

Assessment of Pre-surgical Depression, Anxiety, and Stress Levels in Patients Undergoing Surgical Procedures in the General Surgery Department

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ABSTRACT

Aim: The present study was undertaken to observe the pre-surgical depression, anxiety, and stress levels in patients undergoing surgical procedures in the general surgery department. **Methods: Study design:** This was a cross-sectional study. **Setting:** Tertiary care centers **Study population:** The study recruited 30 male and female patients who were undergoing surgeries in the general surgery department irrespective of the type of surgery they undergoing between November 2018 and December 2018. **Assessment of depression, anxiety, and stress:** The psychological parameter that is depression, anxiety, and stress was assessed using depression anxiety and stress scale-42 questionnaire. **Results:** There were significantly higher scores of depression, anxiety, and stress scores in both males and females. Depression scores were not significantly different among males and females. However, anxiety scores were significantly higher in females when compared with males. A similar observation was found in the case of stress scores as there is a significant increase in the stress scores in females when compared with males. **Conclusion:** The study confirms the reports of earlier studies that there will be higher levels of stress in pre-operative patients. The study also recommends further detailed studies in this area.

Keywords: Anxiety, Psychological parameters, Stress, Surgery
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INTRODUCTION

In the present situations, psychological parameters play an immense role in the treatment or surgical outcomes. Hence, it is recommended to assess the mental health of the patients before and after the surgical procedure. The decision of surgery itself is stressful to any inpatient in the hospital.^[1] It was reported that waiting for the surgery of the heart evokes a greater amount of stress when compared with other surgeries like ophthalmology surgeries.^[2,3] The surgeries in orthopedics are more stressful when compared with the surgeries in ophthalmology. However, this is not expected to happen. Because if the patient feels stress before especially heart surgery, it increases the stress of the patient further and affects the outcome of surgery.^[4,5] It was suggested to assess the stress levels of inpatients and also offer them some methods of stress management. Decreasing their stress levels before surgery not only keeps them mentally strong but also improves their speedy recovery and overall quality of life. Psychological disturbances also affect the patient emotions, cognitive functions, and physiological functions.^[6,7] When a patient's cognitive functions are affected, it also affects decision-making and impaired thinking processes.^[8,9] Further, it was testified that there will be a higher amount of stress in patients who are elderly compared with younger ones.^[10] The present study was undertaken to observe the pre-surgical depression, anxiety, and stress levels in patients undergoing surgical procedures in the general surgery department.

MATERIALS AND METHODS

Study Design

This was a cross-sectional study.

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Sampling Method

Convenient sampling.

Study Population

The study recruited 30 male and female patients who were undergoing surgeries in the general surgery and ophthalmology department irrespective of the type of surgery they undergoing between November 2018 and December 2018. All willing participants were included in the study. Unwilling participants and those with severe complications were excluded from the study.

Assessment of Depression, Anxiety, and Stress

The psychological parameter that is depression, anxiety, and stress was assessed using the depression anxiety and stress scale-42 questionnaire.^[11]

Ethical Considerations

The study protocol was approved by an institutional human ethical committee. Informed consent was obtained from all the participants. Confidentiality of data was maintained.

Data Analysis

Data were analyzed using SPSS 20.0. Student's t-test was used to observe the significance of the difference between the parameters. P-value <0.05 was considered significant.

RESULTS

The study results are presented in Tables 1-3. Tables 1 and 2 present the frequency distribution of the patients undergoing various surgical procedures. Table 3 presents the depression, anxiety, and stress levels of the participants. The two-tailed P = 0.3820 for the depression score. By conventional criteria, this difference is considered to be not statistically significant. The two-tailed P=0.0005 for anxiety score. By conventional criteria, this difference is considered to be extremely statistically significant. The two-tailed P = 0.0027 for the stress score. By conventional criteria, this difference is considered to be very statistically significant.

Table 1: Frequency distribution of patients undergoing different surgical procedures

Type of surgery	Number of patients (n=30)
Esophageal surgery	5 (16.66)
Gastroenterology procedures	8 (26.66)
Gallbladder removal	5 (16.66)
Appendectomy	7 (23.33)
Hernia repair	2 (6.66)
Cataract	3 (10)

Data were presented as frequency and percentage

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

Type of surgery	Males (n=12)	Females (n=18)
Esophageal surgery	2 (16.66)	3 (16.66)
Gastroenterology procedures	3 (25)	5 (27.77)
Gallbladder removal	1 (8.33)	4 (22.22)
Appendectomy	3 (25)	4 (22.22)
Hernia repair	2 (16.66)	0 (0)
Cataract	1 (8.33)	2 (11.11)

Data were 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	21±1.34	19±1.75	0.3820
Anxiety	16±0.80	22±1.25	0.0005***
Stress	19±1.07	26±1.75	0.0027**

Data were presented as Mean and SEM, **P<0.01 is significant, ***P<0.001 is significant

DISCUSSION

The present study was undertaken to observe the pre-surgical depression, anxiety, and stress levels in patients undergoing surgical procedures in the general surgery department. There were significantly higher scores of depression, anxiety, and stress scores in both males and females. Depression scores were not significantly different among males and females. However, anxiety scores were significantly higher in females when compared with males. A similar observation was found in the case of stress scores as there is a significant increase in the stress scores in females when compared with males.

Assessment of psychological parameters in the patients who are undergoing surgical procedures is a very important topic of discussion as these negative emotional aspects affect the outcome of the procedure. It was reported that the need for surgery, body image, and pain after the surgical procedure are the most common aspects that make the patient to worry about.^[12-14] Further, the distress experienced by patients has a negative impact on the immune system. It was reported that there is a decline in the immune functions and natural killer cells in patients who experience higher stress levels before surgery. This is a point of consideration as a decline in immunity will delay wound healing and that patient has to suffer from post-operative pain for a longer duration.^[15] Interestingly, it was reported that the stress levels in the patients were higher before the surgical procedure than after the surgical procedure.^[16-18] The present study results support the earlier studies.

Considering and monitoring the psychological parameters is gaining importance in the field of health sciences. As the psychological parameters can influence the outcomes of the treatment, it is mandated to observe these parameters to identify the patients who are undergoing severe stress. These patients must be counseled by experts and offered possible management strategies to cope-up with stress. This will not only improve their mental health but also improve the treatment outcomes and boost the recovery process also. Hence, we urge the clinicians to consider the psychological parameters also when assessing the patients.

CONCLUSION

The study confirms the reports of earlier studies that there will be higher levels of stress in pre-operative patients. The study also recommends further detailed studies in this area.

AUTHOR CONTRIBUTION

- A – Conceptual framework, data collection.
- B – Review of literature, methodology review.
- C – Manuscript writing and editing.

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