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Effectiveness of an Instructional Program Concerning Healthy Lifestyle on Patients Performing Cardiac Catheterization in Kirkuk City

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Abstract

Cardiovascular catheterization is a frequent procedure. Each year, more than a million cardiac catheterization operations are carried out. Cardiovascular disease is well known to be highly correlated with lifestyle and can be avoided by making healthy lifestyle changes. Major risk factors for cardiovascular disease include smoking, sedentary lifestyles, unhealthy diets, stress, and other bad lifestyle decisions that can be changed. The goal of the study is to determine whether a healthy living education program for patients undergoing cardiac catheterization in Kirkuk City is successful. To this end, we used a pre-post test program for the participant group in our research. According to the study's findings, the majorities of the patients evaluated were overweight or obese and had a history of smoking, either now or in the past. It can therefore be said with certainty that the applied instructional program was successful in considerably improving the level of attitudes for the group participants. The onset of heart disease in the study group appears to have been significantly influenced by these two factors. The distribution of other demographic traits, such as gender, age, marital status, educational attainment, and employment, was shown to be non-random, indicating that these elements may also be important in influencing the prevalence of heart disease.

Keywords: *Effectiveness, Instructional Program, Lifestyles, Cardiac Catheterizations.*

Introduction

One of the most often carried out heart operations is cardiac catheterization. There are more than a million cardiac catheterization procedures carried out. There are certain patient-related and procedure-related difficulties with any invasive procedure, as is to be expected. Both diagnostic and therapeutic uses are possible for the technique (Yugandhar and Krishna, 2022). It is commonly established that cardiovascular disease (CAD) and lifestyle have a close relationship, and that healthy lifestyle changes can prevent CAD. Major risk factors for CAD include smoking, inactivity, unhealthy food, stress, and other bad lifestyle decisions that can be changed. (Kähkönen, et al., 2017). People may adopt unhealthy lifestyles as a result of modern living arrangements and the fast pace of life (Chiou, et al., 2017). However, whether or not long-term commitment to a healthy lifestyle prevents CAD remains a crucial question (Xiao L, et al., 2018). (Aygar H, et al.,2019) state that maintaining a health-promoting lifestyle entails choosing behavior's ;that; are acceptable ;for, one's personal health ;status; and managing everyday behavior's that can negatively affect one's health. The risk of CAD recurrence can be considerably

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reduced by leading a healthy lifestyle, which includes giving up smoking, engaging in a variety of physical activities, and eating right (Hajizadeh-Sharafabad F, et al., 2016).

Any chest pain needing immediate and careful attention to the onset of blood vessel spasms or impended arteries obstruction, as well as angina pectoris that recurs shortly after percutaneous coronary intervention, are monitored and evaluated by the nursing staff. Focusing on early priorities for nursing staff care for patients after percutaneous coronary intervention includes assessing patient comfort and physiological stability using a combination of bed technology, assessment, and monitoring; and also to need knowledge and competence regarding the effectiveness of measures used to prevent complications of post-percutaneous coronary intervention (Feroze et al., 2017).Cardiovascular,. Rehabilitation. (CR) is a multidisciplinary program. of exercise training, risk factor,. Management, and psychosocial counseling for people with cardiovascular disease (CVD). It is recommended by guidelines, but it is underutilized and has significant disparities in referral, access, and participation. New virtual and remote delivery approaches may increase access to and participation in CR, which could lead to better results for those who have CVD (Alexis,et al., 2023).

Few studies have been done in Kirkuk city to evaluate the impact of educational programs regarding healthy lifestyles on patients undergoing cardiac catheterization. In order to assess cardiac patients' lifestyles regarding healthy lifestyles following cardiac catheterization, the researcher therefore carried out this study.

Subject (Material and Methods)

A quasi experimental design had been used through the present study with the application of pre- post-test approach for participant group during the period of 1st January, 2022 to 20th March, 2023. The pretest of the study was carried out at Azadi teaching hospital catheterization unit, while the post test of the study was carried out at physician’s outpatient’s clinic. In order to obtain a representative sample,

The approach of non-probability purposive sampling was adopted. The formula "Sample size=Z2pq/d2" was used to calculate the sample size for the 80 cardiac catheterization patients who were selected to participate in the study. Based on an analysis of the patient's needs and the relevant scientific literature as well as earlier studies, an educational programme is created. Experts in various fields evaluate the program's content, and changes are made based on their recommendations and suggestions. To assess the effectiveness of the educational programme on patient quality of life, the researcher creates a questionnaire interview form for data collection, which includes two sections: sociodemographic characteristics and patient quality of life. A panel of experts evaluates the study instruments and program's content validity; the tools' dependability was assessed using a test-retest methodology and data from the evaluation of 12 patients. For the patient's quality of life, the reliability coefficient was 0.93. The Statistical Package (SPSS) ver. 26.0 was used to analyse and evaluate the study's findings using statistical data analysis methods: Frequencies, percentages, the mean of the score (MS), the grand mean of the scores (GMS), the standard deviation (SD), and the relative sufficiency (RS%) are used in descriptive analysis of data. Inferential data analysis is used to draw conclusions. The Independent-Samples t-test and Matched Paired-Samples t-test are used to compare means for two groups of cases.

Study Period

a non-probability (purposive) sample had been used for through the present study for (80) patients who admitted to the cardiac catheterization unit at Azadi teaching hospital through During the period, a pre-post-test technique was used for the participant group.

Statistical Analysis

Utilizing the statistical software (SPSS) ver. (26.0), the following statistical data analysis techniques were employed to analyses and evaluate the study's findings. :

Results

Table 1 Patient's Demographical Characteristics

Demographical Characteristics	Classes	No	%
Gender	Male	57	71.3
	Female	23	28.8
Age Groups Yrs.	35 _ 40	5	6.3
	41 _ 46	8	10
	47 _ 52	18	22.5
	53 _ 58	7	8.8
	59 _ 64	16	20
	65 _ 70	16	20
	More than 70	10	12.5
Marital Status	Single	4	5
	Married	64	80
	Widow/widower	12	15
Level of Education	Illiterate	41	51.3
	Primary school graduate	13	16.3
	Secondary school graduate	15	18.8
	Diploma graduate	11	13.8
Occupation	Employed	9	11.3
	Self-employed	30	37.5
	Housewife	19	23.8
	Retired	7	8.8
	Jobless	15	18.8

The results in table 4-1 shows that 57(71.3%) of studied sampled were male, while leftover were female 23(28.8%). Regarding age group, 18(22.5%) of them were between the age group (47-52) years old. Regarding marital Status shows that most of studied sampled were married 64(80.0%), and leftover were distributed between widow, and single 12(15.0%), and 4(5.0%). However, for educational levels the result shows that 41(51.3%) were illiterate, the result shows that 30(37.5%) of the study samples were self-employed respectively.

Table 2: Main Domains along Pre/Post Periods with comparisons significant

Domains and Overall Assessment	Period	No.	PGMS	SD	Ass.	C.S.
Physical Status	Pre	80	38.50	13.03	M	Z=-7.327 HS
	Post	80	76.00	15.06	H	
Sleep Patterns	Pre	80	39.86	17.38	M	Z=-7.750 HS
	Post	80	83.61	11.32	H	
Medication Adherence	Pre	80	49.72	24.43	M	Z=-7.333 HS
	Post	80	98.61	4.46	H	
Psychological Status	Pre	80	24.75	19.42	L	Z=-

	Post	80	85.88	20.67	H	7.550 HS
Dietary Patterns	Pre	80	17.05	23.96	L	Z=-7.864 HS
	Post	80	94.82	9.71	H	
Overall Assessment	Pre	80	33.98	14.79	M	Z=-7.770 HS
	Post	80	87.78	8.48	H	

Assessment Intervals Scoring Scales of Percentile Grand/Global Mean of Score (PGLMS): [L: Low (0.00 – 33.33)]; [M: Moderate (33.34 – 66.66)]; [H: High (66.67 – 100)].

Discussions

The study's findings suggest that age plays a significant role in the distribution of cardiovascular diseases among patients undergoing cardiac catheterization. The majority of the participants belonged to the age group of (47-52) years (22.5%) and (59-64) years (20%), in regard The results show a substantial disparity in the gender distribution among individuals receiving cardiac catheterization. Males made up 71.3% of the sample, while females made up just 28.8%. This gender disparity is consistent with prior research indicating that males are more prone than women to suffer cardiovascular illnesses (Larsson et al. (2020). Furthermore, the results reveal that marital status is substantially linked with individuals receiving cardiac catheterization. The bulk of individuals (80% of the sample) were married, whereas 15% were widowed and 5% were single. Additionally, education level is substantially related with patients undergoing cardiac catheterization. The majority of individuals (51.3% of the sample) were determined to be illiterate.

The statistically significant chi-square value of 29.800 and p-value of 0.002 indicate that the distribution of education levels among patients having cardiac catheterization differs significantly. These findings imply that education level may have a role in the development and treatment of cardiovascular illnesses (Kim et al. (2019).

Whenever The results show the distribution of occupation among a particular population. Out of the total population, 37.5% are self-employed, one possible explanation for the distribution could be the socio-economic status of the population.

Whatever The results indicate that the proposed instructional program was successful in improving the physical status of patients undergoing cardiac catheterization. Prior to the program, 60% of questionnaire items were assigned a low level assessment, indicating that patients had suboptimal physical status. However, after the program was implemented, highly significant differences were observed ($P<0.01$) in the physical status of patients, indicating that the program was effective in improving their overall health

The results of this study, the data provided the physical status of patients undergoing cardiac catheterization, as assessed by a questionnaire consisting of 9 items with binary nominal dichotomous scales (Yes, and No) with integer numbers (1, 0). The results of the study indicate that the proposed instructional program was successful in improving the physical status of patients, particularly in terms of their sleep patterns.

Before the implementation of the instructional program, the majority of items (77.78%) were assigned low to moderate levels, indicating that patients had suboptimal physical status. However, after the program was implemented, highly significant differences were observed ($P<0.01$) in the physical status of patients, with 77.78% of items being assigned a high level assessment (Turner, B et al. (2016). The remaining two items were assigned a moderate level assessment after the program, suggesting that there was still room for improvement in those areas.

The findings of the study highlight the importance of implementing instructional programs to improve the physical status of patients undergoing cardiac catheterization. The results also demonstrate the value of using a comprehensive questionnaire to assess physical status, as it can identify areas where patients require additional support and guidance (Piepoli, M et al (2016).

The analysis of the questionnaire items related to medication adherence showed that before the implementation of the instructional program, the majority of the participants had low to moderate levels of medication adherence. However, after the program, all participants reported high levels of medication adherence, indicating the effectiveness of the program. The findings of this study are consistent with previous research on the effectiveness of educational interventions in improving medication adherence among patients with cardiovascular disease (Taylor, R et al. (2016). The results suggest that such programs can be implemented in clinical settings to improve patients' health outcomes and quality of life.

The results show that all patients (100%) had a high level of psychological well-being after the implementation of the instructional program. This indicates that the program was effective in improving the psychological status of the patients. The significant differences at $P<0.01$ observed in the studied items of the instructional program further support the effectiveness of the program in enhancing the psychological well-being of the patients. These findings are consistent with previous research that has highlighted the importance of addressing psychological factors in cardiac patients (Eckel, R. et al. (2013). Psychological distress can lead to adverse outcomes in patients with cardiovascular disease, and addressing these factors can lead to better health outcomes.

the results of the statistical analysis showed that the differences between pre- and post-program scores for dietary patterns were highly significant ($P<0.01$). This indicates that the program had a significant effect on patients' dietary patterns. The results suggest that the instructional program was effective in educating patients on the importance of healthy dietary habits and in motivating them to adopt healthier eating habits (Wylie-Rosett, et al. (2014).

Main Domains

It appears from table 2 The results of this study, the data provided indicate that the implementation of the proposed instructional program had a significant positive impact on the overall health and well-being of patients undergoing cardiac catheterization. The questionnaire domains of psychological status and dietary patterns showed low assessments before the implementation of the program, while physical status, sleep patterns, and medication adherence were assessed as moderate. However, after the implementation of the program, all domains showed a highly assessed level.

The highly significant differences at $P<0.001$ regarding the studied domains of the instructional program confirm the success and importance of the program in improving patients' healthy lifestyle during cardiac catheterization (Eckel, H et al. (2013). The program's success can be attributed to its focus on educating patients about healthy dietary patterns, proper medication adherence, and better sleep hygiene, which led to improvements in their overall physical and psychological health.

These findings are important in healthcare settings, especially for patients undergoing cardiac catheterization, as it highlights the need for comprehensive instructional programs to be implemented to improve patients' overall health outcome (Szabó G, et al. (2013). Healthcare providers can use these findings to develop and implement similar instructional programs that can improve patients' quality of life and reduce the risk of complications associated with cardiac catheterization.

Conclusion

Based on the results presented, it can be concluded that the majority of patients sampled for cardiac catheterization were overweight or obese and had a history of smoking, either active or previous. These two factors appear to have had a major impact on the emergence of heart disease in the studied population. Various demographic characteristics' distribution such as gender, age, marital status, education level, and occupation was also found to be non-randomly distributed, indicating that these factors may also be important in understanding the prevalence of heart disease.

Furthermore, the results showed that the type of cardiac catheterization, co-morbidity diseases such as hypertension, myocardial infarction, angina, and diabetes mellitus, and indicators during and after the catheterization were also non-randomly distributed. This suggests that these factors may also be important in predicting the development and progression of heart disease.

the instructional program confirms the success and importance of the program in improving patients' healthy lifestyle during cardiac catheterization.

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