

An Exploratory Study to Assess the Severity of Fatigue after Cardiac Surgery and its Effects on Early Recovery among Patients in Selected Hospital of Delhi”.

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Abstract: *This study aims to examine the level of fatigue in patients after cardiac surgery and the effects of fatigue on early recovery. A non experimental research with Exploratory research design was used to assess the severity of fatigue after cardiac surgery and its effects on early recovery in 25 patients in Army hospital (R&R). The sampling technique used was non probability purposive sampling. The tool consists of questionnaires to assess demographic data and a check list individual strength scale was used to assess the severity of fatigue which consisted of 08 items. The results reveal that the mean score was 36.68 and median score was 35 with SD 11.30. The scores of the respondents on severity of fatigue were in the range of 15-56. There was significant association found between level of knowledge and selected socio demographic variable like presence of co morbidities, Ability to walk without support, Ability to do spirometry, Ability to self care, Ability to get out of the bed without help, Relapse of preoperative symptoms while doing activities and feeling of anxiety about recovery at $P > 0.05$ level.*

Keywords: Fatigue, Cardiac surgery, Early recovery

I. INTRODUCTION

Fatigue is often a major and persistent problem for many cardiac patients. Fatigue can be defined as a subjective state of an imbalance in the availability of inner resources needed to perform physical or mental activities. The level of fatigue is determined not only by the availability of inner resources but also by the demands of the activities performed. In spite of the many benefits derived from cardiac revascularization, there are patients who experience less than optimal outcomes. The presence of existing and sometimes new symptoms, such as fatigue, following coronary artery bypass graft (CABG) surgery can adversely affect patient recovery and quality of life. . Fatigue, and associated states of vital exhaustion, can impair cardiac patients quality of life and physical capacity. Moreover, these symptoms are prognostic indicators of future cardiac events (e.g., myocardial infarction). Factors, such as fatigue, that influence or contribute to poor outcomes following CABG surgery warrant further research. Evaluation of the role fatigue plays in recovery following CABG surgery can assist researchers in developing tailored interventions to reduce rehospitalisation's and improve quality of life outcomes for high-risk patients. Therefore, the purpose of this subset analysis study was to examine the relationships of fatigue and early recovery outcomes over time (6-weeks and 3-months) among older adult subjects, ≥ 65 years old, following CABG surgery.

Study conducted by **Ingvor Johansson et al (2010)** showed that disturbed sleep, anxiety and depression in myocardial infarction patients can cause fatigue. In clinical populations, various pathologies can reduce a patient's internal resources and thus lead to fatigue. In healthy individuals, increased demands or activities can induce fatigue. Therefore, to measure fatigue, one should consider both the individuals' internal resources and the situational context.

Excessive tiredness is one of the most prevalent premonitory symptoms of myocardial infarction and sudden cardiac death. This state is labelled as vital exhaustion and consists of three components: fatigue, increased irritability, and

demoralization. Even it can be an evidence post-surgical myocardial infarction. Fatigue after open heart surgery may result in increased postsurgical recovery time and greater impairment in psychosocial and physiological functionality. Delay in recovery and increased fatigue causes depression, pain, stress and anxiety, this in turn increases hospital stay. The researcher has come across patients who are suffering from many complications after open heart surgery and it cannot be treated with pharmacological measures alone. Study of severity of fatigue and its effects on early recovery will help the researchers to introduce other modes of therapies like complimentary therapies in nursing practice. Studying the severity of postoperative fatigue may contribute to the proposition of strategies that decrease its intensity and promote the early recovery of these patients.

1.1 Statement of the Problem

“A Study to assess the severity of fatigue after cardiac surgery and its effects on early recovery in selected hospital of Delhi ”.

1.2 Objectives of the Study

- To describe the severity of fatigue after cardiac surgery.
- To find out the association between fatigue and selected variables
- To investigate the association of fatigue with postoperative outcomes

II. METHODOLOGY

H0 - There is no significant association between the severity of fatigue in patients after cardiac surgery and selected variables.

The research approach adopted for this study was exploratory approach and a non experimental exploratory research design was used to assess the severity of fatigue after cardiac surgery The study is conducted on 25 cardiac patients in Army hospital (R&R) who have undergone cardiac surgery and are admitted in ICCU using non probability purposive sampling technique. The selected hospital is a super speciality hospital equipped with all sophisticated facilities. The independent variable was identified as fatigue and dependent variable was identified as early recovery. The data was collected by using Standardised checklist individual strength scale. It is a 20 point scale that measures four aspects of fatigue, they are-subjective fatigue, concentration, motivation and activity. The tool consisted of two parts, Section A, which included questions to collect information about demographic variables and Section B, which included 08 questions to assess the severity of fatigue. Each item was having 7 choices and the respondents were instructed to select one suitable option. The final score was calculated and the severity level of fatigue in patients was interpreted as follows:

Normal fatigue < 27
 Elevated Fatigue 27-35
 Severe Fatigue > 35

III. RESULTS AND DISCUSSION

The data obtained from the study subjects were analyzed and interpreted in terms of the objectives and hypothesis of the study. Descriptive and inferential statistics were used for the data analysis at the probability level set at 0.01. The findings reveal that the mean score was 36.68 and median score was 35 with SD 11.30. The scores of the respondents on severity of fatigue were in the range of 15-56 .

Content	Maximum score	Range	Mean (X)	Mean %	Median	S.D
Severity of Fatigue	56	41	36.68	65.5	35	11.30

Table 1: Distribution of severity level of fatigue in respondents after cardiac surgery in range, mean, mean percentage, median and standard deviation. n =25



Table - II: Association between severity level of fatigue with selected demographic Variables. n =25

Variables	Categories	Scores of severity level of fatigue after cardiac surgery		Chi-square value	Df	P-value	Inference
		Median & Below median	Above median				
Age (yrs)	≤50	08	04	1.98	1	<0.05	NS
	> 50	05	08				
Gender	Males	10	07	0.99	1	<0.05	NS
	Females	03	05				
Occupation	Serving & Dependent	12	12	0.016	1	<0.05	NS
	Ex-service & Dependent	01	00				
Presence of Co-morbidities	Yes	01	06	5.54	1	<0.05	S
	No	12	06				
Type of Cardiac surgery	CABG & Valve surgery	12	11	0.46	1	<0.05	NS
	Bentall's & LA Myxoma excision	01	01				
No. of Post operative days	≤02 days	10	05	3.23	1	<0.05	NS
	> 03 days	03	07				
Post op days on ventilator	≤02 days	13	09	0.71	1	<0.05	NS
	> 03 days	01	02				

Variables	Categories	Scores of severity level of fatigue after cardiac surgery		Chi-square value	Df	P-value	Inference
		Median & Below median	Above median				
Presence of any post operative Complications	Yes	01	04	2.56	1	<0.05	NS
	No	12	08				
Ability to walk with support	Yes	12	07	3.94	1	<0.05	S
	No	01	05				
Ability to eat by self	Yes	13	09	1.70	1	<0.05	NS
	No	00	03				
Ability to do spirometry	Yes	12	06	5.54	1	<0.05	S
	No	01	06				
Ability for self care	Yes	06	01	4.42	1	<0.05	S
	No	07	11				
Ability to get out of bed without help	Yes	06	01	4.42	1	<0.05	S
	No	07	11				
Relapse of Preoperative symptoms while doing activities	Yes	06	01	4.42	1	<0.05	S
	No	07	11				
Feeling of anxiety about recovery	Yes	07	12	4.88	1	<0.05	S
	No	06	01				

The above table show the association of severity level of fatigue after cardiac surgery with demographic variables. For the association chi-square test has been used. The obtained chi-square value show significant association between severity of fatigue with presence of co-morbidities, Ability to walk with support, ability to do spirometry, Ability for self care, Ability to get out of bed without help, Relapse of preoperative symptoms while doing activities and feeling of anxiety about recovery. **Hence the Null hypothesis stating that $H_0 \rightarrow$ There is no significant relationship between the severity of fatigue in patients after cardiac surgery and selected variables was rejected.** There was no significant association with age, sex, occupation, Type of cardiac surgery, No. of post operative days, No. of post operative days on ventilator, Presence of post operative complications and ability to eat by self. **Hence the Null hypothesis stating that $H_0 \rightarrow$ There is no significant relationship between the severity of fatigue in patients after cardiac surgery and selected variables was accepted.**

IV. CONCLUSION

According to this study, mean score was 36.68 and median score was 35 with SD 11.30. The scores of the respondents on severity of fatigue were in the range of 15-56. The chi-square value shows significant association of the level of knowledge with variables like presence of co-morbidities, Ability to walk with support, ability to do spirometry, Ability for self care, Ability to get out of bed without help, Relapse of preoperative symptoms while doing activities and feeling of anxiety about recovery. There was no association between severity of fatigue and variables like age, sex, occupation, Type of cardiac surgery, No. of post operative days, No. of post operative days on ventilator, Presence of post operative complications and ability to eat by self.

Assisting open heart surgery patients to recognize and interpret their perceptions of fatigue needs to be explored, as this may be useful in reducing the associated depressive and anxiety symptoms, which commonly occur after surgery. The use of non-pharmacological measures like music therapy, guided imagery can be easily incorporated in nursing education along with other complementary therapies. To equip nurses to provide holistic care the nursing curriculum needs to cover non-pharmacological measures for increasing the comfort of patients. The findings of this study can be incorporated in the training of other healthcare personnel and family members in providing healthcare. Determining the relationship of fatigue to recovery functioning and physical activity outcomes following open heart surgery can be valuable to nursing in the development of targeted interventions and their timing to reduce or ameliorate the effects of postoperative open heart surgery fatigue. In summary, fatigue can be problematic following cardiac surgery. Unmanaged fatigue can further impair recovery and delay or prevent achievement of optimal outcomes after open heart surgery.

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