p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Vol. 7 No.2 July 2021

Original Article

Knowledge, Self-Efficacy, and Performance of Patient Education in Heart Failure Among Nurses in Indonesia

Djunizar Djamaludin [1*] | Chen, Hsing-Mei [2]

[1*]Vocational Education Program, Faculty of Medicine, Nursing and Health Science, Malahayati University, Bandar Lampung, Indonesia

[2]Vocational Education Program, Departement of Nursing, College of Medicine, National Cheng Kung University, Tainan, China

***contact**
bluenavi01@gmail.com

Received : 01/05/2021
Revised : 14/06/2021
Accepted : 16/07/2021
Online : 23/07/2021
Published : 31/07/2021

Abstract

Background: Nurses play a vital role in educating Heart Failure (HF) patients about the disease, and should be knowledgeable about what they teach. Likewise, a nurse should believe in his or her own capability to effectively give a health education based on his or her knowledge about HF management, and this known as self-efficacy.
Objectives: The purpose of this study was to examine the relationships among HF knowledge, self-efficacy, and performance as well as determinants of performance in HF education among nurses who took care of patients with cardiac diseases.
Methods: A cross sectional study design with convenience sampling was employed and 135 participants were recruited from five units (male and female medical ward, cardiac ward, ICU, ICCU, and VIP unit) at a general hospital in Bandar Lampung, Indonesia. Four instruments were used, including the Nurses' Knowledge of Heart Failure Education Principles questionnaire, Nurse Self-Efficacy Scale, and HF Knowledge Education Scale of Nursing Performance. Data were analyses using, Mann-Whitney U and Kruskal-Wallis test were used to examine association between mean scores on the study variables.
Results: A significant relationship was found between nurses' self-efficacy and performance of HF education (r=0.59, p= 0.000), but the relationship between nurses' knowledge and performance of HF education was not significant (r= -0.33, p= 0.01).
Conclusions: This study found that the nurses in general hospital in Lampung, Indonesia, may not be sufficiently knowledgeable about HF education principles. Nevertheless, the nurses mostly had high self-efficacy as well as good performance with regard to HF education.

Keywords
nurses' knowledge, self-efficacy, performance

INTRODUCTION

Heart Failure (HF) has become a major public health issue worldwide. In 2010, HF was prevalent in more than 23 million people in the world [1]. HF in Indonesia cannot be ignored based on the fact that HF is one of top 10 leading deaths in hospital inpatients in Indonesia (Indonesia Hospital Information Systems, 2010-2011). According to the 2009-2010 statistical data from the Directorate General of Disease Control and Environmental Health (P2PL, 2009-2010), heart disease was the major

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727
Jurnal Keperawatan Komprehensif
Vol. 7 No.2 July 2021

death cause in 2009 in Indonesia. Several heart diseases can lead to HF, thus, the incidence of HF among Indonesian patients is expected to continue to increase in the future. This also indicates healthcare providers need to pay more attention to the patients in order to provide better prevention and management of HF.

Patients with HF are most likely to experience worsening condition and rehospitalization because of several causes. They may unable to access healthcare professionals, engage-in poor regular follow-up visits, and adhere poor medication treatments [2]. Implementing disease management program is important to promote improve HF outcomes such as morbidity, mortality, readmissions, and length of hospital stay [3]. An effective HF management program includes evidence-based medications, patient education, and device therapy [4]. Patient education is important to promote patients' ability to manage their disease after being diagnosed with HF [5]. The content of education should include exercise, diet, fluid restriction, weight monitoring, medications adherence, and sign and symptoms for worsening condition. Research study has found that patient education provided by nurses can promote patient self-care, reduce readmission, and help patients early identify disease related problems [6].

Nurses are the primary providers of delivering comprehensive patient education based on current evidence and patient condition [7]. Before giving health education about HF, however, it is important to assess nurses' knowledge [8]. Lacking of knowledge in patient's diseases may lead to barriers to perform meaningful and high quality of patient education [9]. Nurses may not be confident in teaching HF patients about dry weight, meal planning, medication adherence, and exercise if they do not have sufficient knowledge on that topic. Gaps in nursing knowledge about content of patient education and mechanism of HF, it will lead to inadequate transforming HF education principles to the patients [7].

Self-efficacy theory reflects the judgments, believes or expectations about a person's capability to behave in, engage in or execute an action in a given situation [10]. In this context can be translated to, a nurse believes his or her own capability to effectively give a health education based on his or her knowledge about HF management. Self-efficacy has been expected to have the greatest influence on nurses' performance [11]. This theory can be used as the framework to describe the importance of self-efficacy in the situation of the nurse as an educator. It is important for the nurse to have high level of self-efficacy when educating patients regarding HF. Different educational levels of nurses may also have impact on self-efficacy in the study conducted by [12], which found that pediatric nurses with a BSN had a higher level knowledge with a lower level of self-efficacy [12].

Overall, nurses play an important role in giving education to HF patients. Nurse performance in HF education is effective when taught by knowledgeable nurses based on the HF guidelines. Besides that, the nurses also must to have good self-efficacy to provide HF education, and then they can achieve better performance in patient education. Therefore, the main purpose of this study was to examine the relationship between HF knowledge, self-efficacy, and performance of patient education among nurses who take care of patients with cardiac diseases in Indonesia.

p-ISSN : 2354 8428 | e-ISSN: 2598 8727
Jurnal Keperawatan Komprehensif
Vol. 7 No.2 July 2021

METHODS

Study design

A cross-sectional, correlational design was used in a convenience, nonprobability sample of nurses in Abdul Moeloek Hospital Bandar Lampung, Indonesia.

Sample

The participants of this study were 135 nurses who take care of cardiac patients and recruited from the medical ward, cardiac ward, intensive care unit (ICU) and intensive cardiac care unit (ICCU). The inclusion criteria were nurses having worked as a nurse for at least 3 months as well as nurse supervisors and head nurses were excluded.

Instruments

Nurses who participated in the study were asked to complete three questionnaires, the translated to Indonesia Language version back-translated into English by two English teacher and cardiology nurse expert who were bilingual English-Indonesia. The first questionnaire was used The Nurses' Knowledge of Heart Failure Education Principles Survey [13]. This survey consists of 20 items related to HF self-care including 3 questions for diet, 7 questions for fluid volume status, 6 questions for signs and symptoms worsening condition, 2 questions for medication, and 2 questions for exercise. Participants answered all of the items with "yes' (true) or "no" (false). The score range 0-20 points and the expected score was 87.5% or greater. Written permission to use the survey was obtained before the study. The internal consistency (KR-20) for this study was .63.

The second questionnaire was used The Nurses' Self-Efficacy Scale was revised from the Teacher Self-Efficacy Scale, which was developed by Ralf Schwarzer, Gerdamarie Schmitz, and Gary Daytner in 1999. This scale consists of 10 questions with a scale options from 1 to 4, (1) not at all true, (2) barely true, (3) moderately true, and (4) exactly true. The total score range 1-4 points. The Cronbach's alpha for this study was.85. Since there is no instrument to measure nurses about HF knowledge education performance, the researcher was developed HF Knowledge Education Scale of Nursing Performance was used as third questionnaire. This instrument consists of 5 questions and consist of 5 questions with a scale options from 1 to 5, 1= Never, 2= rarely/seldom, 3= some times, 4= most of the time and 5= all of the time with total score ranges 5-20. The Cronbach's alpha for this study was .90.

Procedure

Following approval from director of hospital in this study was applied for the research protocol before data collection. The survey was presented and distributed in the morning meeting. Informed consent was obtained from the nurses who agreed to participate in this study. For anonymity, the participants were requested not to fill out their initial or names on the instruments. Completed paperwork was placed in a seal envelope for each participant and collected from a lock drop-box in the head nurses office to ensure the confidentiality. Participants were given one week for survey completion. A total 135 questionnaire packets were delivered to participants and there was no return rate.

p-ISSN : 2354 8428 | e-ISSN: 2598 8727
Jurnal Keperawatan Komprehensif
Vol. 7 No.2 July 2021

Data Analysis

The data were analyzed using the Stastical Package for The Social Sciences (SPSS), version 17. Descriptive and inferential statistics were used to describe and synthize the data. Frequencies, percentages, range, means and standard deviations were used for demographic variables. Since the data were not normally distributed, a non-parametric test was performed, and the level of significance was set at p < 05. The Spearman Correlation test was used to determine relationship between demographic variables with knowledge, self-efficacy and performance in HF patient education among nurses who take care of cardiac disease patients. Mann-Whitney U-test and Kruskal-Wallis test were used to examine association between mean scores on the study variables of level of knowledge, level of self-efficacy and performance in HF patient education.

RESULTS

Participants' characteristics. A total 135 nurses who working in hospital agreed to participate and completed the questionnaires in this study majority were females (94[69.6%]), with an educational level of diploma degree (109 [80.7%]), married (108 [80%]), living with their family (72 [53.3%]) and working unit in VIP (64 [47.4]). The range age of participants was 19 years to 56 years. The range working years as a nurse since graduation from nursing school was from 7 months to 384 months (32 years). The years for nurses working in their current unit were from 1 month to 244 months (20 years).

Since the questionnaire included 20 statements of Nurses' Knowledge of Heart Failure Education Principles Survey to be marked as true or false, a fully correct response would have resulted in a total score of 20/20 (100%). The distribution of each item among nurses with the mean scores of 53.04 (SD=11.132). The lowest score was 25 and the highest scores were 75. The most correct answer from participants with frequency 124 (91.9%) was item number 19 (New onset or worsening of fatigue) and the less correct answer with frequency 4 (3%) was item number 4 (Patients with HF should decrease activity and most forms of active exercise should be avoided). For Nurses' Self-Efficacy Scale, the mean of Nurses' Self-Efficacy score participants was 32.21 (SD= 4.102). The result for Knowledge Education Scale of Nursing Performance were three participants (2.2%) had highest score 40 and one participant (.7%) had lowest score 21. the mean score was 15.83 (SD= 2.475), 5 (3.7%) the participants had highest score 20 and 3 (2.2%) participants had lowest score 10.

Relationship between Demographics, Level of HF Knowledge, Self-Efficacy, and Performance of HF Knowledge Education among Nurses. By using Spearman Correlation test, in the table 1 shown there were five positives correlation between self-efficacy and performance (r= .59, p= 0.01), age and performance (r= .21, p= 0.05), age and working unit (r= .24, p= 0.01), age and working in current unit (r= .70, p= 0.01), working unit and working in current unit (r= .48, p= 0.01). However, there were two negatives correlation between knowledge and self-efficacy (r= -.21, p= 0.01), knowledge and performance (r= -.33, p= 0.01).

In the table 2 shown that the only variable had significant relationship. The variable was living status and self-efficacy with z= -1.95, p value= .051. It means nurse'

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Vol. 7 No.2 July 2021

who living alone had 5.1% self-efficacy better than the nurse' who living with their family.

Table 1.
Association between age, working as a nurse, working in current, HF Knowledge, Self-Efficacy, and Performance among Nurses with Spearman Correlation test (n= 135)

Variables	Knowledge	Self-Efficacy	Performance	Age	Working Unit
Knowledge					
Self-Efficacy	-.21*				
Performance	-.33**	.59**			
Age	-.16	.15	.21*		
Working Unit	-.07	-.06	-.05	.24**	
Working in current unit	-.04	.03	.10	.70**	.48**

*p value <0.05 level, ** p value <0.01 level (2-tailed).

Table 2:
Relationship between Age, working as a nurse, working in current, HF Knowledge, Self-Efficacy, and Performance among Nurses with Mann-U Whitney and Kruskal-Wallis Test (n= 135)

Variables	n (%)	Knowledge			Self-Efficacy			Performance		
		Mean Rank	Z/x²	p value	Mean Rank	Z/x²	p value	Mean Rank	Z/x²	p value
Gender			-.92	.353		-1.87	.062		-1.27	.203
Male	41 (30.4)	63.32			58.57			61.61		
Female	94 (69.6)	70.04			72.11			70.79		
Marital Status			-.48	.631		-.38	.701		-1.34	.178
Single	27 (20)	71.20			65.44			59.06		
Married	108 (80)	67.20			68.64			70.24		
Education level			-.34	.733		-1.79	.072		-1.24	.214
Diploma	109 (80.7)	67.44			65.08			65.99		
BSN	26 (19.3)	70.33			80.25			76.44		
Living Status			-.16	.871		-1.95	.051*		-.06	.945
With Family	72 (53.3)	68.51			61.91			68.22		
Alone	63 (46.7)	67.42			74.96			67.75		
Working Unit			7.97[a]	.092		3.19[a]	.526		7.64[a]	.106
Cardiac Ward	12 (8.9)	82.63			59.00			71.71		
ICU/ICCU	21 (15.6)	59.62			77.21			86.52		
Female Medical Ward	19 (14.1)	63.61			60.16			56.89		
Male Medical Ward	19 (14.1)	86.42			74.50			58.84		
VIP	64 (47.4)	63.84			67.06			67.24		

*p value <0.05, a= x² (chi square)

p-ISSN : 2354 8428 | e-ISSN: 2598 8727
Jurnal Keperawatan Komprehensif
Vol. 7 No.2 July 2021

DISCUSSION

The present study aimed to examine the relationships among demographics, knowledge, self-efficacy, and performance in HF education among nurses who caring for patients with cardiac diseases. The scores for the Nurses' Knowledge of Heart Failure Education Principles Survey obtained in this study were lower than in previous works [8,13,14]. The expected score was 87 or greater [13]. This is similar to the result of [3], in which the mean score was 13.57 (SD 2.33), equivalent to 67.8%. Two possible reasons for the low score may be that lack of any protocol for HF education in the focal units, and the fact that the majority of nurses are not provided with specific training in cardiology nursing. Nurses thus need more formal and continuing education in order to provide high quality care of patients with heart failure [15].

The lowest score in this study was for item number 4 (patients with HF should decrease activity and most forms of active exercise should be avoided). The recommendation from [4] is that exercise training is safe for patients with HF and there are some benefits, such as reduced mortality, improved functional capacity and quality of life, and reduced number of hospitalizations [4]. Patients with systolic heart failure are safe to do regular training of a six-minute walk or for 50 meter distance, as this will improve their peak oxygen consumption [16]. [17] found that supervised aerobic and resistance training for 30 minutes a time for three days a week for three months, along with home-based aerobic training three days a week, will increase the peak heart rate by 60-70%.

Moreover, nurses also had lower scores with regard to the diet items (Table 4, items number 9 and 13). This finding is similar with the finding of [13] that the use of 'potassium-based salt substitutes to season food' was poorly understood by the participants. Nurses who lack HF knowledge about diet will consequently be unable to provide adequate information about this to patients [18]. Based on the American Heart Association's (AHA) recommendation for patient with heart failure, such individuals should limit themselves to 1500 mg/d sodium intake in order to prevent high blood pressure, which could lead to the risk factors of hypertension, left ventricular hypertrophy, cardiovascular disease, and other HF risk factors [19]. Furthermore, nurses should more known more about which foods contain sodium for taste and as a preservative, as well as educate patients how to seasoning food without sodium [13].

Less than 30% nurses' answered incorrectly about the patient's ideal or "dry" weight (Table 4, item question number 15). This indicates a gap between evidence based and nursing application in the working setting [3]. The nurses do not have adequate information about comparing patients' daily weight changes with the standard value [13]. The most important predictor of worsening heart failure, which can lead to readmission as well as mortality, is hypervolemia. Therefore, by providing patient education, counseling and follow up programs after discharge in order to prevent hypervolemia, such as by giving details of fluid restrictions and the need to monitor one's weight daily, patient outcomes can be improved [7]. Based on the AHA's recommendation, fluid in patients with HF should be limited to 1.5 L to 2 L per day [4].

This current study found that 32.21% of the nurses in Abdoel Moeleok General Hospital had good self-efficacy with regard to their of performance HF patient

p-ISSN : 2354 8428 | e-ISSN: 2598 8727
Jurnal Keperawatan Komprehensif
Vol. 7 No.2 July 2021

education, with only 15.8% nurses who had lower self-efficacy. However, there were 51.7% of nurses who chose option number 3, and who thus felt they had moderate self-efficacy. [20] found that Asian people are more likely to select middle option of such surveys, abut this problem with regard to the midpoints in a Likert Scale can be overcome by increasing the scale's sensitivity. Future studies should thus increase the number of possible responses [21]. Based on the 10 items, nurses had the highest self-efficacy for the item, "I will continue to become more and more capable of helping to address my patients' needs." Nurses had the lowest self-efficacy (0.7%) for the items, "I am confident that I can maintain my composure and continue to teach well" and "I can carry out patient education". Based on Ziegler (2005), when a person has had a successful experience then this will enhance their related self-efficacy. According to [22]a person may have high confidence or high self-esteem but not high self-efficacy, because this latter characteristic is not permanent and can easily be influenced by situational conditions.

This study found that 85% of the nurses perform HF patient education in Abdoel Moeleok General Hospital. This finding is consistent with a previous study carried out in New South Wales, Australia, which found that the nurses performed patient education as part of routine care, delivered it in an efficient manner, and developed patient education tools based on evidence [23]. Moreover, HF education and the support provided by nurses significantly increase patient self-care behaviors in the hospital and at home [5], and thus nurses' performance will impact patient outcomes [24]. This study also showed that 89.6% of nurses did perform HF patient education for medication adherence, while 23.7 % did not perform HF patient education on regular exercise. It is important for nurses to perform HF education for medication adherence, because patients should be taught the name of each drug and its purpose, dosage, frequency, and significant side effects, for instance β-blockers should be taken after a meal and ACE inhibitor once a day before a meal [18]. A systematic review study conducted by [25] found that patient education performed by nurses improves patient self-care behavior and leads to reduced readmission, improving clinical outcomes, quality of life and reduced mortality.

CONCLUSION

This study found that the nurses in general hospital in Lampung, Indonesia, may not be sufficiently knowledgeable about HF education principles. Nevertheless, the nurses mostly had high self-efficacy as well as good performance with regard to HF education.

REFERENCES

1. Albert, N. M. (2013). Parallel paths to improve heart failure outcomes: Evidence matters. American Journal of Critical Care, 22(4), 289-296. doi: 10.4037/ajcc2013212
2. Albert, N. M., Collier, S., Sumodi, V., Wilkinson, S., Hammel, J. P., Vopat, L., Bittel, B. (2002). Nurses's knowledge of heart failure education principles. Heart & Lung, 31(2), 102-112. doi: 10.1067/mhl.2002.122837

p-ISSN : 2354 8428 | e-ISSN: 2598 8727
Jurnal Keperawatan Komprehensif
Vol. 7 No.2 July 2021

3. Bandura, A. (1995). Self-efficacy in changing societies. New York: Cambridge Press.
4. Boyde, M., Turner, C., Thompson, D. R., & Stewart, S. (2011). Educational interventions for patients with heart failure: A systematic review of randomized controlled trials. Journal of Cardiovascular Nursing, 26(4), E27-E35.
5. Bui, A. L., Horwich, T. B., & Fonarow, G. C. (2011). Epidemiology and risk profile of heart failure. National Insitute of Health, 8(1), 30-41. doi: 0.1038/nrcardio.2010.165
6. Cummins, R. A., & Gullone, E. (2000, March). Why we should not use 5-point Likert scales: The case for subjective quality of life measurement. Proceedings, second international conference on quality of life in cities (pp. 74-93)
7. Departemen Kesehatan Republika Indonesia. (2013). Hasil riskesdas 2013. Badan Penelitian Pengembangan Kesehatan RI.
8. Dubois, C. A., D'Amour, D., Pomey, M. P., Girard, F., & Brault, I. (2013). Conceptualizing performance of nursing care as a prerequisite for better measurement: A systematic and interpretive review. BioMed Central Nursing, 12, 7. doi: 10.1186/1472-6955-12-7
9. Grange, J. (2005). The role of nurses in the management of heart failure. Heart, 91 Supplement 2, ii39–ii42. doi: 10.1136/hrt.2005.062117
10. Gupta, D., Georgiopoulou, V. V., Kalogeropoulos, A. P., Dunbar, S. B., Reilly, C. M., Sands, J. M., & Butler, J. (2012). Dietary sodium intake in heart failure. Circulation, 126(4), 479-485
11. Hart, P. L., Spiva, L., & Kimble, L. P. (2011). Nurses' knowledge of heart failure education principles survey: a psychometric study. Journal of Clinical Nursing, 20(21-22), 3020-3028. doi: 10.1111/j.1365-2702.2011.03717.x
12. Heart Failure Society of America. (2010b). Section 6: Nonpharmacologic management and health care maintenance in patients with chronic heart failure. Journal of Cardiac Failure, 16(6), e61-e72. doi: 10.1016/j.cardfail.2010.05.015
13. Jaarsma, T., Strömberg, A., Mårtensson, J., & Dracup, K. (2003). Development and testing of the European Heart Failure Self-Care Behaviour Scale. European Journal of Heart Failure, 5(3), 363-370. doi: 10.1016/s1388-9842(02)00253-2
14. Jaarsma, T., Halfens, R., Abu-Saad, H. H., Dracup, K., Gorgels, T., Van Ree, J., & Stappers, J. (1999). Effects of education and support on self-care and resource utilization in patients with heart failure. European Heart Journal, 20(9), 673-682.
15. Kalogirou, F., Lambrinou, E., Middleton, N., & Sourtzi, P. (2012). Cypriot nurses' knowledge of heart failure self-management principles. European Journal of Cardiovascular Nursing, 12(2), 159-166. doi: 10.1177/1474515112440367
16. Kementrian Kesehatan, R. I. (2012). Buletin jendela data dan informasi kesehatan. Jakarta: Kementerian Kesehatan RI.
17. Lenz, E. R., & Shortridge-Baggett, L. M. (2002). Self-efficacy in nursing: research and measurement perspectives. Springer Publishing Company.
18. Mahramus, T. L., Penoyer, D. A., Sole, M. L., Wilson, D., Chamberlain, L., & Warrington, W. (2013). Clinical nurse specialist assessment of nurses' knowledge of heart failure. Clinical Nurse Specialist, 27(4), 198-204. doi: 10.1097/NUR.0b013e3182955735

p-ISSN : 2354 8428 | e-ISSN: 2598 8727
Jurnal Keperawatan Komprehensif
Vol. 7 No.2 July 2021

19. McKelvie, R. S., Teo, K. K., Roberts, R., McCartney, N., Humen, D., Montague, T., & Yusuf, S. (2002). Effects of exercise training in patients with heart failure: the Exercise Rehabilitation Trial (EXERT). American Heart Journal, 144(1), 23-30.
20. O'Connor, C. M., Whellan, D. J., Lee, K. L., Keteyian, S. J., Cooper, L. S., Ellis, S. J., & HF-ACTION Investigators. (2009). Efficacy and safety of exercise training in patients with chronic heart failure: HF-ACTION randomized controlled trial. Journal of the American Medical Association, 301(14), 1439-1450.
21. Park, M. Y. (2005). Nurses' perception of performance and responsibility of patient education. Taehan Kanho Hakhoe Chi, 35(8), 1514-1521.
22. Paul, S. (2008). Hospital discharge education for patients with heart failure: What really works and what is the evidence?. Critical Care Nurse, 28(2), 66-82.
23. Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. Psychological bulletin, 124(2), 240.
24. Stanley, M., & Pollard, D. (2013). Relationship between knowledge, attitudes, and self-efficacy of nurses in the management of pediatric pain. Pediatric Nursing, 39(4), 165.
25. Stromberg, A. (2003). Nurse-led heart failure clinics improve survival and self-care behaviour in patients with heart failureResults from a prospective, randomised trial. European Heart Journal, 24(11), 1014-1023. doi: 10.1016/s0195-668x(03)00112
26. Stromberg, A. (2005). The crucial role of patient education in heart failure. European Journal of Heart Failure, 7(3), 363-369. doi: 10.1016/j.ejheart.2005.01.002
27. Strömberg, A. (2002). Educating nurses and patients to manage heart failure. European Journal of Cardiovascular Nursing, 1(1), 33-40. doi: 10.1016/s1474-5151(01)00011-1
28. Tsang, K. K. (2012). The use of midpoint on Likert Scale: The implications for educational research. Hong Kong Teachers' Centre Journal, 11, 121-130.
29. Wang, R., Hempton, B., Dugan, J. P., & Komives, S. R. (2008). Cultural differences: Why Do Asians Avoid Extreme Responses? Survey Practice, 1(3), 1-7.
30. Washburn, S. C., Hornberger, C. A., Klutman, A., & Skinner, L. (2005). Nurses' knowledge of heart failure education topics as reported in a small Midwestern community hospital. Journal of Cardiovascular Nursing, 20(3), 215-220
31. Washburn, S. C., & Hornberger, C. A. (2008). Nurse educator guidelines for the management of heart failure. Journal of Continuing Education in Nursing, 39(6), 263-267.
32. Willette, E. W., Surrells, D., Davis, L. L., & Bush, C. T. (2007). Nurses' knowledge of heart failure self-management. Progress in Cardiovascular Nursing, 22(4), 190-195.
33. Yancy, C. W., Jessup, M., Bozkurt, B., Butler, J., Casey, D. E., Drazner, M. H., & Wilkoff, B. L. (2013). 2013 ACCF/AHA guideline for the management of heart failure: A report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. Journal of the American College of Cardiology, 62(16), e147-e239.