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"Anxiety During Spinal Anesthesia"

Al-Imamain Al-Kadhimein Medical City

A Research submitted to Al-Nahrain University /Collage of Medicine in Partial Fulfilment for the Degree of M.B.CH.B

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Abstract

Objective: Anxiety is a pathological condition with a feeling of fear accompanied by somatic symptoms due to hyperactivity of the autonomic nervous system. In this study, we aimed to compare preoperative anxiety status and the effects of age, gender, educational status, and The American Society of Anesthesiologists physical status classification (ASA) score on preoperative anxiety in patients undergoing elective surgery under spinal anaesthesia.

Methods: forty patients undergoing elective surgery under spinal anaesthesia were enrolled. The demographic data of patients was recorded. After spinal anaesthesia, anxiety levels were measured.

Results: The mean anxiety score in patients undergoing surgery under spinal anaesthesia indicate the presence of an intermediate level of anxiety (44.58±19.06). A statistically significant positive correlation was found between anxiety scores and age of patients with increased age ($p<0.01$). Statistically significant differences were found between anxiety scores of patients according to gender, and women's anxiety scores were found to be significantly higher than in men ($p<0.05$). Anxiety scores did not differ significantly between education levels. A statistically significant difference was found between anxiety scores regarding ASA scores ($p<0.05$).

Conclusion: There is a mid-level anxiety, associated more with advanced age, female gender, and low ASA score, in patients undergoing elective surgery under spinal anaesthesia.

Aim of this study: Our aim in this study is to investigate how the patient's age, gender, the operation, surgical briefing, type of anesthesia recommended for the operation ahead, and patient's prior anesthesia experience affect the patient's anxieties.

Key Words: Anaesthesia, spinal, anxiety

Introduction

Anxiety is a pathological condition characterized by a sense of fear that accompanies somatic symptoms resulting from hyperactivity of the autonomic nervous system. Prevalence of anxiety symptoms is reported to be 10-30% in patients treated for any reason at a hospital [(1)]. Peroperative anxiety is encountered at a rate of 60-80% in patients scheduled for surgery, and influences surgery, anaesthesia and consequently postoperative healing unfavourably [(2, 3)]. In fact, 5% of general surgery patients have such severe anxiety symptoms that they refuse the treatment applied [(4)]. Anxiety may enhance the need for anaesthetics and the risk of "awareness" during surgery while leading to pathophysiological responses such as hypertension and rhythm disorders in such patients [(5-8)].

It has been reported that higher number of medical complications develop and postoperative hospital stay is prolonged in patients with a high level of peroperative anxiety [(9, 10)]. This indicates that anxiety treatment needs to be an inseparable part of surgical treatment. Reducing stress and anxiety during elective surgery would reduce organ dysfunctions and complications by decreasing the neurohormonal response to surgery [(11)]. Many studies in the literature aimed to evaluate hospital anxiety, as well as preoperative and postoperative anxiety for surgery patients

The present study investigated the effects of age, gender, education status, and American Society of Anesthesiologists (ASA) class on preoperative anxiety in patients undergoing elective surgery under spinal anaesthesia.

Methods

Patient name:

Age:

Gender: male female

Marital state: single married divorced widow

Residence: city rural

ASA score: : I II III IV V

Education level: literate primary school middle school high school university

Smoker: yes no

Premedication:

Type of surgery:

Anxiety score:

The study was performed on patients, scheduled for elective surgery under spinal anaesthesia. A forty patients aged between 9 and 49 years and had an ASA score between I and III, were enrolled in the study.

Table 1. STAI Form TX-I

	Not at all	Somewhat	Moderately so	Very much so
1. I feel calm	(1)	(2)	(3)	(4)
2. I feel secure	(1)	(2)	(3)	(4)
3. I am tense	(1)	(2)	(3)	(4)
4. I am regretful	(1)	(2)	(3)	(4)
5. I feel at ease	(1)	(2)	(3)	(4)
6. I feel upset	(1)	(2)	(3)	(4)
7. I am worrying over possible misfortunes	(1)	(2)	(3)	(4)
8. I feel rested	(1)	(2)	(3)	(4)
9. I feel anxious	(1)	(2)	(3)	(4)
10. I feel comfortable	(1)	(2)	(3)	(4)
11. I feel self-confident	(1)	(2)	(3)	(4)
12. I feel nervous	(1)	(2)	(3)	(4)
13. I am jittery	(1)	(2)	(3)	(4)
14. I feel "high strung"	(1)	(2)	(3)	(4)
15. I feel relaxed	(1)	(2)	(3)	(4)
16. I feel satisfied	(1)	(2)	(3)	(4)
17. I am worried	(1)	(2)	(3)	(4)
18. I feel over-excited and rattled	(1)	(2)	(3)	(4)
19. I am joyful	(1)	(2)	(3)	(4)
20. I am pleasant	(1)	(2)	(3)	(4)

Anxiety levels of the participants were assessed after spinal anaesthesia using 20-item "Trait Anxiety Inventory" of "State-Trait Anxiety Inventory-STAI" [15, 16]. Among the following options, the participants were asked to rate the extent to which they believe the statements best describes their current mood "not at all, somewhat, moderately so, very much so" options. While the items No. 3, 4, 6, 7, 9, 12, 13, 14, 17 and 18 were positively rated, negative points were given for the items No. 1, 2, 5, 8, 10, 11, 15, 16, 19 and 20. Scoring was performed manually. During scoring, points were given between 1 and -1 or 4 and -4 according to the positive or negative characteristics of the item, and an extra 50 points was added to the total score. The maximum and minimum scores were considered to be 80 and 20, respectively.

Results

In this study , the most frequent age group were between 30 to 39 years old (53%) and less frequent age were 10 to 19 years old (10%) , as well as there is little difference between two genders were males (57%) while females were (43%) as shown below in both Figures no.1 and 2 .

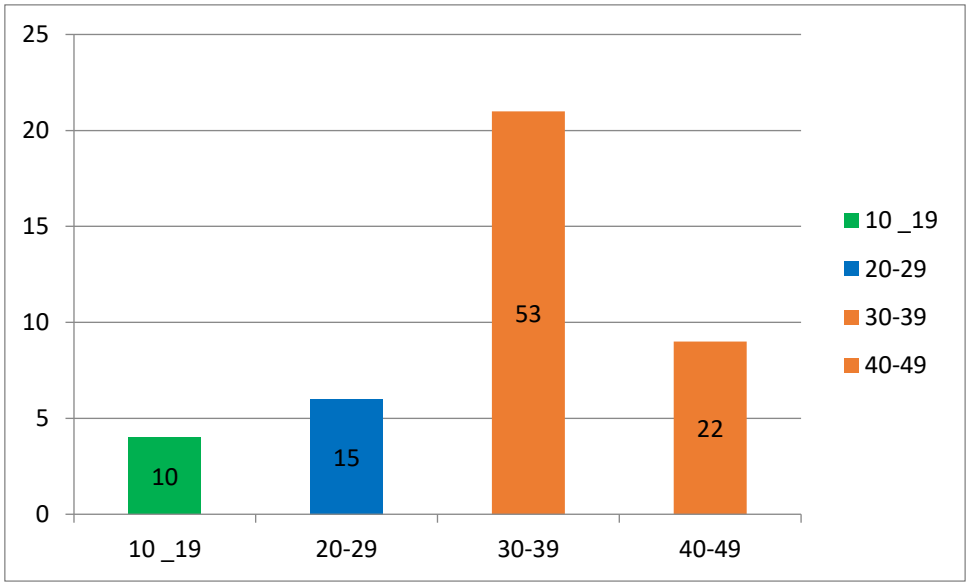

Figure no.1 : Frequency of age group in this study (the x axis represent the number of patients , while Y axis represent the age)

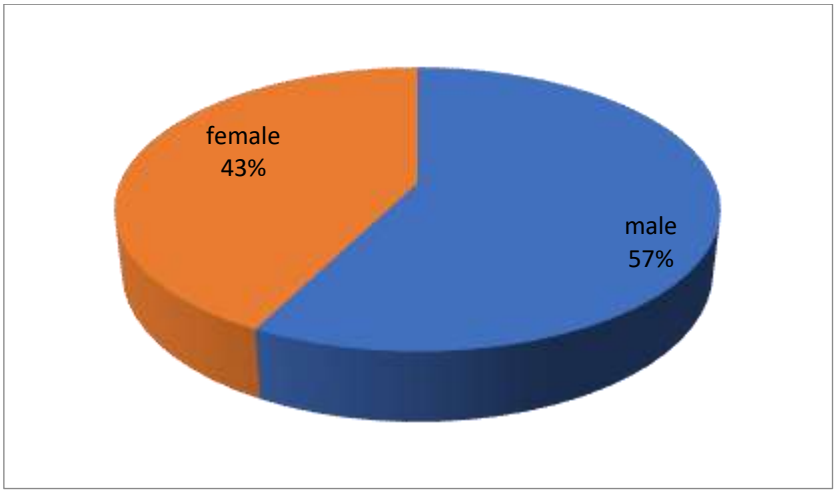

Figure no.2 : Percenrage of gender in this study

The study was performed on patients whom ASA Score was either I, II or III, were patients whom ASA Score was II form the majority (43%) while patients whom ASA Score was I form (27%) and patients whom ASA Score was III form (30%) of total percentage of patients . also Anxiety Score was in this study found to be moderate in (43%) of cases , while only (22%) found that they have mild or no anxiety , as shown below in figure no.3 and no.4 , respectively .

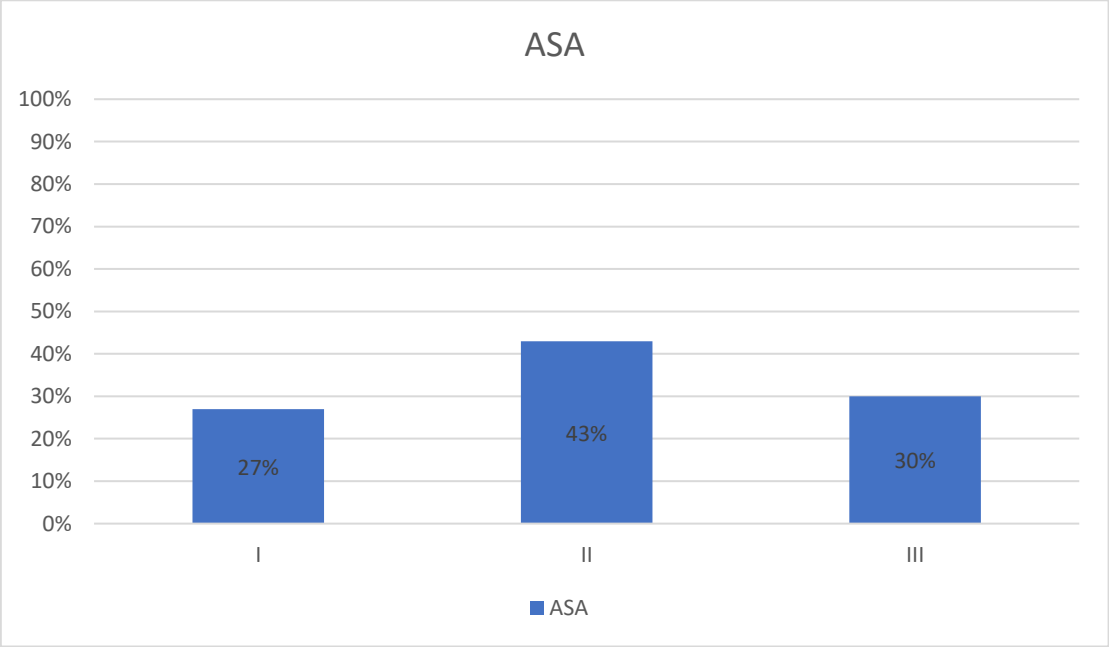

Figure no.3 : Percenrage of ASA Score of total patients in this study

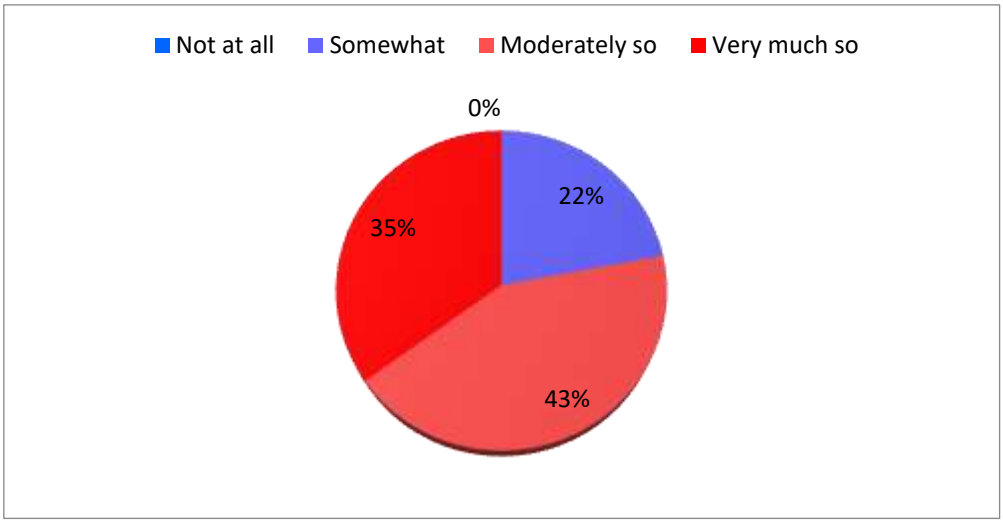

Figure no.4 : Percenrage of Anxiety Score of total patients in this study

Table no.1 : Correlation between gender and anxiety score .

Gender	Anxiety Score								total
	Not at all		Somewhat		Moderately so		Very much so		
	N	%	N	%	N	%	N	%	
Male	0	0%	5	12%	6	15%	5	12%	23
Female	0	0%	4	10%	11	28%	9	23%	17
Total	0	0%	9	22%	17	43%	14	35%	40

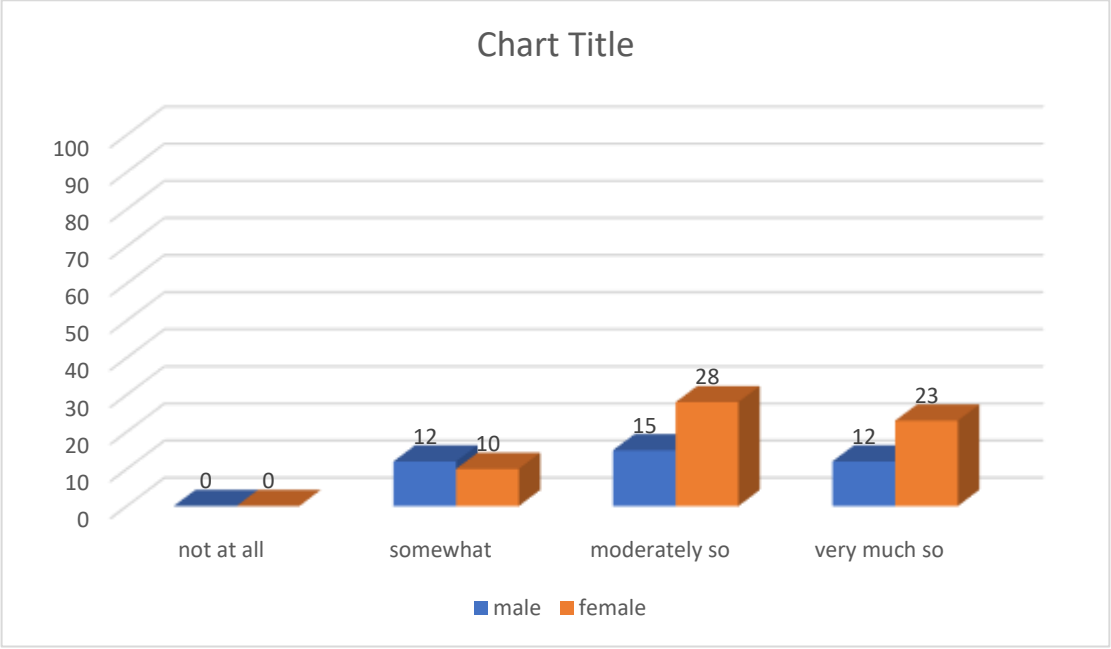

Figure no.5 : Correlation between gender and anxiety score

Table no.3: Correlation between marital state and anxiety score.

Marital state	Anxiety Score								total
	Not at all		Somewhat		Moderately so		Very much so		
	N	%	N	%	N	%	N	%	
Single	0	0%	1	2.5%	3	7.5%	2	5%	6

Married	0	0%	8	20%	12	30%	8	20%	28
Divorced	0	0%	0	0%	1	2.5%	1	2.5%	2
Widow	0	0%	0	0%	1	2.5%	3	7.5%	4
Total	0	0%	9	22.5%	17	42.5%	14	35%	40

Discussion

In the recent years, anxiety has been started to be used as a quality index in hospitals and it has been demonstrated that preoperative anxiety influences patient satisfaction and prolongs hospital stay [17, 18].

It is known that concerns about anaesthesia and surgery in the preoperative period lead to anxiety. Even though, not life-threatening, there is a high peroperative anxiety and stress. This may result from numerous conditions; in addition to concerns such as being apart from home and relatives and interruption of daily activities, there are also concerns about likely complications during or after surgery, not having adequate information about anaesthesia and surgery, anxiety about not waking after surgery, as well as about pain during and after surgery. Disability that the physical disease brings along, despair, concern about the loss of ability, concern about the probability of injury of body organs or parts, fear of death, and the meaning attributed to the disease influence the severity of anxiety that the individual experiences [19-21].

Some patients are afraid that they will experience because of inadequate anaesthesia [9]. Similar anxiety is present in patients undergoing elective surgery under spinal anaesthesia. In the present study, it was determined that there is a moderate level of peroperative anxiety in such patients is much more associated with female gender, advanced age and low ASA class.

While a STAI-S cut-off of 39-40 is used for clinically significant symptoms, the cut-off for peroperative patients is determined to be 44-45. The reason for this is the fact that STAI-S indicates how an individual feels him/herself regardless of the situation or condition he/she is in [22, 23]. Many studies have reported that anxiety levels are higher in females as compared to males [24-26].

Badner et al. [17] attributed this difference to separation from family in females, whereas Shevde et al. [27] and Domar et al. [25] propounded the reason that females could express their anxiety more easily than males. Higher anxiety scores obtained in females in comparison to males is not only from females' easily expressing themselves, but also from males' tendency to hide their anxiety because of social dynamics.

While some studies reported that anxiety level increased with increased education level, some studies demonstrated that education status did not have an effect on the degree of anxiety [25, 28-30].

It has been demonstrated that patient's anxiety is minimized in well prepared patients in the preoperative period and in conditions where patient safety is provided, and the patient is explained the surgery in the way that he/she can understand even it is impossible for the patient to understand because of age and mental capacity [31]. In the present study, no statistically significant relation was found between education level and anxiety. Although the

level of anxiety was the highest in primary school graduates and the lowest in university graduates, the difference was not statistically significant.

Clinical trials have determined that ASA class is determinative for peroperative anxiety [3, 16]. In the present study, a statistically significant difference was determined in the anxiety scores of patients in different ASA classes. Anxiety scores of patients in ASA I class were found to be higher as compared to those in ASA II group. However, no significant difference was found between ASA II group and ASA III group in terms of anxiety scores.

Duration of hospital stay is shortened and treatment cost is decreased [32]. There are publications defending or opposing the presence of a correlation between increased age and anxiety score in surgery patients [33]. Age and preoperative anxiety levels of the patients are associated with postoperative pain [34]. In the present study, a positive statistically significant correlation was found between anxiety scores and patient ages. It was observed that anxiety scores increased with advanced age.

Conclusion

Anxiety is a pathological condition that delays patient healing and decreases patient satisfaction. A moderate level of anxiety, which is more associated with advanced age, female gender and low ASA class, is present in the patients that underwent elective surgery under spinal anaesthesia. Considering that an unfavourable anaesthesia and surgery experience would negatively affect the postoperative quality of life and would put pressure on the patient for probable subsequent surgeries, anaesthesiologists should pay attention to preoperative anxiety management in spinal anaesthesia, frequently being used in surgical procedures currently.

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