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## A clinical study on psychological morbidity in patients with major abdominal surgeries

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### Abstract

**Background:** This study focuses on common psychiatric problems that generally surface during post operative period of patients who have undergone major abdominal surgeries and reviews psychiatric issues specific to specialized surgical settings and patients.

**Aims:** To assess the prevalence of psychiatric morbidity among post operative patients who have undergone abdominal surgeries.

**Study design:** Longitudinal prospective study was made on patients who underwent major abdominal surgeries from April 2021 to November 2021. Details of Socio demographic profile were assessed by a semi structured questionnaire A detailed Clinical examination and Mental Status Examination was carried out in the post operative period. Brief Psychiatric Rating Scale (BPRS) by Overall was administered to screen for Psychiatric problems. ICD 10 Classificatory System was used to diagnose Psychiatric disorders Prevalence of Psychiatric morbidity in Post Operative state was calculated. Socio demographic variables were measured. Statistical analyses were done, data interpretation was done and study results were obtained.

**Results:** 131 patients who were qualified for the study during the period between April 2021 and December 2021 were observed for Psychiatric morbidity during their post operative period of their abdominal surgeries. The interview was carried out on the fifth day of their postoperative periods.

**Conclusion:** The service of the Consultation Liasion Psychiatry in General Hospital setting is invaluable and especially in surgical wards, it increases the Quality of care. Identification of factors precipitating Psychiatric morbidity would result in effective formulation of Intervention strategies.

**Keywords:** Psychiatric morbidity, Major abdominal surgeries, Brief psychiatric rating scale, Socio demographic profile

### Introduction

There is an increasing trend in the occurrence of psychiatric problems in the general population due to urbanisation, changes in the cultural milieu, changes in the life style modification, changes in the social matrix, individual biological factors and life events [1]. Psychiatric disorders are commonly seen in surgical patients and surgeons are less likely to seek opinion from Psychiatrists than Physicians [2]. There is a possibility of undiagnosed/ under diagnosed or misdiagnosed psychiatric problems and they are not adequately intervened at the appropriate time [3].

This study focuses on common psychiatric problems that generally surface during post operative period of patients who have undergone major abdominal surgeries and reviews psychiatric issues specific to specialized surgical settings and patients [4].

In the post operative period, few patients experience anxiety, depression, phobia, brief psychotic disorders and conversion disorders may be under recognized and under treated.

Misconceptions about surgeries in the vulnerable individuals may produce anxiety and there is a cause and effect relationship between depression and pain tolerance of the individual in the post operative period [5]. Incapacitation due to hospitalisation and thoughts about delayed resuming of normal functions.

Risk factors for post operative delirium include older age, pre existing cognitive dysfunction, alcohol abuse, sleep deprivation, nutritional problems, physical comorbidities and hypoxia [6].

Patients with low stress tolerance may develop conversion symptoms and sometimes psychosis may occur in post operative state with the vulnerable risk factors.

**Aims and Objectives**

To assess the prevalence of psychiatric morbidity among post operative patients who have undergone abdominal surgeries.

**Research Methodology**

**Research Design:** Longitudinal Prospective Study

**Study population:** 131 people who underwent major abdominal surgeries from April 2021 to November 2021 were included in the study.

**Study Duration:** 8 months

**Sample Size:** 131

**Inclusion Criteria:**

1. Age from 18 to 60
2. Both sexes are included
3. Those with informed Consent are included
4. Those underwent abdominal surgeries

**Exclusion Criteria**

1. Age below 18 and above 60
2. Patients with previous Psychiatric problems
3. Patients who qualified for Alcohol Dependence and other Drug Dependence
4. Patients who were critically ill and patients who were not Cooperative or who could not be interrogated

**Investigations:** Nil

**Method Used:** Questionnaire, detail clinical examination and metal status examination was carried out in the post operative period.

Brief Psychiatric Rating Scale (BPRS) [7-8] by Overall was administered to screen for Psychiatric problems.

ICD 10 Classificatory System was used to diagnose Psychiatric disorders Prevalence of Psychiatric morbidity in Post Operative state was calculated.

**Ethical Consideration:** Institutional human ethics committee has approved the study to be conducted in its presented form on 30.03.2021.

**Statistical Analysis:** Questionnaire data was entered in Microsoft Excel for data analysis. Statistical analysis was performed using SPSS version 21. The results are presented as means and standard deviations for normally distributed data, or as percentages for categorical data. Chi Square/ Fischer’s exact test was performed to examine the significance between various socio-demographic profile, comorbidity profile and type of surgery. For all the analysis, p value of  $\leq 0.05$  was assumed to be statistically significant.

Patients who underwent abdominal surgeries from April 2021 to November 2021 were included for the study.

Details of Socio demographic profile were assessed by a semi structured questionnaire

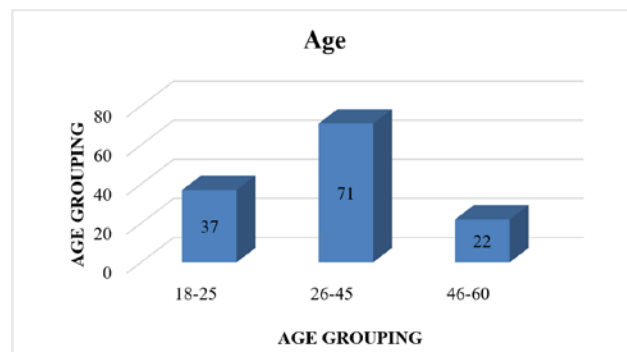
A detailed Clinical examination and Mental Status Examination was carried out in the post operative period. Socio demographic variables were measured

**Observation and Results**

131 patients who were qualified for the study during the period between April 2021 to November 2021 were observed for Psychiatric morbidity during their post operative period of their abdominal surgeries. The interview was carried out on the fifth day of their postoperative periods.

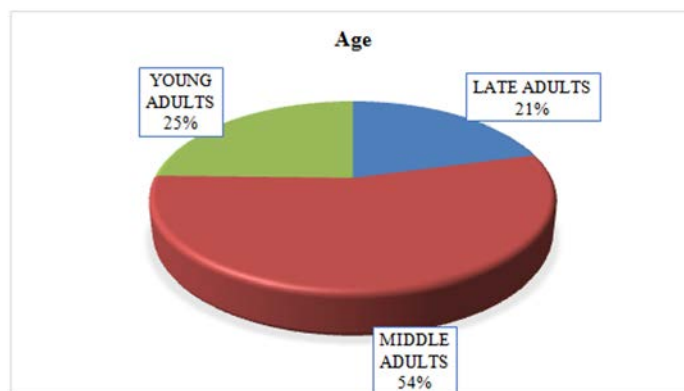
**Table 1: Age**

AGE					
N	Range	Minimum	Maximum	Mean	Std. Deviation
130	42	18	60	34.68	11.551



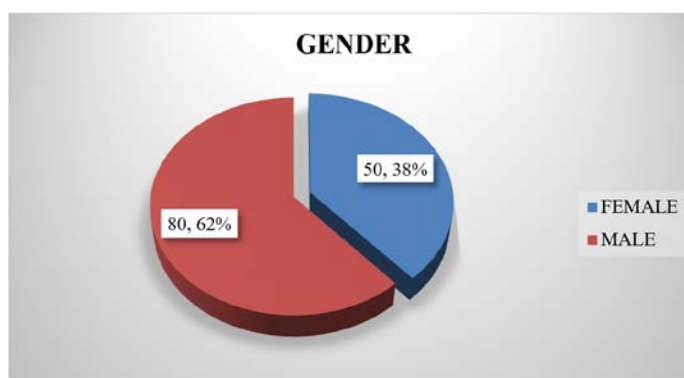
**Table 2: Age Distribution**

Age Distribution						
Grouping	N	Range	Minimum	Maximum	Mean	Std. Deviation
18-25	37	7	18	25	21.46	2.376
26-45	71	19	26	45	35.63	5.213
46-60	22	14	46	60	53.82	4.963
Total	130	42	18	60	34.68	11.551



**Table 3: Gender**

Gender	No of patients	Percentage
Male	81	61.83
Female	50	38.17



**Table 4: Education**

Education	No of patients	Percentage
Upto elementary school	5	13.8
High school	126	96.2

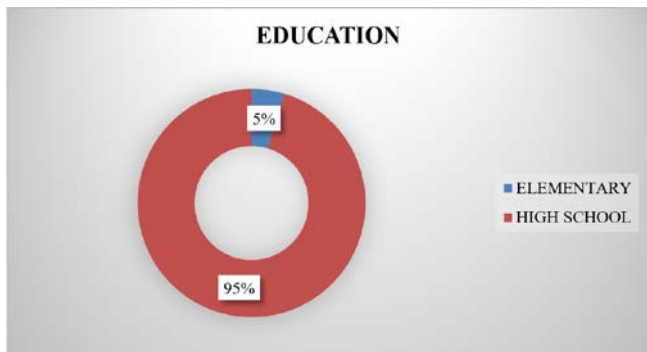


Table 5: Economic Status

Economic status	No of Patients	Percentage
Lower	15	11.5
Lower middle	116	88.5

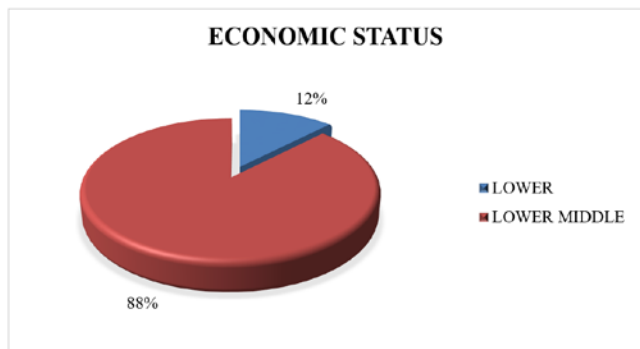


Table 6: Employment

Employment	No of patients	Percentage
Unemployed	5	3.8
Unskilled	82	62.6
Semiskilled	44	33.6

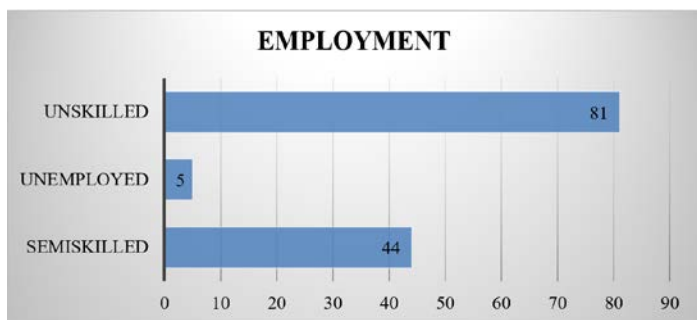


Table 7: Family type

Family	No of patients	Percentage
Nuclear	13	9.9
Joint	118	90.1

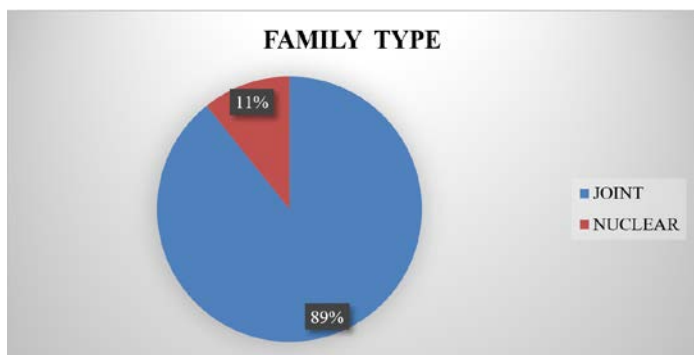


Table 8: Marital Status

Marital Status	No of patients	Percentage
Unmarried	20	15.3
Married	111	84.7

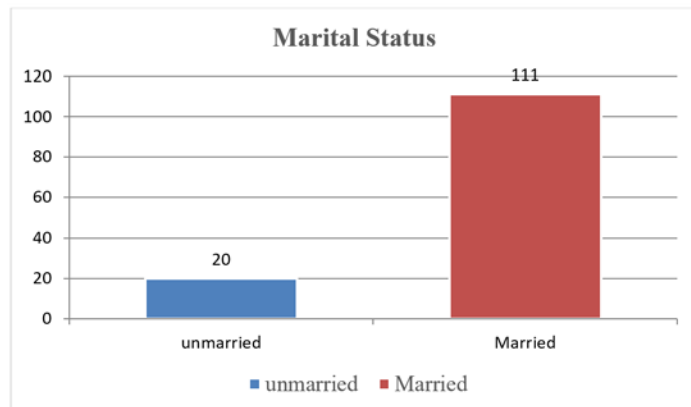


Table 9: Marital Satisfaction

Marital satisfaction	No of patients	Percentage
Satisfied	108	82.4
Not Satisfied	3	2.3
Not Applicable	20	15.3

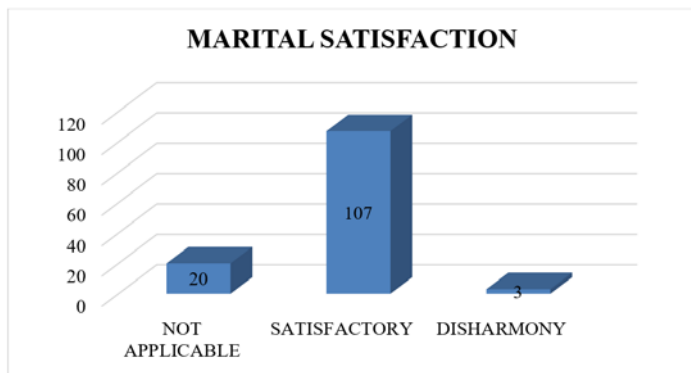


Table 10: Sexual Satisfaction

Sexual satisfaction	No of patients	Percentage
Satisfied	108	82.4
Not Satisfied	3	2.3
Not Applicable	20	15.3

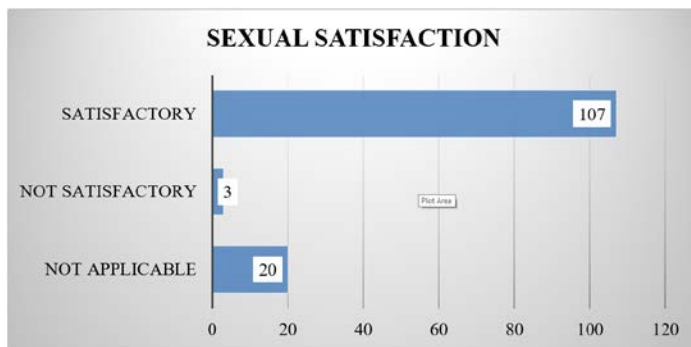


Table 11: Habits

Habits	No of persons	Percentage
Nil	70	53.4
Tobacco	20	15.3
Alcohol	19	14.5
Tobacco & Alcohol	22	16.8

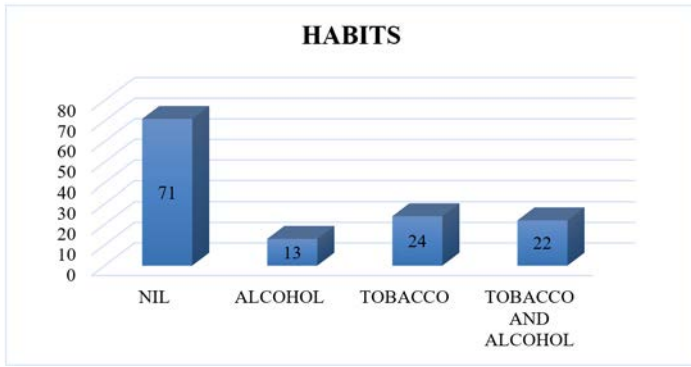


Table 12: H/O Physical Illness

H/O Physical illness	No of patients	Percentage
Nil	99	75.6
Hypertension	19	14.5
Diabetes Mellitus	13	9.9

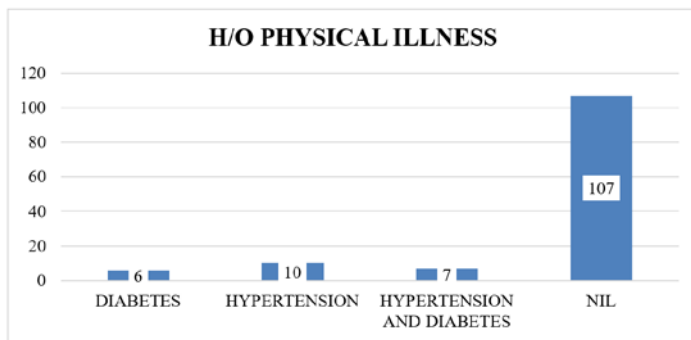


Table 13: Details of Abdominal Surgeries

Type of Abdominal Surgery	No of patients	percentage
Umbilical Hernia Repair	11	8.40
Incisional Hernia Repair	4	3.05
Lap Cholecystectomy	2	1.52
Open Cholecystectomy	1	0.76
Lap Appendicectomy	61	46.56
Open Appendicectomy	23	17.55
Laparotomy	29	22.13

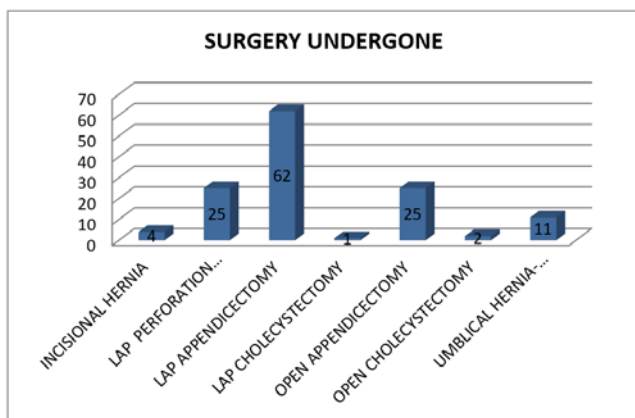


Table 14: Psychiatric Morbidities

Psychiatric Morbidity	No of patients	Percentage
Nil	114	87
Anxiety Neurosis	10	7.63
Depression	3	2.29
Phobia	0	0
Conversion Reaction	1	0.76
Delirium	2	1.52
Brief Psychotic Disorder	1	0.76

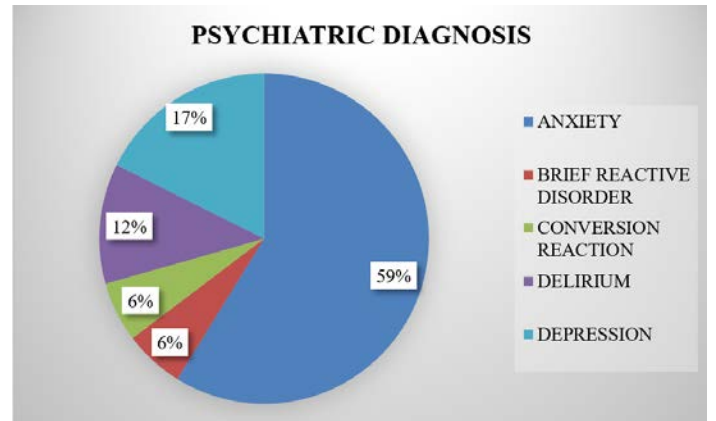


Table 15: Different variables and respected frequency distribution

S. no	Variable	Frequency	Percent			
1	Age	18 - 35	71	54.6		
		36 - 60	59	45.4		
2	Gender	female	50	38.5		
		male	80	61.5		
3	Education	elementary	6	4.6		
		high school	124	95.4		
4	Economic status	lower	16	12.3		
		lower middle	114	87.7		
5	Employment	semiskilled	44	33.8		
		unemployed	5	3.8		
		unskilled	81	62.3		
6	Family	joint	116	89.2		
		nuclear	14	10.8		
7	Marital status	married	109	83.8		
		unmarried	21	16.2		
8	Marital satisfaction	not applicable	20	15.4		
		disharmony	3	2.3		
		satisfactory	107	82.3		
9	Sexual satisfaction	not applicable	20	15.4		
		not satisfactory	3	2.3		
		satisfactory	107	82.3		
10	Habits	nil	71	54.6		
		alcohol	13	10		
		tobacco	24	18.5		
		tobacco and alcohol	22	16.9		
11	f/h of psychiatric illness	nil	125	96.2		
		neurosis	3	2.3		
		psychosis	1	0.8		
		substance abuse	1	0.8		
12	Co-morbidity	nil	107	82.3		
		diabetes	6	4.6		
		hypertension	10	7.7		
		hypertension and diabetes	7	5.4		
		13	Surgery underwent	incisional hernia	4	3.1
				lapperforation closure	25	19.2
lap appendicectomy	62			47.7		
lap cholecystectomy	1			0.8		
open appendicectomy	25			19.2		
open cholecystectomy	2			1.5		
14	Psychiatric diagnosis	umbilical hernia-meshplasty	11	8.5		
		anxiety	10	7.7		
		brief reactive disorder	1	0.8		
		conversion reaction	1	0.8		
		delirium	2	1.5		
		depression	3	2.3		
nil	113	86.9				

**Table 16:** Statistical significant different variables

S. No	Variable	Psychiatry illness		P value
		Present	Absent	
1	Age	18 - 35	11	0.370
		36 - 60	6	
2	Gender	Female	9	0.294
		Male	8	
3	Education	Elementary	2	0.176
		High school	15	
4	Economic status	Lower	4	0.225
		Lower middle	13	
5	Employment	Semiskilled	3	0.308
		Unemployed	1	
6	Family	Unskilled	13	0.326
		Joint	14	
7	Marital status	Nuclear	3	0.545
		Married	14	
8	Marital satisfaction	Unmarried	3	0.541
		Not applicable	3	
9	Sexual satisfaction	Disharmony	1	0.541
		Satisfactory	13	
10	Habits	Not applicable	3	0.37
		Not satisfactory	1	
11	f/h of psychiatric illness	Satisfactory	13	0.016**
		Nil	11	
12	Co-morbidity	Present	6	0.305
		Nil	16	
13	Surgery underwent	Present	1	0.0001**
		Open surgery	13	
		Laparoscopic surgery	4	

## Discussion

Out of 131 patients, 81 are males (61.83%) and 50 were females (38.17%). Patients in the age 131 patients who were qualified for the study during the period between April 2021 and December 2021 were observed for Psychiatric morbidity during their post operative period of their abdominal surgeries. The interview was carried out on the fifth day of their postoperative periods.

Out of 131 patients, 81 are males (61.83%) and 50 were females (38.17%). Patients in the age group between 18 and 60 were selected.

In the study population, 35% of the patients fall in the age group between 30 and 39 years, 23.7% patients belonged to the age group between 21 and 29 years, 16.8% of the patients were in the age group between 40 and 49 years, 13% of the patients from 50 to 60 year group and 11.5% of the patients were from 18 to 20 years group.

3.82% (5 patients) of the study population had elementary education and the remaining 96.2% (126 patients) education were between elementary and high school level.

11.5% (15 patients) belonged to lower class and 88.5% (116 patients) belonged to lower middle socio economic group.

3.8% (5 patients) were unemployed, 62.6% (82 patients) were in unskilled jobs and 33.6% (44 patients) were in semiskilled jobs.

9.9% (13 patients) were from nuclear families and the remaining 90.1% (118 patients) were from joint families.

15.3% (20 patients) were unmarried and 84.7% (111 patients) were married. Except 3 patients (2.3% majority of the patients expressed satisfaction in the marital milieu. Sexual dissatisfaction in the study population was very negligible (2.3%).

Tobacco habituation was seen in 15.26% (20 patients), Alcohol

consumption was seen in 14.5% (19 patients) and Tobacco and alcohol combined habituation was seen in 16.8% (22 patients) of the group. Alcohol consumption in the study group was not amounting to dependence pattern (Patients qualifying for Alcohol dependence were excluded from the study) 53.44% (70 patients) were not habituated to any substance.

7.6% (10 patients) had Hypertension and 5.3% (7 patients) had Diabetes Mellitus

Patients underwent seven abdominal procedures namely

1. Umbilical hernia-Anatomical repair Meshlasty (11 patients)
2. Incisional Hernia Anatomical Repair (4 patients)
3. Laproscopic Cholecystectomy (2 patients)
4. Open Cholecystectomy (1 patient)
5. Laproscopic Appendicectomy (61 patients)
6. Open Appendicectomy (23 patients)
7. Laarotmy-Perforation closure (29 patients)

Appendicectomy and Laparotomy procedures were more performed during the study period and in appendicectomy group, open appendicectomies were performed as emergencies.

Nearly 13% (17 patients) exhibited psychiatric morbidity and most of the problems were seen in emergency surgeries. p value (0.0001\*\*)

Anxiety neurosis was seen in 7.63% (10 patients) [9-11], Depression was seen in 2.3% (3 patients), Conversion Reaction was seen in 0.76% (1 patient). Delirium was seen in 1.52% (2 patients) and Brief Reactive Psychosis was seen in 0.76% (1 patient).

In this study, Anxiety is more seen in the post operative period and its more commonly seen in emergency open appendicectomies. The concern and excessive worry about the surgery, thinking about their health in future, discomfort, pain, transient incapacitation and unknown fear are the attributed

causes of anxiety in the post operative period. The individual before the surgery could have had very little time to think about his coping strategies, considering the emergency nature of the surgery.

2.29% (3 patients) had diagnosable depression in the post operative period. There is a cause and effect relationship between depression and pain in Postoperative period. People with low pain tolerance develop depression and depression lowers the threshold for pain. Depression occurs in some individuals who experience body image disturbances after surgeries.

0.76% (1 patient) had hysterical conversion symptoms and this female patient had family history of a minor neurotic problem. The psychological conflict which has no vent in tears, may make other organs to weep. In Hysteria, Psychological agony is communicated in the form of physical symptoms. These patients indulge in 'attention seeking nature' with a childish regressive behaviour. On examination, there may not be any organic basis for their symptoms and these individual would be benefitted with supportive measures and anxiolytics.

1.52% (2 patients) experienced delirium and on observation, it was noted that both had comorbid physical problems [12-13]. In the literature review, it is stated that delirium occurs from 9% to 87% depending on the age of the patient and the type of the surgery. Metabolic issues are the primary reasons. 0.76% (1 patient) had brief reactive psychosis and he had family history of psychosis.

It is observed that psychiatric problems occur in the post operative period and this study highlights the incidence of anxiety in patients who are posted for emergency surgeries.

Though there is a correlation of depression with abdominal surgeries in the literature, in this study, only 2.29% of the patients presented with depression. A patient with poor stress tolerance presented with hysterical conversion features. One patient in post operative period, presented with brief Psychotic reaction and there was a family history of psychosis. There is another family history of minor illness (neurosis) in a patient who presented with Depression. These two findings highlight the importance of knowing about the family history of psychiatric disorders, in order to plan for prevention or intervention strategies during post operative period. p value (0.016\*\*)

Aged patients with comorbid physical disorders are prone for delirium in the post operative period. This study presented with delirium in 1.52% of the patients which is contrary to higher incidence of delirium quoted in literature. It may be due to decreased number of emergency and other type of procedures during Covid period.

It is learnt that this study must be carried out in larger samples and comparative analysis of psychiatric morbidity in preoperative and postoperative period with the similar socio economic variables and similar surgical procedures may reveal the real prevalence.

**Conclusion**

The service of the Consultation Liasion Psychiatry in General Hospital setting is invaluable and especially in Surgical wards, it increases the Quality of care. Identification of factors precipitating Psychiatric morbidity would result in effective formulation of Intervention strategies [14-15].

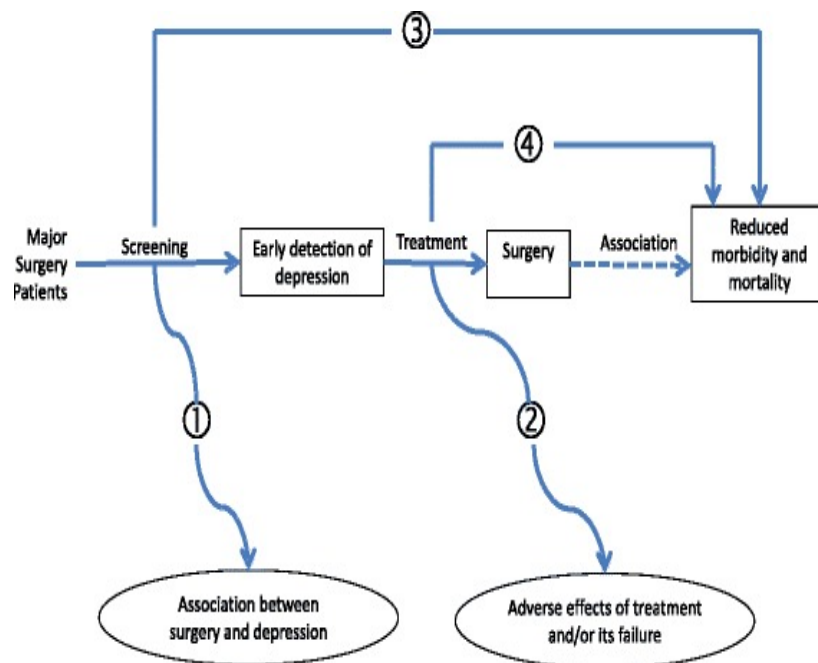


Fig 1: Progression of psychological morbidity and Mortality

A framework for counselling interventions in major surgery patients. The numbers refer to answers to key questions as follows:

1. There are not enough studies comparing surgery with non-surgery cohorts.
2. There are potential adverse effects of treatment and/or its failure
3. There is a need for randomized and controlled trials to prove the efficacy of screening

4. Treatment of depression before anesthesia and surgery in reducing postoperative morbidity and mortality.

The above mentioned framework may be ideal for reducing Psychiatric morbidity and this may reduce the number of hospitalisation days for patients in surgical wards. Prevention of Psychiatric problems and provision of adequate Psychiatric care in the appropriate time would escalate the quality of care.

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