

PREOPERATIVE HANDOUT MATERIAL ABOUT ANAESTHESIA - AN EFFECTIVE WAY TO REDUCE ANXIETY

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Key words: anxiety, fear of pain, handout material, patients' education, general anaesthesia.

Summary

Background. Anxiety and fear of pain are two main factors influencing emotional state, level of satisfaction and perioperative outcomes. The aim of this study was to determine the impact of informing patients by means of a booklet entitled: "Information for the patients undergoing anaesthesia" and its effects on preoperative anxiety.

Methods. After obtaining approval from the Local Ethics Committee this prospective observational study was conducted in Department of General Surgery, Hospital of Lithuanian University of Health Sciences. Representatives were given a questionnaire to examine their knowledge of anaesthesia and to measure their anxiety levels on the evening before meeting the anaesthesiologist prior to their surgery. Following a first completed questionnaire, the patients received the booklet. The second survey was then presented to the respondents after one hour of reading the booklet.

Results. 57 patients undergoing elective general surgery participated. This study has shown a statistically significant lower level of anxiety regarding patients' awareness of the anaesthesiologist's role in perioperative care ($p=0.01$). Moreover, the key determinant of greater anxiety levels is the fear of pain during the surgery ($p=0.01$). Most importantly, it was found that improving patients' education by means of the booklet significantly lowers anxiety in the perioperative setting.

Conclusions. In this study we demonstrate, that the information gathered in the pamphlet is useful and informative for the patients and reduces anxiety. After greater patients' satisfaction was achieved by the information provided in the pamphlet, it has since been routinely used.

Introduction

Reducing anxiety and increasing reassurance is one of the goals of the preoperative anaesthesia consultation, which might be achieved by involving the patient in the process of their treatment [1]. There are different methods and strategies to educate the patient about forthcoming anaesthesia: verbal, written and visual [2-4]. The patients in LUHS Hospital Kaunas Clinics are being informed by the anaesthesiologist in verbal form prior to the surgery. Anxiety is a product of helplessness and admission to hospital accentuates this feeling by separating the patient from their usual communication with the surroundings and losing their feeling of control [5]. The anxiety starts from the point of decision to perform the surgery and the peak is reached at the moment of entering the hospital [6]. More than 313 million surgeries take place globally every year (42/1000) [7]. Insufficient information about anaesthesia and how the anaesthesiologist is involved are contributing with patients' anxiety [3]. Furthermore, the reduction of anxiety is often insufficient when the patient is approached just a few hours before the surgery [8]. Between 11% to 80% of adults are mostly afraid of pain, awakening during anesthesia, death while under anaesthesia and postoperative nausea and vomiting [9]. All these factors emphasize the importance of a proper technique to relieve patients' anxiety.

The aim of this study was to determine the impact of informing patients by means of a booklet entitled: "Information for the patients undergoing anaesthesia" and its effects on preoperative anxiety.

Methods

After obtaining approval from the Local Ethics Committee and informed consent, 57 patients was selected randomly for this study. The participants were undergoing elective surgery in Department of General Surgery, Hospital of Lithuanian University of Health Sciences and were aged 18 years and above. Representatives were given a questionnaire to examine their knowledge about anaesthesia and to

measure their anxiety level on the evening before meeting the anaesthesiologist prior to the surgery. Anxiety was measured by means of a shortened Spielberger's State-Trait Anxiety Inventory (sSTAI). Data collected included patient demographics, education, number of previous surgeries, patients' knowledge of the anaesthesiologist's role, types of anaesthesia and postoperative pain management. Furthermore, questionnaire included questions about fear of accidental awakening during general anaesthesia and perioperative pain.

Following completed questionnaires, the patients received the booklet - "Information for the patients undergoing anaesthesia", which contained information about what anaesthesia is, the different types of anaesthesia, preoperative preparation, the role of the anaesthesiologist in perioperative care, information about possible types of postoperative analgesia and what happens before, during and after the surgery in a patient friendly manner. The second survey was then presented to the respondents after one hour of reading the booklet, which contained questions about the information in the pamphlet and sSTAI. Statistical analysis was performed using the Statistical Package for the Social Sciences (Windows Version 23.0; SPSS). Statistical comparisons were performed using χ^2 tests.

Results

57 patients participated in this study, 30 (52.6%) men and 27 (47.4%) women. Patients' average age was 61.33 (\pm SD) \pm 15.43 years, median was 62 years. The youngest patient was 20 years old, and the oldest patient was 91 years old. Educational level of participants ranged across the entire spectrum: university 18 (31.6%), college degree 13 (22.8%), secondary 18 (31.6%), vocational 6 (10.5%) and elementary 2 (3.5%) education (Table 1). The information conceived by patients about the role of anaesthesia and its types varied. 11 (19.3%) respondents had knowledge about anaesthesia, 24 (42.1%) patients was aware, but were lacking of enough information and 22 (36.6%) - had no knowledge about it.

In the total of 57 respondents, preoperative anxiety levels were classified in groups of: severe 10 (17.5%), mild 19 (33.3%) and no anxiety 28 (49.1%). Statistically significant difference between male and female groups' anxiety level wasn't observed. Including anxiety between different education levels of participants. More detailed information is presented in Table 1. Moreover, statistically significant influence of number of surgeries in the past to anxiety level has not been shown. Although, anxiety levels ranged widely depending on the knowledge of the anaesthesiologist's role in perioperative care. 40 (70.2%) patients who were aware of the anaesthesiologist's role presented with different anxiety levels: severe 4 (10.0%), mild 10 (25.0%) and no anxiety 26

(65.0%). 13 (22.8%) participants with limited knowledge was distributed in groups of: severe 5 (38.5%), mild 7 (53.9%) and no anxiety 1 (7.6%). 4 (7.0%) patients didn't know the anaesthesiologist's role. From those four, severe anxiety was felt by 1 (25.0%), mild - 2 (50.0%) and no anxiety 1 (25.0%) patient. Demonstrating statistically significant lower anxiety level in patients' aware of anaesthesiologist's role in perioperative care ($p=0.01$) (Table 2).

A statistically significant association between preoperative anxiety and fear of accidental awareness during general anaesthesia wasn't observed. However, 22 (38.6%) respondents dreaded of perioperative pain, yet anxiety levels distributed gradually: severe 7 (31.8%), mild 8 (36.4%) and no anxiety 7 (31.8%). No fear was felt in 25 (43.9%) participants, 18 (72.0%) were calm as a result. Although, 7 (28.0%) of the patients did not have significant fear, but they had mild anxiety ($p=0.01$) (Fig. 1). In the major part of respondents, 40 (70.2%) of 57 rated the information submitted in the pamphlet, as useful, helpful and informative. 1 (1.8%) participant evaluated it as not useful. Furthermore, 16 (28.1%) patients indicated that the majority of the information in the booklet was already known to them. The anxiety was reduced in 12 (21.1%) of the patients after reading the pamphlet. Fear reduction was expressed by 34 (59.6%) patients. However the information conceived from the booklet did not alter the anxiety level for 11 (19.3%) of respondents.

Discussion

Tab. 1. Correlation between anxiety and level of education ($p=0.204$).

	Calm n, (%)	Mild anxiety n, (%)	Severe anxiety n, (%)
Elementary (n=2)	1 (50)	1 (50)	0 (0)
Vocational (n=6)	2 (33.33)	2 (33.33)	2 (33.33)
Secondary (n=18)	11 (61.11)	5 (27.78)	2 (11.11)
College degree (n=13)	2 (15.38)	7 (53.85)	4 (30.77)
University (n=18)	12 (66.67)	4 (22.22)	2 (11.11)

Tab. 2. Anxiety levels prior the surgery based on patients' knowledge about the role of anaesthesiologist's in perioperative setting ($p=0.01$)

	Calm n, (%)	Mild anxiety n, (%)	Severe anxiety n, (%)
Prior operation (n=57)	28 (49.1)	19 (33.3)	10 (17.5)
Had knowledge of the anaesthesiologist's role (n=40)	26 (65.0)	10 (25.0)	4 (10.0)
Had some knowledge of the anaesthesiologist's role (n=13)	1 (7.6)	7 (53.9)	5 (38.5)
Wasn't aware of the anaesthesiologist's role (n=4)	1 (25.0)	2 (50.0)	1 (25.0)

Physicians are surrounded by exponential progress in anaesthesiology practice. Therefore, patients' emotional needs might frequently be overlooked. Patient-centered practice is the key concept in modern medicine, although patients' satisfaction is not always achieved. Anxiety and pain are the two main factors influencing emotional state, level of satisfaction and perioperative outcomes [10]. Fortunately, the frequency of intraoperative mortality during general anaesthesia and deaths caused by anaesthesia itself is very low, especially in high-income countries [11]. Despite this, between 8% to 55% of patients fear the risk of death during anaesthesia [3]. The majority of patients don't use the Internet to search information about anaesthesia, even though the world wide web has high accessibility and infinite resources in high-income countries [12]. Additionally, inadequate consumption of submitted information during the preoperative visit are conditioning the lack of knowledge [13]. Garcia-Marcinkiewicz et al. [14] stated that perioperative anxiety and fear of postoperative pain are determined by a deficiency in knowledge about perioperative activities and physicians' roles. The results of our study is consistent with the previous; lack of information is associated with anxiety and fear of pain. Moreover, anxiety is greatly exacerbated by fear. Therefore, achieving a high quality of patients' education should be one of the main concerns for an anaesthesiologist.

Ortiz et al. [3] stated that information presented as easily readable, in the form of a handout or booklet, is the most efficient way for the patient to gain knowledge, despite a different education level, limited health literacy and common native language. As we demonstrate in this study, the pamphlet given to the respondents influenced positive alterations in participants' knowledge about anaesthesia, the roles of the anaesthesiologist, levels of anxiety and fear. By comparing these two studies, several correlations are potentially revealed; enhanced satisfaction of participants and decreased level of anxiety after supplied with written information. Even

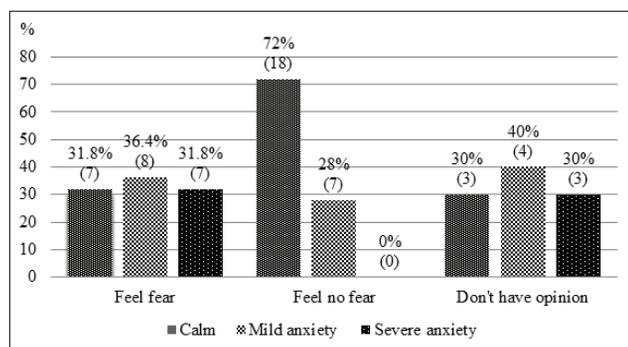


Fig.1. Correlation of anxiety and fear of pain during operation. ($p=0.01$).

though there were similarities, the distinction of differences is pertinent. For instance, Ortiz et al. [3] created the handout after first delivering a survey to obtain information about the most relevant issues about lack of patient knowledge. Our booklet was created with the aim of presenting educational information to patients regarding the preoperative visit with the anaesthesiologist. Furthermore, a survey of colleagues was composed by measuring their satisfaction, rather than verifying knowledge by means of the directed questions that are apparent in our study. Despite differences and similarities, reduction of patients' anxiety and fear levels remains the key concept in these type of studies.

Certainly, this study is not without limitations. The major weakness is the absence of a control group. In retrospect, we could have compared whether the booklet had a greater influence on anxiety level reduction versus verbal information. Additionally, there was no statistical significance between decreased anxiety levels and prior surgeries and it might be the reflection of sampling paucity. Moreover, major and minor surgeries weren't differentiated, even though the risk greatly varies between them. It is crucial to qualitatively inform the patients about surgery-dependent risks, which may be biased by various surgeons working in the department who have their methods to educate the patient. Consequently, this may affect patients' levels of anxiety. Even though this study has weaknesses, it wasn't biased by compromised reading abilities or difficulties in conceiving the survey questions. Every single question was verbally explained properly in detail and filled in with the help of the researcher, particularly if there were comorbidities disrupting respondents' availability in answering the questions.

In conclusion, understanding the anaesthesiologist's role in perioperative care significantly influences anxiety level reduction. However, the majority of patients are unaware of perioperative anaesthesia care, including the types of anaesthesia, or they simply lack sufficient information. Moreover, the knowledge deficit evidently reflects as fear of pain in the perioperative setting. Consequently, the fear of pain during the surgery is the key determinant of an even greater anxiety level. Therefore, it is evident that a good quality of knowledge with adequate retainment clearly decreases anxiety levels. Correspondingly, as we demonstrate in this study, the information gathered in the pamphlet is useful, informative and reduces patient anxiety.

Conclusion

Unfortunately, we currently cannot adjust our results to the general population due to sampling paucity. Therefore, further investigations concerning these type of topics are needed. However, our study results are consistent with the

previous studies. In this light, it is important to be aware of perioperative anxiety and adapt the best clinical practice to manage it. Finally, after greater patient satisfaction was achieved by the information provided in the pamphlet, it has since been routinely used.

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PADALOMOJI MEDŽIAGA PACIENTUI PRIEŠ OPERACIJĄ APIE ANESTEZIJĄ - EFEKTYVUS BŪDAS SUMAŽINTI NERIMĄ

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Raktažodžiai: nerimas, skausmo baimė, vaizdinė informacija, pacientų mokymas, bendroji anestezija.

Santrauka

Tikslas. Nerimas ir baimė yra pagrindiniai veiksniai, sąlygojantys emocinę būseną, pasitenkinimo lygį ir perioperacines baigtis. Todėl šio tyrimo tikslas buvo nustatyti pacientų informavimo poveikį priešoperaciniam nerimui naudojantis lankstinuku "Informacija pacientui apie anesteziją".

Metodika. Gavus Kauno bioetikos centro leidimą (BEC-MF-271, 2017 02 15), LSMU Kauno klinikų bendrosios chirurgijos skyriuje pradėtas vykdyti prospektyvinis stebėjimo tyrimas. Vakare, prieš suplanuotą operaciją ir susitikimą su gydytoju anesteziologu, dalyviams buvo duodamas klausimynas siekiant išsiaiškinti jų turimas žinias apie anesteziją bei nustatyti pacientų nerimo lygį. Lankstinukas pacientams buvo pateikiamas iš karto baigus pildyti pirmąją anketą. Po vienos valandos, duotos perskaityti lankstinuką, buvo pateikiama antroji anketa.

Rezultatai. Tyrimo dalyvavo 57 pacientai, kuriems buvo suplanuota operacija bendrosios chirurgijos skyriuje. Nustatyta, jog gilesnis suvokimas apie gydytojo anesteziologo funkcijas perioperaciniu laikotarpiu statistiškai reikšmingai sąlygojo mažesnį nerimo lygį pacientams ($p=0.01$). Baimė jausti skausmą operacijos metu yra viena iš pagrindinių didesnio nerimo lygio veiksnių ($p=0.01$). Svarbiausia, nustatyta, jog patobulinus pacientų informavimą panaudojant lankstinuką, reikšmingai sumažėjo nerimo lygis perioperaciniu laikotarpiu metu.

Išvados. Šiame tyrime mes parodome, jog medžiaga, pateikta lankstinuke, pacientams yra naudinga ir informatyvi bei sumažina nerimo lygį. Dėl gautų gerų rezultatų naudojant lankstinuką, jis pradėtas taikyti visiems pacientams.

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