Original Research Article

Effect of sociodemographic correlates on quality of life of heart failure patients

Running title: Sociodemographic correlates & QoL heart failure patients

ABSTRACT

OBJECTIVE: This study aimed to determine effect of sociodemographic correlates on quality of life (QoL) in heart failure patients.

METHODS: A cross-sectional study using a newly developed and validated research tool and MLHF research tool, was conducted in heart failure patients. Data was collected by convenience sampling method. Descriptive, comparative, and inferential statistics were used by Statistical Package for the Social Sciences (SPSS) ver. 24 to determine the sociodemographic correlates of QoL in heart failure patients.

RESULTS: Out of total 177 studied patients, the majority of the studied heart failure patients were male 103 (58.2%) and the females were 74 (41.8%). The most of the studied heart failure patients were from > 60 years of age group 73 (41.2%). In Spearman's correlation analysis, statistically non-significant (p >0.05), weak and positive associations were observed. The studied demographic variables like gender, age, marital status, educational level, monthly income, smoking, family history and weight were found to have positive correlation with patients overall QoL

CONCLUSION: The study results concluded a weak but positive correlation between various studied demographic variables and QoL of the heart failure patients.

Original Research Article

Keywords: Heart failure, QoL, sociodemographic, correlates, correlation

INTRODUCTION

Heart failure is a major global health problem that affects every aspect of life among individuals. There are many daily activities and aspect which could be badly affected by the heart failure like daily chores, quality of life, employment and even premature death [1]. It is a chronic, progressive condition that can result from any condition in which heart becomes unable to pump sufficient amount of blood in order to meet daily body and oxygen demands of the body and heart itself [2]. According to the World Health Organization (WHO), it is ranked as one of the leading chronic and progressive disorder often resulting in significant interference with the daily chores of routine life [1-3].

It is a global disease that has affected more than 25 million individuals worldwide so far and the count is still increasing every day. In near future, it is expected that more than 8 million people will have this condition in next decade, accounting for a 45% increase in its prevalence worldwide [4-6]. As plentiful cases are not been reported hence the actual likelihood may be even more which pose a greater burden on the healthcare budgets of the several developing countries worldwide [7,8]. On the other hand, there are constant concerns over the consequences of delays in seeking treatment and resulting sudden paralysis and even deaths.

In literature, several studies showed that the perception of the patients' well-being by physicians and patients themselves focuses primarily on pharmacotherapy despite quality of life (QoL) [6-9]. In consequence, several countries are enforcing various policies and emergency healthcare programs to improve the standard and sustainability of quality of life of the individuals affecting by diseases like heart failure [10,11]. As a progressive disease, heart failure, if left untreated or not timely treated, can cause potentially fatal complications and disabilities which could badly affect quality of life of the individuals. This study aimed to determine the effect sociodemographic determinants and their effect on quality of life of the heart failure patients.

Materials and methods

This was a cross-sectional study and a self-administered questionnaire was employed. The study subjects were screened for inclusion and exclusion criteria. Information sheet was handed to patients and informed consent was taken. The questionnaire was delivered personally to the patients by the researcher who also collected them back after they completed the study. The sampling method employed was convenient sampling. Content validity of the questionnaire was checked before start of the study. Reliability of the questionnaire was assessed using Cronbach's alpha which is the most common tool to be used to measure internal consistency. A pilot study was also conducted to further ascertain the reliability and validity of the research tool. The mean score of all three domain of the MLHF research tool was taken and the total sum of the MLHF tool was used as an overall QoL among the studied heart failure patients. Then, the association between the QoL and demographics was analyzed.

Statistical analyses

Percentages and frequencies were used for the categorical variables, while means and standard deviations were calculated for the continuous variables. Chi square and Spearman's correlation coefficient were used to evaluate correlations and impact of various demographic variables on overall QoL of the studied heart failure patients. Data from the research questionnaire were analyzed using Statistical Package for the Social Sciences (SPSS) version 24.0.

RESULTS and DISCUSSION

Demographic details of the study participants

This study consisted of 177 heart failure patients and their demographic characteristics are in table 1. An approximate of the male patients in this study were n=103 (58.2%) and the females were n=74 (41.8%). The majority of the studied heart failure patients were from > 60 years of age group n=73 (41.2%). In educational background, patients with no formal education were 51 (28.8%), primary 44 (24.9%), secondary 57 (32.2%), and tertiary education were 25 (14.1%). A detailed information is given in table 1.

Table 1: Demographic variables of the patients (n= 177)

Variables	N	%
Gender		
Male	103	58.2
Female	74	41.8
Age (Years)		
20–35	21	11.9
36–45	34	19.2
46-60	49	27.7
> 60	73	41.2
Marital status		
Married	159	89.8
Single	18	10.2
Education		
No	51	28.8
Primary	44	24.9
Secondary	57	32.2
Tertiary	25	14.1
Monthly income		
No	37	20.9
< $ 500	68	38.4
$ 500-1000	29	16.4
$ 1001-1500	26	14.7
> $ 1500	17	9.6
Smoking		
Yes	85	48.0
No	92	52.0
Family history		
Yes	98	55.4
No	79	44.6
Overweight		
Yes	98	55.4
No	79	44.6
Daily exercise		
Yes	98	55.4
No	79	44.6
Comorbidities		
Yes	83	34.9
No	94	65.1

QoL of the heart failure patients

The overall total sum QoL score of the heart failure patients was calculated based on the three domains of the MLHF research tool. Based on the total item analysis of MLHF tool, a total sum of the scores of 72.37 were observed showing a low level of QoL among the studied heart failure patients. MLHF determines patients' characteristics that are affected their ability to live as they wanted during the past month (4 weeks). A study done in 2009, reported that a score of less than 24 on the MLHF tool represents a good QoL, a score between 24 and 45 represents a moderate QoL, and more than 45 reflects s poor QoL. And among the sub-scale scores of the MLHF tool, the physical domain had slightly higher score than the emotional domain while the others domain had higher scores than the rest two of the domains. Figure 1 displays the mean score of each domain. From the results obtained, it is also evident that the studied patients had equally experienced difficulty in their daily chores either in physical or in emotional domains.

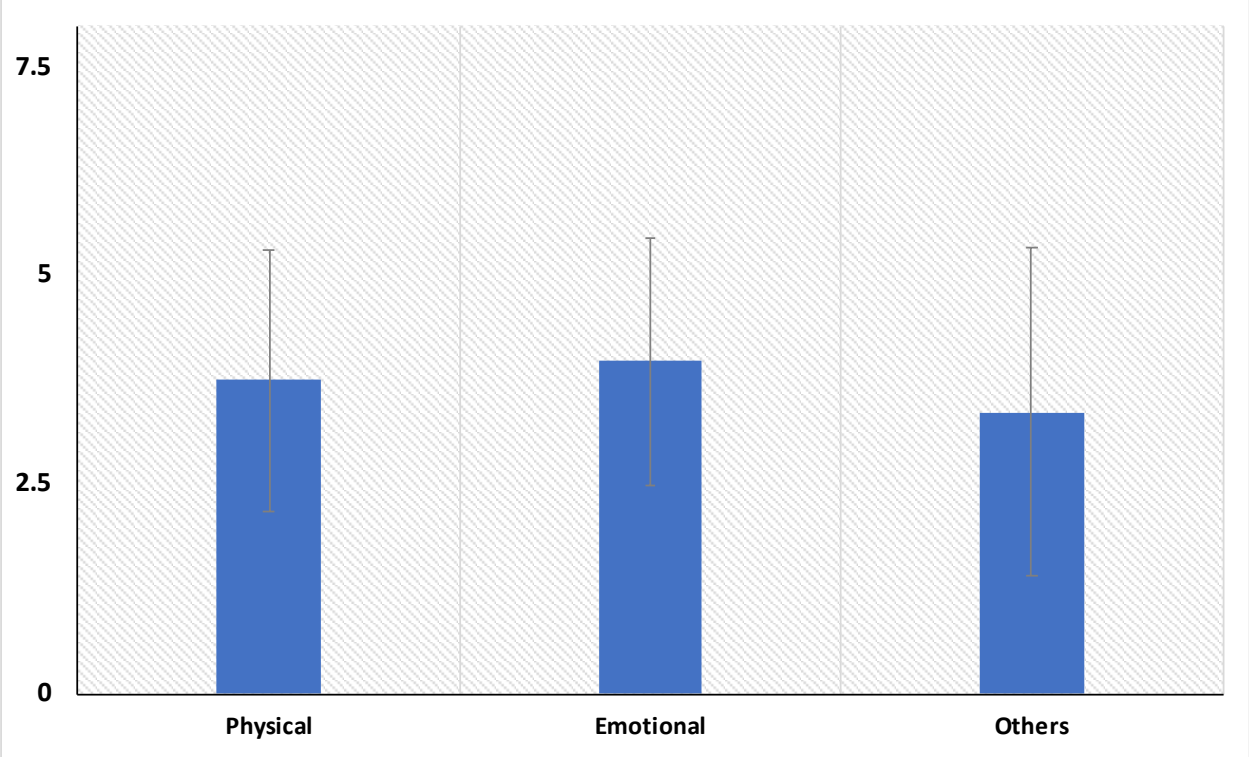

Figure 1: Mean QoL scores of the participants

Correlation between demographic variables and QoL

Relationship between the demographic characteristics and the mean QoL score is illustrated in table 2. Different demographic characteristics evaluated were gender, age, marital status, educational level, monthly income, smoking and family history. The detailed results and their findings are presented in table 2. The studied demographic variables like gender, age, marital status, educational level, monthly income, smoking, family history and weight were found to have positive correlation with patients overall QoL. Moreover, there was a weak and positive correlation was observed between various demographic characteristics and QoL. The detailed findings of these results are presented in table 2.

Table:2 Correlation between demographics and QoL score

Variables	N	Mean (SD)	r-Value	*p*-Value
Gender				
Male	103	3.93 (1.62)	0.187	0.125
Female	74	3.71 (1.11)		
Age (Years)				
20–35	21	3.57 (2.08)	0.136	0.378
36–45	34	3.23 (1.36)		
46-60	49	3.78 (3.05)		
> 60	73	3.81 (1.52)		
Marital status				
Married	159	3.17 (0.89)	0.254	0.236
Single	18	3.06 (1.22)		
Education				
No	51	3.32 (2.73)	0.457	0.377
Primary	44	3.53 (2.39)		
Secondary	57	3.67 (1.54)		
Tertiary	25	3.75 (3.38)		
Monthly income				
No	37	3.14 (1.88)	0.164	0.879
< $ 500	68	3.32 (2.82)		
$ 500-1000	29	3.41 (2.95)		
$ 1001-1500	26	3.63 (2.58)		
> $ 1500	17	3.18 (2.66)		
Smoking				

Yes	85	3.42 (1.91)	0.158	0.672
No	92	3.32 (2.72)		
Family history				
Yes	98	3.69 (1.89)	0.231	0.067
No	79	3.62 (1.36)		
Overweight				
Yes	98	3.73 (3.55)	0.289	0.692
No	79	3.74 (1.28)		
Daily exercise				
Yes	98	3.10 (1.52)	0.444	0.071
No	79	3.53 (1.84)		
Comorbidities				
Yes	83	3.89 (1.62)	0.282	0.062
No	94	3.97 (2.23)		

CONCLUSION

In conclusion, our study concluded a weak but positive correlation between various studied demographic variables and QoL of the heart failure patients. The studied demographic variables like gender, age, marital status, educational level, monthly income, smoking, family history and weight were found to have positive correlation with patients overall QoL

Ethical Approval:

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

Consent

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

REFERENCES

1. Juenger J, Schellberg D, Kraemer S, Haunstetter A, Zugck C, Herzog W, Haass M. Health related quality of life in patients with congestive heart failure: comparison with other chronic diseases and relation to functional variables. Heart 2002; 87: 235– 241.
2. American Heart Association, Guidelines for heart failure, 2017
3. Ponikowski P, Voors AA, Anker SD, Bueno H, Cleland JG, Coats AJ, Falk V, Gonzalez-Juanatey JR, Harjola VP, Jankowska EA, Jessup M, Linde C, Nihoyannopoulos P, Parissis JT, Pieske B, Riley JP, Rosano GM, Ruilope LM, Ruschitzka F, Rutten FH, van der Meer P. 2016 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure: The Task Force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC). Developed with the special contribution of the Heart Failure Association (HFA) of the ESC. Eur J Heart Fail 2016; 18: 891– 975.
4. Yancy CW, Jessup M, Bozkurt B, Butler J, Casey DE, Drazner MH, Fonarow GC, Geraci SA, Horwich T, Januzzi JL, Johnson MR, Kasper EK, Levy WC, Masoudi FA, McBride PE, McMurray JJ, Mitchell JE, Peterson PN, Riegel B, Sam F, Stevenson LW, Tang WH, Tsai EJ, Wilkoff BL. 2013 ACCF/AHA guideline for the management of heart failure: executive summary: a report of the American College of Cardiology Foundation/American Heart Association Task Force on practice guidelines. Circulation 2013; 128: 1810– 1852.
5. National Institute for Health and Clinical Excellence. Chronic heart failure in adults: management. (Clinical Guideline CG108). 2010. www.nice.org.uk/guidance/Cg108 (2 April 2018).
6. Williams BA, Doddamani S, Troup MA, Mowery AL, Kline CM, Gerringer JA, Faillace RT. Agreement between heart failure patients and providers in assessing New York Heart Association functional class. Heart Lung 2017; 46: 293– 299.
7. DP. Limitations of the New York Heart Association functional classification system and self-reported walking distances in chronic heart failure. Heart 2007; 93: 476– 482.
8. Benjamin EJ, Muntner P, Bittencourt MS (2019) Heart disease and stroke statistics-2019 update: A report from the American Heart Association. Circulation 139(10):e56–e528
9. Cook C, Cole G, Asaria P, Jabbour R, Francis DP (2014) The annual global economic burden of heart failure. Int J Cardiol 171(3):368–376
10. Dokainish H, Teo K, Zhu J, Roy A, AlHabib KF, ElSayed A, Palileo-Villaneuva L, Lopez-Jaramillo P, Karaye K, Yusoff K (2017) Global mortality variations in patients with heart failure: results from the International Congestive Heart Failure (INTER-CHF) prospective cohort study. Lancet Glob Health 5(7):e665–e672
11. Costa, L. , Islam, M. , Anowar, M. and Latif, M. (2020) Quality of Life of Chronic Heart Failure Patients. Open Journal of Nursing, 10, 831-857.