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The influence of the information provided by nurses on preoperative anxiety

A influência da informação fornecida pelos enfermeiros sobre a ansiedade pré-operatória
La influencia de la información proporcionada por los enfermeros sobre la ansiedad preoperatoria

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Abstract

Background: Many patients undergoing surgery experience varying levels of anxiety. The provision of information in the preoperative period seems to reduce the levels of anxiety.

Objectives: To assess preoperative anxiety in patients proposed for elective surgery and their level of nursing information; to analyze whether some sociodemographic variables influence preoperative anxiety; and to analyze the association between nursing information and preoperative anxiety.

Methodology: Descriptive, correlational study. A questionnaire was applied to 200 inpatients in the preoperative period of elective surgery.

Results: Patients perceived to be better informed about organizational aspects than about nursing care. Gender influences the level of preoperative anxiety. Preoperative information is correlated with the number of household members and waiting list time but showed no significant differences when correlated with the level of anxiety.

Conclusion: Nurses should invest in improving the information about nursing care throughout the perioperative period. This is an autonomous nursing area which is relevant to the provision of quality care.

Keywords: information; nursing; surgery; anxiety

Resumo

Enquadramento: Uma grande parte dos doentes manifesta diversos níveis de ansiedade aquando de uma cirurgia. A transmissão de informação no pré-operatório parece reduzir estes níveis de ansiedade.

Objetivos: Avaliar a ansiedade pré-operatória de doentes propostos para cirurgia programada e a informação de enfermagem que possuem; analisar se algumas variáveis sociodemográficas influenciam a ansiedade pré-operatória; e analisar a relação entre a informação de enfermagem e a ansiedade pré-operatória.

Metodologia: Estudo descritivo, correlacional. Aplicado um questionário a 200 doentes internados, no pré-operatório de cirurgia programada.

Resultados: Os doentes percebem estar melhor informados sobre aspetos organizacionais, comparativamente com os cuidados de enfermagem. O sexo influencia o nível de ansiedade pré-operatória. A informação pré-operatória está relacionada com o número de elementos do agregado familiar e o tempo em lista de espera, no entanto, quando correlacionada com o nível de ansiedade, não apresenta diferenças significativas.

Conclusão: Os enfermeiros devem investir no fortalecimento da informação acerca dos cuidados de enfermagem ao longo do período perioperatório. Esta constitui uma área autónoma da profissão, relevante na prestação de cuidados de qualidade.

Palavras-chave: informação; enfermagem; cirurgia; ansiedade

Resumen

Marco contextual: Una gran parte de los pacientes manifiesta diversos niveles de ansiedad durante una cirugía. La transmisión de información en el preoperatorio parece reducir estos niveles de ansiedad.

Objetivos: Evaluar la ansiedad preoperatoria de los pacientes propuestos para una cirugía programada y la información de enfermería que poseen; analizar si algunas variables sociodemográficas influyen en la ansiedad preoperatoria; y analizar la relación entre la información de enfermería y la ansiedad preoperatoria.

Metodología: Estudio descriptivo, correlacional. Se aplicó un cuestionario a 200 pacientes internados en el preoperatorio de cirugía programada.

Resultados: Los pacientes perciben que están mejor informados sobre los aspectos organizativos en comparación con los cuidados de enfermería. El sexo influye en el nivel de ansiedad preoperatoria. La información preoperatoria está relacionada con el número de elementos del hogar y el tiempo en la lista de espera. Sin embargo, cuando está correlacionada con el nivel de ansiedad, no presenta diferencias significativas.

Conclusión: Los enfermeros deben invertir en el fortalecimiento de la información sobre los cuidados de enfermería a lo largo del período perioperatorio. Esta constituye un área autónoma de la profesión, que es relevante en la prestación de cuidados de calidad.

Palabras clave: información; enfermería; cirugía; ansiedad

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Introduction

Surgery is a new reality that causes profound changes in the life of every individual and has a significant impact on the well-being, health, and essential living standards of patients and their families. There is, however, a high subjectivity which arises from individual differences and that may limit the development of knowledge and assessment strategies in this domain (Santos, Martins, & Oliveira, 2014). According to Cheever and Hinkle (2015), the surgical experience, or perioperative period, is divided into three phases: preoperative, intraoperative, and postoperative. These authors argue that the assessment of the surgical patient in the preoperative period is essential and that it should reflect the physical, psychological, spiritual, and social needs of the patient and his/her significant others.

Preoperative preparation should focus on surgical patients' psychological status through the development of strategies to minimize their emotional states, which is an area where nurses play a key role in the development, consolidation, growth, and implementation of interventions and changes (Santos et al., 2014).

The surgical patient's level of anxiety in the preoperative period varies, as it may be influenced by multiple factors. According to the American Psychiatric Association (2014), anxiety is the anticipation of an undefined and unpredictable danger, a response to an unknown and vague threat such as surgery.

The excessive and continuous effect of this psychological imbalance influences patients' recovery and quality of life. Given that the consequences associated with this problem are not always objectively measured, we believe that it is urgent to determine starting points for a correct evaluation of this disorder and how it can lead to a better adjustment to the health status.

A descriptive, correlational study was conducted to address this issue with the following objectives: to assess preoperative anxiety in patients proposed for elective surgery; to analyze whether some sociodemographic variables influence preoperative anxiety; to assess the level of information about the perioperative period provided by nurses in the preop-

erative period; and to analyze the association between nursing information and preoperative anxiety in patients proposed for elective surgery.

Background

Surgery is an event that causes a series of constraints in patients' everyday life, being considered a transition in the health-illness process. Anesthesiology has been providing the most significant contributions for the scientific development and enhancement of modern surgery. With regard to this medical specialty, it is known that the vast majority of the population, due to beliefs and myths, still considers it as being the highest risk of surgery. In terms of surgical procedures, patient safety should always be a concern to health professionals during the anesthetic-surgical procedure (Cheever & Hinkle, 2015).

Perioperative nursing comprises all the interventions that nurses perform in the pre, intra and postoperative period, encompassing the various periods in the surgical experience. According to Cheever and Hinkle (2015), nurses' professional practice is based on a model that covers four areas: patient safety, health system, physiological responses, and behavioral responses. Thus, nurses have been developing new skills in the areas of communication/relationship and information/health education. According to Akinsulore, Owojuyigbe, Faponle, and Fatoye (2015), the nursing team is responsible for helping the surgical patient to understand and cope with the physical, psychological, and social changes, as well as with the circumstances and complexities that involve the moment of surgery, so that the patient can gain a certain sense of control. The preoperative period should include both psychological and physical preparation, because emotional and psychosocial imbalances increase anxiety (Barbosa, Terra, & Carvalho, 2014).

Therefore, it is important that all patients receive a preoperative nursing consultation (PONC). The purpose of this consultation is to assess and guide the patient throughout the perioperative period, and clarify his/her doubts (Bagés et al., 2015). Gonçalves and

Braga (2012) underline that nurses should explore the patient's feelings and expectations toward the surgery during the preoperative period. In addition, they advocate the positive impact of the provision of information to surgical patients during the preoperative period on reducing anxiety levels, the time of recovery, surgical complications, and use of analgesia and improving patients' satisfaction and adherence to treatment. Nigussie, Belachew, and Wolancho (2014) also concluded that the provision of information in the preoperative period reduces surgical patients' anxiety levels.

Anxiety is the anticipation of an undefined and unpredictable danger such as surgery, a response to an unknown and vague threat (American Psychiatric Association, 2014). According to the state-trait anxiety inventory developed by Spielberger, there are two types of anxiety: anxiety as a transitory emotional state and anxiety as a personality trait of the individual. With regard to the way of assessing this emotion, there is no universally accepted approach; however, the ideal instrument should be appropriate to the target population and objective, easy to use, and validated for the population under study.

Aust et al. (2016) believe that anxiety in the perioperative period is a normal emotion in the surgical experience. However, patients express this emotion differently and nurses should be assertive, listen carefully to patients, and provide information to help minimize their concerns. Patients with a lower level of preoperative anxiety have better intra and postoperative outcomes, as anxiety is influenced by family, personal, surgical, and informative contexts. In addition, Marín, Cortés, Sanz, and Serrano (2015) corroborate the hypothesis that patients who believe that they need more knowledge and information have higher preoperative anxiety levels.

Research questions/Hypotheses

The following research questions were formulated: To what extent some factors influence the level of preoperative anxiety in patients proposed for elective surgery? What is the influence of nursing information on the level of

preoperative anxiety in patients proposed for elective surgery?

The following hypotheses were formulated: The level of preoperative anxiety of patients proposed for elective surgery is correlated with age and gender; The level of preoperative anxiety of patients proposed for elective surgery is correlated with the level of family support during hospitalization; The level of preoperative anxiety of patients proposed for elective surgery varies according to previous surgical experiences; The level of preoperative anxiety of patients proposed for surgery is inversely correlated with the nursing information.

Methodology

Based on the research objectives, a descriptive and correlational study was conducted with a sample of 200 patients (109 women and 91 men) proposed for elective surgery and admitted to general surgery, orthopedics, gynecology, and urology units of a public and university hospital center with about 1950 beds in total. According to the classification of Portuguese hospitals, this hospital is considered to be a central hospital.

Sample

A nonprobability convenience sample was used based on the following sampling criteria: being at least 18 years of age; being able to read, interpret, and answer in writing; having hearing and visual acuity and no mental alterations; not having been diagnosed with a cancer disease; and waiting for an elective surgery on one of the above-mentioned surgical specialties.

Instruments

Data were collected using a three-part questionnaire. The first part concerns some socio-demographic, family, and clinical data. The second part consisted of a scale designed by the authors was applied. The scale was composed of 15 statements on preoperative information using the following response options: *not informed* (0 points), *poorly informed* (1 point), *sufficiently informed* (3 points), or *too much informed* (2 points). The allocation of 2

points to the answer *too much informed* results from the understanding that receiving too much information, although it is better than not being informed at all or being poorly informed, can be harmful and create anxiety. Therefore, this answer received a lower score than the answer *sufficiently informed*. The higher the total score, the better was patients' perception of their knowledge. A factor analysis using orthogonal varimax rotation was performed to this scale using the cumulative variance criterion to determine the number of factors to be removed. Two factors emerged: the first related to the items included in the dimension Preoperative information on nursing care, and the second illustrated the dimension Information on organizational and logistic factors. A Kaiser-Meyer-Olkin value of 0.912 was obtained, which is considered excellent. The internal consistency was also analyzed and a total Cronbach's alpha coefficient of 0.903 was obtained: 0.911 in factor 1 and 0.627 in factor 2. Finally, the third part of the questionnaire was composed of Spielberger's 20-item State Anxiety Scale of the State - Trait Anxiety Inventory (STAI), which was translated and adapted to the Portuguese population (Daniel, 1996). This scale is widely used in scientific research and has a higher degree of stability than other anxiety assessment scales. In this study, the dependent variable is *Surgical patient's anxiety in the preoperative period*, which was assessed through the State Anxiety Scale of the STAI, while the independent variable is *patients' preoperative nursing information*, which was assessed through the scale built for this purpose. Other variables were also assessed to characterize the sampled individuals.

Procedures for data collection

Data were collected from inpatients in the preoperative period between September and November 2015 with the collaboration of nurses from each unit. After explaining the study to the nursing teams of the different units, they were asked to collaborate by delivering the questionnaires to patients and collecting them.

Procedures for data analysis

Data were processed using the software Statis-

tical Package for the Social Sciences (SPSS), version 22.0. Since the sample was not normally distributed, the hypotheses were analyzed using non-parametric tests, namely the Mann-Whitney *U* test, the Kruskal-Wallis test, and Spearman's correlation coefficient. The results for which the significance level was below 0.05 were considered to be statistically significant.

Ethical procedures

All ethical procedures were ensured. Authorization was obtained from the board of directors of the hospital center for the study, as well as a favorable opinion of the Ethics Committee (Letter No. CES/114 and Opinion No. 268/03-2015). Upon delivery of the questionnaire, all participants were informed about the purpose of the study, the voluntary nature of participation, and data confidentiality, and signed the informed consent form.

Results

Most of the 200 sampled patients were women (54.5%), undergoing a general (56.0%) and major surgery (57.5%; Table 1). Participants' ages ranged between 19 and 85 years, with a mean age of 53.17 ± 15.35 years and a median of 53 years. The most representative age group was 51-65 years (32.5%) and the least representative was the age group of 35 years or less (14.0%). With regard to academic qualifications, the largest percentage of respondents had only the 1st cycle of basic education (35.0%). With regard to the professional situation, more than half of the sample was employed (51.0%) and 33.0% of the participants were retired. Most respondents were married or co-habiting (76.5%), lived in rural areas (60.0%), and had a household composed of three to five members (56.0%).

The vast majority of respondents (94.0%) expected to receive visits from family or friends during hospitalization, and most of them (77.5%) had undergone previous surgeries. Of the patients who had undergone previous surgeries, only 7.1% reported the occurrence of surgical complications. In relation to the time on the waiting list for

surgery, participants reported the mean time of 197 ± 242 days, with the most frequent waiting time being 6 to 12 months (22.0%). When questioned about the source of the information they had, most respondents had

received information exclusively from health professionals (59.5%). In addition, 25.5% indicated multiple sources of information and 20.5% mentioned sources other than health professionals.

Table 1

Distribution of the sample according to the surgical specialty (n = 200)

Surgical specialty	n	%
General surgery	112	56.0
Orthopedics	36	18.0
Urology	11	5.5
Gynecology	41	20.5

With regard to the variable *Preoperative information*, and after the division of the scale into two factors, patients reported being better informed about organizational and logistic aspects ($\bar{x} = 2.17$ points) than about nursing

care ($\bar{x} = 1.33$ points; Table 2). It should be noted that the items were scored from 0 to 3 points, and that the higher the score, the better the patients' perceptions of their preoperative information.

Table 2

Preoperative information (n = 200)

	Aspects related to nursing care	Organizational and logistic aspects	Total
Mean	1.33	2.17	1.75
Median	1.30	2.20	1.80
Standard deviation	0.927	0.676	0.718

As for the level of preoperative anxiety, out of a total score ranging between 20 and 80 points, the sample showed a mean of 46.33 ± 5.24 points. The lowest anxiety score was 34 and the highest was 63 points.

One of the interests of this study was to identify any differences in the levels of preoperative anxiety according to patients' age and gender. In terms of age, a weak negative correlation was found that is not statistically significant ($r_s = -0.108$; $p = 0.129$), whereas statistically significant differences were found regarding gender ($z = -3.386$; $p = 0.001$), with higher mean ranks found in the female gender. Thus, the level of preoperative anx-

iety seems to be associated with the gender variable.

The family support during hospitalization, which was referred to as the patient's social support, was analyzed taking into account three variables: marital status, expectation of receiving or not visits during hospitalization, and the number of household members. The differences in the level of preoperative anxiety, when related to these variables, are not statistically significant: marital status ($X^2 = 5.137$; $p = 0.162$), visits during hospitalization ($X^2 = 1.211$; $p = 0.546$), and household ($r_s = -0.028$; $p = 0.691$).

With regard to the association between the

level of preoperative anxiety and previous surgeries, no statistically significant differences were found in the level of anxiety according to whether the patient had or had not undergone previous surgeries ($z = -0.107$; $p = 0.915$).

With regard to the association between the variables preoperative anxiety and preoperative information, Table 3 shows a weak negative correlation that is not statistically significant ($r_s = -0.054$; $p = 0.449$).

Table 3
Correlation between preoperative anxiety and information (n = 200)

	Preoperative anxiety	
	r_s	p
Preoperative information	- 0.054	0.449

The analysis of the association between preoperative information and the number of household members ($r_s = -0.195$; $p = 0.006$), as well as between preoperative information and the waiting time for surgery ($r_s = -0.305$; $p = 0.000$) showed negative and statistically significant associations.

Discussion

Although most of the sampled patients (56.0%) were general surgery patients, this study aims to be more comprehensive, taking into account that most studies found so far about this topic are limited to patients of this surgical specialty. On the other hand, the majority of the patients (57.5%) underwent major surgery, because minor surgeries are often performed in outpatient settings, in specific units, not fitting the scope of this study. As regards the source of preoperative information, the results seem to indicate that the health care team is the main source of information. Nurses are the health professionals who spend more time with the patients and, as such, they play a key role in the provision of information. Therefore, it should be noted that nurses should assume an important role in providing this information. In addition, with regard to preoperative nursing, patients tend to perceive themselves to be poorly informed before the surgery. These results corroborate those of Barbosa et al. (2014) who argue that preoperative information, although it is considered mandatory, is not

being effectively provided. The results of this study show that participants perceive themselves to be better informed about administrative aspects than about aspects related to nursing care. This may show that nurses are more concerned with interdependent interventions, perhaps neglecting autonomous interventions that could improve patients' perceptions about their level of information and, consequently, facilitate surgery as a health-illness transition process. Patients have a real need for information in order to adequately respond to situations and effectively participate in decision-making. In this study, participants reported a mean level of preoperative anxiety, which is in line with the results obtained by Santos et al. (2012). Nurses' difficulties in identifying the symptoms of anxiety and the patients' inability to verbalize what they really feel may explain the results of this study. In addition, these results may also be associated with the size of the sample, the fact that the sample only included patients undergoing elective surgery, the existence of multiple sources of information reported by patients, and the waiting time. With regard to sociodemographic variables, the results only reveal statistically significant differences ($p = 0.001$) between participants' level of preoperative anxiety and gender, that is, women felt more anxious than men. This result is in line with the majority of the studies found (Mitchell, 2013). This difference in the level of anxiety may be explained by hormonal factors and biological characteristics.

In relation to age, no statistically significant differences were found, which corroborates the results obtained by Santos et al. (2014). Despite this, Mavridou, Dimitriou, Manataki, Arnaoutoglou, and Papadopoulos (2013) concluded that younger patients were more afraid of waking up during surgery and felt more anxious. The results obtained in this study may be justified by the fact that the mean age is relatively high (≈ 53 years) and that only 14% of the sample is 35 years old or less.

As for social and family support during hospitalization, no significant differences were found in the levels of preoperative anxiety. However, Yilmaz, Sezer, Gürlü, and Bekar (2012) found a statistically significant association between marital status and the level of preoperative anxiety, arguing that social support is significantly correlated with the level of anxiety. The results obtained in this study may be explained by the fact that only 3.5% of patients did not know if they would receive visits while 94% expected to receive visits.

With regard to clinical data, although patients who had never undergone surgery felt more anxious, this difference was not significant. This result is not consistent with the literature (Mavridou, Dimitriou, Manataki, Arnaoutoglou, & Papadopoulos, 2013), taking into account that the majority of patients who had never undergone surgery have higher levels of preoperative anxiety. The results of this study can be explained by the discrepancy in the sample since a large percentage of patients had undergone a previous surgery without associated complications.

Unlike other studies, the correlation between the information and anxiety variables was negative and weak but not statistically significant in this study. Rhodes et al. (2015) concluded that patients required age-appropriate information and educational strategies to minimize preoperative anxiety. The results obtained in this study may be explained by the fact that most of the sampled patients had undergone previous surgeries, increasing the likelihood of having a higher level of knowledge. On the other hand, most participants had completed secondary or higher education, which may explain their intellectual curiosity and a stronger perception of the anes-

thetic-surgical procedure.

According to these results, patients from households with more members perceive themselves as being more poorly informed than patients from households with less members, which may be related to the increase of domestic and/or family chores in larger families. As regards surgery waiting time, in this study, the higher the waiting time, the worse was patients' perception of their level of information, which may be due to the fact that there is a greater delay between the preoperative consultation and the day of surgery, and, consequently, patients may forget some of the information provided in this consultation.

Finally, the limitations of this study include the difficulties inherent to the constraints imposed by the institution itself, such as the availability and time constraints of the nurses of each unit, which led to the selection of a sample only composed of 200 patients for the 3-month period of data collection, as well as the nonprobability sampling technique that affected the possibility of generalization of results. However, despite these limitations, based on the period of data collection and the characteristics of the sample, it is possible to identify a potential for generalization, at least to the context where the study was conducted and other similar contexts.

Conclusion

The period before hospitalization tends to be a period during which the surgical patient receives little information. The nurse, as the professional who is prepared and holds the information that patients need, has the legal and moral duty to inform them about the nursing care that will be provided throughout the perioperative period using an accessible language. Literature shows that this preoperative preparation contributes to a more peaceful surgical moment, thus revealing nurses' important role in preventing and reducing preoperative anxiety.

According to the results obtained, in the preoperative period, patients' perceptions of their level of information/knowledge is low. Furthermore, they perceive themselves as being better informed about administrative,

organizational, and logistical aspects than about the nursing care that they will receive in the perioperative period. For the majority of patients, health professionals were their exclusive source of information. Based on these results, it is possible to conclude that the sampled patients had mean levels of preoperative anxiety. Significant differences were found in the level of anxiety according to gender but not according to the remaining sociodemographic variables. The level of anxiety is no different in patients who had or had not undergone previous surgeries and is not significantly correlated with the nursing information. Surgery waiting time and the number of household members have a significant impact on patients' perceptions of their level of preoperative information.

Therefore, more in-service training should be provided to nurses in order to turn their attention to surgical patients' preoperative anxiety; an investment should be made in patients' preoperative preparation, including in terms of their psychological and informative needs, emphasizing nurses' autonomous interventions; and a nursing consultation should exist in the immediate preoperative period, during which patients can clarify their doubts and express their fears. A structured, feasible, objective, and individualized intervention should be designed taking into account each patient's characteristics and clinical circumstances.

An effort should be made to allocate material, logistic, and, above all, human resources to meet patients' expectations about hospitalization. PONCs should be implemented, demonstrating nurses' importance in health care, and reinforcing and complementing the information received from the hospital staff. The study should be replicated in other institutions and include new variables, namely the type of anesthesia, spirituality, and the length of hospital stay prior to surgery.

Based on the obtained results, a study should probably be conducted in Portugal with nurses caring for surgical patients, in order to explore the factors that interfere with the provision of preoperative information from the nurses' perspective, as well as on the nurses' perception of preoperative education.

Nurses' autonomous interventions in the pre-

operative period are essential for controlling and reducing the levels of preoperative anxiety, particularly through the provision of adequate information.

The results found in this study provide nurses with the opportunity to reflect on their practices and behaviors, contributing to the provision of quality care, with technical and scientific rigor.

References

- Akinsulore, A., Owojuyigbe, A. M., Faponle, A. F., & Fatoye, F. O. (2015). Assessment of preoperative and postoperative anxiety among elective major surgery patients in a tertiary hospital in Nigeria. *Middle East Journal of Anesthesiology*, 23(2), 235-240.
- American Psychiatric Association. (2014). *Manual diagnóstico e estatístico de transtornos mentais: DSM-5*. Porto Alegre, Brasil: Artmed.
- Aust, H., Rüsç, D., Schuster, M., Sturm, T., Brehm, F., & Nestoriuc, Y. (2016). Coping strategies in anxious surgical patients. *BMC Health Services Research*, 16(250). doi:10.1186/s12913-016-1492-5
- Bagés, C., Lleixà, M. M., Español, C., Imbernón, G., Munté, N., & Vázquez, D. (2015). Effectiveness of preoperative visit on anxiety, pain and wellbeing. *Enfermería Global*, 14(39), 41-51. Retrieved from http://scielo.isciii.es/pdf/eg/v14n39/en_clinica2.pdf
- Barbosa, A. C., Terra, F. S., & Carvalho, J. B. (2014). Humanização da assistência médica e de enfermagem ao paciente no perioperatório em um hospital universitário. *Revista Enfermagem UERJ*, 22(5), 699-704. doi:10.12957/reuerj.2014.2605
- Cheever, K. H., & Hinkle, J. L. (2015). *Brunner & Sudarth: Tratado de enfermagem médico-cirúrgica* (13ª ed.). Rio de Janeiro, Brasil: Guanabara Koogan.
- Daniel, F. (1996). *Teoria e prática psicométrica: contribuição para a validação do STAI-Y de Spielberger em estudantes do ensino superior* (Dissertação de Mestrado). Universidade da Estremadura, Espanha.
- Gonçalves, S., & Braga, M. F. (2012). Comunicar, informar e educar na ansiedade pré-operatória: Desenvolvimento de uma intervenção breve. *Psiquiatria Clínica*, 33(2), 99-108.
- Marín, M. D., Cortés, A. L., Sanz, Y. M., & Serrano, R. M. (2015). Aspectos de la información preoperatoria con la ansiedad del paciente programado para cirugía. *Revista Enfermería Global*, 37, 181-191. Retrieved from <http://revistas.um.es/eglobal/article/download/185281/169021>
- Mavridou, P., Dimitriou, V., Manataki, A., Arnaou-

- toglou, E., & Papadopoulos, G. (2013). Patient's anxiety and fear of anesthesia: Effect of gender, age, education, and previous experience of anesthesia: A survey of 400 patients. *Japanese Society of Anesthesiologists*, 27(1), 104-108. doi:10.1007/s00540-012-1460-0
- Mitchell, M. (2013). Anaesthesia type, gender and anxiety. *Clinical Feature*, 23(3), 41-46.
- Nigussie, S., Belachew, T., & Wolancho, W. (2014). Predictors of preoperative anxiety among surgical patients in Jimma University specialized teaching hospital, South Western Ethiopia. *Bio Med Central Surgery*, 14(67), 1-10. doi:10.1186/1471-2482-14-67
- Rhodes, L., Nash, C., Moisan, A., Scott, D.C., Barkoh, K., Warner, W.C., ... Kelly, D.M. (2015). Does preoperative orientation and education alleviate anxiety in posterior spinal fusion patients?: A prospective, randomized study. *Journal of Pediatric Orthopaedics*, 35(3), 276-279. doi:10.1097/BPO.0000000000000260
- Santos, M., Martins, J., & Oliveira, L. (2014). A ansiedade, depressão e stresse no pré-operatório do doente cirúrgico. *Revista de Enfermagem Referência*, 4(3), 7-15. doi:10.12707/RIII1393
- Santos, M. A., Rossi, L. A., Paiva, L., Dantas, R. A., Pompeo, D. A., & Machado, E. C. (2012). Medida da ansiedade e depressão em pacientes no pré-operatório de cirurgias eletivas. *Revista Eletrônica de Enfermagem*, 14(4), 922-927. Retrieved from https://www.fen.ufg.br/fen_revista/v14/n4/pdf/v14n4a21.pdf
- Yilmaz, M., Sezer, H., Gürler, H., & Bekar, M. (2012). Predictors of preoperative anxiety in surgical inpatients. *Journal of Clinical Nursing*, 21(7-8), 956-964. doi:10.1111/j.1365-2702.2011.03799.x

