

Impact of A designed Nursing Protocol on Self Efficacy among Myocardial Infarction Patients

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Abstract

Background: Myocardial infarction (MI), commonly referred to as a heart attack, is a potentially fatal condition that affects a person's physical, mental, and social aspects. It happens when blood flow to a portion of the heart slows or ceases and damaging the muscle. **Aim of study:** evaluate the impact of a designed nursing protocol on self- efficacy among myocardial infarction Patients. **Design:** Quasi-experimental research design was utilized to fulfill purpose of the study. **Subjects:** A purposive sample included (80) adult patients with myocardial infarction. **Setting:** This study was carried out at Coronary Care Unit (CCU) at Minia University Hospital's. **Tools:** Three tools were used to gather data, first tool is a structured interview includes two parts (socio-demographic and medical sheet data) second tool is Physical Activity adherence sheet which includes the activity of daily living and range of motion. Third tool is nutrition Adherence sheet. **Results:** shows that the highest mean score of patients adherence (study group) to physical activity, rang of motion, nutrition post 6weeks and post 12 weeks of protocol implementation with highly statistical significance, Slightly more than half of the studied patients (57.5%) were within the age group of 51–60 years. Three-quarters of them were males (75%). **Conclusion:** education protocol of MI patient is necessary to achieve an optimum level of self-efficacy regard their adherence to physical activity, Rang of motion, nutrition. **Recommendations:** Replication of this study on larger probability sample is highly recommended.

Keywords: Nursing Protocol, self-efficacy, Myocardial Infarction

Introduction

Myocardial infarction (MI) is life threatening diseases. Incidence of MI is increasing in the world. By the year of 2030 the incidence rate is expected to highest by 120% for women and 137% for men in developing countries while in developed countries 30-60% . Myocardial infarction lead to high levels of physical, sexual, occupational, and social stress and disability, and most cause mortality. These Introduction two stressors reduce self-esteem, cause fear and disappointment, and undermine mental health, there at negatively affect self-efficacy. (Ahmadi, Z. 2022) & (Mohamed Erfan, N. 2022).

Self-efficacy is an important construct to improve self-management skills, enhance patient adherence to healthy lifestyle choices, and maintain treatment regimens post-hospital discharge. lead to improvements in quality of life and reduce mortality rate . Nurse as a primary researcher coordinate with team for facilitating the adherence of Myocardial infarction patients about the health behavior modifications like: Level of physical activity, Diet chart approved by dietician and cardiologist and Medication adherence to control blood pressure. (Khan, K. et al., 2024)& (Shajrawi, AM(2022)).

Significance of The Study

Coronary artery disease (CAD) is the most cause of mortality worldwide for men and women. Acute myocardial infarction (AMI) mainly occurs in patients older than 45; however, young can suffer myocardial infarction.(**Shehata, I. E(2020)**). The prevalence of myocardial infarction worldwide has reached nearly three million people, and more than one million people in the United States die each year due to atherosclerotic plaque obstruction. The mortality rate of 70% is allocated to atherosclerotic patients suffering from ischemic heart disease. (**Tajabadi,M.(2022)**).

It has been observed over a period of seven years of experience as an assistant lecture of medical surgical nursing at Minia university hospital ,I was observed that MI is the most common disease affect on patient and interfere with the main activities of their daily living and changes in their lifestyle and burden hospital resources and endanger patient's life . So researcher was thought in order to improve self efficacy among MI patients

Aim

The aim of the present study was to evaluate the impact of a designed nursing protocol on self-efficacy among myocardial infarction Patients.

Hypotheses

H1: Patients' physical activity adherence will improved after applying the nursing protocol.

H2: Patients' nutrition adherence will improved after applying the nursing protocol.

H3: Patients' medications adherence will improved after applying the nursing protocol.

Subjects and Methods

Research Design:

- The quasi-experimental research design (pre, posttest and follow up for study group) was utilized to fulfill the aim of this study.

Setting:

This study was conducted at the Cardiothoracic surgery Minia University Hospital's at cardiac care unit (CCU) and cardiology outpatient clinic (COC) at New Minia City, Egypt.

Study Duration:

The total data collections were collected over a period of eight months starting from May 2022 to December 2022.

Subjects:

A purposive sample of eighty adult patients (male and female) newly diagnosis with myocardial infarction .study subject was randomly selected according to certain inclusion and exclusion criteria. The number of subjects who provide the necessary sample size is calculated by the **Ahmed, S. K. (2024)** formula, which is computed as $(N = n \times 30/100)$, in which

- N = Sample size
- n = Total number of 269 adult patients with myocardial infarction were treated at Cardiothoracic Minia University Hospital during the 2019-2020 academic year.
- $N = 269 \times 30 / 100 = 80$ Patient
- Study group 80 patients.

Inclusion Criteria: -

- 1- Myocardial Infarction (MI) Patient who has recently been diagnosed.
- 2- Adult patients (18-60 year).

Exclusion Criteria the Patients will be excluded if:

- 1-Mentally ill patients
- 2-End stage liver & renal disease

Tools of Data Collection

Four tools , was developed and used by the researcher to gather data for this study after revising extensive literature review.

Tool I: Patient Structured Interview sheet :

That was designed by the researcher and it addresses two main parts:

Part 1 –Demographic data, (as age, gender , marital status, occupation and level of education...., etc.)

Part 2- Medical data (as past medical history, family history, body weight, height , BMI).

Tool II: Physical Activity Adherence Questionnaire

This tool comprised from

Part 1: Activity of Daily Living (ADL) checklist

This tool is adapted from (Yoza et al., 2009), (Lawton & Brody, 1969) Assessing impairments in daily living activities, assessing a person's current functioning, and recognizing any progress or decline over time. This part consisted of 17 items.

Scoring System: It was categorized and scored into: Not at all = 4, slight = 3, severe = 2,

very severe = 1, and maximally severe = 0. The total scores ranged from 0 to 68.

Activity adherence level among MI patients was categorized as satisfactory level (equal or more than 60 %) and unsatisfactory level (less than 60%) (Metwaly et al., 2020), (Ueno et al., 2018).

This was collected three times (before applying nursing protocol starting from the second day of admission, after six weeks, and after twelve weeks).

Part 2: Range of Motion (ROM) checklist

It was adapted from **Timby & Smith (2014)** to evaluate patients' ability to perform range of motion in 12 joint. It consists (neck, shoulder, elbow, forearm, wrist, finger, thumb, hip, knee, ankle, toes and spine).

Scoring System: Each item was observed, categorized, and scored into the following: done correctly = 2 grades; done incorrectly = 1 grade; and not done = zero. The total scores ranged from 0 to 24.

Total scores for all items graded as follows: Satisfactory level of practice (equal to 60% and more), while unsatisfactory level was (less than 60%). (**Metwaly et al., 2020**), (**Ueno et al., 2018**). This was collected three times (before applying the nursing protocol starting from the second day of admission, followed by follow-up at six weeks, and after twelve weeks).

Tool III : Nutrition Adherence Questionnaire

This sheet adapted from (**Nayeri, 2019**) and modified by the researcher. Nutrition adherence sheet provides information on the assessment of adherence to healthy diet among patients' with myocardial infarction. This tool was includes of 16 items. The total score were range from 16 to 80.

Scoring System: It was categorized and scored into the five possible answers to nutrition adherence sheet items: Always (scored 5), Often (scored 4), Sometimes (scored 3), rarely (scored 2), and Never (scored 1) .(The nutritional adherence level of the patients' was categorized as adherence (60% and more) and no adherence (less than 60%).

Validity and Reliability:

Validity Content and construct validity of the study tools were tested by a jury committee that consists of five experts in the field of Medical-Surgical Nursing from the Faculty of Nursing at Minia and Assuit University to assure the content

and construct validity, completeness, clarity of items, and necessary modifications were done accordingly.

Reliability for the study tools was estimated using the Cronbach's Alpha test to measure their internal consistency to evaluate how well the tools consistently measure, what they were designed to measure. It was (0.96) for the first tool, (0.86) for the second tool, and (0.89) for the third tool.

Pilot study

A pilot study was carried out on 10% (8 patients admitted to the previously mentioned setting to test the feasibility, objectivity, and applicability of the Study tools. Based on the results of the pilot study, no modifications were done so; the patients who were included in the pilot study were also included in the current study.

Ethical Consideration

Official permission to conduct the study was obtained from the Nursing Faculty Research Ethics Committee at Minia University in Egypt. The aim and importance of the study were clearly explained to each participant. Following that, informed consent was obtained from participants who accepted to be included in the study. Agreement from Egypt's Academics for the Research Centre and Technology, Directors of Minia University Hospital, and from the Head of ICU at Minia University Hospital. Patients were informed that their data would not be included in any further research without their consent. The confidentiality and anonymity of each patient were assured through the coding of all data

It was conducted in four phases:

A-Preparatory phase:

This phase including reviewing the current and relevant related literature and theoretical knowledge of the various related aspects using text books ,articles and periodical magazine in order to develop the data collection tools. The researcher, prepared an illustrated guideline booklet in simple Arabic language to help patients assimilate and refresh the information provided to achieve aim of the study.

B- Assessment and planning phase:

The selected sample was admitted to the critical care unit (CCU). The patient who met the inclusion criteria and had myocardial infarction (MI) has recently been diagnosed was informed by the researcher individually to introduce myself to explain the purpose and nature of the study.

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C- Implementation phase:

Data collection from the study group

Firstly interviewed patients individually to fulfill socio demographic and medical data used first tool implementation the nursing protocol was done in the critical care unit during their hospitalization after 48 hours of patient admission (interview the patients 3 days per week) and follow up in cardiology outpatient clinics for evaluation post applying nursing protocol (after six weeks and follow up(after twelve weeks) , it was given in **4 sessions** (2 sessions every day) the duration of each session ranged from 45-60 minutes . **The first session** was assess knowledge about MI (myocardial infarction definition, causes, risk factors, manifestation, diagnosis, line of treatment, complication associated with the disease. This was followed by 4 practical sessions with applied practical training in required practices nursing protocol ,**The second session** about physical activity (clarify how to practice activity of daily living.....etc. and **the third session** about range of motion exercises for all joints(from neck to foot) ,which include who to do this movement slowly and gradually....etc. The demonstration and re demonstration will done to ensure that the participant can perform these procedures competently and the investigator will evaluate it by using the second tool (physical activity sheet).**The fourth session** about nutrition (importance of adherence to nutrition for adaption with the myocardial infarction, allowed and avoidable

nutrition. During the practical sessions, each patient was assessed whether he/she follows the instruction or not, used simple language to suit level of patients, with motivation and reinforcement to enhance learning. A copy of the booklet was offered for each patient to use it as future reference. -On the other hand; the researcher trained the nursing staff in the critical care unit as. The main caregiver was a family member who was directly responsible for the care, coordination, and follow up of the patient’s treatment process; the caregiver could read and write and answer the researcher’s phone calls in the follow-up stage. In addition telephone interview for follow up for the applying of nursing protocol which include (adherence for physical activity and range of motion, nutrition and medication) during frequency between posttest (six weeks) and follow up test (twelve weeks).

C. Evaluation phase:

The researcher provided the study patient group with teaching sessions. There are four sessions:

Studied groups Assessment was started on the second day of patient admission before the first nursing protocol (pretest) evaluations. A second-time evaluation was done for the study group six weeks after the implementation of the nursing protocol. Third-time evaluation after 12 weeks using tools II, III, and IV to assess the extent to which the patients had followed the instructions about MI, activity of daily living, ROM, nutrition, and medication adherence

Results

Table (1): Frequency Distribution of the Studied Patients Regarding Their Demographic Characteristics (n=80).

Demographic Characteristics	Study Group (n=80)	
	No.	%
Age (Years)		
31- 40 Years	10	12.5
41- 50 Years	24	30
51- 60 Years	46	57.5
Mean ± SD	49.1 ± 7.14	
Gender		
Male	60	75
Female	20	25
Education		
Illiterate	32	40
Read and Write	16	20
Primary/Secondary	24	30
University	8	10
Occupation		
Hard work/Farmer	34	42.5
Employee	22	27.5
Unemployed	16	20
Housewife	8	10

Demographic Characteristics	Study Group (n=80)	
	No.	%
Marital status		
Single	2	2.5
Married	78	97.5
Residence		
Rural	62	77.5
Urban	18	22.5
Home Floor		
First floor	44	55
Second floor	22	27.5
Third floor	10	12.5
More than third floor	4	5

Table (1) shows the frequency distribution of the studied patients based on their demographic data . Slightly more than half of the studied patients (57.5%) were within the age group of 51–60 years. Three-quarters of them were males (75%). In regards to marital status, 97.5% of the studied patients were married. Concerning the level of education, 40 percent of the studied patients were illiterate. As regarding residence, it was seen that over than three quarters (77.5%) come from rural areas. In relation to occupation, it clarify that around half (42.5%) of the studied patients were farmers. Also, the table revealed that (55%), more than half of the studied patients lived on the first floor.

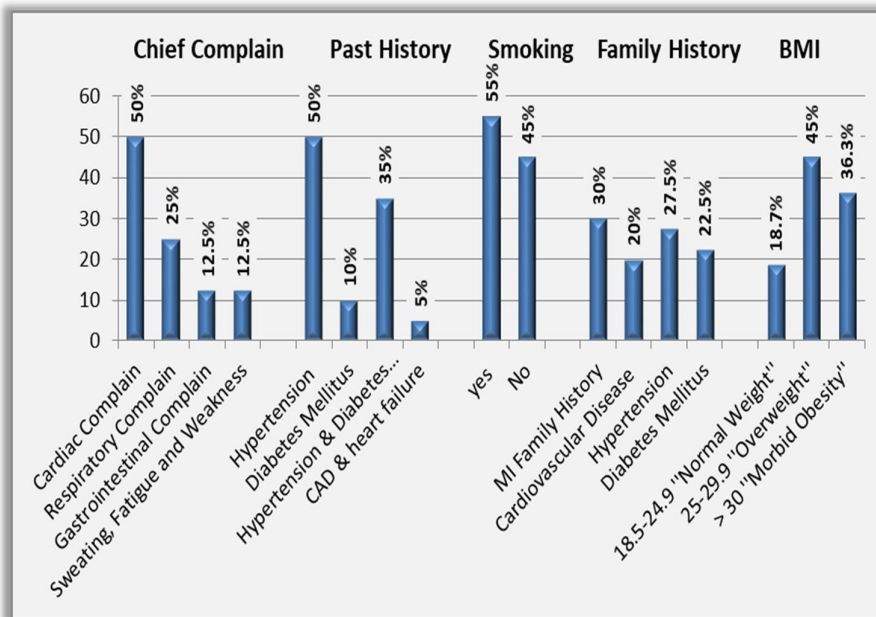


Figure (1): Percentage Distribution of Studied Group Regarding Their Medical Data (n=80)

Figure (1). It is cleared that half of the studied patients (50%) had a cardiac complain, with hypertension and (55%) of them were smokers and one third (30%) had MI family history. Also, the table revealed that (45%), nearly half of the studied group were overweight

Table (2): Distribution of the Study Group Regarding Their Total Score of Nutrition Adherence Pre- and post-Implementing Nursing Protocol (n=80)

Total Score of Nutrition Adherence Level	Study Group (n=80)						Friedman Test (P value)
	Pretest		Follow Up Post Implementing Nursing Protocol				
	No	%	Post 6 Weeks		Post 12 Weeks		
	No	%	No	%	No	%	
Satisfactory	·	0	∧·	100	√é	92.5	90.1 (0.001**)
Unsatisfactory	∧·	100	·	0	∩	7.5	

** Highly Statistical Significant Difference (P ≤ 0.01)

Table (2): Illustrate that the highest percentages include all participants of study group were satisfactory regarding their nutrition adherence during post 6 weeks and ninety two and a half percentages(92.5%) during

post 12 weeks after implementing nursing protocol comparing with the pretest which all participants(100%) of study group were un satisfactory.

There was a highly statistically significant difference among study group regarding to their nutrition adherence pretest and post 6 weeks and 12 weeks after implementing nursing protocol

Table (3): Relation between Demographic Data and Nutrition Adherence among Study Group Post-Implementing Nursing Protocol (n=80).

Demographic Characteristics	Study Group			
	Satisfactory nutrition adherence (n=74)		Unsatisfactory nutrition adherence (n=6)	
	No.	%	No.	%
Age				
20-30 years	0	0	0	0
31- 40 years	10	13.5	0	0
41- 50 years	22	29.7	2	33.3
51- 60 years	42	56.8	4	66.7
Fisher (P value)	0.465 (0.793)			
Gender				
Male	56	75.7	4	66.7
Female	18	24.3	2	33.3
Fisher (P value)	0.120 (0.729)			
Education				
Illiterate	30	40.6	4	66.7
Read and write	16	21.6	0	0
Moderate education	20	27	2	33.3
High education	8	10.8	0	0
Fisher (P value)	2.46 (0.482)			
Occupation				
Hard work\ Farmer	32	43.3	2	33.3
Office work	18	24.3	4	66.7
Unemployed	16	21.6	0	0
Housewife	8	10.8	0	0
Fisher (P value)	2.84 (0.416)			
Marital status				
Single	0	0	2	33.3
Married	74	100	4	66.7
Divorced	0	0	0	0
Widowed	0	0	0	0
Fisher (P value)	12.6 (0.001**)			
Residence				
Rural	58	78.4	4	66.7
Urban	16	21.6	2	33.3
Fisher (P value)	0.218 (0.640)			
Home floor				
First floor	40	54.1	4	66.7
Second floor	20	27	2	33.3
Third floor	10	13.5	0	0
More than third floor	4	5.4	0	0
Fisher (P value)	0.688 (0.876)			

Table (3) Find that there is highly statistically significant association between marital status as sociodemographic characteristics and nutrition adherence among study group Post implementing nursing protocol.

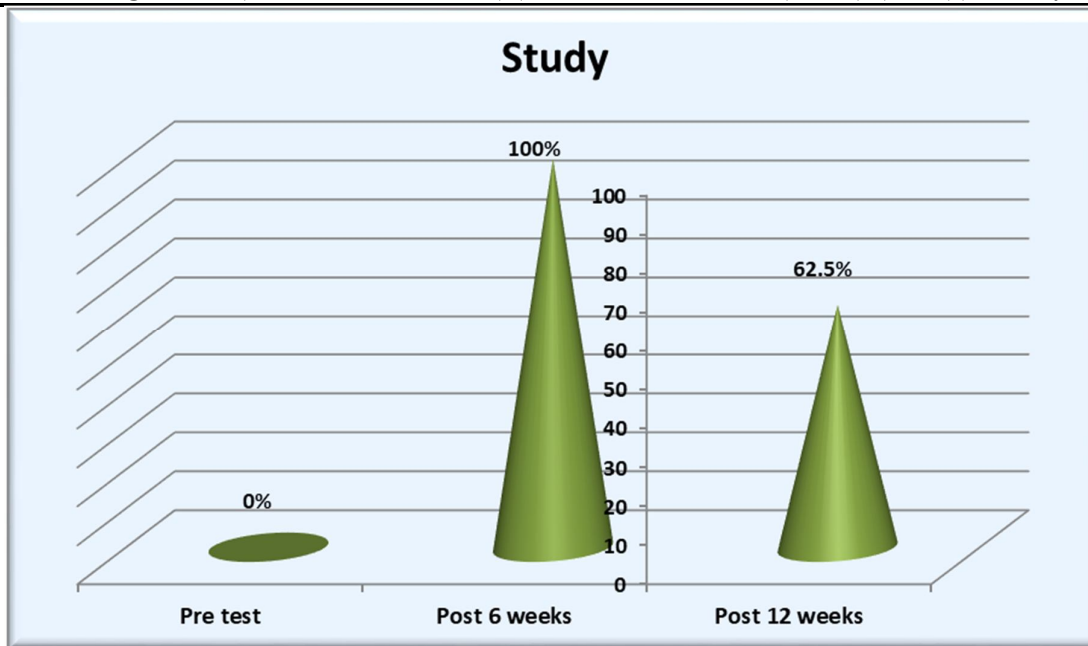


Figure (2): Distribution of the Study Group Regarding Their Range of Motion Exercise Performance Satisfactory Level Pre- and Post-Implementing Nursing Protocol (n=80).

Figure (2): presents that the highest percentages include all participants of study group were satisfactory level regarding their range of motion exercise performance for all joint during post 6 weeks and Sixty-two and a half percentages (62.5%) respectively during post 12 weeks after implementing nursing protocol comparing with the pretest which all participants (100%) respectively of study group were un satisfactory. There was a highly statistically significant difference among studied group regarding to their range of motion exercise performance pretest and post 6 weeks and 12 weeks after implementing nursing protocol.

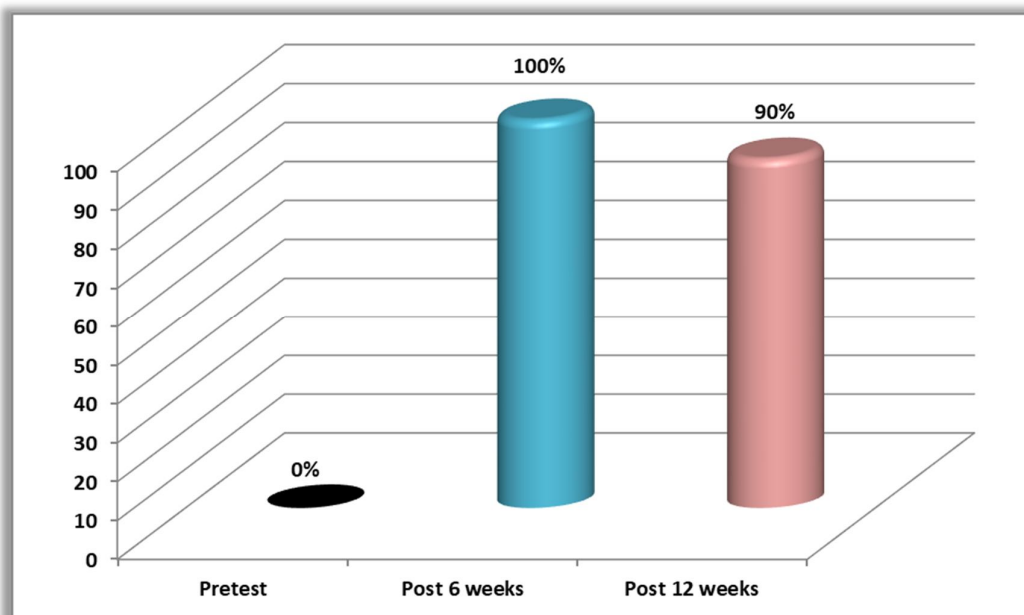


Figure (3): presents that there is an increase in satisfactory level among study group regarding their adherence to medication during post 6 weeks and post 12 weeks constituted (100%& 90%) respectively, after implementing nursing protocol, comparing with pretest while satisfactory level among them before implementing nursing protocol constituted (0 %). There was a highly statistically significant difference among study group regarding to their medication adherence pretest and post 6 weeks and 12 weeks after implementing nursing protocol

Discussion

Regarding the demographic characteristics and medical data of the studied group:

Regarding age, the current study shows that more than half of the study sample patients were above 50 years, respectively. From the viewpoint of the researcher, this is related to the risk of myocardial infarction increases with age among Egyptian populations because the risk of hypertension increases with age and it is considered the main risk factor for myocardial infarction in Egypt.

This result was in agreement with **Wojtyniak, B. et al., (2020)** reported similar observations with regard to a decline in relative survival with increasing age. This result was consistent with **Huriani, E. (2019)**, who found that most frequently in the 51-60 year age range. Also, **Rahimah, A. F (2020)** stated that Individuals who are older than Forty-five years have eight times greater risk for AMI, and less than ten percent of the population under the age of Forty-five years would have AMI.

Moreover, other research, **Salah Eldin Saad, et al., (2020)** disproved these results who revealed that more than half of the study group and more than one-third of the control group were in the same age group from 40 years to less than 50 years old with a mean age (44.21 ± 8.01) (45.71 ± 10.42) respectively.

As regards gender, the present study clarified that three-quarters of them were males, from the viewpoint of the researcher because male patients were at greater risk in their work environment and most of them are active smokers. This result is conformity with **Salah Eldin Saad, et al., (2020)** showed that (sixty & sixty two percent) respectively were males. As well, this result goes in line with **Keshavaraz, N., et al., (2020)** who stated that most of the patients with MI in both the intervention and the control groups were male. This result is inconsistent with **Cheng, et al., (2019)**, who mentioned that the majority of the study subject was female.

Concerning educational level, this study result revealed that more than third of the study group were illiterate. From the researcher's point of view, In general, patients with lower socioeconomic status and less formal education tend to be having more advanced diseases, the education enhances the awareness about diseases and increases the ability of recognition about everything related to treatment plan. This finding corroborated the findings of **Almamari, R. S et al.,(2019)** who

stated that most of the participants had no formal education. Also agree with **Hamdy Mahmoud Mtawea, R.,(2023)** who found that around thirds of them were not read or writes,

This result is inconsistent with **Barham, Ibraheem, & Zyoud, (2019)**, who mentioned that less than half of their study subjects had primary education. Also this result is inconsistent with **Huriani, E. (2019)** who found that most frequently has higher level of education.

According to their occupation the current study showed that around half of them were farmer. This result is congruent with) **(Irwindi, Y. A (2020)** stated that the majority of respondents are farmers While, these results are in disagreement with **Barham, Ibraheem, & Zyoud, (2019)**, who stated that most of them were unemployed.

Concerning marital status, In the current study, the highest percentages among study group were married. This finding is explained by the researcher's perspective that the married people were liable to cardiac diseases more than single because they always facing psychological stress of the social role. This finding also is in agreement with **Salah Eldin Saad, (2020)**. Reported that more than two-thirds of the studied patients were married. In harmony **(Barham, Ibraheem, & Zyoud, (2019)** who found the most were married.

Also **Dhindsa, D. S.(2020)** disagree finding showed that marital status has an impact on cardiovascular outcomes in patients with established coronary artery disease. Compared to patients who are married, individuals who are divorced or separated have decreased survival. Marriage has been associated with lower cardiovascular mortality in both men and women.

Concerning residence, the current study revealed that more than three quarters of study group lived in rural areas, the researcher opinion, this may be due to unavailability of specialized hospitals in rural areas. This agree with **Loccoh, E. C. et al., (2022)** who stated that in the United States, cardiovascular mortality rates are higher in rural areas compared with urban areas.

This result is disagree with **Chen, H.(2020)** reported that living in urban areas with more green spaces was associated with lower risks of developing AMI and HF and dying from any cardiovascular cause. also disagree with **Hamdy Mahmoud Mtawea, R., (2023)** who found that the majority of study sample were from urban area.

According to chief complain, it is cleared that half of the studied patients (fifty percent) had a cardiac complain. This finding congruent with

(Westwood, M. E. 2021) that Chest pain has been reported as the most common cause of emergency hospital admissions in the UK ,also agree with (Fathima, S. N. (2021) who state that the clinical manifestations of myocardial infarction include severe and sustained chest pain, often together with breathlessness, nausea, and sweating.

Concerning to past or previous medical history the results of the current study showed that more than half of study group had hypertension, while more than third has both hypertension and diabetes. This result is in accordance with Khorshid, et al., (2019) who mentioned in their study that the majority of their study patients had hypertension.

Also agree with (Keshavaraz, N(2020) who stated that the majority of patients also had a history of underlying diseases such as diabetes, hypertension, however.

In the same context this finding were supported by (Metwaly, E. A., & Zaton, H. K. (2020) stated that, about two third of studied patients had acute onset of disease, all of studied patients had hypertension and diabetes.

While, this result in disagreement with Park, H. K (2019) they found that only two-fifths of the studied sample had hypertension.

However, this result in disagreement with Maddison, et al., (2019) they found that a minority of the studied sample had diabetes mellitus.

Concerning to smoking status more than half of the study group were smokers. This result was similar to Metwaly, E. A., & Zaton, H. K. (2020).who reported that More than half of studied patients were smokers. Also, this result is congruent with Khorshid, Abdeltawab, Menshawy, & Zaki, (2019), who found that the majority of their study sample were smokers.

As regards to family history one third among study group has positive family history for MI .These finding were congruent with Naqvi, S. Z (2023) who found that more than half has a positive family history of CAD and had a history of ischemic heart disease and the majority had a history of hypertension. while Metwaly, E. A., & Zaton, H. K. (2020) found that the majority of patient didn't have family history of disease

According to body mass index: nearly half of the studied group were overweight and more than one third have morbid obesity". This result is agree with Chew, N. W.(2022) who showed that Obesity is a well-established risk factor for metabolic disease, with the presence of excessive visceral fat and increased incidence of hypertension,

hyperlipidemia, and diabetes mellitus. This leads to a higher risk of cardiovascular diseases, including acute myocardial infarction (AMI)and demonstrated that men with obesity have 1.8-fold and 1.6-fold increases in the risks of incident AMI and cardiovascular death, respectively, compared with men with normal weight.

Also Johansen, M. Ø. (2021) stated that Individuals with obesity have higher concentrations of very low-density lipoprotein (VLDL) cholesterol and increased risk of myocardial infarction. Also explained around half of the excess risk of myocardial infarction patient associated with higher BMI. While, this result is inconsistent with Bay, et al., (2018), who signified that the study sample had normal body mass index measurement.

The current study demonstrates that there are highly statistically significant improvement in healthy diet intake after implementing nursing protocol. This result was in accordance with Metwaly, E. A., (2020) who recognized that most patients controlled their diet after implementation of a designed nursing protocol in terms of saturated fat restriction, salt restriction and increasing vegetables and fruit intake

Also Elshahoryi, N. A.(2021) reported that A high fruit and vegetable (FV) intake has been associated with reduced blood pressure (BP) as well as a reduction in the risk of CVD, including CHD.

Moreover Matre, Å. O.(2021) stated that high consumption of red and processed meat has been associated with increased risk of several adverse health outcomes, including overweight and obesity, a healthy dietary pattern is associated with primary and secondary prevention of cardiovascular disease (CVD).

There was a highly statistically significant positive correlation between medication adherence, activity of daily living , nutrition and range of motion performance among the study group, this agree with (Shi et al., 2023). Stated that there was a notable shift in the amount of physical activity and medication adherence, and there was a chance that these would be maintained and enhancement of healthy eating practices, with patients with CHD three times more likely to follow a healthy diet following the delivery of structured educational interventions, (Shi et al., 2023). Also (Amini, R., et al., 2021) said that the improvement of diet and physical activity status indicates the positive effect of designed nursing protocol.

There are a highly statistical significant increase in the scores of performing ROM exercises

for all joints post implementing nursing protocol among the study group. This agree with **Irwindi (2020)** who state that range of motion exercise can prevent the occurrence of contractures and atrophy of muscles; increase circulation of blood to the extremities and heart ; reduce paralysis vascular; and provide comfort to the client.

The current study revealed that there are highly statistically significant association between marital status as socio demographic characteristics and nutrition adherence among study group Post implementing nursing protocol. This supported by **Mohamed, A. A. E(2020)** showed that marital status might influence patients' adherence with nutrition positively, help and support from a spouse could be the reason why married patients were more adherence to nutrition than single.

Conclusion

Based on the study findings, it can be concluded that there is a highly statistically significant positive correlation between nutritional adherence, activity of daily living and range of motion performance among the study group and that there is a highly statistically significant positive correlation between medication adherence, activity of daily living and range of motion performance among the study group.

Recommendations

Based on the findings of the present study the researcher suggested that:

1. Nurses:

- Designing an in-service training educational program for nurses to upgrade nurses' knowledge and practice regarding importance of patient adherence to physical activity, ROM, nutrition & medication for myocardial infarction patient.

2. Patients:

- Attend health education programs about self-efficacy to enhance adherence to physical activity, ROM, nutrition & medication adherence for myocardial infarction patient.
- Formulate a standard of nursing guidelines booklet for patients with the myocardial infarction.
- Designed written simple brochure about self efficacy adherence to physical activity and medication.
- Continuous visiting cardiology outpatient clinic for follow up regulary.

3. Further Research:

- Replication of the current study on a larger sample size to generalize the results.
- Encourage other researchers about nurses role in concerning to maintain health life style

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