



GENDER DIFFERENCE OF PREOPERATIVE ANXIETY AMONG GENERAL SURGERY AND CAESAREAN SECTION

Anaesthesiology

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ABSTRACT

Aims: The aim of present study was to investigate the gender difference in preoperative anxiety before general surgery and caesarean section.

Materials and Methods: This cross sectional, observational study consisted of 82 patients admitted to surgical ward for any planned operative procedure under general anaesthesia. Consenting patients were asked for socio demographic information and Hospital Anxiety and Depression Scale (HADS) and The Amsterdam Preoperative Anxiety and Information Scale were applied on them.

Results: A total of 84 patients out of which 47 patients (30 males and 17 females) with mean age of 36.63 ± 8.99 years. There was significant high anxiety for Females in HADS Anxiety scores (12.46 ± 3.54 vs 10.13 ± 1.96 ; $t = -3.876$, $p = .000$) but there was no significant gender difference in Total mean HADS depression and Total mean APAIS scores.

Conclusions: As a gender group of female patients exhibits significantly higher pre operative anxiety compared to males.

KEYWORDS:

Preoperative, Anxiety, Anesthesia.

INTRODUCTION

Visiting hospital, regardless of disease, is known to provoke anxiety in the normal peoples, can be exemplified by white coat effect on hypertension. Thus being hospitalized and awaiting surgery under anesthesia is much more severe event to produce anxiety. Preoperative anxiety is quite prevalent and variable, estimated to range from 11% to 80% across various studies [1]. Preoperative anxiety may lead many adverse effect including delayed recovery of the patient [2,3].

Many large studies suggests that gender plays significant role in anxiety related problems, anxiety disorders are much more prevalent and much disabling in women than in men [4]. More specifically a recent study reports much higher preoperative anxiety among females as compared to males [5].

The aim of this study was to determine the gender difference of preoperative anxiety for general surgery and caesarean section.

MATERIALS AND METHOD

This study was conducted at surgical wards at Hi-Tech Medical College and Hospital, Bhubaneshwar, which is a tertiary care medical college hospital of Orissa, India. The study protocol was approved by the institutional review board of Hi-Tech Medical College and Hospital, Bhubaneshwar. The aim of the present study was to assess for pre operative anxiety and its prevalence across gender in patients of general surgery and caesarean section. It was a cross-sectional study carried out over a period of three months period (January 2017-March 2017). All adult surgical patients admitted for any planned surgery under general anesthesia or females admitted for planned caesarian section at Obstetrical ward were included for the study, provided that patients consented for the study. Exclusion criteria included severe illness that makes clinical interview difficult and aged above 60 years and below 18 years, substance use disorders or alcoholism or currently withdrawal and past or current illness of any significant psychiatric disorders. All recruited patients were requested to complete a questionnaire about their socio-demographic data sheet and thereafter Hospital Anxiety and Depression Scale (HADS) and The Amsterdam Preoperative Anxiety and Information Scale (APAIS) were applied.

Tools

Socio-demographic Data Sheet: The socio demographic data sheet included age, gender, religion, Years of education and socio economic class of the patients. It also recorded clinical information like whether subjects are admitted for general abdominal surgery or Cesarean delivery of baby.

Hospital Anxiety and Depression Scale (HADS) [6]: this is very well validated scale to assess anxiety and depression among hospitalized patients. It consists 14 questions, 7 scoring anxiety and 7 scoring depression. We omitted those questions relating to depression. Patients were asked to read each question and place a tick against the reply that came closest to how they had been feeling that day. Each answer was scored 0, 1, 2 or 3. The possible range of scores was therefore 0 to 21, with higher scores indicating greater levels of anxiety. Score of 0-7 is considered normal, scores of 8-10 is borderline abnormal and scores of 11-21 is abnormal case.

The Amsterdam Preoperative Anxiety and Information Scale (APAIS) [7]: It is a well established and considered standard to assess patient's preoperative anxiety. APAIS is a self-report questionnaire, consists of only six questions that represents three separate areas: anxiety about anaesthesia, anxiety about surgery, and the desire for information. The items are rated on a five-point Likert scale from "not at all" to "extremely". The scoring may range from 5 to 30 and it is available and validated in many languages across world [8].

Procedure: It was a cross sectional observational study. All subjects were assessed for inclusion – exclusion criteria, and on qualification they were requested to fill up Socio-demographic data sheet or asked verbally and filled up by investigators. The anxiety subset of HADS and APAIS was applied on all subjects and recorded. It was done at the time of pre-anesthetic assessment before elective planned surgery.

Statistical Analysis: The collected data of all students was statistically analyzed, using Statistical Package for Social Sciences (SPSS, Inc., Chicago, Illinois) version 10.0.

Data analysis included means and standard deviations for each

group, and clinical subgroup of the sample. The parametric t-test was used to determine if differences existed between the groups. Statistically significant levels are reported for p values less than or equal to 0.05. Highly significant levels are p values less than .001.

RESULTS

A total of 84 patients out of which 47 patients (30 males and 17 females) were from general surgical ward and 37 female patients from Obstetric department. Table 1 summarizes the sample characteristics. The mean age of the complete sample was 36.63 ± 8.99 years. The mean years of education was 10.29 ± 2.10 . The gender distribution of the sample was 35.5% male and 64.5% females. Majority of the sample were belonging to Hindu religion (79.8%) and lower middle socioeconomic class (69%) (table -1) There were 47 patients from general surgical ward and 37 from obstetrics department.

Out of 84 total sample size, 54 were constituted female gender group and males gender group were 30 in numbers. The mean age for females was 33.70 ± 8.23 years and 41.90 ± 7.94 years was for the male gender group ($t = 4.427$, $df = 82$, $p=0.000$) (table 2). similarly year of education was 10.20 ± 2.04 years and 10.35 ± 2.15 years was respectively for males and females, ($t = -.315$, $df=82$, $p = .753$) Table 2.

Further means of HADS Anxiety scores, HADS Depression scores and Total APAIS score were compared for these two groups by independent t test. Result shows significant high anxiety for Females in HADS Anxiety scores (12.46 ± 3.54 vs 10.13 ± 1.96 ; $t = -3.876$, $p = .000$) but there was no significant gender difference in Total mean HADS depression and Total mean APAIS score (9.90 ± 2.32 vs 10.50 ± 2.51 , $t = -1.075$, $p = .285$ for Total mean HADS depression and 22.63 ± 6.23 vs 23.11 ± 5.87 ; $t = -.350$, $p = .728$ for Total mean APAIS score) (Table -2)

DISCUSSION

The preoperative anxieties may be considered as state anxiety which is situational, however trait anxiety usually predisposes persons for all kinds of situational or state anxiety and it has multi bio psycho social factorial contribution [9]. We found high anxiety among preoperative patients across both gender group, as measured by HADS, for the complete sample, but it was significantly higher for females when compared to males. Previous studies reports a prevalence of preoperative anxiety ranging from 11% to 80% among adults, and acts as a causative factor in increasing perioperative morbidity [10,11].

The found higher anxiety among female are comparable with many earlier studies, [5, 12, 13]. However in ours study we did not find any significant gender difference for HADS measured depression. The scales used in this study HADS measure Anxiety and depression among hospitalized patients. The APAIS itself measures three factors of preoperative anxiety; namely "Anxiety about anaesthesia" "Anxiety about surgery" and "Desire for information" [14]. The findings of significantly higher "preoperative anxiety" among females but not much gender difference for "anxiety about anaesthesia" and "Desire for information" suggests that ignorance about anesthesia and the anesthesiologist's role in preoperative issues are gender neutral. An equal emphasis on desire or need information is important with level of education or previous operative experience for self or known near ones. A preoperative counseling may be helpful to satisfy the desire for information and issues related with "anxiety about anaesthesia" from the perspective of the patient. In addition, better doctor patient communication, information, attention to queries by the patient may also be required [15, 16].

In future we need larger samples size, along with a matched control group, long term prospective outcome of these anxiety and depression in terms of disability and morbidity.

CONCLUSION

As a gender group of female patients exhibits significantly higher pre operative anxiety compared to males.

Table 1. Gender distribution and sample characteristics of the sample

		Male	Female	Chi square	df	p value
Types of surgery	Gen Surgery	30	17	36.73	1	.000
	LSCS	0	37			
Religion	Hindu	20	35	.029	1	.864
	Others	10	19			
Socio Economic class	Lower Middle	15	43	7.922	1	.005
	Upper class	15	11			

Table 2. Comparison of mean Anxiety scores according to grouped as Male and Females.

	Male (n=30)	Female (n=54)	t	df	Sig. (2-tailed)
Age	41.90 ± 7.94	33.70 ± 8.23	4.427	82	.000
Years of education	10.20 ± 2.04	10.35 ± 2.15	-.315	82	.753
Total HADS Anxiety Score	10.13 ± 1.96	12.46 ± 3.54	-3.876	82.00	.000
Total HADS Depression Score	9.90 ± 2.32	10.50 ± 2.51	-1.075	82	.285
Total APAIS Score	22.63 ± 6.23	23.11 ± 5.87	-.350	82	.728

REFERENCES

- Kain ZN, Severino F, Alexander GM, Pincus S, Mayes LC. Preoperative anxiety and postoperative pain in women undergoing hysterectomy. A repeated-measures design. *J Psychosom Res* 2000;49:417-422.
- Goebel S, Kaup L, Mehdorn HM. Measuring preoperative anxiety in patients with intracranial tumors. *J Neurosurg Anesthesiol*. 2011;23:297-303.
- Yilmaz M, Sezer H, Gürler H, Bekar M. Predictors of preoperative anxiety in surgical inpatients. *J Clin Nurs*. 2011;21(7-8):956-964.
- McLean CP, Asnaani A, Litz BT, Hofmann SG. Gender differences in anxiety disorders: prevalence, course of illness, comorbidity and burden of illness. *J Psychiatr Res*. 2011;45(8):1027-35.
- Mundu M, Toppo S, Bakhla AK. Preoperative Anxiety: Mode of Anaesthesia and Gender Perspective. *Paipex; Indian journal of Research*. 2017;6, (1), 91-92.
- Zigmond AS, Snaith RP. The hospital anxiety and depression scale. *Acta Psychiatr Scand* 1983;67:361-70.
- Moerman N, Van Dam FS, Muller MJ, Oosting H: The Amsterdam preoperative anxiety and information scale (APAIS). *Anesth Analg* 1996;82:445-451.
- Boker A, Brownell L, Donen N: The Amsterdam preoperative anxiety and information scale provides a simple and reliable measure of preoperative anxiety. *Can J Anaesth* 2002;49:792-798.
- Meijer J. Stress in the relation between trait and state anxiety. *Psychol Rep* 2001; 88:947-964
- Jlala HA, French JL, Foxall GL, Hardman JG, Bedforth NM. Effect of preoperative multimedia information on perioperative anxiety in patients undergoing procedures under regional anaesthesia. *Br J Anaesth*. 2010;104(3):369-374.
- Maranets I, Kain ZN. Preoperative anxiety and intraoperative anesthetic requirements. *Anesth Analg*. 1999;89(6):1346-1351.
- Caumo W, Schmidt AP, Schneider CN, et al. Risk factors for postoperative anxiety in adults. *Anaesthesia*. 2001;56(8):720-728.
- Wolters U, Wolf T, Stützer H, Schröder T. ASA classification and perioperative variables as predictors of postoperative outcome. *Br J Anaesth*. 1996;77(2):217-222.
- Maurice-Szamburski, Loundou A, Capdevila X, Bruder N and Auquier P. Validation of the French version of the Amsterdam preoperative anxiety and information scale (APAIS). *Health and Quality of Life Outcomes* 2013 11:166.
- Sanjuan M, Gimeno B, Sariano PMJ, Bazan MR, Contin GA. Psychological distress and preoperative fear in surgical patients *Rev Esp Anesthesiol Reanim* 1999;46:191-196
- Harrera-Espineira C, Rodriguez DA, Rodriguez DCM, Valdivia AF, Sanchez IR. Relationship between anxiety levels of patients and their satisfaction with different aspects of health care. *Health policy* 2009;89(1):37-45