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Research Article

### PREVALENCE OF DEPRESSION IN THE SURGICAL INPATIENT UNIT OF A TERTIARY CARE HOSPITAL

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**Abstract:**

Major depressive disorder (MDD) or depression is a heterogeneous disease. It is highly prevalent in surgical wards. It can be identified by using Patient Health Questionnaire-9 (PHQ-9). By using the questionnaire, we aim to study the prevalence of depression among surgical patients and explore potential sub-groups of surgical patients among which depression is more prevalent. The structured questionnaire was designed that included questions from the PHQ-9 questionnaire, demographic details, diagnoses, mode of admission, and surgery performed. The patients were divided into 4 sub-groups. Those with elective procedures, emergency surgeries, trauma, and patients with complications post-surgery. Our results have demonstrated that depression is highly prevalent in surgical patients. Mild depression was identified in patients with elective and emergency surgery while moderate depression was seen in patients with trauma. Patients with post-surgical complications had severe depression. Admission to the surgical unit can be associated with depression that can not only impair day-to-day life but also hinder the healing process after surgery. We recommend screening for depression among patients admitted to surgical wards.

**Keywords:** Elective Surgery, Trauma Surgery, Depression, Anxiety, emergency surgery, Trauma Surgery

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**INTRODUCTION:**

Major depressive disorder (MDD) is a heterogeneous disease characterized by low mood, loss of interest and pleasure in normally enjoyable activities, loss of energy, difficulties in thinking and decision-making, appetite and sleep disturbances, psychomotor disturbances, and suicidal ideation [1]. In plain language, it is also known as depression. It is one of the most common and serious illness, which can become life-threatening. Worldwide, it poses a threat to public health. Not only does depression reduce general functioning and quality of life but it also has health related consequences [2]. According to statistics, only 35 to 45% of total MDD patients are identified and treated [3]. These statistics are scary concerning morbidity and mortality associated with depression.

Surgery is a major stress factor for patients and is associated with significant anxiety or depression. Several studies have demonstrated that depression is highly prevalent in hospital settings. Karanci et al demonstrated that in surgical patients there are several factors that can increase the anxiety level of the patients; reoperation, surgical complications, sleep disturbance, temperature effects, loss of energy, and lack of social support [4]. The severity of depressive symptoms may vary depending on the stimulus, severity of the issue, family support system, and financial issues. Depression can also lead to suppression of the immune system and hence it may take longer for patients to recover [1]. Depression may be identified through the use of Patient Health Questionnaire-9 or similar instruments [5]. Counseling interventions may be useful in ameliorating depression but should be subject to clinical trials [1].

An improved understanding of the prevalence of depression, its signs, and symptoms, is very crucial for

the treatment of our patients. It can not only improve the quality of healthcare but also lead to faster recovery in surgical patients. Any kind of surgery can be traumatizing to the patient and can lead to depression. By using PHQ-9, we aim in this study to estimate the prevalence of depression among surgical patients and explore potential sub-groups of surgical patients among which depression is more prevalent.

**METHODS:**

This is a descriptive cross-sectional study that was conducted using a PHQ-9 questionnaire to screen for depression in patients admitted to the surgical ward, Rawalpindi, Pakistan. The structured questionnaire was designed that included questions from the PHQ-9 questionnaire, demographic details, diagnoses, mode of admission, and surgery performed. Consent was taken from the participants.

All individuals who were younger than 18 or older than 60 were excluded. Patients with 1-2 complaints were identified to have mild depression, those with 3 or 4 symptoms were identified to have moderate depressive symptoms and those who had more than 5 symptoms fell into the category of severe depression. The patients were divided into 4 sub-groups. Those with elective procedures, patients with emergency surgeries, patients with complications post-surgery, and those with trauma. Patients with elective procedures included; cholecystectomy, parotid and thyroid swelling, modified radical mastectomy, and lipoma removal. Emergency surgery included; those done for obstructed hernia, duodenal perforation, appendectomy, and acute intestinal obstruction. Post-surgery complications included; enterocutaneous fistula formations, empyema formation after chest intubation, and wound dehiscence. Trauma ranged from fractures, firearm injuries, history of fall, and electric shock. This is summarized in figure 1.



PSC\*= Post-surgical complications, Chole= Cholecystectomy, WD= Wound dehiscence, MRM = modified radical mastectomy

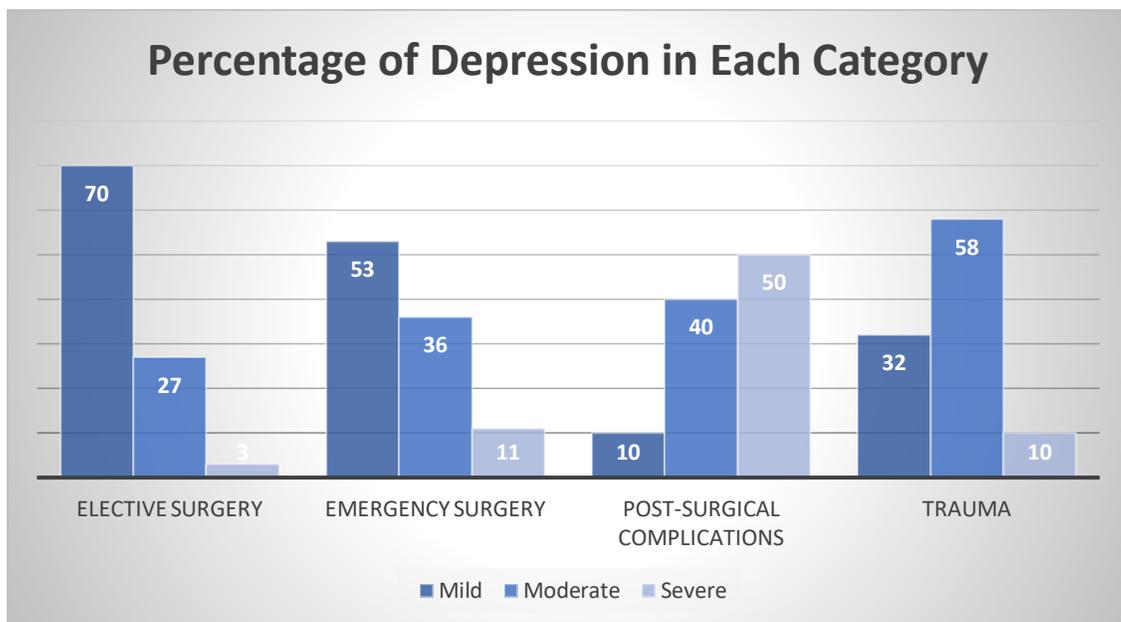
**Figure 1: This figure summarizes four categories of patients. It also states procedures done in each category.**

**Table 1: Summarize the number of cases in each category**

Number of cases	
<b>Elective Surgery</b>	
Parotidectomy	5
cholecystectomy	10
MRM	7
Thyroidectomy	5
Lipoma	3
<b>Emergency Surgery</b>	
	4
Obstructed hernia	
Duodenal Perforation	6
Appendicitis	14
Acute intestinal Obstruction	7
<b>Trauma</b>	
RTA	9
Fall	6
ElectricShock	3
Firearm Injuries	5
<b>Post-surgical Complication</b>	
Enterocutaneous Fistula	4
Empyema	2
WD	4

**RESULTS:**

Our results have shown that depression is prevalent in surgical wards. Mild form of depression that may overlap with symptoms of anxiety were identified in patients who had some form of elective surgery. Only 27% of patients were identified with a moderate form of depression according to the questionnaire. In patients with emergency surgery, about 53% had mild depressive symptoms and moderate and severe symptoms were seen in 36 and 10% of the patients respectively. Severe depression was seen in patients with post-surgical complications. Trauma patients had a moderate form of depression.

**Figure 2: This figure demonstrates the percentage of depression (mild, moderate, severe) in each category.**

**DISCUSSION:**

To our knowledge, this is the first study of its type to evaluate the prevalence of depression in patients admitted to surgical wards in Pakistan. We used PHQ-9, it's a nine questions checklist to assess depression. For convenience, we made four groups. The categories being; Elective surgery, Emergency surgery, Trauma, and Post-surgical complications. It helped us understand depression in these different categories of patients. The results of this study showed that approximately all patients had some anxiety or depression. Patients with elective or emergency surgery mostly had mild depression, while half of the patients with post-surgical complications had severe depression. On the other hand, majority of patients with trauma had moderate depression. The psychological condition of the patients in surgery varies based on the type of surgery. It can be said that there is a high prevalence of depression among surgical patients.

The type of surgery has a high influence on the frequency of depression and anxiety as reported in previous research by Basak F. *et al* [6]. In his study, depression scores were higher in emergency trauma patients as compared to patients with elective surgeries. Similar outcomes were seen in our study where mild depression was seen in elective cases and moderate depression in patients with trauma. Another study, that was conducted in 2017 to evaluate depression in surgical patients demonstrated that chances of developing depression post-operatively are very high. This study divided the patients into two groups; elective and emergency surgery as opposed to ours where we divided the patients into four groups. Development of depression was significant in both groups but more common in patients with elective surgery [7].

Yazici *et al.* studied anxiety and depression in patients admitted to medical and surgical wards. He found out that about 48.5% of patients had anxiety and depression in surgical wards which was high as compared to medical wards, where the depression rate was 27.2%. Surgery adds an added stress during the hospital stay [8].

A study conducted by Basak F. *et al* found that female patients, patients older than 35 years, patients with low socioeconomic status and low education level had a relatively higher risk of anxiety. Besides, patients with low education and a hospital stay greater than seven days were at risk of depression. These results are very significant and it is very important to consider these factors when we are assessing the patient for

depression. We could not assess these factors but these factors are of high significance [6].

As physicians, it's very important to identify depression in our patients so that depression can be timely treated. Doing this will lead to a quick and fast recovery and back to life in a shorter time.

**CONCLUSION:**

Depression is highly prevalent among surgical patients. This is especially true among patients with post-surgical complications. Admission to the surgical unit can be associated with depression that can not only impair day-to-day life but also hinder the healing process after surgery. We recommend screening for depression among patients admitted to surgical wards. Surgeons need to provide psychological support and consider early referral to psychiatrists which could potentially improve the quality of life and help them recover physically and psychologically.

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