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Research Article

**ASSESSMENT OF ANXIETY AND DEPRESSION LEVEL AMONG
PATIENTS OF OPEN-HEART SURGERY (CABG) IN PUNJAB
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Email ID: ushnaumna@gmail.com**Article Received:** July 2021**Accepted:** August 2021**Published:** September 2021**Abstract:**

Background: Patients are found to suffer from diverse emotional and psychiatric problems after open-heart surgery. However, no clear cut statistics and evidence has been brought to light regarding the incidence and the course of symptoms, cognitive changes, and quality of life among the patients. This study is envisioned to outline the pre- and postoperative psychiatric portfolio, of patients undergoing open heart surgery. **Methods:** 100 otherwise stable patients prepared for open heart surgery meeting our inclusion criteria were inducted in this study during January 2019 and September 2019. Each patient was assessed on the Mini-Mental State Examination, and the self-structured questionnaire to assess psychiatric symptoms. Patients were assessed before and after 1 months and 6 months interval after the surgery. **Results:** The level of anxiety and depression was found to be less at 6 months preoperative than the preoperative stage. **Conclusions:** A gradual symptomatic recovery was noted in the emotional and psychiatric profile over time at follow visits in majority of patients undergoing open heart surgery. Since psychiatric symptoms have a negative impact on patients prognosis and quality of life therefore proper psychiatric consultation before and after cardiac surgeries important to hasten the recovery.

Keywords: Open Heart Surgery, Anxiety, Depression, Mini-Mental State Examination

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INTRODUCTION:

Postsurgical psychiatric and emotional symptoms are the leading cause of delayed recovery and poor prognosis among cardiac patients [1]. After coronary artery bypass grafting (CABG) surgery, nearly 60% of patients suffer from depressive symptoms, and about 23% develop major depression disorder that leading to compromised quality of life and failure of venous grafts [2]. Additionally, symptoms of anxiety were observed in nearly 40% of patients before CABG with gradual improvement after surgery [3]. However, exact time of onset and course of symptomatology remains a disputed matter [4, 5].

Despite important advances in techniques for anesthesia and cardiac operations, open-heart surgery remains a major life event that has an important impact on the patients and their families [1]. Nowadays, the surgical treatment of heart diseases is aiming not only to alleviate patients' symptoms but also to improve quality of life (QOL) and increased survival rate after surgery [10].

The aim of this study is to evaluate the psychiatric symptoms before and after CABG in 100 patients undergoing open-heart surgery with short-term follow-up. Additionally, the study assessed the

different predictors affecting the above-mentioned items .

METHODS:

This prospective study was carried out at Punjab Institute of Cardiology, Lahore during January 2019 to December 2019 after formal approval of the ethical review committee. 100 patients otherwise healthy patients prepared for CABG surgery, were enrolled in this study having ages 20 and 80 years, basic education and absence of any previous/current psychiatric and neurological drug history.

After informed consent detailed psychiatric history and drug history was taken. After that all of them were subjected to general physical and mental state examination. Baselines investigations were advised to rule out any serious metabolic issues.

Locally translated version of the Hospital Anxiety and Depression Scale (HADS) was used for the psychiatric evaluation within 48 h prior to surgery) and postoperatively and at 1 week and 6 months interval. Data were analyzed using Statistical Program for Social Science (SPSS) version 20.0, IBM, Armonk, NY, USA.

Table.1 Socio demographic data of the patients

Items	Frequency (n)	Percentage%
Age		
20-40	45	45
41-60	29	29
61-80	26	26
Gender		
Male	61	61
Female	39	39
Drug Addict		
Smoker	54	54
Non Smoker	46	46
Comorbid States		
Hypertension	72	72
Diabetes Mellitus	64	64
Family History	77	77
Type of Surgery		
CABG	54	54
Valve Replacement	32	32
Combined	14	14

Table.2 Mean value of psychiatric symptoms and cognitive performance at pre and postoperative assessment phase

		Preoperative	After 1 week	After 6 months
HADS Scale				
Anxiety		8.52	6.72	5.54
Depression		8.34	6.65	5.25
Min-Mental Examination	State	26.25	26.50	26.75

RESULTS:

Of the total participants (n = 100) in the study (Table 1), 61 (61%) were male and 39 (39%) were female. The mean age of this study was 48.4 ± 11.6 years. Most of the patients (54%) were smoker, and 46% were non-smoker. Regarding preoperative comorbidities in the studied patients, 72% were hypertensive and 64% were diabetic and 77% had positive family history. Thirty-two (32%) undergone valve replacement surgery, 54 (54%) had CABG, and 14 (14%) had combined CABG and valve surgery. The mean duration of post-operative ICU stay was 4.26 ± 3.46 days, and the number of patients who had postoperative delirium was 26. When the mean values of the anxiety were observed a periodic improvement ($P < 0.001$) in the symptoms at the follow up records as compared to preoperative values (Table 2). However, greater proportion of improvement was noticed during the 6th postoperative week follow up. ($P < 0.006$). As far as the depressive symptoms were concerned the mean values showed insignificantly less improvement ($P < 0.318$) at 1 week post of follow up, as compared to preoperative values, with a statistically significant improvement ($P < 0.017$) at 6-month record (Table 2).

DISCUSSION:

Current surgery is focused on the holistic approach of patient management [5]. Numerous studies [18] have highlighted cardiovascular surgery do result in some sort of depression anxiety and depression especially in the post op phase.

It has been established by our study that anxiety quantification improved significantly during the first postoperatively follow week as compared to the preoperative state and continued to improve later at the consequent 6th month visit but the progress remained slow whereas the reverse pattern was noticed for the depressive symptoms which showed statistically significantly improvement at 6 months postoperatively when compared to the baseline preoperative state. These results are homologous to Hoyer et al findings [4] that anxiety and depressive symptoms improved at 6 weeks post op follow up and

were stabilized at 6-month time. Petersen et al. [5] also reported comparable results at 6-month follow-up who noticed that anxiety symptoms did not change whereas depression tolled significantly when compared with their depression tolled significantly when compared with their preoperative values. This pattern was justified by the Petersen et al. [5] owing to the inclusion of aged population, which may reflect the effect of age-related changes in their brain matter and personality prone depression due to decreased production of serotonin. Hernandez-Palazon et al. [19] identified that the long duration of preoperative stay at the hospital was linked to a greater anxiety score among patients undergoing CABG In the current study, 33% of patients had preoperative anxiety symptoms and 21% of patients had preoperative depressive symptoms. This incidence was in line with ranges mentioned in the literature for these symptoms that varies from 20 to 35% for anxiety and from 8 to 47% for depression [2, 20]. This diversity in establishing the incidence is due to the use of different methods of diagnosis, several scales for clinical evaluation and selection criteria. There remained no impact of gender on HADS, which is endorsed by the results of Hernandez-Palazon et al. [19]. In contrast, Koivula et al. [21] noted the higher incidence of preoperative anxiety in women admitted for cardiac surgery. The reason for this variation may be due to the hormonal changes in women. Similarly, no correlation of smoking on the psychiatric HADS scores was observed this result as evidenced by Thomsen et al. [22] who stated that smoking might delay the wound-healing process without influencing anxiety scores. No notable relation was seen between HADS Scale and ICU-stay also seconded by coincided Poole et al. [23]. In contrast, Milton et al. [24] highlighted a positive relationship between symptoms of anxiety and depression with the duration of ICU stay for all patents. Our study found that elderly patients and those with comorbid diabetes mellitus had greater degrees of anxiety and depression. According to Eng et al. [25] this may be due to the physiological stress and neurological degenerative changes associated with the diabetes.

CONCLUSION:

The weightage of anxiety and depressive symptoms is significant in cardiac patients who are advised surgery for definitive treatment. The symptoms were seen gradually improving over time but the incidence was greater in elder, females, diabetics and the ones undergoing Coronary Artery Bypass Graft surgery. These findings have endorsed the importance of pre and post-operative psychiatric counselling, pharmacotherapy, and cognitive behavioral therapy to speed up recovery and enhance surgical outcomes. Therefore, a multidisciplinary approach is required to team up with cardiac surgeons to mitigate any psychiatric and emotional precipitations associated with the surgical procedures.

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