

Effect of pre-operative communication using anaesthesia information sheet on pre-operative anxiety of patients undergoing elective surgery—A randomised controlled study

Address for correspondence:

Dr. Nirali N. Panchal,
8, Shaligram Greens, Rambhai
Kaka Marg, Bakrol, Anand,
Gujarat, India.
E-mail: dr.niralipanchal@
gmail.com

Submitted: 10-Jan-2022

Revised: 02-Aug-2022

Accepted: 03-Aug-2022

Published: 22-Aug-2022

Utpala Kharod, Nirali N. Panchal, Jagdish Varma¹, Krupa Sutaria

Departments of Anaesthesia and ¹Psychiatry, Pramukh Swami Medical College, Bhaikaka University, Karamsad, Gujarat, India

ABSTRACT

Background and Aims: Pre-operative anxiety can affect psychological and physiological parameters during the intra-operative period. Pharmacological measures used to reduce pre-operative anxiety have their associated adverse effects. Pre-operative anaesthesia education is one of the non-pharmacological tools to reduce anxiety, but very limited literature is available in the Indian scenario. Hence, this study was designed to evaluate the effect of pre-operative counselling of patients using anaesthesia information sheet on pre-operative anxiety of patients who underwent elective surgery as the primary outcome. Secondary objectives were to assess the pre-operative anxiety for surgery, correlation of demographic data with pre-operative anxiety, and the common causes responsible for pre-operative anxiety. **Methods:** Total 110 patients were randomly allocated into two groups. Group-A was counselled using anaesthesia information sheet and in Group-B, conventional counselling was done during pre-anaesthesia check-up. Anxiety scores for anaesthesia and surgery were measured using visual analogue scale for anxiety (VAS-A). VAS-A score was compared pre- and post-intervention. Effect of intervention was assessed by comparing reduction in VAS-A score in both groups with paired *t*-test. Data were analysed using STATA (14.2) version. **Results:** The mean reduction in VAS-A for anaesthesia was more in Group-A compared to Group-B (16.6 ± 6.9 vs. 4.4 ± 5.8 ; $P < 0.001$). The mean reduction in VAS-A for surgery was more in Group- A compared to Group- B (14.6 ± 7.8 vs. 4.8 ± 7.3 ; $P < 0.001$). **Conclusion:** Pre-operative counselling using anaesthesia information sheet is helpful in reducing pre-operative anxiety more efficiently. Further trials are required to assess transferability in other settings.

Key words: Anxiety, counselling, pre-operative period

Access this article online
Website: www.ijaweb.org
DOI: 10.4103/ija.ija_32_22
Quick response code


INTRODUCTION

Anxiety is an emotional state characterised by feelings of nervousness, worry, apprehension, and tension due to high activity of the autonomic nervous system.^[1,2] Earlier studies have reported the prevalence of pre-operative anxiety ranging from 10% to 80%.^[3,4] Pre-operative anxiety has both psychological and physiological effects by activation of the hypothalamic–pituitary–adrenal axis.^[5] It can lead to deleterious effects on the haemodynamic parameters during the perioperative period; affect the overall anaesthesia management and surgical outcome

by delayed awakening, post-operative pain, nausea–vomiting, delayed wound healing, and post-operative cardiac events.^[4-6]

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: WKHLRPMedknow_reprints@wolterskluwer.com

How to cite this article: Kharod U, Panchal NN, Varma J, Sutaria K. Effect of pre-operative communication using anaesthesia information sheet on pre-operative anxiety of patients undergoing elective surgery—A randomised controlled study. *Indian J Anaesth* 2022;66:559-72.

Pharmacological medications are used to reduce anxiety, but they may induce some adverse effects. In contrast to this, various non-pharmacological interventions like—reassurance, music therapy, breathing exercises, meditation, acupuncture, pre-procedure education are used to allay pre-operative anxiety and they are inexpensive, easy to perform, do not require high level of technical skill or equipment and are without adverse effects.^[7] Previous randomised controlled trials of pre-procedure education such as structured interview, multimedia, and question prompt tool were found to be more effective than conventional methods, but no study is available till date about the use of anaesthesia information sheet as a tool for pre-procedure counselling. No literature is available for the same in the Indian scenario. Hence, this study was designed to evaluate the effect of pre-operative counselling of patients using anaesthesia information sheet on anaesthesia-associated pre-operative anxiety as a primary objective. Secondary objectives were to assess pre-operative anxiety for surgery, correlation of demographic data with pre-operative anxiety and common causes of pre-operative anxiety.

METHODS

After obtaining institutional ethics committee approval (IEC/HMPCMCE/120/Faculty/19/215/20) and Clinical Trial Registry of India (CTRI/2021/04/032673) registration, this prospective randomised controlled study was conducted from April 2021 to December 2021. 110 patients of 18–70 years of age of either gender, American Society of Anesthesiologists (ASA) grade I–III, minimum education up to the fifth grade, able to understand either Gujarati, Hindi, or English languages, posted for elective surgery of 1–3 hours duration from General surgery, Gynaecology, and Orthopaedic departments were included in our study. Patients with a previous diagnosis of mental illness, cognitive dysfunction or on anti-anxiety medications were excluded from the study. The principles of the declaration of Helsinki were followed during the conduct of the study.

Assuming a moderate effect size of 0.6, a sample size of 50 per group was required, allowing for 5% type-I error to achieve 85% power. Considering 10% loss to follow up for various reasons, the sample size was increased to 55 per group. Standard formula viz. $n = 2 \times [(Z\alpha + Z\beta) \times \sigma/\delta]^2$ was used to calculate the sample size and the calculations were performed in Microsoft Excel.

A total of 125 patients were assessed for eligibility and 110 patients were enrolled. After obtaining written informed consent, patients were randomly allocated to intervention or control groups by computer-generated random numbers using WINPEPI (WINdows Programs for EPIde miologists).^[8] The allocation was kept in an opaque-sealed envelope and the envelope was opened only after an eligible participant consented for the study.

An anaesthesia information sheet was prepared in English, Hindi, and Gujarati languages with communicative translation method. Internal and external peer review was done to ensure face validity of the prepared information sheet. The sheet had details about the meaning of anaesthesia, different types of anaesthesia, pros and cons of each method, the preparation of patient for anaesthesia and post-operative care [Annexure 1].

During pre-anaesthesia check-up, on the day prior to the surgery, pre-operative anxiety was assessed by the principal investigator who was involved in the study, using two questionnaires of visual analogue scale of anxiety (VAS-A): (1) VAS-A for anaesthesia and (2) VAS-A for surgery. VAS-A question was rated from 0 to 100, in which 0 means no anxiety and 100 means maximum anxiety. The patients were asked about the possible causes of their anxiety, previous history of surgery, any negative experiences with previous surgeries etc. Participants in Group-A were counselled by a third-year resident involved in the study, using an anaesthesia information sheet. Their queries were clarified during the counselling. Participants in Group-B were given information about anaesthesia by conventional verbal counselling with addressing of their queries by the same third-year resident. After an interval of 2h, anxiety for anaesthesia and surgery was reassessed by the principal investigator in both the groups using VAS-A scale. This investigator was blinded for the type of counselling method. If VAS-A was more than 40 in any group, patients were advised to take an anti-anxiety drug in the form of tablet alprazolam 0.5 mg on the night before surgery.

Descriptive statistics [mean (standard deviation), frequency (%)] was used to depict the profile of the participants. Effect of both modalities on VAS-A for anaesthesia and VAS-A for surgery was assessed using paired *t* test. The reduction in VAS-A for anaesthesia and surgery was contrasted across the groups using analysis of variance (ANOVA) on difference scores.

Variations in VAS-A for anaesthesia and surgery at baseline with various sociodemographic variables were assessed using ANOVA. A *P* value less than 0.05 was considered statistically significant. The analysis was performed in STATA (14.2) version.

RESULTS

110 patients, (51 General surgery, 25 Gynaecology, and 34 Orthopaedics patients) were recruited in two groups (*n* = 55 each). All studied patients were analysed and followed up [Figure 1].

Demographic profiles (age, gender, marital status, literacy) along with previous history of surgery, any negative experience during previous surgery, types of anaesthesia, duration of surgery and type of surgery were comparable in both the groups [Table 1].

The overall incidence of pre-operative anxiety in the study population was 36.6%. Intra-group comparison of intervention Group-A and control Group-B for pre- and post-counselling scores for anxiety about anaesthesia and surgery was statistically significant (*P* < 0.001) [Table 2]. The reduction in mean of VAS-A for anaesthesia in Group-A was 16.6 ± 6.9 as compared to Group-B was 4.4 ± 5.8 (*P* < 0.001). Reduction in mean of VAS-A for surgery in Group-A was 14.6 ± 7.8 , while in Group-B was 4.8 ± 7.3 (*P* < 0.001) [Figure 2, Table 2]

Thematic analysis of the responses on the open-ended question “What are the things that you are afraid of?” The most common causes reported by patients were fear of intra-operative pain 87.3%, post-operative pain 41.8%, recovery issues 6.4%, and others 32.7%.

The female gender was significantly associated with higher pre-operative anxiety for anaesthesia (*P* < 0.001) and surgery (*P* = 0.01). Increasing ASA grade was associated with higher pre-operative anxiety for anaesthesia (*P* = 0.04) and surgery (*P* = 0.02) [Table 3]. About 21% of patients (*n* = 23) required anti-anxiety medications in the study population. Trends suggested lower need for anti-anxiety medications in intervention Group-A compared to control Group-B albeit the difference was not statistically significant [16.4% vs. 25.5%, *P* = 0.24]

DISCUSSION

Patient anxiety was reduced after pre-operative counselling using either conventional verbal counselling or the newer method-anaesthesia information sheet. However, the use of anaesthesia information sheet for pre-operative counselling showed a significant reduction in anxiety. The overall incidence of pre-operative anxiety in our study was 36.6%, which is comparable to previous studies.^[3,9,10] Bansal *et al.*^[11] have highlighted in their narrative review that pre-operative anxiety is a neglected issue

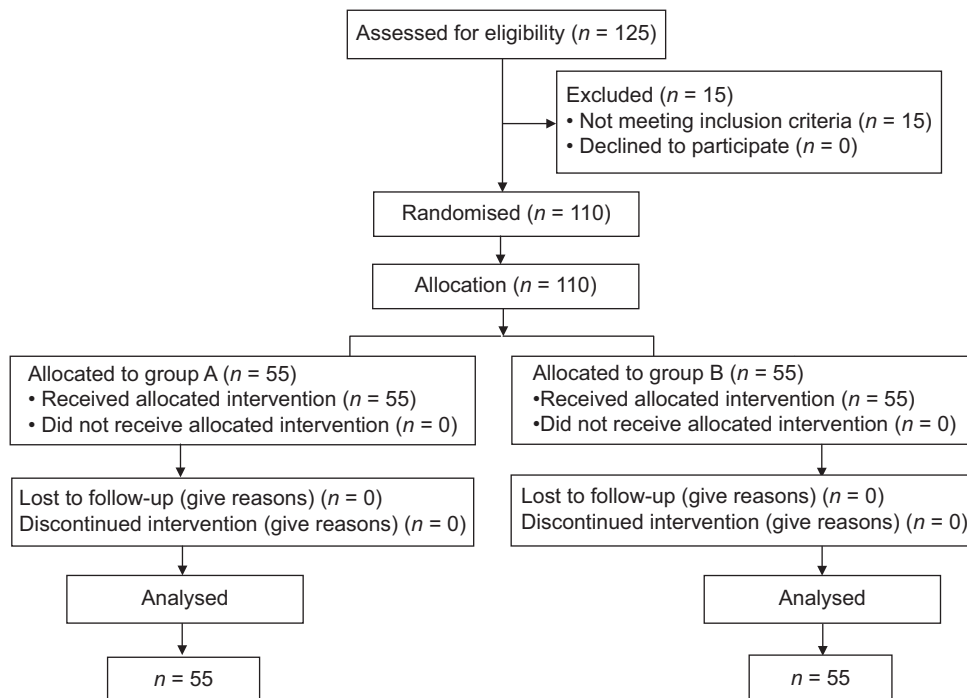


Figure 1: Consolidated standards of reporting trials (CONSORT) flow diagram for the study participants

Variable	Details of Variable	Case (Group-A) (n=55)	Control (Group-B) (n=55)	P
Age (years)		46.18 (13.55)	46.2 (14.71)	0.99*
Gender	Male	56.4%(31)	50.9%(28)	0.57**
	Female	43.6%(24)	49.1%(27)	
Literacy	Primary	20%(11)	7.3%(4)	0.06**
	High school	43.6%(24)	63.6%(35)	
	Graduate & above	36.4%(20)	29.1%(16)	
Marital status	Unmarried	7.3%(4)	9.1%(5)	>0.995***
	Married	90.9%(50)	90.9%(50)	
	Separated	1.8%(1)	-	
Previous surgeries	Yes	36.4%(20)	47.3%(26)	0.25**
	No	63.6%(35)	52.7%(29)	
Negative experience during previous surgeries	Yes	5.5%(3)	3.6%(2)	>0.995***
	No	94.5%(52)	96.4%(53)	
ASA grade	ASAgrade I	3.6%(2)	3.7%(2)	>0.995***
	ASAgrade II	56.4%(31)	61.8%(34)	
	ASA grade III	40%(22)	34.5%(19)	
Type of anaesthesia	Regional	70.9%(39)	70.9%(39)	>0.995**
	General	29.1%(16)	29.1%(16)	
Type of surgery	General surgery	43.6%(24)	49.1%(27)	0.84**
	Gynaecology	27.3%(15)	23.6%(13)	
	Orthopaedics	29.1%(16)	27.3%(15)	
Duration of surgery in hours		1.91 (0.47)	1.88 (0.55)	0.76*

ASA: American Society of Anesthesiologists; SD: Standard deviation. *Independent sample t-test **Chi square test. *** Fisher's exact test. Data for Age and Duration of surgery in hours is presented as Mean (SD). Data for all other variables is presented as Percentage (number)

Table 2: Comparison of Visual Analogue Scale of Anxiety (VAS-A) scores at different time points across the groups

Parameter	Intervention Group-A n=55	Control Group-B n=55
VAS score of anxiety for Anaesthesia		
Pre-counselling	43.20 (11.17)	36.85 (12.21)
Post-counselling	26.57 (9.50)	32.41 (11.57)
P-value for paired t-test	<0.001	<0.001
Difference	16.63 (6.92)	4.44 (5.86)
P-value for ANOVA	<0.001	
VAS score of anxiety for Surgery		
Pre-counselling	46.71 (12.89)	39.73 (13.66)
Post-counselling	32.07 (10.03)	34.89 (12.60)
P-value for paired t-test	<0.001	<0.001
Difference	14.64 (7.81)	4.84 (7.34)
P-value for ANOVA	<0.001	

VAS: Visual analogue scale; ANOVA: Analysis of variance; SD: Standard deviation. Data is presented as Mean (SD) for all parameters except P-value

and it must be assessed routinely during pre-operative anaesthesia check-up and counselling should be done by anaesthesiologist in patients with a high level of anxiety.

There are various subjective and objective methods used to measure pre-operative anxiety. The objective methods can be more precise in measuring anxiety, but they require continuous monitoring, advanced equipment, skilled staff and are costlier. The subjective methods are easy to practise, do not require

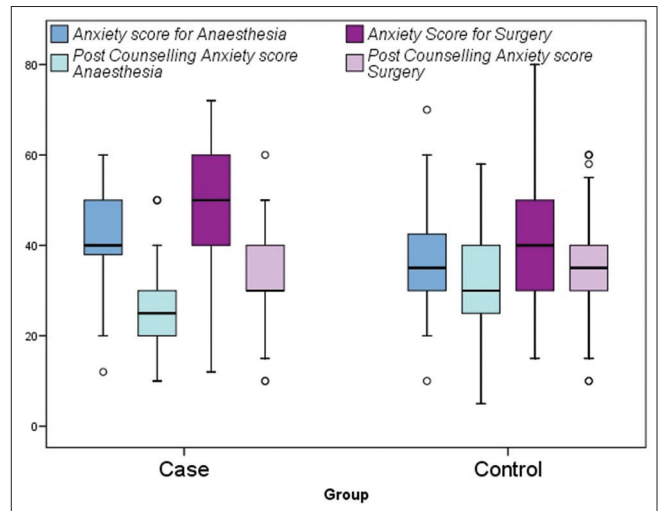


Figure 2: Pre- and post-counselling anxiety scores for anaesthesia and surgery amongst cases (Group-A) and control (Group-B)

any specific instruments, do not require any technical skill and are not expensive. VAS is brief and simple to administer. It has a minimum respondent burden. These characteristics make it ideal for use in routine practice. VAS-A is a valid tool to measure anxiety.^[12-15]

The most important finding of this study was a reduction in mean scores of VAS-A for anaesthesia and surgery which was significantly higher in the intervention group (Group-A) compared to control group (Group-B) ($P < 0.001$). In a prospective randomised

Table 3: Association of baseline pre-operative anxiety with demographic factors

Variable	Details of Variable	VAS score of anxiety for anaesthesia	P	VAS score of anxiety for surgery	P
Age		0.159		0.182	
Gender	Male	36.6 (12.88)	<0.001	39.9 (13.99)	0.01
	Female	44 (9.74)		46.9 (12.40)	
Literacy	primary	38.8 (11.21)	0.20	44.3 (12.79)	0.32
	High school	41.8 (11.96)		44.6 (13.33)	
	Graduate and above	37.4 (12.38)		40.3 (14.49)	
Marital status	Unmarried	32 (10.47)	0.10	35.2 (10.97)	0.18
	Married	40.7 (12.04)		43.9 (13.77)	
	Other	35		40	
Previous surgeries	Yes	41.9 (12.31)	0.16	44.9 (14.79)	0.25
	No	38.6 (11.81)		41.9 (12.77)	
Negative experience during previous surgeries	Yes	40 (18.25)	0.84	40.4 (22.77)	0.71
	No	39.9 (11.98)		43.2 (13.34)	
ASA grade	ASA grade I	31.2 (13.14)	0.04	31.7 (14.10)	0.02
	ASA grade II	38.3 (11.85)		41.3 (12.63)	
	ASA grade III	43.3 (11.66)		47.2 (14.22)	
Type of anaesthesia	Regional	38.6 (12.19)	0.06	41.7 (13.56)	0.09
	General	43.4 (13.56)		46.6 (13.51)	
Type of Surgery	General Surgery	39.96 (12.88)	0.49	43.33 (14.58)	0.34
	Gynaecology	42.29 (11.89)		46.16 (13.98)	
	Orthopaedics	38.44 (11.02)		40.88 (11.88)	

ASA: American Society of Anesthesiologists; VAS: Visual analogue scale; SD: Standard deviation. Data for all variables is presented as Mean (SD). Data for Age is presented as a number (Pearson's correlation coefficient)

controlled observational study, Jadin *et al.*^[16] reported that VAS for pre-operative anxiety was found 1.2 points lower (out of 10) after structured interview as compared to standard interview in younger patients (<47 years). Jjala *et al.*^[17] in a randomised controlled study, compared counselling by multimedia method versus conventional method, using VAS and State Trait Anxiety Inventory (STAI) and reported a reduction in pre-operative anxiety. They did not aim to separate anxiety related to anaesthesia and surgery in their methodology as contrast to the current study wherein we measured both separately. Lim *et al.*^[18] used a question prompt list as a tool and STAI to measure anxiety in patients undergoing breast surgeries and reported a reduction in anxiety of the patients. Nevertheless, all the questions in the question prompt list were about surgery, whereas we used anaesthesia information sheet and evaluated anxiety for both anaesthesia and surgery. The findings of the current study were similar to previous studies^[16-18] and confirm that anaesthesia information sheet is one of the methods of counselling that helps in reducing anxiety more effectively than conventional verbal methods. 16.4% patients were advised anti-anxiety medication in Group-A compared to 25.5% in Group-B, thereby suggesting the lower need for antianxiety medication in Group-A.

The female gender was significantly associated with higher pre-operative anxiety for anaesthesia and

surgery in this study. This finding corroborates with previous studies demonstrating higher pre-operative anxiety amongst females as compared to males.^[9,17,19] Unfamiliar environment, separation from family, fear of one's life, length of hospital stay, post-operative pain were the points of concern for female patients.^[20] Female patients may need additional comprehensive and individualised pre-operative education to reduce anxiety in the pre-operative period.^[21] A systematic review and meta-analysis has shown satisfactory results with music therapy for female patients in the reduction of pre-operative anxiety.^[22]

It was observed in this study that ASA physical status III patients had higher baseline pre-operative anxiety compared to ASA physical status I and II patients. This may be due to the fear that their comorbidities might increase the risk of surgery and anaesthesia. As per our knowledge, association of ASA physical status grading with pre-operative anxiety has not been studied in the past.

Other demographic variables were not found to be associated with pre-operative anxiety in the current study [Table 1]. Jafar *et al.*^[10] reported increasing level of pre-operative anxiety with increasing level of education, whereas, Lim *et al.*^[18] reported higher anxiety in patients with lower level of education. Mulugeta *et al.*^[3] reported significant association

between pre-operative anxiety and gender, age, marital status, educational status, residence, family size, pre-operative information and previous surgical experiences on bivariate analysis. Jadin *et al.*^[16] reported no association of pre-operative anxiety with previous experience of anaesthesia, whereas, Jafar *et al.*^[10] reported association of pre-operative anxiety with lack of previous surgical experience. This suggests that the variance in pre-operative anxiety varies based on cultural and contextual differences.

The participants in the current study were asked about the possible causes for their anxiety. The most common causes were fear for intra-operative pain (87.3%), post-operative pain (41.8%), recovery issues (6.4%) and others (32.7%) like recurrence of disease, back pain after spinal anaesthesia, sore throat, etc. Mulugeta *et al.*^[3] in their study reported fear of complications (52.4%), concern about family (50.4%), fear of post-operative pain (50.1%) and fear of death (48.2%) as the common causes of pre-operative anxiety. Thus, causes for pre-operative anxiety are subjective and can vary depending upon the demographic profile of the patients, their culture, and regional conditions. Also, non-pharmacological pre-operative anxiety interventions should be contextually adapted based on these factors, because anxiety before surgery is a vexatious feeling associated with fear and illness.^[4] The anaesthesia information sheet was designed on the basis of perspectives about anaesthesia that were prevalent in the general population. It was translated into Hindi and Gujarati languages as per vernacular language of the local subjects. So, it was an economical, reproducible, convenient, and effective non-pharmacological tool designed for this study to reduce pre-operative anxiety. It included a brief introduction to anaesthesia relevant to the layperson about the anaesthesiologist, types of anaesthesia, pre-anaesthetic check-up, consent, and intra-operative and post-operative management including pain control. The counselling process was not limited to the content of the sheet and patients were encouraged to seek clarifications.

This study has some limitations. Though several subjective and objective tools are available to measure the pre-operative anxiety, VAS-A was used. The results obtained by this study can show some subjective variations. Using multiple tools could have increased the accuracy of the results. Information related to anaesthesia was provided using an anaesthesia information sheet during pre-operative counselling,

but similar information about surgery was not included as it was not a part of the study. Anxiety was assessed a day before surgery, before and after counselling using anaesthesia information sheet. Reassessing the patient in the pre-operative room, just before shifting the patient to the operation theatre would have given more information about the effectiveness of using anaesthesia information sheet. There was no pre-operative assessment by a psychiatrist to exclude the patients who had undiagnosed psychological and cognitive disorders coming to the hospital for the first time. It should be noted that pre-operative anxiety is a complex multifactorial phenomenon. Use of an information sheet during pre-operative counselling is just one method to reduce it. Determining various causes for pre-operative anxiety and developing multimodal strategies to reduce it should be tried with the intention of assessing synergistic interaction amongst different strategies. This can help to develop an institutional protocol to address the issue of pre-operative anxiety and management for the same.

CONCLUSION

Pre-operative counselling using anaesthesia information sheet is more effective in reducing pre-operative anxiety than conventional counselling in patients undergoing elective surgery. Females are more anxious than males and pre-operative anxiety increases with increase in ASA grading of the patients. The common factors leading to pre-operative anxiety amongst patients are fear of intra-operative and post-operative pain.

Acknowledgements

The authors thank Mr. Ajay Phatak, M.Sc. MPH, DCA, Professor of Bio-Statistics, Adjunct Professor of Public Health, Charutar Arogya Mandal, Karamsad, Gujarat, India for helping with statistics.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Baghele A, Dave N, Dias R, Shah H. Effect of preoperative education on anxiety in children undergoing day-care surgery. *Indian J Anaesth* 2019;63:565-70.
2. Matthias AT, Samarasekera DN. Preoperative anxiety in surgical patients—experience of a single unit. *Acta Anaesthesiol Taiwan* 2012;50:3-6.

3. Mulugeta H, Ayana M, Sintayehu M, Dessie G, Zewdu T. Preoperative anxiety and associated factors among adult surgical patients in DebreMarkos and FelegeHiwot referral hospitals, Northwest Ethiopia. *BMC Anesthesiol* 2018;18:155.
4. Lopez-Yufera E, López-Jornet P, Toralla O, Pons-Fuster López E. Non-Pharmacological interventions for reducing anxiety in patients with potentially malignant oral disorders. *J Clin Med* 2020;9:622.
5. Sriramka B, Malik D, Singh J, Khetan M. Effect of hand holding and conversationalone or with midazolam premedication on preoperative anxiety in adult patients—A randomised controlled trial. *Indian J Anaesth* 2021;65:128-32.
6. Abate SM, Chekol YA, Basu B. Global prevalence and determinants of preoperative anxiety among surgical patients: A systematic review and meta-analysis. *Int J Surg Open* 2020;25:6-16.
7. Maranets I, Kain ZN. Preoperative anxiety and intraoperative anesthetic requirements. *Anesth Analg* 1999;89:1346-51.
8. Abramson JH. WINPEPI (PEPI-for-Windows): Computer programs for epidemiologists. *Epidemiol Perspect Innov* 2004;1:6.
9. Vadhanan P, Tripaty DK, Balakrishnan K. Pre-operative anxiety amongst patients in a tertiary care hospital in India—A prevalence study. *J Soc Anesthesiol Nepal* 2017;4:5-10.
10. Jafar MF, Khan FA. Frequency of preoperative anxiety in Pakistani surgical patients. *J Pak Med Assoc* 2009;59:359-63.
11. Bansal T, Joon A. Preoperative anxiety—an important but neglected issue: A narrative review. *Indian Anaesth Forum* 2016;17:37-42.
12. Facco E, Stellini E, Bacci C, Manani G, Pavan C, Cavallin F, *et al.* Validation of visual analogue scale for anxiety (VAS-A) in pre anesthesia evaluation. *Minerva Anesthesiol* 2013;79:1389-95.
13. Kindler CH, Harms C, Amsler F, Ihde-Scholl T, Scheidegger D. The visual analog scale allows effective measurement of preoperative anxiety and detection of patients' anesthetic concerns. *AnesthAnalg* 2000;90:706-12.
14. Abend R, Dan O, Maoz K, Raz S, Bar-Haim Y. Reliability, validity and sensitivity of a computerized visual analog scale measuring state anxiety. *J Behav Ther Exp Psychiatry* 2014;45:447-53.
15. Hernandez PJ, Fuentes GD, Falcon AL, Rodriguez RA, Garcia PC, Roca CMJ. Visual analogue scale for anxiety and Amsterdam preoperative anxiety scale provide a simple and reliable measurement of preoperative anxiety in patients undergoing cardiac surgery. *Int Cardiovasc Res J* 2015;9:1-6.
16. Jadin SMM, Langewitz W, Vogt DR, Urwyler A. Effect of structured pre anesthetic communication on preoperative patient anxiety. *J Anesth Clin Res* 2017;8:767.
17. Jjala HA, French JL, Foxall GL, Hardman JG, Bedforth NM. Effect of preoperative multimedia information on perioperative anxiety in patients undergoing procedures under regional anesthesia. *Br J Anaesth* 2010;104:369-74.
18. Lim L, Chow P, Wong CY, Chung A, Chan YH, Wong WK, *et al.* Doctor-patient communication, knowledge, and question prompt lists in reducing preoperative anxiety—A randomized control study. *Asian J Surg* 2011;34:175-80.
19. Saini S, Dayal M. Preoperative anxiety in Indian surgical patients—Experience of a single unit. *Indian J Appl Res* 2016;6:476-9.
20. Masood Z, Haider J, Jawaid M, Alam SN. Preoperative anxiety in female patients: The issue needs to be addressed. *Khyber Med Univ J* 2009;1:38-41.
21. Peng F, Peng T, Yang Q, Lui M, Chen G, Wang M. Preoperative communication with anesthetists via anesthesia service platform (ASP) helps alleviate patients' preoperative anxiety. *Sci Rep* 2020;10:18708.
22. Weingarten SJ, Levy AT, Berghella V. The effect of music on anxiety in women undergoing cesarean delivery: A systematic review and meta-analysis. *Am J Obstet Gynecol MFM* 2021;3:100435.

ANNEXURE 1: ANAESTHESIA INFORMATION SHEET

Anaesthesia Information Sheet

- Anaesthesia is given to the patient before any surgical procedure, to stop the feeling of pain during and after any surgical procedure by blocking pain signals that reach the brain via nerves.
- Nowadays modern anaesthesia is very safe.
- Anaesthesia is given by a qualified Anaesthesiologist who will take care of patients during and after operation.
- Various types of anaesthesia are available . What type of anaesthesia is to be given to a patient is dependent upon surgical procedure, duration of the procedure, age of patient, general condition of the patient and need for post-operative pain relief.

TYPES OF ANAESTHESIA

1. GENERAL ANAESTHESIA

- In this, before starting the procedure, anaesthetic drugs are injected into a vein, inhalational anaesthetic drugs are given which make the patient unconscious.
- The patient doesn't remember anything that happened during the procedure.
- Anaesthesiologist takes care of patient's pulse rate, blood pressure and ventilation during general anaesthesia.
- After surgery, the anaesthesiologist will slowly bring back the patient's consciousness.
- We give medication to prevent postoperative nausea, vomiting and pain.



2. SPINAL ANAESTHESIA

- This is the most common type of regional anaesthesia.
- Spinal anaesthesia is given for the surgeries in lower abdominal and lower limbs.
- In this, the anaesthetic drug is injected into the lower back, then it causes complete numbness from below the waist for a couple of hours.
- In this, the patient is awake and communicates if anything uncomfortable felt during the procedure.
- It helps in post procedure pain relief till the sensation returns back. Post operative nausea, vomiting is very rare.



3. EPIDURAL ANAESTHESIA

- In this, a very small diameter flexible Catheter is inserted into the back and repeated doses of anaesthetic drugs can be given and is useful for long duration surgery along with general anaesthesia or spinal anaesthesia.
- This technique helps in post-operative pain relief.
- This can also be used for pain relief during labour.



4. NERVE BLOCK

- It is used to numb the specific part of the body by injecting anaesthetic drugs around the nerves causing temporary loss of movements and sensations of that part of the body.
- In this, the systemic side effects are less.



How do we prepare patients for anaesthesia?

- History and physical examination are taken by the anaesthesia doctor.
- All this will help in modifying the drugs and their doses
- Risk stratification is done.
- Patient needs to be kept nil by mouth
- An IV line is secured for providing drugs.

Written and informed consent will be taken from patients and relatives.
All the procedures and steps to be done will be informed and explained to the patient.

Post Operative Care

- We give medications to prevent post-operative pain and post operative nausea and vomiting.
- Patients are shifted out of the operation theatre only when he/she is conscious and will be observed by the anaesthesiologist in the recovery room.

एनेस्थीसिया सूचना पत्र

- एनेस्थीसिया का मतलब स्मवेदना को रोकना है।
- किसी भी ऑपरेशन या निदान से पहले दर्दी को एनेस्थीसिया दिया जाता है जिससे नसों के माध्यम से मस्तिष्क तक पहुंचने वाले दर्द संकेतों को रोका जाता है और उससे ऑपरेशन दौरान और बाद में दर्दी को दर्द महसूस नहीं होगा।
- आजकल आधुनिक एनेस्थीसिया बहुत ही सुरक्षित हो गया है।
- एनेस्थीसिया योग्य एनेस्थेसियोलॉजिस्ट द्वारा दिया जाता है जो ऑपरेशन के दौरान और बाद दर्दी की देखभाल करेंगे।
- एनेस्थीसिया काफ़ी प्रकार के होते हैं। दर्दी को किस प्रकार का एनेस्थीसिया दिया जाना है, यह ऑपरेशन के प्रकार, ऑपरेशन के समय, दर्दी की उम्र, दर्दी की सामान्य स्थिति और दर्दी की पसंदगी पर निर्भर करता है।

एनेस्थीसिया के प्रकार

1. जनरल एनेस्थीसिया

- इसमें ऑपरेशन शुरू करने से पहले एनेस्थीज़ा की दवाइयाँ नस या तो मास्क से दर्दी को दी जाती हैं।
- इसके बाद दर्दी को कुछ भी याद नहीं रहता।
- एनेस्थेसियोलॉजिस्ट ऑपरेशन के दौरान दर्दी की हृदय कि धड़कन, ब्लड प्रेशर और साँसों का खयाल रहेंगे।
- ऑपरेशन के बाद अनाएस्थेसीयोलॉजिस्ट धीरे धीरे दर्दी को सभान अवस्था में लाएँगे।
- ऑपरेशन के बाद दर्दी को दर्द ना हो, उलटी ना हो और गले में खराश ना आए उसका अनाएस्थेसीयोलॉजिस्ट खयाल रखेंगे।



2. स्पाइनल एनेस्थीसिया

- यह सबसे ज़्यादा उपयोग होने वाला रीजनल एनेस्थीसिया है।
- स्पाइनल एनेस्थेसिया नाभि के नीचे के पेट के हिस्से और पैरों के ऑपरेशन के लिए दिया जाता है।
- स्पाइनल एनेस्थीज़ा में पीठ के नीचेले हिस्से में दवाई दी जाती है जिससे कमर के नीचे का भाग थोड़े घंटे तक सून्न हो जाता है।
- दर्दी ऑपरेशन के दौरान पूरा सभान अवस्था में होता ही जिससे अगर उनको कोई तकलीफ़ हो तो वो डॉक्टर को बता सकते हैं।
- ऑपरेशन के बाद कुछ घंटे तक दर्दी को दर्द में राहत मिलती है।
- स्पाइनल एनेस्थीज़ा दौरान कभी भी ब्लड प्रेशर कम हो सकता है कभी भी कंपकंपी भी अति है जिसका अनाएस्थेसीयोलॉजिस्ट खयाल रखेंगे।
- ऑपरेशन के बाद सिर दर्द और कमर दर्द हो सकता है जिसका खयाल रखा जाता है।



3. एपिड्यूरल एनेस्थेसिया

- इसमें पीठ में बहुत ही छोटी नाली डाली जाती है और उसमें से एनेस्थीज़ा की दवाई दी जाती है ।
- यह स्पाइनल या जेनरल अनाएसतहसीय के साथ दिया जाता है।
- इसका उपयोग प्रसव का दर्द कम करने में हो सकता है ।



4. नर्व ब्लॉक

- इसका उपयोग शरीर के विशिष्ट भाग को सुन्न करने के लिए किया जाता है, नसों के चारों ओर एनेस्थेटिक दवाओं को देकर शरीर के उस हिस्से का हलन-चलन और संवेदनाओं को कुछ समय के लिये बन्द किया जाता है।
- इसमें सबसे कम गैरलाभ है ।



एनेस्थीसिया के लिए रोगियों को कैसे तैयार किया जाएगा ?

- दर्दी की बीमारी का इतिहास और शारीरिक जांच की जाती है और आवश्यक जांच हो वो एनेस्थेसीयोलोजिस्ट द्वारा करवाए जाएगी ।
- यह सब एनेस्थीसिया का प्रकार, दवाओं और मात्रा छन्ने में मदद करेगा।
- जोखिम वरगीकरण किया जाता है।
- दर्दी ऑपरेशन से पहले कुछ घंटे कुछ खाना पीना नहीं दिया जाता ।
- दर्दी की नस ने एक नाली डाली जाएगी जिससे अनाथेसिया और दूसरी दवाई दी जाती है ।

दर्दी और रिश्तेदारों से लिखित और सूचित सहमति ली जाएगी।
दर्दी को सभी प्रक्रियाओं और चरणों के बारे में समझाया जाएगा।

सर्जरी के बाद ख्याल रखना

- ऑपरेशन के बाद दर्द और उल्टी ना हो इसकी दवाई दी जाती है ।
- दर्दी को ऑपरेशन थियेटर से बाहर तभी ले जाया जाएगा जब तब उनको पूरी तरह से होश में आ जाएगा है, और एनेस्थेसीयोलोजिस्ट रीकवरी रूममें दर्दी की देखरेख करेंगे ।

એનેસ્થેસિયા ની માહિતી

- એનેસ્થેસિયા એટલે સંવેદનાને અટકાવી.
- કોઈ પણ ઓપરેશન કે નિદાન ની તપાસ દરમિયાન દર્દીને એનેસ્થેસિયા આપવામાં આવે છે. જેથી ચેતાતંતુ દ્વારા મગજ માં પહોંચતા દુખાવાના સંકેતોને અવરોધી શકાય.
- આજકલ આધુનિક એનેસ્થેસિયા ખુબ જ સલામત છે.
- એનેસ્થેસિયા લાયક એનેસ્થેસિયોલોજિસ્ટ દ્વારા આપવામાં આવે છે. જે ઓપરેશન દરમિયાન અને પછી દર્દીની સંભાળ લેશે.
- એનેસ્થેસિયા ના વિવિધ પ્રકારો ઉપલબ્ધ છે. દર્દીને ક્યાં પ્રકારનું એનેસ્થેસિયા આપવું એ ઓપરેશન નો પ્રકાર, ઓપરેશન નો સમય, દર્દીની ઉંમર, દર્દીની સામાન્ય સ્થિતિ અને દર્દીની પસંદગીને ધ્યાનમાં રાખીને કરવામાં આવે છે.

એનેસ્થેસિયા ના પ્રકાર

1. જનરલ એનેસ્થેસિયા

- ઓપરેશન શરૂ કરતા પહેલા દર્દીને બેભાન કરવા માટે નસમાં અથવા માસ્કથી એનેસ્થેસિયાની દવાઓ આપવામાં આવે છે.
- ત્યારબાદ દર્દીને ઓપરેશન દરમિયાન કંઈપણ યાદ રહેતું નથી.
- એનેસ્થેસિયોલોજિસ્ટ દર્દીના નળીના ધબકારા, લોહીનું દબાણ અને શ્વાસોશ્વાસની કાળજી રાખશે.
- ઓપરેશન પુરું થયા બાદ એનેસ્થેસિયોલોજિસ્ટ દર્દીને ધીમે ધીમે પાછો ભાનમાં લાવશે.
- ઓપરેશન બાદ દર્દીને દુઃખાવો ન થાય, ઉલટી ઉબકા ના થાય, તથા ગળા માં ખારાશ ના થાય તેની સંભાળ રાખવામાં આવશે.



2. સ્પાયનલ એનેસ્થેસિયા

- સ્પાયનલ એનેસ્થેસિયા સૌથી વધુ વપરાતી પ્રક્રિયા છે.
- સ્પાયનલ એનેસ્થેસિયા ડુંટી થી નીચેના પેટનાં ઓપરેશન કે પગના વિવિધ ઓપરેશન માટે વપરાય છે.
- સ્પાયનલ એનેસ્થેસિયામાં પીઠનાં નીચેના ભાગમાં એનેસ્થેસિયાની દવા આપવામાં આવે છે. જેથી કમરની નીચેનો ભાગ થોડા કલાકો માટે શૂન્ય પડી જાય છે.
- સ્પાયનલ એનેસ્થેસિયામાં દર્દી સભાન અવસ્થામાં હોઈ છે. જેથી કોઈ તકલીફ થઈ તો ડોક્ટર ને જાણ કરી શકે છે.
- ઓપરેશન પછી થોડા કલાકો સુધી દુખાવામાં રાહત રહે છે.
- સ્પાયનલ એનેસ્થેસિયા આખ્યા પછી લોહીનું દબાણ ઘટી શકે છે. તેમજ ઓપરેશન દરમિયાન ધુજારી પણ થઈ શકે છે. જેનું એનેસ્થેસિઓલોજિસ્ટ ધ્યાન રાખશે.
- સ્પાયનલ એનેસ્થેસિયાથી ઉલ્ટી ઉબકા થવાની સંભાવના ખૂબ જ ઓછી છે.
- ઓપરેશન પછી માથાનો કે કમરનો દુઃખાવો ન થાય તેની એનેસ્થેસિઓલોજિસ્ટ દ્વારા કાળજી લેવામાં આવશે.



3. એપિડ્યુરલ એનેસ્થેસિયા

- આમાં ખૂબ જ નાની નળી પીઠમાં મુકવામાં આવશે જેના દ્વારા એનેસ્થેસિયાની દવાઓ જરૂરિયાત પ્રમાણે લાંબા સમય સુધી આપી શકાય.
- એપિડ્યુરલ એનેસ્થેસિયા સ્પાઈનલ તથા જનરલ એનેસ્થેસિયાની સાથે આપવામાં આવે છે.
- આનાથી ઓપરેશન પછી લાંબા સમય સુધી દુખાવામાં રાહત રહે છે.
- એપિડ્યુરલ એનેસ્થેસિયા દ્વારા દુઃખાવા વગરની પ્રસુતિ થઈ શકે છે.



4. નર્વ બ્લોક

- ચેતનાની ગ્રંથી ની આસપાસ એનેસ્થેસિયાની દવાઓ ઇંજેક્શન દ્વારા આપીને શરીરનાં ચોક્કસ ભાગ ને શૂન્ય કરવામાં આવે છે.
- આમાં આડઅસર ખૂબ જ ઓછી છે.



એનેસ્થેસિયા માટે અમે દર્દીઓ કેવી રીતે તૈયાર કરી શકીએ?

- દર્દીની બિમારીનો ઇતિહાસ અને શારિરીક તપાસ કરવામાં આવે છે અને જરૂરી લાગતી વધારે તપાસો પણ કરાવવામાં આવે છે. જેના પારથી એનેસ્થેસિયાનો પ્રકાર, એનેસ્થેસિયાની દવા તથા દવાની માંગ નક્કી કરવામાં આવે છે.
- એનેસ્થેસિયાના જોખમનું વર્ગીકરણ કરવામાં આવે છે.
- દર્દીને ઓપરેશન પહેલાં ભૂખ્યા પેટ રહેવા નું હોઈ છે.
- ઓપરેશન પહેલાં દર્દીની નસમાં નળી મૂકવામાં આવે છે. જેના દ્વારા દવાઓ આપી શકાય.

દર્દીઓ પાસેથી લેખિત અને મૌખિક સંમતિ લેવામાં આવે છે.
બધી પ્રક્રિયાઓ અને પગલાંઓ દર્દીને સમજાવવામાં આવશે.

ઓપરેશન પછી શું કાળજી લેવી

- ઓપરેશન પછી દર્દીને દુઃખાવો ન થાય તથા ઉલટી ઉબકાઓ ન થાય તે માટે ની દવાઓ એનેસ્થેસિઓલોજીસ્ટ દ્વારા આપવામાં આવશે.
- એનેસ્થેસિઓલોજીસ્ટ દ્વારા ઓપરેશન બાદ દર્દીને પુરા ભાનમાં લાવવામાં આવશે. પુરા ભાનમાં આવ્યા બાદ જ દર્દીને રિકવરી રૂમમાં લઈ જવામાં આવશે. અને થોડા સમય સુધી એનેસ્થેસિઓલોજીસ્ટ તેની દેખરેખ રાખશે.