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## EFFECT OF EDUCATION GUIDELINES ON HEALTH OUTCOMES AND SATISFACTIONS FOR PATIENTS UNDERGOING CARDIAC SURGERY

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### ABSTRACT

**Background:** Applying standardized perioperative guidelines for cardiac surgery helps to improve patient satisfaction, and quality of care, improve staff education and decrease organizational costs also promotes the outcome of patients undergoing surgery during their entire perioperative trip. **Aim of the study:** Effect of education guidelines on health outcomes and satisfaction for patients undergoing cardiac surgery. **Design:** A quasi-experimental design was a charity for this study. **Setting:** This study was shown in the cardiothoracic surgery department and also in the outpatients' clinic at the cardiothoracic and vascular surgeries center at Mansoura University. **Subjects:** Purposive sample patients undergoing cardiac surgery including all adult patients who were admitted for 6 months nearly 120 cardiac patients. **Tools:** Three tools were used for data gathering, demographic characteristics and perioperative knowledge tool for cardiac surgery patients, Rand Patients' Health Outcomes Scale tool, and Theresa Bucco- Satisfaction scale tool. **The results:** Before applying educational guidelines, there were no significant differences between studied patients in perioperative knowledge, health outcome, and satisfaction. However, after applying health education guidelines the perioperative knowledge, health outcome, and satisfaction improved. **Conclusion:** Applying health education guidelines have a significant positive impact on patients' knowledge, and health outcome as promotes quality of care, decrease organizational costs, also the satisfaction of patients undergoing surgery. **Recommendation:** Training the cardiac patients should be existing for preoperative assessment nurses who are training patients to be prepared for their surgical pathway.

**Keywords:** Cardiac Surgery, Health Education Guidelines, Outcomes, and Satisfaction

## **INTRODUCTION**

Cardiac surgery patients are a different group because their postoperative progress differs extremely from that of a general surgical patient. Patients necessitate education about their recovery period and especially for their active contribution to treatment in order to accomplish health outcomes. The overall mortality in cardiac surgery patients in 2021 in Egypt is between 2% and 3%. Major complications comprise postoperative bleeding, stroke, renal failure, mesenteric ischemia, atrial fibrillation, cardiogenic shock, and respiratory distress. Postoperative bleeding and hemorrhagic shock coagulation disorders such increase platelet transfusion and heparin-induced thrombocytopenia are reasons why 10% to 20% of national blood products are expended in cardiac surgery (American Heart Association, 2020).

Patient education has a low priority when related to other clinical duties, and if it does occur, it tends to be unplanned and haphazard. Patient education is frequently ignored due to cultural explanations, such as “patients desire not to know” or “they become more anxious with knowledge.” Lack of time and heavy workload are often named obstacles to patient education. Furthermore, patients have presumed passive-recipient roles owing to the existing medical paternalism. Another reason for overlooking this feature of care is the absence of financial and human resources (Frazier, East, Arthur 2020).

The appropriate good preparation for cardiac patients advances, the health outcomes as physiological variables, such as length of stay, sedatives used, recovery proliferations knowledge, reductions anxiety, promotes patient and family involvement, and decreases complications including postoperative bleeding, stroke, renal failure, mesenteric ischemia, atrial fibrillation, cardiogenic shock, and respiratory distress. Postoperative bleeding and hemorrhagic shock coagulation disorders decrease patients’ satisfaction with the care provided. (Canet, 2020) & (Zhang, Jiang, Yin, 2015).

Patient satisfaction takes expanded the consideration of global scholars. Research trendy established countries require pointed out the standing of patient satisfaction for example the fundamental quality gauge, mainly in the area of nursing care. Nurses remain the forefront people those patients greatest possible meet up with, apply the main aggregate of time with and put their faith for recovery through their hospitalization (Abdel Maqsood, Oweis, & Hasnaa, 2018).

Applying guidelines helps nurses acquire knowledge and experience, and improve health outcomes as decreasing hospitalization also raises patient satisfaction, by lessening patients' feelings of anxiety and fear through different forms of social support such as informational, emotional, and real support. Although patients may be hospitalized pre-operatively, most patients are admitted on the morning of the surgery. This approach challenges the health care professionals. It indicates that they should have a coordinated system in place to encounter the educational needs of patients and their family members. Reduce complication. Patients and their families should be organized about what to suppose before, during, and after cardiac surgery (Camm, Kirchhof, 2020).

The Standards guidelines for nursing care *were* established by the (American Association heart association, 2020) to increase recovery after surgery, and care optimally for patients, nurses must evaluate all aspects of the patient's response to or her illness and hospitalization, recognize the physiologic and psychosocial concerns that may affect the patient's course, and use a variety of interventions embattled to the specific problems identified. During the perioperative phases, nurses have convinced responsibilities (Carl, Alms, & Braun, 2020).

Many hospitals' heart programs now suggest new technology in preoperative cardiovascular patient education online through their website. Three studies were accepted in the UK (Mchorney, Ware, & Sherburne, 2019). It is important to regularize these feelings for the patient to examine the impact of health education guidelines on health outcomes and satisfaction for patients undergoing cardiac surgery.

## **THE AIM OF THE STUDY**

Effect of education guidelines on health outcomes and satisfaction for patients undergoing cardiac surgery

### **Research Objectives:**

1. Assess perioperative knowledge for patients undergoing cardiac surgery pre and post-intervention.
2. Evaluate health outcomes for patients undergoing cardiac surgery pre and post-intervention.
3. Assess satisfaction for nursing care for patients undergoing cardiac surgery pre and post-intervention.

## **RESEARCH HYPOTHESIS**

- After applying health education guidelines patients' health outcomes as the quality of care, decrease organizational costs will be improved.
- After applying health education guidelines patients' satisfaction will be improved.

## **SUBJECT AND METHOD**

**1) Technical design:** The technical design involved; the research design, study setting, subjects, and tools for data collection.

**Research Design:** A quasi-experimental design of one group pre-surgery inward and post-test one month from surgery in the outpatient clinic to investigate the effect of education guidelines on health outcomes and satisfaction for patients undergoing cardiac surgery.

### **Setting**

This study was conducted at the cardiothoracic surgery department that serves the delta region, involved 115 beds, and also in the outpatients' clinic at the cardiothoracic and vascular surgeries center that involved 5 outpatient clinics affiliated with Mansoura University

### **Type of sample & sample size:**

All patients were admitted to the cardiac department in the period from 1st of March (2019) to the end of August (2019) and the study convenience purposive sample, there are 135 patients from them ten refused to participate and five died and the patients included in intervention 120.

### **Inclusion criteria for patients:**

- Greater than or equal to 20-60 years of age
- Able to speak, communicate and participate.
- Patients should be already undergoing cardiac surgery.

### **Exclusion criteria:**

- Had previous cardiac surgery

- Had post-operative complications like bleeding, stroke, renal failure, mesenteric ischemia, atrial fibrillation, cardiogenic shock, and respiratory distress, coagulation disorders such as heparin-induced thrombocytopenia

**Tools for Data Collection:**

The following three main tools were utilized to collect data related to the current study after reviewing the related literature to investigate the effectiveness of applying health education guidelines on Cardiac Surgery Patient's health Outcomes and Satisfaction.

**Tool I: Interviewing Questionnaire**

This tool was developed by the researcher to collect data about the Demographic characteristics of cardiac patients in addition to perioperative Patient's knowledge about cardiac surgeries; it contained two parts as the following:

Part I: Demographic Characteristics of Patients undergoing cardiac surgery, this part contained two sections. First section: Demographic characteristics involved seven questions answered about sex, marital status, residence, educational level, and occupation two open questions, and five multiple-choice questions. Second section: Medical data involved six questions were asked about the date of admission, name of the operation, medical diagnosis, and current complaints two open questions, and four multiple-choice questions. Part II: Included questions about the Patient's perioperative knowledge about cardiac surgery contained three periods as the following: Preoperative period, involved four questions that were asked about preoperative knowledge of patients as the cause of operation, preparing the patients for operation these questions were answered with 'yes or no'. The postoperative period contained eight questions asked about postoperative knowledge of patients as the duration of stay at ICU, signs, and symptoms that occur, lifestyle, and the number of visits to the hospital after surgery, patients answered with 'yes or no. The post-Discharge Period involved twelve questions about post-discharge instructions such as healthy diet, medications, daily activity, showering, sexual relations, and complications after surgery, these questions were answered with 'yes or no'.

**Scoring of the knowledge assessment tool:**

The correct answer to all questions of the three parts of the tool (yes) with a score of (1) and the wrong answer (no) was scored (zero). The total score of preoperative = 4, postoperative = 8, and post-discharge = 12, the total score is 24. The knowledge level is classified into:

Inadequate knowledge < 90% of the total score < 21.6

Adequate knowledge > 90% of the total score > 21.6

### **Tool II: Rand Patients' Health Outcomes Scale**

The researcher adopted this tool from (Rand et al., 1994) nearly 36 questions on a multidimensional scale for health concepts to investigate health outcomes, Included one question about general health now for cardiac patients, scale from 'excellent' with a score of one to 'fair' with a score of four. 1 question was asked about a patient's health from one year, scale from 'much improved now than one year ago with a score of one to 'much poorer now than one year ago with a score of four. 10 questions were asked about activities that might do during a day, scale from 'yes limited a lot' with a score of one to 'No, limit at all with a score of three. 4 questions were asked about problems that appeared during their work or during daily activities, these questions were answered with 'yes or no'. 3 questions were asked about their emotional problems that interfered with their work for the last 4 weeks; these questions were answered with 'yes or no'. 1 question was asked about how their physical health or emotional problems affected social activities through the past 4 weeks scale from 'not at all with a score of one to 'extremely' with a score of five. 1 question was asked about the feeling of pain was throughout the past 4 weeks, with scales very mild, mild, moderate, severe, and very severe the scale from 'none' with a score of one to 'very severe' with a score of six. 1 question asked about how much pain inhibited with normal work during the past 4 weeks, a scale from 'not at all with a score of one to extremely' with a score of five. 9 questions were asked about the feeling of daily activity during the past 4 weeks, the scale was from 'all of the time' with a score of one to 'none of the time' with a score of six. 1 question was asked about how much of the time the physical health or emotional problem reserved with social activities, scale from 'all of the time' with a score of one to 'none of the time' with a score of five. 4 questions about their health improved or deteriorated from before, scale from 'Definitely true' with a score of one to 'Definitely false' with a score of five.

### **Tool III: Theresa Bucco Satisfaction Scale:**

The researcher adopted this tool from (*Theresa Bucco, 2015*). It involved of 25 questions were asked to evaluate patients' satisfaction with nursing care such by way of listening to a patient's problems, understanding the medical explanation, the nurse explaining data in simple language to patients, nurses' knowledge and experiences, nurses have available time for patients, continuity of nursing care, the kindness of physician, and nursing staff,

respect, interested contact, professionalism of the nursing staff and effectiveness of nursing care. Response-speed and participation in care, with 5 five-point Likert scales: (Strongly agree- agree- Uncertain- Disagree - strongly disagree). Here 'strongly agree' by score 1 to 'strongly disagree' with score 5, in this tool positive satisfaction from (5 to1) and reverse satisfaction from (1 to 5).

**Scoring system:**

Not satisfied ( $\leq 50\%$  of the total score  $\leq 62.5$ )

Satisfied ( $>50\%$  of the total score  $> 62.5$ )

**Validity:** It was done by a jury of 7 experts (five assistant professors and two lecturers from the medical-surgical specialty faculty of nursing at Port Said University to check for clarity, relevance, comprehensiveness, easy implementation, and needed modifications were done.

**Reliability:** It was done using the alpha Cronbach coefficient to assess the internal consistency of the tool and its value was (0.88).

**Pilot study**

The pilot study applied 12 patients (10%) of the study sample with certain criteria to check the applicability of tools, and arrangement of items and to estimate the time needed for each tool. Patients involved in the pilot study were accepted from the study group afterward modifying the tools.

**Fieldwork description**

Once the necessary approval is granted to proceed with the proposed study, subjects who have the inclusion criteria and approve to participate in the study are interviewed alone as soon as admission to the ward after described the purpose of the study by the researcher to collect the necessary data for demographic characteristics of patients undergoing cardiac surgery and medical data.

The study started from the 1st of March (2019) to the end of august (2019). Education according to guidelines for studied patients included 6 educational sessions, the sessions should be brief so as to not scare the patient. Teaching programmed carefully, like pain, anxiety, and sleep deprivation may inhibit the patient's receptiveness to the information provided. A session for 55-60 minutes by giving presentations, group discussion, asking and answering questions, results were recorded by the researcher and using educational

PowerPoint as follows: The first session, assess perioperative knowledge, health outcome, and satisfaction for cardiac patients before applying health education guidelines by interviewing patients in the cardiac ward in the day of admission every patient alone. The second session encompassed information about the anatomy besides the function of the heart, coronary heart disease (risk factors, pathogenesis, and symptoms), CABG, valvular heart disease (etiology,-symptoms), valve replacement, and open-heart surgery. The third session involved information about the hospital then hospitalization conditions, the course of preparing for surgery as showering, shaving, Preoperative laboratory investigation, examinations, Preoperative modification of nutritional insufficiency for patients who are malnourished, consumption of pure liquids before general anesthesia, fasting subsequently midnight for surgery the following day for 6 to 8 hours, smoking cessation, Preoperative exercise, prophylactic antibiotics, adequate glycemic control. The fourth session involved information about intraoperative care as surgical site infection reduction, counting a care bundle that comprises topical intranasal therapies, suitable timing, preoperative prophylactic antibiotics, Lines and tubes interleaved, and how long they would remain there. The fifth session contained post-operative information during ICU and ward stay as rigid sternal fixation, hyperthermia, blood management bleeding, control of hypothermia using forced-air warming blankets, and chest tube lines. Endotracheal tube, learning breathing and leg exercises, physiotherapy, and coughing. The sixth session included information about post-discharge such as Postoperative self-care, movement of arms and body, care of trauma, care of the wound, appropriate diet, bathing, the role of proper exercising, walking, benefits, and barriers for doing exercise and type of exercises, daily activity, and sexual relations.

One month from surgery after the education according to guidelines, the studied patients be interviewed in the outpatient clinic for 60 minutes, three times after one month, two months, and 6months after the surgery every patient was interviewed alone and filled out the questionnaire about perioperative knowledge, health outcome, and satisfaction for cardiac patients after applying health education guidelines, and results were recorded by the researcher.

**Administrative design:**

Official permission for data collection in the cardiothoracic and vascular surgeries center affiliated with Mansoura University was attained from the center manager by the suggestion of an official letter from the vice dean of the faculty of nursing at Port Said



university. Meetings and discussions were detained between the researcher and the head of the department to make him aware of the aims and objectives of the research, as well as, to get better cooperation during the implementation of health education guidelines, also patients' oral consent was obtained before starting data collection.

### **Ethical Considerations**

Data collection took place after written authorization through the Ethics Committee of the faculty of nursing, Port Said University towards the director of the cardiothoracic besides vascular center to take the permission to do the study. All participants in the study were conversant about the purpose of the study, data confidentiality, the voluntary nature of participation, and use for the research purpose only.

### **4-Statistical design**

Collected data were coded, computed, and statistically investigated using the SPSS (statistical package of social sciences), version. Data were presented as frequency and percentages (qualitative variables) and mean  $\pm$  SD (quantitative continuous variable Chi-square are ( $\chi^2$ ) was used for comparison of categorical variables and was swapped by Fisher exact test (FET) or Mont Carlo Exact test if the expected value of any cell was less than 5. For continuous quantitative variables which were not normally discrete, the Median was used as the central tendency measured and the Mann Whitney test (Z) was used for the comparison of the two groups. The difference was considered significant at  $P \leq 0.05$

## **RESULTS**

### **Table (1): Demographic characteristics of the studied patients (n= 120)**

Two-thirds of the studied patients remained male (65.8%), most of the studied patients were married (91.7%), nearly half of the studied patients from urban, also about two-thirds of the studied patients were basic and less (63.4%), finally, less than two-thirds of the studied patients were not working (63.3%).

### **Table (2): Clinical characteristics of studied patients (n=120)**

In this part of medical history, slightly more than one-third of patients had operated coronary artery bypass grafting (CABG) (38.3%), most of the studied patients were suffering from hypertension (89, 2%), more than two-thirds of studied patients had heart disease less than five year's (86.7%), the highest percentage of studied patients

complained from shortness of breath (97.5%), more than one-third of studied patients were current smoker (45.0%).

**Figure (1): Health Outcomes Scale include patients' opinion of their general health before and after education guidelines**

Showed that short-form questions asking the studied patients about their general health preoperative than now, before intervention nearly two-thirds of studied patients (64.2%) responded with poor and (6.7%) answered with good but after education guidelines nearly (68.3 %) reported with good so there was an improvement in general health perception of studied patients after education guidelines than before.

**Figure (2): Health Outcomes Scale include physical health problem and the effect of work or daily activities before and after education guidelines**

There are significant differences in all items explaining problems with work as a result of physical health during the past 4 weeks after education guidelines were ( $p < 0.05$ ) as regards the amount of time they spent on work.

**Table (3): Health Outcomes Scale regarding activities during a typical day**

There is a significant improvement in all items explaining typical daily activities after education guidelines where ( $p < 0.05$ ) as regard to Vigorous activities, moderate activities, carrying groceries, Climbing several flights of stairs, Climbing one flight of stairs, Bending, Walking more than a mile, Walking several blocks Walking one block, bathing.

**Figure (3): Health Outcomes Scale include patients' opinion of bodily pain before and after education guidelines**

In short form question asking the studied patients about the feeling of pain before education guidelines there were more than two thirds (66.7%) reported severe also post-education guidelines there was nearly less than one third (30.0%) reported mild so there was an improvement in the feeling of pain after education guidelines and there was a significant difference after education guidelines where p-value (0.001).

**Figure (4): Health Outcomes Scale includes patients' opinions about social activities interfered with due to their physical or emotional problems before and after education guidelines.**

In short form questions asking about interfering of a physical and emotional problem with social activities during the last 4 weeks which percentage answered most of the time before education guidelines were more than two-thirds of studied patients (66.7%) but the

percentage of answered with a little of the time were more than one-third of studied patients (48.3%) after education guidelines. So there was a significant difference where ( $P < 0.001$ )

**Figures (5): Average satisfaction level before and after education guidelines:** There is a significant ( $P < 0.001$ ) increase in the average total satisfaction score after education guidelines (figure 7). Also, there is a significant ( $P < 0.001$ ) increase in satisfaction percentage from 80.8% before education guidelines to 100.0% after education guidelines (figure 8).

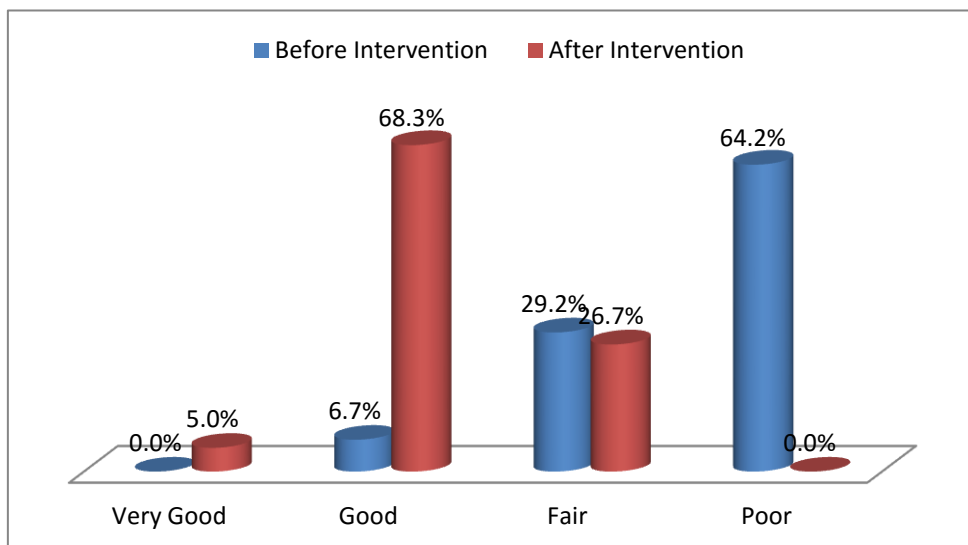
**Table (1):** Percentage distribution of demographic characteristics of the studied patients (n= 120)

Demographic characteristics	No	%
Age (years):		
< 30	1	0.8
30 -	13	10.8
40-	53	44.2
50+	53	44.2
	Range: 22-55 years, Mean $\pm$ SD=46.06 $\pm$ 6.68	
Sex:		
Males	79	65.8
Females	41	34.2
Marital status		
Married	110	91.7
Unmarried	10	8.3
Residence:		
Rural	59	49.2
Urban	61	50.2
Education:		
Illiterate	38	31.7
Read / write	38	31.7
Secondary	17	14.1
University	27	22.5
Working status:		
Working	44	36.7
Not working	76	63.3

**Table (2): Clinical characteristics of studied patients (n=120)**

Medical history	No	%
<b>Name of operation</b>		
MVR	39	32.5
DVR	15	12.5
AVR	20	16.7
CABG	46	38.3
<b>Suffering from: #</b>		
Hypertension	107	89.2
D.M.	44	36.7
Rh. Fever	47	39.2
Heart failure	23	19.2
Kidney problems	7	5.8
Liver diseases	3	2.5
Psychological disorders	0	0.0
High bl. cholesterol	58	48.3
<b>Time of onset of heart disease:</b>		
< 5 year	104	86.7
5– 10 years	16	13.3
> 10 years	0	0.0
<b>Current Complaint: #</b>		
Chest pain	53	44.2
Shortness of breath	117	97.5
Diaphoresis	71	59.2
Fainting	48	40.0
<b>Smoking:</b>		
Current smokers	54	45.0
Ex-smokers	21	17.5
Non-smokers	45	37.5

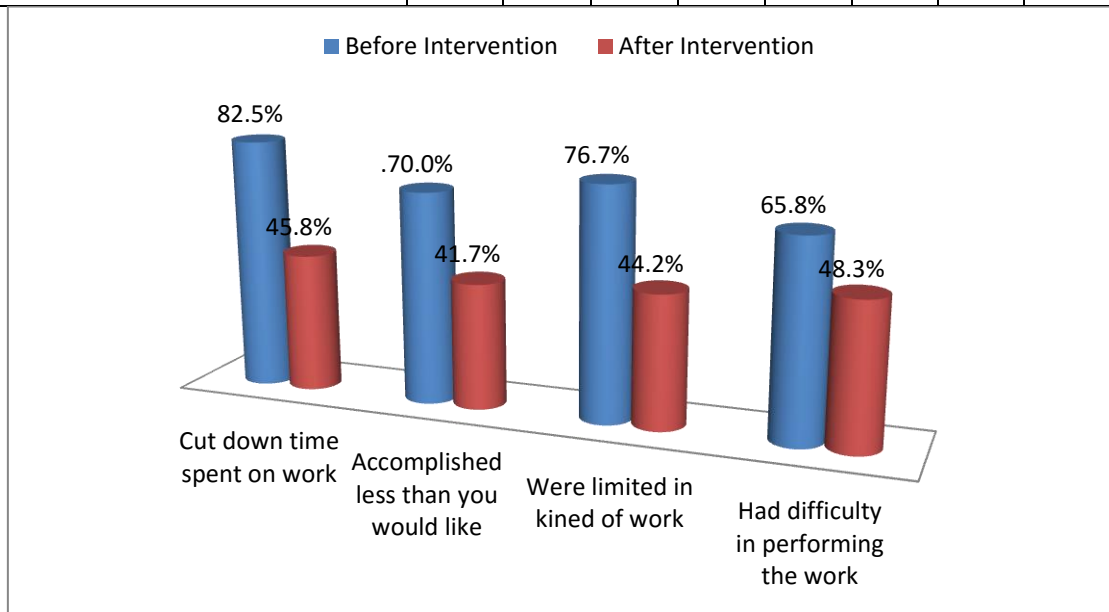
# None mutually exclusive



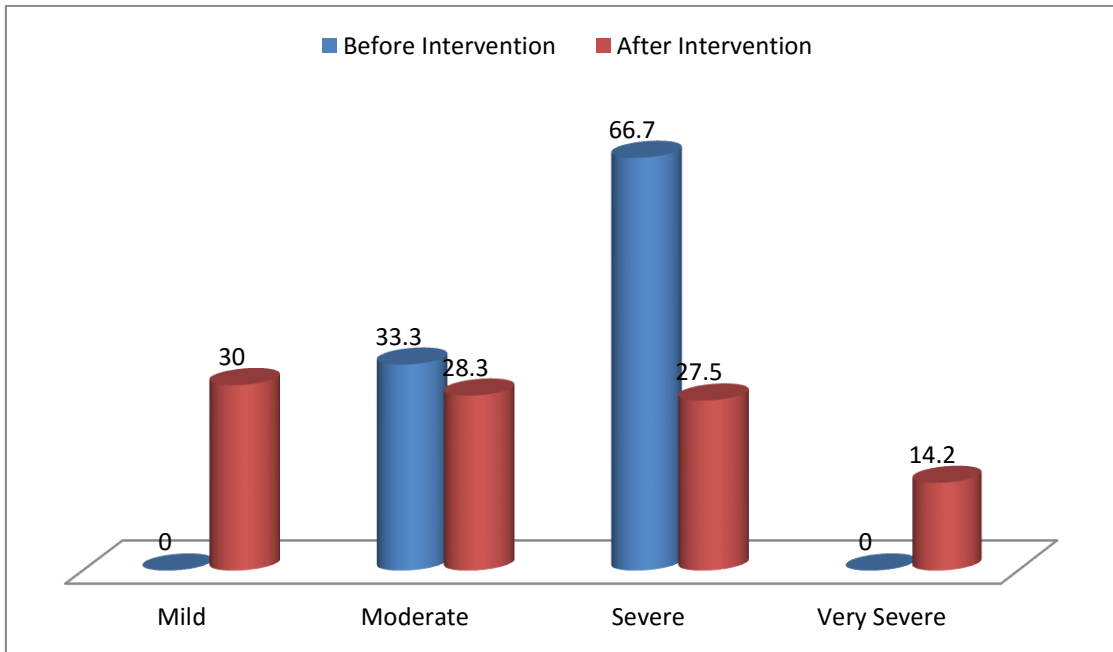
**Figure (1):** Health Outcomes Scale include patients' opinion of their general health before and after education guidelines (n= 120)

**Table (3):** Health Outcomes Scale includes activities during a typical day (N=120)

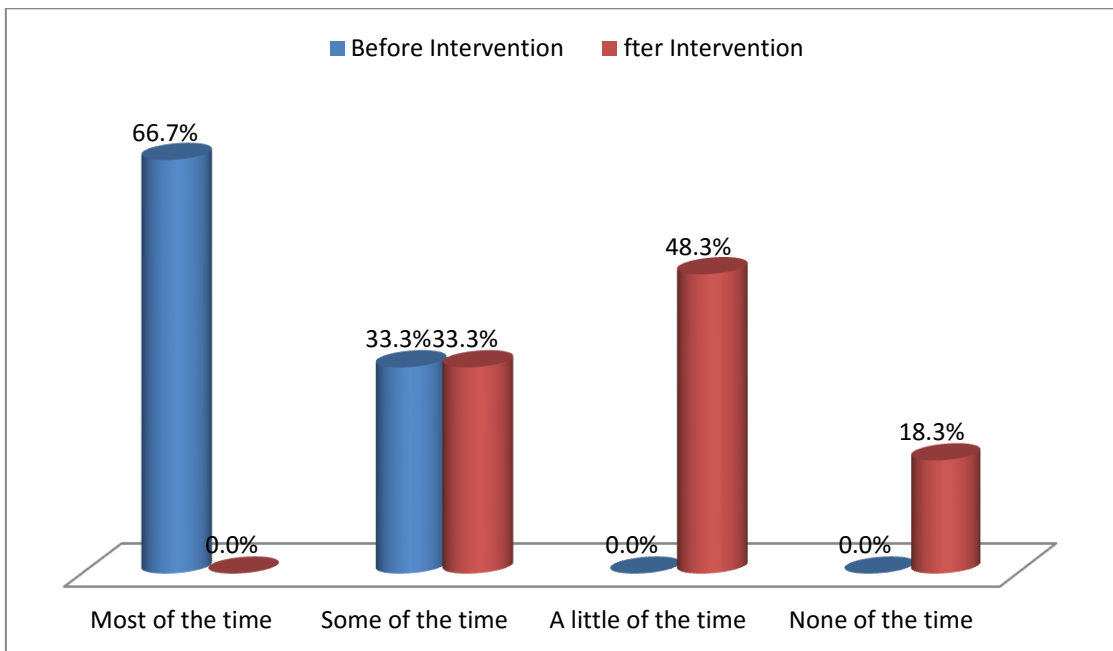
The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?	Time	Yes, Limited a Lot (1)		Yes, Limited a Little (2)		No, Not limited at All (3)		Significance test
		No	%	No	%	No	%	
		3. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	Pre	8	6.7	10	8.3	
Post	0	0.0	64	53.3	56	46.7		
4. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	Pre	0	0.0	80	66.7	40	33.3	$\chi^2 = 3.43,$ P 0.064
	Post	0	0.0	66	55.0	54	45.0	
5. Lifting or carrying groceries	Pre	3	2.5	98	81.7	19	15.8	$\chi^2 = 40.28,$ P <0.001
	Post	0	0.0	55	45.8	65	54.2	
6. Climbing several flights of stairs	Pre	2	1.7	40	33.3	78	65.0	$\chi^2 = 144.40,$ P <0.001
	Post	78	65.0	40	33.3	2	1.7	
7. Climbing one flight of stairs	Pre	60	50.0	60	50.0	0	0.0	$\chi^2 = 35.10,$ P <0.001
	Post	102	85.0	17	14.2	1	0.0	
8. Bending, kneeling, or stooping	Pre	23	19.2	77	64.2	20	16.7	$\chi^2 = 31.32,$ P <0.001
	Post	62	51.7	53	44.2	5	4.2	
9. Walking more than a mile	Pre	0	0.0	40	33.3	80	66.7	$\chi^2 = 84.85,$ P <0.001
	Post	34	28.3	70	58.3	16	13.3	
10. Walking several blocks	Pre	0	0.0	60	50.0	60	50.0	$\chi^2 = 13.02,$ P <0.001
	Post	0	0.0	32	26.7	88	73.3	
11. Walking one block	Pre	12	10.0	57	47.5	51	42.5	$\chi^2 = 71.71,$ P <0.001
	Post	62	51.7	53	44.2	5	4.2	
12. Bathing or dressing yourself	Pre	18	15.0	94	78.3	8	6.7	$\chi^2 = 29.88,$ P <0.001
	Post	51	42.5	53	44.2	16	13.3	



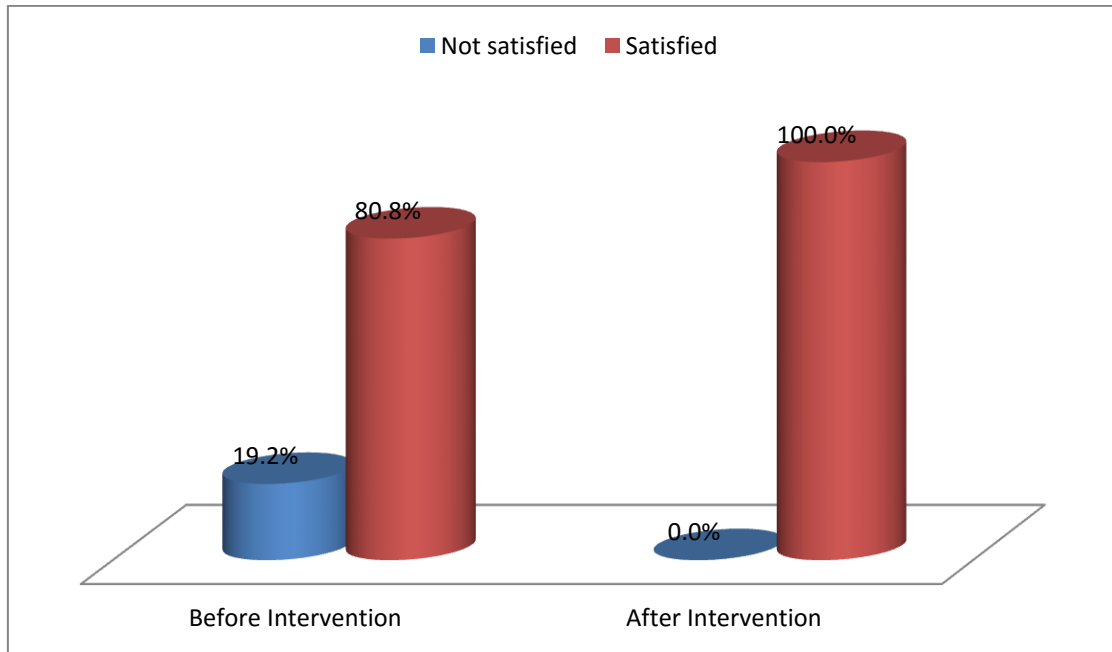
**Figure (2):** Health Outcomes Scale include physical health problem and the effect of work or daily activities before and after education guidelines (n=120)



**Figure (3):** Health Outcomes Scale include patients' opinion of bodily pain before and after education guidelines (n=120)



**Figure(4):** Health Outcomes Scale include patients' opinion about social activities interfered with due to their physical or emotional problems before and after education



**Figure (5):** Satisfaction level before and after education guidelines (n=120)

## DISCUSSION:

Patient education is frequently ignored due to cultural explanations, such as “patients prefer not to know or they become more anxious with knowledge. Lack of time and heavy workload are often cited as obstacles to patient education. Moreover, patients have assumed passive-recipient roles due to the existing medical paternalism. Another reason for overlooking this aspect of care is a lack of financial and human resources. These reasons lead to long-standing hospitalization, increase the cost of care, decrease health outcomes and decrease patients’ satisfaction with the care provided.

The present study demonstrates that preoperative knowledge improved after applying health education guidelines, these results agree with Antonia, Georgios, and Altoz, (2016) description that patients should have adequate knowledge about the perioperative trip so as to be oriented with anything about surgery. While these results changed from those (Lee, 2019), which established that most cardiac patients have adequate knowledge about cardiac surgery.

Regarding patients’ feelings of pain, there was an improvement in the feeling of pain and anxiety after education guidelines than before, this result was in the line with Frazier et al., (2020) stated in their study about the impact of pain on general health that feeling of pain decreasing of patients mobilization, daily activity, increase anxiety and lessen health outcomes.

The current study revealed that cardiac patients had improved postoperative knowledge about cardiac surgery after the intervention, this finding was in the line with Ramesh, (2019) which demonstrated that patients who underwent cardiac surgery have a high level of adequate postoperative knowledge about the surgery.

As regards patients' opinion about the general health of cardiac patients after intervention improved in physical, social, or emotional health than one year ago, this finding agrees with Navidian, Mobaraki, and Shakiba, ( 2017). Who investigated that educational guidelines lower anxiety and improve health outcomes

This study clarified that there was increasing in the satisfaction level after intervention due to high satisfaction with nursing care. This finding is consistent with a similar study Aiken et al., (2019) which reported that patients who received preoperative education were very satisfied with the care provided. This finding differs from *Kucia, (2020)* who clarified that preoperative education is not related to patient satisfaction.

These results illuminated that applying education according to guidelines recovers patients' satisfaction. Patients in the studied patients stated satisfaction with nursing care this finding is constant with a similar study *Aiken. Sermeus, Van den Heede. (2019)*, which reported that patients who recognized perioperative education were very satisfied with the care provided. Finally, our study investigates the effect of health education guidelines on health outcomes and satisfaction for patients undergoing cardiac surgery.

## **CONCLUSION:**

***Based on study findings, it can be determined that:*** Education guidelines improved perioperative knowledge, improved health outcomes as general, emotional, social health, daily activity, bodily pain, and lessened period of hospitalization also increase patient's satisfaction to care quality of education guidelines than before education.

## **RECOMMENDATIONS:**

Continuous training programs should be organized for the nurses and especially for newly jointed nurses to improve their knowledge and practice regarding cardiac surgery. Training the patients should be available for preoperative assessment nurses who are teaching patients to ensure that the patients are appropriately prepared for their surgical pathway.



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## اثر الإرشادات التعليمية على النتائج الصحية ورضا المرضى الذين يخضعون لجراحة القلب

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### الخلاصة

**الخلفية:** يساعد تطبيق الإرشادات التعليميه ما قبل الجراحة لجراحة القلب على تحسين رضا المريض وجودة الرعاية ، وتحسين تثقيف العاملين وتقليل تكاليف الرعاية الصحية ، كما يعزز نتائج المرضى الذين يخضعون لعملية جراحية خلال رحلتهم المحيطة بالعملية بأكملها. هذا وكان الهدف من الدراسه هو تأثير الإرشادية التعليمية على النتائج الصحية ورضا المرضى الذين يخضعون لجراحة القلب. وقد استخدم تصميم شبه تجريبي لهذه الدراسة. المكان: تم عرض هذه الدراسة في قسم جراحة القلب والصدر وكذلك في العيادة الخارجية بمركز جراحة القلب والصدر والأوعية الدموية بجامعة المنصورة. العينة الهادفة الذين يخضعون لعملية جراحية في القلب بما في ذلك جميع المرضى البالغين الذين تم دخولهم المركز لمدة 6 أشهر ما يقرب من 120 مريضاً بالقلب. هذا وقد تم جمع البيانات باستخدام ثلاث أدوات: الخصائص الحيوية الاجتماعية وأداة المعرفة المحيطة بالجراحة لمرضى جراحة القلب ، وأداة مقياس النتائج الصحية لمرضى القلب ، وأداة مقياس لرضا المرضى. النتائج: قبل تطبيق الإرشادات التعليمية ، لم تكن هناك فروق ذات دلالة إحصائية بين المرضى الخاضعين للدراسة في المعرفة المتعلقة بالجراحة والنتائج الصحية والرضا. ومع ذلك ، بعد تطبيق إرشادات التثقيف الصحي ، تحسنت المعرفة المحيطة بالجراحة والنتائج الصحية والرضا. الخلاصة: تطبيق إرشادات التثقيف الصحي له تأثير إيجابي كبير على معرفة المرضى ، والنتائج الصحية حيث يعزز جودة الرعاية ، ويقلل من التكاليف التنظيمية ، وكذلك إرضاء المرضى الذين يخضعون لعملية جراحية. توصية: يجب أن يكون تدريب مرضى القلب بواسطة ممرضة القسم قبل الجراحة الذين يقومون بتدريب المرضى على الاستعداد لمسارهم الجراحي.

**الكلمات المرشدة:** جراحة القلب ، إرشادات التثقيف الصحي ، النتائج ، والرضا