	2
21	25	2	Bachelor	Gynecology and obstetrics	Yes	2
22	45	26	Associate degree	Gynecology and obstetrics	No	2
23	43	24	Bachelor	Cardiology ward	Yes	2
24	35	15	Bachelor	Cardiology	Yes	2
25	39	21	Bachelor	Kidney centre	Yes	3
26	30	10	Associate degree	Operate theatre	No	2
27	40	21	Bachelor	Neurology ward	Yes	2
28	31	7	Bachelor	Orthopedic ward	No	3