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A cross-sectional study to assess the pre-operative stress levels in male and female patients in general surgery wards

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Abstract
Aim: The present study was undertaken to observe the pre-operative stress levels in general surgery wards patients.
Materials and Methods: The study recruited 50 male (n=30) and female (n=20) patients waiting for surgery, irrespective of the type of surgery.
Assessment of depression, anxiety, and stress: Negative emotions like depression, anxiety, and stress are well measured using the DASS scale which is a standard scale and available for free on the internet for research purposes.
Results: There was a higher level of depression, anxiety, and stress observed in both male and female patients. When compared between male and female patients, the depression scores were significantly high in male patients. However, the anxiety and stress scores were not significantly different between male and female patients.
Conclusion: There were higher levels of depression anxiety and stress levels in patients of the general surgery ward who are waiting for surgery. The study recommends monitoring of psychological aspects in the patients and also recommends further detailed studies in this area.

Keywords: depression, negative emotions, surgery

Introduction
Mental health has a pivot role in day-to-day life. Assessment of patient's mental health has an important issue in the health field. It was recommended to assess the psychological status of the patient along with the regular clinical examination [1-3] Psychological functions play a key role in the effectiveness of the treatment outcome. Stress inpatient delays the healing process irrespective of effective medications. Hence, there is a strong need to assess the psychological aspects of the patients and manage them also along with the treatment for a better outcomes. Stress is difficult to define as it is individual but the effects caused by stress are the same in all individuals. It increases blood pressure which is a key contra indicator for any surgery [4-6]. Stress must be managed by effective methods and ill-managed stress leads to depression. It was reported that visiting the hospital itself is stressful to any patient [7-9]. Those who were declared to undergo surgery and waiting for surgery have still more stress [10]. This stress must be well managed in these patients. Earlier studies reported using therapies like music therapy or counseling with expert psychologists to minimize the stress in these individuals. The present study was undertaken to observe the pre-operative stress levels in general surgery wards patients.

Materials and methods
Study design: Cross-sectional study
Sampling method: Convenient sampling
Study population: The study recruited 50 male (n=30) and female (n=20) patients waiting for surgery, irrespective of the type of surgery. Participants who were willing voluntarily were included in the study with proper informed consent. Those unwilling were not recruited in the study. Those with severe complications were also not included in the study.

Assessment of depression, anxiety, and stress: Negative emotions like depression, anxiety, and stress are well measured using the DASS scale which is the standard scale and available for free on the internet for research purposes [11].

Ethical considerations: The study proposal was approved by the institutional ethics committee after satisfying the queries adequately. The study followed all the guidelines as per the ICMR guidelines. Written informed consent was obtained from all the participants before the commencement of the study. Information related to the patients was kept confidential.

Data analysis: The statistical software SPSS 18.0 version was used to analyze the data. The significance of difference was tested using the Student t-test. The probability value less than 0.05 were considered significant.

Results

The study results were presented in table no 1, 2 and 3.Frequency and percentage of patients undergoing different surgical procedures are presented in table no 1. The frequency and percentage of male and female patients undergoing different surgical procedures were presented in table 2. Depression, anxiety, and stress levels in male and female patients were presented in table 3.The two-tailed P value equals 0.0491 for the depression score. By conventional criteria, this difference is considered to be statistically significant. The mean of Group One minus Group Two equals 2.00. 95% confidence interval of this difference: From 0.01 to 3.99. The two-tailed P value equals 0.1154 for the anxiety score. By conventional criteria, this difference is considered to be not statistically significant. The mean of Group One minus Group Two equals 2.00.

95% confidence interval of this difference: From -0.51 to 4.51. The two-tailed P value equals 0.4006 for the stress score. By conventional criteria, this difference is considered to be not statistically significant. The mean of Group One minus Group Two equals 1.00. 95% confidence interval of this difference: From -1.37 to 3.37.

Table 1: Frequency and percentage of patients undergoing different surgical procedures

S.no	Type of surgery	Number of patients (n=50)
1	Laparoscopic surgery	16 (32)
2	Colorectal surgery	10 (20)
3	cholecystectomy	4 (8)
4	Appendectomy.	6(12)
5	Hernia Repair.	10(20)
6	Skin excision	4 (8)

Data was presented as frequency and percentage

Table 2: Frequency and percentage of male and female patients undergoing different surgical procedures

S.no	Type of surgery	Males (n=30)	Females (n=20)
1	Laparoscopic surgery	11 (36.66)	5 (25)
2	Colorectal surgery	3 (10)	7 (35)
3	cholecystectomy	1 (3.33)	3 (15)
4	Appendectomy.	3 (10)	3 (15)
5	Hernia Repair.	9 (30)	1 (5)
6	Skin excision	3 (10)	1 (5)

Data was presented as frequency and percentage

Table 3: Depression, anxiety and stress levels in male and female patients

Parameter	Males (n=12)	Females (n=18)	P value
Depression	26±0.55	24±0.89	0.0491*
Anxiety	23±0.91	21±0.67	0.1154
Stress	20±0.91	19±0.45	0.4006

Data was presented as Mean and SEM. (*P<0.05 is significant)

Discussion

The present study was undertaken to observe the pre-operative stress levels in general surgery wards patients. There was a higher level of depression, anxiety and stress observed in both male and female patients. When compared between male and female patients, the depression scores were significantly high in male patients. However, the anxiety, and stress scores were not significantly different between male and female patients.

Stress, anxiety, and depression were considered as negative emotional aspects. A higher level of stress and negative emotions has a negative impact on the healing process and decreases the treatment output. Patients feel stress about the surgical procedures and also about the pain they have to experience after the surgery [12, 13, 14]. Hence, proper counseling of the patient and also some relaxation methods like music or aromatherapy or vestibular stimulation can be implied for the management of stress in these patients. Excessive stress not only affects the outcome of the treatment but also has adverse effects on all the body systems. One such important system is immune [15]. Adeline in immunity again delays the recovery process [16-18]. To prevent these adverse events to occur it is mandatory to assess the stress levels before the surgery and also manage them with effective methods as explained in the literature.

Monitoring the behavioral and psychological aspects of patients should be included along with a routine clinical examination of the patients. This not only helps to improve the outcomes of the treatment strategies but also improves the mental health of the patient and also the entire quality of life. The present study assessed the negative emotions of the patients and observed similar results as explained by earlier studies. The study results agree with earlier reports as a higher level of depression, anxiety and stress were observed in the present study.

Conclusion

There were higher levels of depression anxiety and stress levels in patients of the general surgery ward who are waiting for surgery. The study recommends monitoring of psychological aspects in the patients and also recommends further detailed studies in this area.

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