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Effectiveness of an Instructional Programs on Patient's Knowledge Regarding Self- Care Management after Ischemic Heart Disease

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Abstract

Cardiovascular disease remains the leading cause of morbidity and mortality worldwide, and there is a rising global burden. The effects of diet on cardiometabolic risk factors have been studied extensively. Healthy habit as a cost-effective approach to risk reduction in post- ischemic heart disease patients is proven to be beneficial. A quasi experimental study design is carried out at An Nasiriyah Heart Center in AL-Nasiriyah City, from 15th of September, 2018 to the 2nd July, 2019. A non-probability (Purposive sample) of (100) patients diagnosed with myocardial infarction divided into two group (50) patients as control group and (50) patients as study group. The data were collected through the use of questionnaire designed by researcher, which comprised of (2) parts: Part I: related to the Socio-demographic characteristics and Part II: Clinical characteristics. Part III: Assessment self-care management of IHD patients' knowledge .Reliability of the questionnaire is determined through a pilot study and the validity through a panel of experts. The descriptive and inferential statistical procedures were used for analysis of data. Findings of the present study indicated that the instructional program recorded positive and meaningful results in improving patients' knowledge with self-care management.

Keywords: *Effectiveness, Instructional Program, Patients, Knowledge, Self-Care Management.*

Introduction

Cardiovascular diseases is considered as one of the most common chronic diseases and mortality reason in the world . It is estimated that due to cardiovascular diseases, 20% of healthy life years of people will be lost by 2020 1. In 2000, CVD is accountable for more than 1.9 million of death in the European Union, 4.35 million deaths in Europe, responsible for 43% of all deaths in male and 55% of all deaths in female. Cardiovascular disease is developing and has become the leading reason of death in developing countries 2. Furthermore numerous risk factors have been linked to the development of CVD including; poor dietary habits, overweight and obesity, hypertension, insulin resistance or diabetes mellitus, alcohol consumption, smoking, poor physical activity levels, and dyslipidemia. Many of these risk factors are related and reversible through a healthy diet and increased physical activity 3. Adopting a healthy lifestyle can lower cholesterol, reduce recurrent myocardial infraction, need for surgery or angioplasty. One of the ways to do this is to reduce the amount of saturated fats, salts, and meats consumed3. Studies have established the benefits of therapies, such as self-care management. , at reduction risk factor in secondary prevention of IHD 4. In his study. Yancy et al. has shown 73.3% of patients felt limitation and isolation, 62% gave up hope and accepted that they did not look after themselves, 66.6 % of them had frequently been hospitalized and they believed it happen due to lack of knowledge about looking after themselves 5. Nowadays, developing the technology has decreased the duration of diagnosis, cure and hospitalization days and patients don't have enough time to obtain information about their disease during hospitalization. According to a study, 20% of hospitalized patients said that they have received enough information and consultation about their health conditions, while 20% of them were not satisfied about their received information and 60% have said information must be presented better6. Learning self-care can direct person toward maintaining the health and cause to increase of adaptation and ability of self-

care7..

Material and Method

A quantitative research approach has been used for this study. The quasi-experimental design (two-dimensional demonstration of two-group pre-test-post-test design) conducted on patients with ischemic heart disease towards education program with application of pre-post- test approach for the study group and control group in assessing their knowledge and the application of education program for the study group. It carried out in order to achieve the initial stated objectives. The study was started from 15th of September, 2018 to the 2nd July, 2019., mission to carry out the study. A non-probability (purposive) sample of (100) patients was selected. All the patients diagnosed with ischemic heart disease and they had a medical records and they review cardiac outpatient clinics An Nasiriyah Heart Center. The sample was divided into two groups each one contained (50) patients as control group and case group. The study group was exposed to an education program about knowledge of self- care management, while the control group was not exposed to such instructional program. To accomplish the study, the researcher constructed the questionnaire based on the review of previous related literature and related studies. Data were analyzed through the use of SPSS application version 0.22. Descriptive data analysis including Frequency, Percentage, Mean of score (M.S) with their Standard Deviation (S.D). Percentile Grand Mean of Score (PGMS), Percentile Global Mean of Score (PGLMS), and Relative Sufficiency (RS %). Inferential data analysis includes Chi Square statistic of the contingency, Test (ANOVA) Data, T-test (independent sample t-test), T-test (paired t-test).

For the abbreviations of the comparison significant (C.S.), we used the followings

- NS : Non-significant at P>0.05
- S: Significant at P<0.05
- HS : Highly significant at P<0.01

The study limited by different factors including: difficulty to reach to the national studies and previous studies regarding educational programs about nutritional regimen for myocardial infarction patients, Limited research population that could affect the generalization of research findings in all Iraqi governorates. As well as difficulty to attend some education sessions by some patients.

Table (1) Statistical distribution of both groups (case & control) by their demographic data N=100

Items	Sub-groups	Case group Total = 50		Control group Total = 50		P-value
		Frequency	Percentage	Frequency	Percentage	
Age	40-49	6	12.0	2	4.0	C.C.=0.236 P=0.314 (NS)
	50-59	14	28.0	7	14.0	
	60 and above	30	60.0	41	82.0	
Gender	Male	34	68.0	35	70.0	C.C.=0.042 P=0.673 (NS)
	Female	16	32.0	15	30.0	
Educational status	Illiterate	12	24.0	25	50.0	C.C.=0.136 P=0.865 (NS)
	Read and write	11	22.0	11	22.0	
	Primary school	5	10.0	4	8.0	
	Intermediate	8	16.0	5	10.0	
	Preparatory	6	12.0	1	2.0	
	Institute	4	8.0	2	4.0	
	Bachelor and above	4	8.0	2	4.0	
Marital status	Married	43	86.0	41	82.0	C.C.=0.103 P=0.783 (NS)
	Widowed	7	14.0	9	18.0	

Table (1) shows that studied groups recorded no significant differences at P>0.05, and this reflects the validity of the selected subjects due to their similar status in the light of those variables, as well as preceding results indicating that two studied groups are thrown from the same population in the light of, and this is more reliable for this study, since any meaningful deviation between studied groups should be interpreted according to the effectiveness of applying the suggested program. Statistical distribution of case group and control group by their socio-demographic data, it explains that the highest percentage (case group 60% and control group 82%) of patients are with ages above 60 years old, and (68% of case group and 70%of control group) of them are male patients, the majority of case group (86%)and control group (82%) are married, most of the sample live in urban residents (case group74% and control group 68%), while (24% of case group and 50% of control group) are illiterate, most of (76% case group and 84% of control group) have insufficient monthly income, and are (38% of case group and 60% of control group) retired.

Table (2) Statistical distribution of both groups (case & control) by their clinical data N= 100

Items	Result	Case group Total = 50		Control group Total = 50	
		Frequency	Percentage	Frequency	Percentage
Period of diagnosis	less than or equal 2 years	42	84.0	37	74.0
	more than 2 years	8	16.0	13	26.0
Body mass index	under weight	4	8.0	0	0
	normal weight	7	14.0	6	12.0
	over weight	32	64.0	35	70.0
	obesity	7	14.0	9	18.0
Smoking	Yes	32	64.0	37	74.0
	No	18	36.0	13	26.0
if yes smoking cigar rate	No smoking	32	64.0	13	26.0
	Cigarette	18	36.0	37	74.0
Period of smoking	10-19	4	8.0	13	26.0
	20-29	9	18.0	2	4.0
	30-39	13	26.0	13	26.0
	40 and above	6	12.0	14	28.0
	No smoking	18	36.0	8	16.0
No. of cigarettes	20	15	30.0	6	12.0
	23	1	2.0	0	0
	30	7	14.0	15	30.0
	35	3	6.0	0	0
	40	6	12.0	16	32.0
	No smoking	18	36.0	13	26.0

Table (2) show statistical distribution of case group and control group by their clinical data, the highest percentage (84% of case group and 74% of control group)of patient have been diagnosed since two years or less, (64%of case group and 70% of control group) of patients are overweight and (64% of case group and 74% of control group) of patients are smokers, more over (60% of case group and 72% of control group) of the patients not educated about self-care management, more than half (64% of case group and 52% of control group) only attend hospital only for one time.

Table (3): Distribution of the studied groups according to (Studied Sub & Main Domains) with

comparisons significant

Knowledge Regarding self-care management	**Control Groups**						
	Pre			**Post**			**Assess**
Overall Knowledge	Subgroup	No.	%	Subgroup	No.	%	P=0.726 NS
	Low	43	86.0	Low	40	80.0	
	Moderate	7	14.0	Moderate	10	20.0	
	Total	50	100.0	Total	50	100.0	
Knowledge Regarding self-care management	Case Groups						
	Pre			Post			Assess
Overall Knowledge	Subgroup	No.	%	Subgroup	No.	%	P=0.000 HS
	Low	47	86.0	High	45	10.0	
	Moderate	3	14.0	Moderate	5	90.0	
	Total	50	100.0	Total	50	100.0	

(*) HS: Highly Sig. at P<0.01; S: Sig. at P<0.05; NS: Non Sig. at P>0.05. Testing based on : Wilcoxon Signed Ranks Test, and Contingency coefficient (C.C.) test.

On the subjects of studied groups concerning self-care managment,results shows that there is no significant differences accounted in controlled group .While the study group subjects has assigned highly significant differences at P<0.01. Regarding compared along pre - post periods for all patients who has participated in this suggested program, there is assigned highly significant differences at P<0.01 toward study group patients .

Table (4) shows that a high significant relationship between (Pre & Post-test case groups), at (p-value = 0.000).

Demographic data	**Case group**			
	Pre-test	**Sig.**	**Post-test**	**Sig.**
Age	1.044	.360	103.40	.000
Gender	1.486	.229	6.400	.015
Educational status	.680	.667	3.293	.009
Marital status	30.960	.000	.884	.352
Occupation	1.308	.282	3.477	.015
Monthly income	.483	.620	.169	.845
Residency	1.101	.299	.550	.462
Period of diagnosis	.695	.409	1.038	.313
Suffering from the disease	.196	.660	1.928	.171
Health education toward self-caring	2.133	.151	3.840	.056
If yes whom getting the education	.681	.568	2.435	.077
No. of admissions	17.022	.000	.353	.704

Sig.= significant

Discussion:

The case results show that the most frequent age group for patients' with IHD are (60 years old and more). This result agrees with (Jernberg, et al.,) 8.., they concluded in their study that (60 years old) are the dominant age group of the case sample Many studies claimed that the elderly patients' over 60 years of age have more chances of having IHD, This fact may be related to many factors such as decrease metabolic rate for these patients' and increase catabolic rate. Concerning the gender of the sample , the study results reveal that the majority of subjects are males. This result agrees with Tomaszewski, et al., 9 in their study they found that the dominant gender are male. In addition, the differences in sex in the broad scope of wellness and illness have been the matter of general investigation, Men consider themselves as responsible for their families and they react to ward solving any problem they face or stress without expressing of their problem to others this may become as one of the risk factor for IHD and other chronic disease, on the other hand women can be relieved from their problems by many ways for example crying, talking about the problem to friends or relative. Regarding educational level, The results of the study indicate that most of the patients' were illiterates. This result agrees with Singh, et al., 9 their study results indicate that most participants are illiterate this may be due to the socioeconomic reasons. This may be related to culture and knowledge deficit resulting from economic and social causes related to poor living conditions. The study results show that majority of the study subjects are married, these results agree with many other studies Malik, et al., 10; Manfredini, et al., 11 their results indicated that the majority of case subjects are married, The Iraqi people are well socialized and have habits and customs they follow and one of these customs is having married in early age. Young men can face many psychological stress after many years throughout marriage. Regarding occupational status, the results show high percentage of case group are retired people. Regarding patients' clinical data, the case results reveals that most of patients are diagnosed with angina, as it is the first signs that may occur for patient before myocardial infarction due to vasoconstriction of the coronary vessels not death part of heart muscle tissue. This finding is in agreement with finding of a previous case of Wang, et al., 18he found that there are poor knowledge level of the patients before application the educational program. A study concluded that communities need to be aware of educational programs in relation to heart diseases to reduce complications and increase knowledge of the disease. Concerning the result related to associations between post-test and demographical data. The present case reveals that there is non-significant association between post-test and demographic data of case group in relation to (Marital status, Monthly income, residency, Period of diagnosis, Suffering from the disease, training sessions and No. of admissions). The results of the present case are supported by other studies that indicated no significant difference between demographic data and post-test (Aziz & Lafi, 2013; Wigmans, 2018).

Conclusions

The majority of IHD patients are males with age 60 and above, also they are illiterate, with not enough monthly income, and most of them live in urban areas. Instructional program an appropriate and effective way to improve the patient' knowledge about IHD self-care The study group have significant modification in relation with self-care management toward IHD at pretest and posttest The control group does not present any significant modification related to knowledge toward IHD at pretest and pot test There is strong effect between the study group knowledge in pre-test and their (marital status, body mass index, Smoking Period, number of cigarettes, Number of hospital admissions).

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the College of Nursing / University of Thiqar / Iraq and all experiments were carried out in accordance with approved guidelines.

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