The Screening of Self-care Behaviour among Chinese Ethnic with Heart Failure in Malaysia

Chong Yen Yee[1], Nor Firdous Mohamed[1], Nor Ashikin Md Sari[2], Nur Amani Ahmad Tajuddin[2,] Aizai Azan Abdul Rahim[3]

[1]Faculty of Human Development, Sultan Idris Education University, Malaysia, [2]Faculty of Medicines, University Malaya, Malaysia, [3]Department of Cardiology, Institut Jantung Negara, No. 145, Jalan Tun Razak, 50400 Kuala Lumpur, Malaysia.

Abstract

This study aimed to determine the level of self-care behaviour among the Chinese ethnic with Heart Failure (HF) in Malaysia. A cross-sectional survey design was conducted with HF patients (N=80). The average age of participants was 61.39 years old (M = 61.39, SD = 15.88). Chinese version of Self-care Heart Failure Index version 6.2 were used in this study. Descriptive analysis such as mean and standard deviation were used to run the analysis. Current findings suggested that the self-care behaviour of Chinese ethnic HF patients in Malaysia is satisfactory adequate, with both self-care management and self-care confident having standardised scores of greater than 70. The studied population scored highest in self-care confidence. Hence, it is suggested that element of confidence is one of the important factors to be considered in future self-care interventions.

Keywords: Heart Failure, Malaysia, Chinese Ethnic, Self-Care, Behaviour

Introduction

Cardiovascular disease (CVD) is an epidemic which caused 17.9 million deaths per year according to World Health Organization (WHO, 2020). The number of heart failure (HF) patients worldwide is increasing, with the condition affecting an estimated 26 million people globally. HF is a final stage of heart disease, and it occurs when the heart muscle is unable to pump sufficient blood and oxygen to meet the needs of the body.

According to a press release by Department of Statistics Malaysia in 2018, the percentage of deaths caused by Ischaemic heart diseases was 13.9% in 2017, which remains as the principal causes of death. The causes of death due to Ischaemic heart diseases (IHD) had increased 54% as compared to 10 years ago. Heart failure (HF) is the main cause of hospitalization in Malaysia, accounting for about 6-10% of all medical admissions with an inpatient mortality rate of 11%. Nevertheless, ischaemic heart diseases (IHD) is the principal cause of death for all major ethnic groups. Chinese ethnic recorded the second highest

increase of 0.2 percentage point from 13.0 per cent (2016) to 13.2 per cent (2017) which is the main focus of respondent in current study.

Self-care behaviour is defined as a naturalistic decision-making process which influence actions that maintain physiologic stability, facilitate the perception of symptoms, and direct the management of those symptoms (Liou et al., 2015). To the author's knowledge, there is very limited studies have been conducted on self-care particularly among the Chinese ethnics in Malaysia.

Methodology

The objectives of this study is to determine the level of self-care behaviour among the Chinese ethnic with HF in Malaysia. Survey research was implemented to obtain data from respondents. The scale used in the questionnaires is Likert-type scale or frequency scales fixed choice response formats which are designed to measure attitudes or opinions. These ordinal scales measure levels of agreement or disagreement (Bowling, 1997; Burns, & Grove, 1997 cited in McLeod, 2008). Cross-sectional design was used in this study.

A set of questionnaires was distributed to samples among Chinese ethnic in National Heart Institute (IJN) and University of Malaya Medical Centre (UMMC). A total of 80 participants were recruited within 3 months durations. Permission to conduct research on human subjects was approved by the ethics review board of IJN (IJNREC/420/2019) and UMMC (MREC ID No: 2019618-7526) prior to the recruitment of the participants. The set of questionnaires accompanied by patient information sheet and informed consent form were distributed among the participants in IJN and UMMC. The patients were screened by a cardiologist to determine their fitness to participate in the study. The respondents were given a token of appreciation after completing the survey. The participants recruited were outpatients at IJN and UMMC. The participants were identified by cardiologists based on the criteria of reduced left ventricular function (ejection fraction of < 55%) and symptoms of heart failure such as congestion in the lungs, shortness of breath and oedema. Patients from Chinese ethnic groups in Malaysia were recruited to participate in the study. Patients were assessed by cardiologists for HF severity according to the classifications of the New York Heart Association (NYHA) I to IV. Inclusion criteria for recruitment was patients with NYHA I, II, and III. The exclusion criteria was patients with NYHA IV, cognitive impairment and refused to give consent.

There were two instruments used for data collection which are socio-demographic questionnaire and Chinese version of Self-care Heart Failure Index version 6.2 (SCHFI-v6.2) questionnaire. The socio-demographic questionnaire was to obtain information on gender, age, marital status, and education level, working status, days spent in hospital per year, co-morbidities and severity level of illness (ejection fraction percentage).

The SCHFI is a validated self-report instrument to measure the three self-care behaviours which are self-care maintenance, self-care management and self-care confident with satisfactory model fit on CFA; (RMSEA) = 0.07 and (CFI) = 0.73. Factor analysis showed three factors explaining 43% of the variance. Descriptive statistics were used to analyse the collected data. Data was summarized using descriptive statistics such as frequency counts, means, and standard deviations.

Results

Table 1.0
Demographic Information of Participants

Demographic Variables	ƒ (N=80)	%
Gender		
Male	48	60
Female	32	40
Age		
20-39 years old	8	10
40-59 years old	25	31.3
60 years old and above	47	58.8
Marital Status		
Single	22	27.5
Married	58	72.5
Education Level		
Primary	24	30
Secondary	32	40
Tertiary	24	30
Employment Status		
Employed	29	36.3
Unemployed	51	63.7
Days spent at hospital (per year)		
≤5	57	71.3
>5	23	28.7
Comorbidity		
Non-comorbidity	48	60
With comorbidity/s	32	40
Ejection Fraction (%)		
≥55	29	36.3
40-54	24	30.0
35-39	4	5.0
<35	23	28.7

As summarized in Table 4.3, there were forty-eight males and thirty-two females participated in this study. There were fifty-seven participants who spent less and equal to 5 days in hospital per year, whereas twenty-three participants spent more than 5 days in hospital per year. In this current study, forty-eight participants were non-comorbid and thirty-two others having comorbidity/s. There were two types of comorbidities among the participants which are cardiovascular comorbidities such as ischaemic heart disease and hypertension. Non-cardiovascular comorbidities are diabetes mellitus cancer, kidney failure, stroke and pulmonary oedema. There were Twenty-nine participants having an ejection fraction of more and equal to 55%, which indicated normal pumping ability of the heart.

Twenty-four participants having ejection fraction of 40% to 54%, indicating slightly below normal pumping ability of the heart. Total of four participants having ejection fraction of 35% to 39%, categorized as moderately below normal pumping ability of the heart and twenty-three participants having ejection fraction of less than 35%, indicating severely below normal pumping ability of the heart.

Table 2.0
Mean and standard deviation for subscales of SCHFI-v6.2 (n=80)

	Mean	Standardized Mean Score	Standard Deviation
Self-care Maintenance	13.16	54.83	3.12
Self-care Management	18.52	77.17	3.51
Self-care Confident	20.20	84.17	3.96

Descriptive analysis was conducted on the three subscales of SCHFI-v6.2. According to Riegel, Dickson and Faulkner (2016), higher scores indicate better self-care and a standardised score of 70 or greater is used as the cut-point to judge self-care adequacy. The samples had the highest self-care confidence (M = 20.20, SD = 3.96), following self-care management (M = 18.52, SD = 3.51) and having the least self-care maintenance (M = 13.16, SD = 3.12).

Discussion
SCHFI-v6.2 measures three subscales behaviour which are self-care maintenance, self-care management and self-care confidence. These three scales measure different types of components which constitute self-care behaviour as a whole.

In this current study, the self-care behaviour of Chinese ethnic HF patients in Malaysia is satisfactory adequate, with both self-care management and self-care confident having standardised scores of greater than 70. The studied population scored highest in self-care confidence, indicating that they were confident in identifying the changes in the symptoms. Besides that, they are confident in preventing symptom onset and having the ability to engage with the management and maintenance of the symptoms. Similarly with past findings that suggest the population had adequate self-care management which indicates that the population are able recognize the symptoms and implement the treatments efficiently. As a result, they are able to evaluate the effectiveness of the treatments (Rebello, 2017).

However, self-care maintenance was not satisfactory with poor total scores. Past research suggested that it could be due to the lack of self-care maintenance knowledge among the studied population. Interventions have to be taken to educate HF patients to increase their self-care maintenance such as monitoring their weight constantly, checking their ankles for swelling, consuming low salt diet, exercising and doing physical activity, maintaining their ideal weight and receiving yearly flu vaccination (Bidwell et al., 2015).

Conclusion
In conclusion, Chinese ethnic with HF in Malaysia had high self-care confidence. However, interventions and education targeting self-care confidence is necessary to maximise the self-care behaviour. Health-care providers should deduce effective interventions and education in order to improve self-care behaviours. A tailored patient interventions among Chinese

ethnic with HF in Malaysia can be implemented in order to improve prognosis, reduce hospitalization and have better outcomes (Lainscak, Blue, Clark et al., 2011). It is recommended to increase the number of participants and explore more factors related to self-care behaviour in the future research.

Acknowledgement
This thesis is able to be completed with the support and help from many individuals. I would like to convey my thanks to all of them. First and foremost, I would like to express my deep and sincere gratitude to my supervisor, Mrs Nor Firdous Mohamed for giving me the opportunity to conduct this study on heart failure population and providing valuable guidance throughout this final year project. Her patience, determination, enthusiasm and sincerity have inspired me to never give up on this whole process.

Besides that, I would like to thank Dr Nor Ashikin Md Sari and Dato Dr Aizai Azan Bin Abdul Rahim for allowing me to collect data from their respective hospital through helping in ethics application. Last but not least, my deepest gratitude and appreciation goes to my family and friends. I am indebted to my parents who give endless support to me and shower me with lots of love. It is impossible to complete this thesis without their constant support, psychologically and financially.

Corresponding Authors
Nor Firdous Mohamed
Faculty of Human Development, Sultan Idris Education University, Malaysia

References
Lainscak, M., Blue, L., Clark, A. L., Dahlström, U., Dickstein, K., Ekman, I., McDonagh, T., McMurray, J., Ryder, M., Stewart, S., Stromberg, A., Jaarsma, T. (2011). Self-care management of heart failure: Practical recommendations from the patient care committee of the heart failure association of the European society of cardiology. *European Journal of Heart Failure, 13*(2), 115–126. https://doi.org/10.1093/eurjhf/hfq219

Liou, H. L., Chen, H. I., Hsu, S. C., Lee, S. C., Chang, C. J., & Wu, M. J. (2015). The effects of a self-care program on patients with heart failure. *Journal of the Chinese Medical Association*, *78*(11), 648–656. https://doi.org/10.1016/j.jcma.2015.06.004

Ming, L. C., Hassali, M. A., Shafie, A. A., Awaisu, A., Hadi, M. A. & Al-Haddad, M. (2011). Perspectives of heart failure patients in Malaysia towards medications and disease state management: findings from a qualitative study. *Journal of Public Health, 19*, 569-577. https://doi.org/10.1007/s10389-011-0415-5

Riegel, B., Vaughan, V., Kuhn, L., Page, K., & Worrall-carter, L. (2010). International Journal of Nursing Studies Gender-specific barriers and facilitators to heart failure self-care : A mixed methods study. *International Journal of Nursing Studies*, *47*(7), 888–895. https://doi.org/10.1016/j.ijnurstu.2009.12.011

Shaughnessy, J. J., Zechmeister, E. B., & Zechmeister, J. S. (2015). Research methods in psychology. New York: McGraw-Hill.

Vellone, E., Buck, H. G., Dickson, V. V., Fida, R., D'agostino, F., Alvaro, R., & Riegel, B.

(2015). How comorbidity, self-care confidence and self-care behaviors interact to predict hospitalization in heart failure patients. *European Journal of Heart Failure, 17*, 301. Retrieved from https://www.researchgate.net/publication/278727460_How_comorbidity_self care_confidence_and_self-care_behaviors_interact_to_predict_hospitalization_in_heart_failure_patients