

A descriptive study on the assessment of fear of surgery in patients in a tertiary care center

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Abstract

Introduction

The psychological aspect of patients awaiting surgery is an area often overlooked by surgical professionals. Fear of surgery is a common yet neglected aspect that is often associated with dire consequences like increased post-operative pain, increased use of analgesia, poor recovery, etc. This study describes the fear amongst surgical patients in a tertiary care unit from 2020 to 2021.

Method

Patients awaiting pre-selected major and minor surgeries were administered an internationally validated standard questionnaire (Eight item instrument of surgical fear: Surgical Fear Questionnaire) on their fear of surgery. The prospective descriptive data on the fear of surgery were analyzed with regard to variables such as demographic data, surgery, type of anesthesia, etc.

Results

130 patients were interviewed. Significant associations were identified between fear of surgery and age, educational level, ASA grading, duration of hospital stay prior to surgery, type of surgery, malignant disease, and type of anesthesia. However, gender, smoking and alcohol use, and history of previous surgery had no significant association. In view of an intervention to alleviate the fear of surgery 64% opted for no intervention/treatment, and 13.8% appreciated some sort of treatment. Strikingly 65% stated more information about the surgery would have been helpful.

Discussion and Conclusion

Fear of surgery in patients is associated with many factors. Preoperative identification of certain factors is helpful to

predict and intervene to mitigate them. Informing the patients regarding surgery is important to reduce surgery-related fear.

Introduction

According to oxford definition, fear is defined as an emotional state evoked by the threat of danger. Fear of surgery among patients who are awaiting surgery is multifactorial and is associated with dire consequences such as increased use of analgesia, poor post-operative recovery, poor physical function, and also poor mental health(1–3). Previous studies have identified multiple factors which inculcate fear in a patient awaiting surgery such as surgery itself, fear of anesthesia, undergoing blood transfusions, anticipated operative and post-operative pain, previous experience with surgery, age, sex, etc. (4,5).

Quantification of fear has been an issue worldwide. There are only a few validated study instruments available with regard to the assessment of fear and most of them are disease specific such as the Bypass Grafting Fear Scale (BGFS) and Surgery Stress Scale (For knee surgery) (6,7). There are a few nonspecific scales such as Hospital Anxiety and Depression Scale (HADS)(8), and State – trait Anxiety Inventory (STAI)(9). The surgical Fear Questionnaire (SFQ) is a generalized study instrument that is validated and tested in several populations and can be used across all types of surgical patients (10).

Assessment of surgical fear in patients is often an overlooked subsection of patient management worldwide which can be associated with dire consequences. The initial step in the management of surgical fear in an individual is the identification of the modifiable factors which are associated with surgical fear. In this study, we have used the Surgical Fear Questionnaire to assess the surgical fear among individuals awaiting surgery in a tertiary care center in Sri Lanka over 8 months.

Material and Methods

Ethical Approval

Ethical approval was obtained from the Ethics Review Committee of the Colombo South Teaching hospital before

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the recruitment of patients for the study

Patient recruitment

Patients who were above 18 years of age and undergoing routine surgery from January to October 2020 in the university surgical unit of Colombo South Teaching hospital were recruited. Patients with known psychiatric disorders and ones who were unable to give a proper history were excluded. Patients who underwent emergency surgery were also excluded.

Study instrument and data collection

An interviewer-administered questionnaire which included demographic data, post-operative data, and surgical fear questionnaire was used for data collection

The surgical fear questionnaire is an eight-item study instrument for the assessment of surgical fear. It contains four short-term items and four long-term items related to surgical fear. All items are scored on an eleven-point numeric scale ranging from 0 (not at all afraid) to 10 (very afraid). This results in a score of 0 to 40 in each subscale and a total of 0 to 80. The items are, being afraid of the operation, anesthesia, postoperative pain, side effects, health deterioration, failed operation, incomplete recovery, and long duration of rehabilitation(11).

Socio-demographic and medical data with regards to sex, marital status, employment status, educational level, smoking, alcohol use, ASA grading, previous illnesses, history of previous surgery, drug history (anxiolytics, sedatives, steroids, anticonvulsants were used in analysis) and data related to pain with regards to the presence of preoperative pain which was assessed with a pain scale, analgesic use was also recorded. Data related to the surgery which the patient underwent, the anesthesia used, duration of hospital stay was also recorded. Personnel who informed the patient about the surgery and the other sources from which the patient gathered information about the surgery is also recorded. Postoperatively patients were questioned on their preference of treatment for surgical fear before surgery.

Statistical analysis

Each patient's total (t-SFQ), short-term (s-SFQ), long term (l-SFQ) were calculated according to the surgical fear questionnaire. Independent-samples t-test, One-way ANOVA test, and linear regression were analyzed with SPSS edition 26.

Results

130 patients were interviewed. The age range was 25 to 74 years with 86 being males. 35.4% had a university education, and 18.5% had education below the ordinary level. 46.1% had education up to an advanced level. 29.2% had either one or multiple co-morbidities of bronchial asthma, diabetes, and hypertension. 13.6% were smokers. 23.1% had had previous surgery. 96 patients had chronic preoperative pain, of which 86% had a pain score of less than 4. 61.5% of the patients used regular analgesics to alleviate pain. Table 1 depicts the patient characteristics of the population.

Table 1. Patient characteristics

n = 130	
Age (mean)	49.62
Male	86 (66.2)
Female	44 (33.8)
Marital status	
Married	118 (90.2)
Unmarried	12 (9.8)
Employment status	
Full time	74 (56.9)
Part time	14 (10.8)
Retired	16 (12.3)
Student	2 (1.5)
Temporary	6 (4.6)
Unemployed	18 (13.8)
Education level	
Below ordinary level	24 (18.5)
Up to ordinary level	32 (24.6)
Up to advanced level	28 (21.5)
University education	46 (35.4)
Smoking	
Yes	18 (13.8)
No	112 (86.2)
Alcohol	
Yes	38 (70.8)
No	92 (29.2)
History of previous surgery	
Yes	30 (23.1)
No	100 (76.9)
Benign	90 (69.2)
Malignant	40 (30.8)

Of 130 patients, the mean Surgical Fear Questionnaire – short term (SFQ-s) score was 15.89 (0-40). the mean surgical fear questionnaire – long term (SFQ-l) was 15.91 (0 – 40) and the mean full surgical fear questionnaire score (SFQ) was 31.80 (0 - 80). The mean SFQ scores for males and females were 30.7 and 33.95 respectively. There was no statistical significance in SFQ scores between males and females. A significant difference in mean SFQ scores was

noted between patients who are above 40 years (33.29) and less than 40 years (26.08). A statistical significance of SFQ scores was noted (p -value < 0.001) between patients with an education level of below ordinary level (mean – 32.17) and patients with university education (mean - 28.38)

When comparing the ASA grading of patients and their SFQ scores, the SFQ of ASA I patients (27.13) was significantly lower than ASA II and III patients. However, there was no statistical significance of SFQ between patients of ASA II and III. A statistical significance was noted between the duration of pre-operative hospital stay (one day – 23.59, more than one day – 34.34) and the SFQ score (p -value < 0.001).

Patients who had preoperative pain (33.76) had a significantly higher SFQ score than the patients who didn't have pre-operative pain (27.05) (p -value < 0.001).

Patients awaiting surgery for malignancies had a statistically significant higher SFQ score than patients awaiting surgery for benign conditions (p -value < 0.001). The individual question which had the highest mean fear score was “I am afraid of the long duration of rehabilitation after the operation” for patients who had both benign and malignant conditions. Patients who were planned for complex surgeries had a statistically higher ($p < 0.001$) SFQ score than patients who were planned for minor surgeries.

Patients who were planned for general anesthesia had a significantly higher SFQ score (35.56) than patients who were planned to undergo surgery under local or spinal anesthesia. However, there was no statistical significance between patients awaiting surgery under local or spinal anesthesia. No statistical significance was identified between SFQ scores of patients who were non-smokers and smokers and the use of alcohol.

Table 2. Factors which significantly affect surgical fear

Age
Educational level
Duration of hospital stay
Preoperative pain
Malignant disease
Type of surgery
ASA grading
General anesthesia

In view of an intervention to alleviate fear of surgery 64% opted for no intervention/treatment, and 13.8% appreciated some sort of treatment. 65% stated more information about the surgery would be helpful.

Discussion

The objective of this study was to assess the preoperative fear among patients who undergo various surgical procedures. Surgical fear is an often-overlooked area by surgical professionals all over the world. Assessment of surgical fear needs quantification of fear which has been an issue. There have been attempts to quantify surgical fear. The Surgical Fear Questionnaire (SFQ) is a tool that is used to quantify surgical fear and has been validated in many different languages and used in many research publications worldwide (11–14).

The mean surgical fear score in our study was 31.8. In two similar trials in the Czech Republic(13) and Turkey(15), the mean SFQ scores were 35.7 and 37.55 respectively. Even though there is a marked variation of the mean SFQ scores between the studies, whether there is an inter-ethnic variation in fear of surgery needs further evaluation with multiscale studies. A study done on patients who are awaiting cataract surgery showed SFQ of 8.2 (14) which is low compared to the studies which were done on patients who are awaiting general surgical procedures, which implicates patients' fear for surgery depends on the procedure they undergo.

No significant difference was noted between the male and female patients in our study. However other studies have observed an increase in fear associated with the female gender (12). Increasing age was found to be a factor which increases fear of surgery in multiple studies (1,12) including this study.

In our study patients with higher education had lower fear scores than patients with lower education. This has been assessed in two studies and one study showing similar results(1) and another study stating that there's no effect of educational level on the fear of surgery (5).

Statistically significant reduced level of fear was seen in patients with a lower ASA grading than patients with a higher ASA grading which can be because the presence of co-morbidities makes the patients more anxious and prone to develop a fear of surgical procedures.

The duration of hospital stay inversely affected the fear of surgery significantly where the lower the number of days in the hospital, the lower the fear. Hence reducing the number of

preoperative in-hospital days where possible is important in relation to reducing the fear of surgery of patients. Whether the patients who undergo day-case surgeries have the least fear was not evaluated in this study.

Patients who had preoperative pain had a higher fear score than patients who did not have preoperative pain in our study. A similar observation was noted in a study done on patients who were awaiting cataract surgery (1). Hence addressing persistent preoperative pain might be helpful in alleviating the fear of surgery in patients.

Patients who were awaiting surgery for malignant diseases and who were planned for complex major surgeries had a significantly higher fear score than patients who were awaiting benign surgeries. Patients who are awaiting complex surgeries and surgeries for malignant diseases have high anxiety levels which can contribute to the high fear scores (4). This cohort of patients can be considered for preoperative counseling and other interventions which helps to alleviate anxiety and fear for surgery.

Patients who were planned to undergo surgeries under general anesthesia had a higher fear score than patients who were to undergo surgeries under spinal or local anesthesia. This can be due to the anxiety with regard to the recovery from the general anesthesia of the community. However, this fact needs to be evaluated further.

Our study did not find any correlation between smoking and use of alcohol and the fear of surgery. There was no significant correlation between history of previous surgery and fear of surgery. Patients who had previous surgery had a mean SFQ of 33.53 and patients who did not have previous surgery had a SFQ of 31.28. There was no statistical significance between the two groups. However previous studies done on different populations (1, 10) have observed a reduced fear amongst patients who have undergone previous surgery which was attributed to the fact that facing surgery once would reduce the anxiety of a second surgery. Even though there was no statistical difference between the two groups, our study shows a higher mean SFQ in patients who have had previous surgery which is contradictory to the findings of the previous studies. This can be due to the unpleasant experience of the previous surgeries or can be due to the lack of sample size. Hence this fact needs to be evaluated further in forthcoming studies.

When interviewed about whether an intervention would be helpful in alleviating surgical fear in patients, 65% of the patients stated that more information regarding the surgery and the procedure would have been helpful in terms of

alleviating the associated fear. Proper comprehensive patient information prior to surgery would reduce the anxiety and fear amongst patients which is often an overlooked area in the Sri Lankan medical setting.

There is no previous literature in the Sri Lankan setting with regard to the patient fear associated with surgery. Hence this study depicts the factors which are associated with fear of surgery amongst the Sri Lankan population. The study instrument was an interviewer-administered questionnaire since the surgical fear questionnaire is not translated and validated into the Sinhala language yet. This study paves the path to further studies that can translate and validate the surgical fear questionnaire into Sinhala language.

Conclusions

Age, educational level, ASA grading, duration of hospital stay, type of surgery, type of anesthesia, malignant or benign disease, and presence of preoperative pain, are associated with significantly higher surgical fear when assessed with the surgical fear questionnaire. Preoperative identification of factors that would increase the surgical fear would be helpful in planning out interventions that would be helpful in alleviating fear prior to surgery. An important aspect that was highlighted by the patients was that preoperative comprehensive patient information might be important in reducing the fear amongst patients awaiting surgical fear.

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