

# Evaluation of the coping mechanisms in preoperative patients undergoing surgery: A case study

*Evaluación de los mecanismos de afrontamiento en pacientes preoperatorios sometidos a cirugía: Estudio de caso*



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343

## Abstract

**Objective:** It is quite normal to be nervous before undergoing surgery. Although surgery will preserve or even be a lifesaver, most people are anxious about “going under the knife”. It seems vital to keep worries from getting too overwhelming. The present study intends to evaluate the coping mechanisms in preoperative patients undergoing surgery in Al-Karama for Cardiac Surgery in Baghdad (IBHCSB). **Methods:** This experiment is a quasi-study to evaluate the Coping Mechanism in Preoperative Patients Undergoing Surgery in IBHCSB. For the current investigation, a quasi-experimental research strategy, a single group “pre-test”, and “post-test” design were utilized, with 250 patients hospitalized to the IBHCSB. In this study, the purposeful sampling approach was utilized. Descriptive and inferential statistics were used to analyze the data. **Results:** Before the structured training program, 87.67 percent of the patients had maladaptive coping and 12.33 percent had adaptive coping, based on the “pre-test” percentage score coping mechanism. As per the “post-test” percentage score coping mechanism, 78.33% of the patients had adaptive coping and 21.67% had maladaptive coping. The coping mechanism score differs between “pre-test” and “post-test”. The mean “post-test” coping mechanism score was 9.191, while the mean “pre-test” coping mechanism score was 5.746. **Conclusion:** Weighing up the results acquired, it can be concluded that Structured Teaching Programme (STP) had a major impact at the  $p < 0.05$  level. Also, the findings demonstrate that several pre-operative patients had anxiety and maladaptive coping mechanisms for pre-operative anxiety.

**Keywords:** Coping Mechanism, Preoperative Patients, Undergoing Surgery.

## Resumen

**Objetivo:** Es bastante normal estar nervioso antes de someterse a una cirugía. Aunque la cirugía preservará o incluso será un salvavidas, la mayoría de las personas están ansiosas por “pasar por el quirófano”. Parece vital evitar que las preocupaciones se vuelvan demasiado abrumadoras. El presente estudio pretende evaluar los mecanismos de afrontamiento en pacientes preoperatorios sometidos a cirugía en Al-Karama para cirugía cardíaca en Bagdad (IBHCSB). **Métodos:** Este experimento es un cuasi-estudio para evaluar el mecanismo de afrontamiento en pacientes preoperatorios sometidos a cirugía en IBHCSB. Para la presente investigación, se utilizó una estrategia de investigación cuasi-experimental, con un diseño de “pre-test” y “post-test” de un solo grupo, con 250 pacientes hospitalizados en el IBHCSB. En este estudio, se utilizó el enfoque de muestreo intencional. Se utilizó estadística descriptiva e inferencial para analizar los datos. **Resultados:** Antes del programa de entrenamiento estructurado, el 87,67% de los pacientes tenían un afrontamiento desadaptativo y el 12,33% tenía un afrontamiento adaptativo, según el mecanismo de afrontamiento de puntuación porcentual “pre-test”. Según el mecanismo de afrontamiento de la puntuación porcentual “post-test”, el 78,33% de los pacientes tenían un afrontamiento adaptativo y el 21,67% un afrontamiento desadaptativo. La puntuación del mecanismo de afrontamiento difiere entre “pre-test” y “post-test”. La puntuación media del mecanismo de afrontamiento “post-test” fue de 9,191, mientras que la puntuación media del mecanismo de afrontamiento “pre-test” fue de 5,746. **Conclusión:** Los resultados indican que STP tuvo un impacto importante en el nivel de  $p < 0,05$ . Además, los hallazgos demuestran que varios pacientes preoperatorios tenían ansiedad y mecanismos de afrontamiento desadaptativos para la ansiedad preoperatoria.

**Palabras clave:** mecanismo de afrontamiento, pacientes preoperatorios, sometidos a cirugía.

**P**atients scheduled for anesthesia and surgery often become anxious and stressed. It is very natural to be nervous before surgery<sup>1-3</sup>. Even though a procedure will revive or even save your life, most individuals are apprehensive about going under the knife. They have to adapt or cope with this situation in order to regain control of their emotions. Otherwise, such stress may exceed the individual resources of the patients and may negatively affect recovery from surgery<sup>4-6</sup>. It is critical to avoid worries and allow worry from becoming too excessive. No panacea exists for worry. However, some factors might assist individuals to manage worry before an operation. Patients try to adopt or cope with this situation by using specific affective, cognitive, and behavioral efforts to manage the demands of the actual situation<sup>7,8</sup>. Numerous hospitals provide specific assistance, and members of the family and acquaintances may also assist. Preoperative education is essential before an operation. Preoperative education improves dealing with worry by increasing the patients' self-esteem and mental health. Preoperative education was beneficial in reducing stress in 78 percent of surgery patients<sup>9-11</sup>. According to a research<sup>12</sup>, psychology-related- readiness cannot achieve all-encompassing coverage. Nevertheless, psychological calming strategies like diversion and visualization have helped to considerably relieve stress. Furthermore, Fitzpatrick and Hyde<sup>11</sup> define preoperative patient education to be a variety of educational activities that take place before an operation to educate patients about the growing physical and psychological claims pre- and post-surgery. These offerings comprise health data, pain pump skill training for patients, and psychological assistance to manage patients' worries, requirements, and issues.

### Statement of Problem

A quasi-experimental study was conducted at IBHCSB in Iraq, to examine the coping mechanisms of preoperative patients undergoing surgery. This study aimed to measure pre-operative anxiety in patients having surgery, as well as the best coping methods. Thus, it will be evaluated the coping strategies of preoperative surgical patients, will be identify the link between coping methods and specific factors such as age, gender, education, employment, and kind of operation and will provide recommendations for reducing anxiety in preoperative patients.

The study is limited to Surgery in IBHCSB in Iraq. Specific age group from 18 years and above. Patients who are admitted to the hospitals.

Al-Karama Cardiac Surgery Specialized Center: An Overview

It is a facility that specializes in heart and artery disorders and surgery. It is made up of the departments of consulting department, surgery department, pediatric cardiac surgery department, laboratories, radiology, catheterization rooms, and operating rooms, in addition to the presence of special halls for cardiac care. The hospital accepts all basic and complicated medical cases from Baghdad and the governorates, with over 500 referrals per day, around 886 catheter procedures, both curative and diagnostic, and 90 open-heart surgeries conducted every month, making it one of the primary operations.

### Literature Review

The research, conducted by Fradelos<sup>12</sup>, evaluates the efficacy of two stress-reduction methods in a field environment. A method to cope that includes a cognitive re-evaluation of instances that may trigger anxiety, soothing monologue, and cognitive management via discriminatory attentiveness is contained in the first approach. The provision of data about the endangering incident as well as affirmations to produce emotional insertion is contained in the second approach. Patients preparing for serious surgery were given the coping device, preparation data, the two techniques, or none. The coping device's ability to successfully decrease anxiety before and after surgery proven. Other studies that analyzed nurses' evaluations of preoperative anxiety revealed that the coping device had a substantial major influence<sup>13-15</sup>. The coping device also had a substantial major influence on postoperative parameters (total pain relievers needed and percentage of patients who needed sedatives). The preliminary data, on the other hand, had no meaningful influence on such postoperative initiatives<sup>16-19</sup>. In another study<sup>20</sup>, the goal of this study was to assess how preoperative patient education affected anxiety and healing in patients who had open-heart surgery. Patients who satisfied the eligibility requirements and were admitted to the cardiac surgery unit were randomly allocated to one of two groups: experimental or control. Until the day of their admission, the experimental group (n=57) was given a specific educational briefing and a visit to the heart surgery unit. The control group (n = 53) used standard hospital practices, which included minimal prior instruction or inspection. The Beck Anxiety Inventory was used to measure anxiety, whereas physiological findings, hospitalization days, and the recurrence of problems were used to assess rehabilitation. Multivariate Analysis of Covariance was employed, with any confounding factors controlled. The experimental group exhibited minimal statistical significance in terms of preoperative and postoperative anxiety. The experimental group had a lot less duration between becoming awake and the removal of the endotracheal tube. Different from most of the prior research that indicated the advantages of preoperative patient education<sup>21-25</sup>, the Lebanese study customers neglected to corroborate previous findings.

**Methods**

**T**he study's aims were met with a Quasi-experimental research technique.

The study was carried out using a single group before-test and after-test design. Group 1 o1xo2:

Independent variables: Age, gender, education, employment, and kind of operation were the independent factors.

Dependent variable: The dependent variable was the coping mechanisms of the pre-operative patients.

Demographic variables: The demographic variables were Age, Sex, Education, Occupation, and Type of Surgery.

Selection and description of the field of the study: The research was carried out in IBHCSB.

Population: This study's target population comprised all preoperative patients admitted to IBHCSB.

Sample and sampling technique: The sample comprises three hundred (300) patients hospitalized in various hospitals in Baghdad, Iraq. In this study, the approach of purposeful sampling was utilized.

**Development of Tool**

The tool consists of two sections A and B.

Section A: Contains "Demographic Variables" such as Sex, Age, Education, Occupation and Type of Surgery.

Section B: Self-structured coping checklist was used to assess the effectiveness of a structured teaching program for pre-operative patients.

8.1 Content validity of the tool: The content validity of the instrument was validated by experts from many fields such as psychology, psychiatry, anesthesia, surgery, and nursing. Amendments were made in accordance with their recommendations. Expert opinion validated the tool's content authenticity.

8.2 Reliability of Tool: The Split-Half technique of dependability was used to calibrate the tool's reliability. The tool's reliability was computed using Karl Pearson's coefficient of correlation and Spearman's Brown Prophecy formula, and it was determined to be 0.84, indicating that the instrument was reliable.

8.3 Ethical Consideration: The information's confidentiality was protected. They were guaranteed that their replies would be kept secret and that the material would only be utilized for research use.

**Data Analysis**

The information was examined using descriptive and infer-

ential statistics including mean, mean percentage, standard deviation, t-test, ANOVA, degree of freedom, and others.

Characteristics of the Samples N= N:300			
Serial Number	Variables	Frequency	Percentage (%)
1	Age (in years)		
	a) 18-30	48	15.66
	b) 31-40	81	25
	c) 41-50	94	29.87
2	d) <50	77	21
	Sex (Gender)		
2	a) Male	149	49.71
	b) Female	156	50.02
3	Education		
	a) Illiterate	79	26
	b) Graduate	199	59.8
4	c) Post Graduate	14	7
	Occupation		
	a) Unemployed	33	9.86
	b) Laborer	36	13
	c) Service	79	28
5	d) Business	29	9.91
	e) Housewife	110	34.78
	Type of Surgery		
	a) General surgery	98	29.81
5	b) Gynae/Obstetrics	88	28.88
	c)Chest	0	0
	d)Orthopedics	114	73.01

Table 1. Percentage distribution of "pre-test" coping mechanisms of the patients undergoing major surgery		
Level of Coping Mechanism	N	Percentage
Maladaptive coping (0-7)	263	87.67
Adaptive coping (8 – 15)	37	12.33

Maximum Score = 15 Minimum Score = 0

Table 1 shows that before the structured training program, 87.67% of the patients had maladaptive coping

and 12.33 percent had adaptive coping. As a finding, it is determined that before the organized education program, pre-operative patients exhibited maladaptive coping mechanisms. Patients' coping mechanisms differ before and after an organized education program.

Table 2 depicts that 78.33% of the patients had adaptive coping and 21.67% had maladaptive coping. Hence it is evident that there was an improvement in coping mechanisms after giving STP to the pre-operative patients undergoing major surgery.

**Table 2. Percentage distribution "post-test" effectiveness of a structured teaching program on the level of coping mechanism**

Coping Mechanism level	"post-test" Score (N=250)	
	N	Percentage (%)
Maladaptive coping (0 – 7)	65	21.67
Adaptive coping (8 – 15)	235	78.33

Maximum Score = 15 Minimum Score = 0

**Table 3. Comparison of "pre-test" and "post-test" effectiveness of STP on pre-operative coping mechanism before surgery**

N=250						
Parameters	N	Coping Mechanism Score		t-value	df	p-value
		Mean	SD			
"pre-test"	250	4.688	1.212	t=25.0372*	299	p=0.000 *Most-Significant
"post-test"	250	8.971	1.991			

Table 3 shows that there is a variation between the "pre-test" and "post-test" coping mechanism scores. The mean "post-test" highest coping mechanism score was 9.191 and the mean "pre-test" coping mechanism score was 5.746. Thus, the finding showed that there is a significant effect of STP at  $p < 0.05$  level. Hence, it is concluded that after the STP patients used better coping mechanisms before surgery. These results are in line with the study of Abelson et al.<sup>22</sup> who conducted a qualitative study to analyze the coping strategies among colorectal cancer patients undergoing surgery and the role of the surgeon in alleviating distress. Also, these results are somewhat similar the results of Chen et al.<sup>23</sup>, which mainly focuses on survival and prognostic analysis of preoperative inflammatory markers in patients undergoing surgical resection for laryngeal squamous cell carcinoma.

In the current study, the findings indicate that many of the pre-operative patients had anxiety and maladaptive coping mechanisms for pre-operative anxiety. However, they were lacking in the appropriate use of a coping mechanism for surgery. Therefore, some urgent

steps are needed to improve the coping ability of patients regarding pre-operative anxiety. There is an urgent need to include anxiety counseling by appropriately trained counselors. Pre-operative teaching is essential for patient management and appropriate explanation, education should be given to patients to enhance postoperative recovery.

### Recommendations for future research

Firstly, I extend my sincere thanks to Al-Hadi University College in IRAQ for its great cooperation in carrying out this research

Secondly, based on the findings of this study, the following suggestions are made:

The study can be replicated on a large sample to validate and generalize its findings. A similar study can be undertaken with a multi-setting approach. Descriptive research can be undertaken for such studies to reflect the whole population. More and more research should be conducted to develop more innovative strategies to improve the knowledge of patients regarding coping mechanisms.

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