

Assessment of the impact of the information on anxiety in preoperative care

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Abstract

Objectives: Preoperative anxiety is a major public health phenomenon, perceptible in the numerous symptoms and manifestations on the health of the operated patient and on the whole surgical act and its aftermath. It is becoming increasingly prevalent, posing a real health problem. There are few studies on the effect of information on preoperative anxiety in our country. The objective of this study is to evaluate the effect of information on preoperative anxiety in order to fill this gap in the literature. We propose to conduct a prospective monocentric study on a sample of 80 patients aged 45 years on average and scheduled for visceral, Otho-Rhino-Laryngeal or urological surgery under general anesthesia.

Methods: Data from this population were collected using an operating form that also included the Amsterdam Preoperative Information and Anxiety Scale (APAIS) to assess desire for information and preoperative anxiety. **Results:** Overall, the results of the study showed that: More than half of the patients studied (66.25%) had high intensity symptoms of anxiety (according to the APAIS scale). This rate is significantly higher in women (78.25%) than in men (50%). There was a significantly higher prevalence in both groups regarding the level of education (G.A $p=0.04$ and G.B $p=0.06$). We also found a significant relationship between age and anxiety ($p=0.07$) where the latter decreased with age. Preoperative information moderately increases anxiety in the group of patients. **Conclusion:** The results of this study plead for the necessity of reinforcing the competences of the nursing staff in the field of information and relationship between the patient and the nursing staff in order to limit the extension of the anxiety.

Main points

Preoperative anxiety is a major public health phenomenon.

Almost all patients know closely what surgery means, but unfortunately, when faced with anesthesia, the patient often expresses questions.

The study argues for the need to strengthen the skills of health care personnel in the area of information and the health care provider/ patient relationship in order to limit its spread.

Introduction

Historically, the relationship between the healthcare professional and the patient was based on a relationship of authority. The patient

must submit to the advice of the caregiver given his weakened state due to his illness. He receives instructions and carries them out without hesitation.

In the present day, the social and intellectual development of individuals has eradicated this concept. The speed of information dis-

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semination and its mediatization have made people more reasonable in wanting to participate fully in the decisions that concern them and have made the relationship between the caregiver and the patient bilateral. Indeed, this progress has developed the right to information which remains a responsibility of the entire health care team.

The diffusion of information to the general public and the media coverage of certain anesthesia accidents have contributed to the identification of the surgical procedure and its specificities. Almost all patients know closely what surgery means, but unfortunately, when faced with anesthesia, the patient often expresses questions. In this case, these ambiguities lead to fears and anxieties. Future patients present a high rate of anxiety with a frequency of 89% [1]. According to an international study, 111 anaesthetists confirm that the preoperative anxiety felt by patients is based on anaesthesia with 85% and a percentage of 77% for surgery [2]. Certainly, the anxiety can be constitutive to the personality of the patient, but the absence of the preliminary contact between the nurse anesthetist and the future operated patient risks to amplify its degree.

According to a study conducted at the International Medical University of Kuala Lumpur in Malaysia, on a sample of 80 patients, the percentage of information provided by nurses and anaesthetists was successively 10% and 8.80% which reveals the dissatisfaction of these patients in satisfying their expected psycho-informative needs and significantly increases their anxiety [3]. 56% of patients confirm that their anxiety would be reduced by a detailed explanation of anesthesia and surgery [4]. Similarly, it has been shown that the prevalence of anxiety in uninformed prospective patients was 80%, due to fear of surgery, anesthesia and postoperative complications [2]. Preoperative anxiety is accompanied by physiological symptoms that can have adverse effects on the patient [5]. There is evidence that anxious patients resist anesthesia and require higher than average doses of drugs. However, they tend to stay in the hospital for a long time [6]. Many accuse anesthesia of being the cause of all postoperative complications. This stereotype is widespread in Moroccan society and has a psychological impact on the population, which is unfamiliar with the act of anesthesia and influences the course of the procedure. Faced with this frequent situation, this work aims to evaluate the effect of information on preoperative anxiety in order to better identify the current and future issues of anesthetic management of patients. The hypothesis of this study is that the level of anxiety in prospective surgical patients is lower in patients who receive preoperative information than in those who do not.

Patients and methods

Selection of the patients

This is a prospective case-control study conducted at the University Hospital Center (CHU) IBN SINA of Rabat during a period of two months. This study was conducted among patients of the central operating room of the University Hospital of Rabat who presented themselves, within the framework of a scheduled surgery, to the following specialties (Visceral - Urology - Otho-Rhino-Laryngeal). The objective of the study is to establish the relationship between the degree of preoperative information and the level of anxiety of patients, analyzing the two variables individually and the association between them. A consecutive non-probability sampling was carried out by selecting patients according to the inclusion criteria and bearing the following characteristics: A sample of 80 patients participated in this study, divided into two groups of 40 patients:

- A group ("A") received structured preoperative information.
- A control group (B) did not receive this information.

The study excluded pediatric, emergency, oncologic, and ambulatory surgery patients, and any patient with psychological disorders or impaired communication, vision, and hearing. Patients under 21 years of age and over 70 years of age are also excluded from this study. Patients who were premedicated (anxiolysis), and who underwent locoregional anesthesia were not included.

Tools for data collection

Questionnaire

In this study, preoperative anxiety is related to personal and socio-cultural factors relative to the members of the study sample. To this end, in addition to the APAIS scale for measuring anxiety and desire for information, a questionnaire was drawn up and sent to the study population, making it possible to link patients' preoperative anxiety to the various variables.

Information booklet

In order to unify and organise the information delivered to patients, an information booklet has been prepared and validated. It is composed of three parts :

- o Pre-operative phase: Information about the preparatory phase of the operation.
- o Peroperative phase: Information specific to the surgical environment and the course of anaesthesia.
- o Postoperative phase: Postoperative measures to be respected.

The information was delivered to the A-group on the eve of the intervention after assessing their desires for information using the APAIS scale.

Anxiety measure: The Amsterdam Preoperative Anxiety and Information Anxiety Scale (APAIS)

To measure the pre-operative anxiety and desire for information of the patients in the sample, the APAIS scale was used, whose scientific effectiveness has been proven in anxiety surveys carried out [7]). There are six questions investigating the patient's concerns and anxiety. With this instrument, two items are for assessing anxiety related to anaesthesia, two items are for assessing anxiety related to surgery and two items are for assessing desire for information. It represents two scales; anxiety (items 1, 2, 4 and 5) and need for information (items 3 and 6) [8]. A score above 11 on the Anxiety subscale is a sign that the patient is experiencing anxiety. A score ≥ 5 for the Information Desire subscale reflects an avid desire for information, 5 to 7 represents an average desire, and a refusal of information for a score of 2 to 4 [7].

The APAIS scale is conducted an hour before the patient enters the operating room to measure the anxiety of both groups (A and B).

Statistical analysis

Data registration and management was carried out using the Sphinx plus 2 software. Means, medians and standard deviations were calculated to describe quantitative variables and percentages for qualitative variables. In order to determine the importance of the observed differences in anxiety levels in relation to the various variables studied, the Chi-square test was applied with a significance level of 95% ($p < 0.05$).

Ethical considerations

The ethical principles of this research were guaranteed by: an informed explanation of the research objectives, free choice to participate

Table 1: The characteristics of patients in both groups

	Group A	Group B	P value
Mean age	44.25 13.50	46.25 13.50	
Socio-professional category			P>0.05
No activity	28 (70%)	22 (55.0%)	
Employee	1 (2%)	2(5%)	
Professional free work	10 (25%)	13 (32.5%)	P<0.05
In the course of training	1 (2%)	3 (7.5%)	
Surgical history with general anaesthesia			P<0.05
Yes	21 (52.5%)	14 (35.0%)	
No	19 (47.5%)	26 (65.0%)	
Type of surgery			P<0.05
Visceral	19(47.5%)	25(62.5%)	
urology	14(35%)	13(32.5%)	
oto-rhino-laryngology	7(17.5%)	2(5%)	P<0.05
Previous knowledge of anaesthesia			P<0.05
Yes	15%	5%	
No	85%	95%	
Source of anxiety			P<0.05
Anesthesia > Surgery	3 (7.5%)	3 (7.5%)	
Anesthesia = Surgery	16 (40.0%)	21 (52.5%)	P<0.05
Anesthesia < Surgery	21 (52.5%)	16 (40.0%)	

Anesthesia> surgery: anesthesia is more of a reason for anxiety than surgery.

Anesthesia= surgery: anesthesia and surgery are the patient's source of anxiety.

Anesthesia< surgery: anesthesia is a more important reason for anxiety than surgery.

in this study. All patients were informed about the purpose of the study and the methods that will be used. Written informed consent was obtained from all participants.

Results

The majority of patients in both groups have no professional activities with 70% in group A compared to 55% in group B. In (Table 1) and as a function of their type of surgery, a proportion of 55%, 33.75% and 11.25% of the patients in the study population are being operated on in Visceral Surgery, followed by Urology and Otorhinolaryngology respectively. Twenty-un patients (52,5%) with preoperative information had a surgical history while only 35% of patients in group B had undergone a surgical operation with a general anesthesia. In both groups, about 90% of patients do not have any prior knowledge about anaesthesia, with a predominance of patients in group B with a proportion of 95% compared to 85% for group A. Only 7.5% of the patients in the two groups reported the sensation of worry about anaesthesia. In contrast, 46.25% of the population of the study presented these feelings relating specifically to surgery. The comparison between the characteristics of patients in both groups is presented in (Table 1).

According to (Figure 1), about half (50%) of the population in both groups have an avid need to receive any information, with a percentage of 57.5% for group A and 42.5% for group B, whereas 13.75% of patients in both groups refused to be informed.

According to (Table 2), using APAIS scale, both groups A and B respectively with a proportion of 67.5% and 65%, scored above 11 that corresponds to a high level of anxiety. In group A, the patients with university level, illiterates, with a secondary education level and with primary school level were more anxious with respectively percentage 100%, 84.2%, 50% and 40% ($\chi^2 = 8.43$, $p = 0.04$). While in group B, the 90% of the patients with high anxiety level had primary school level followed by patients with university level education for a proportion of 83.3% ($\chi^2 = 7.33$, $p = 0.06$). Compared to men, the women in both groups A and B showed a high level of anxiety with respectively 79.2% ($\chi^2 = 3.72$, $p = 0.06$) and 77.3% ($\chi^2 = 3.24$, $p = 0.07$). The

informed patients who are more worried about the anaesthesia than the surgery showed an anxiety score above 11 with a percentage of 100% ($\chi^2 = 2.52$, $1-p = 71.57\%$). For the comparison group, the most anxious patients were more worried about surgery than about anaesthesia, with a percentage of 66.7% ($\chi^2 = 3.33$, $1-p = 81.09$). The relationship between sex, level of education, patient's reason for anxiety, and experience of anxiety, are shown in (Table 2).

A level of anxiety was observed particularly in patients refusing the information, representing a percentage of 100% in group A ($\chi^2 = 0.71$, $1p = 29.83\%$). In group B the significant most anxious patients represent a percentage of 82.4%, especially in those with an avid need for information ($\chi^2 = 5.07$, $1p = 92.06\%$)

Discussion

This prospective, cross-sectional study evaluated the effect of information and other socio-demographic characteristics on pre-operative anxiety for patients undergoing a surgical intervention with general anaesthesia. Participants in the study were very homogeneous because they were all selected in accordance to the criteria. By using

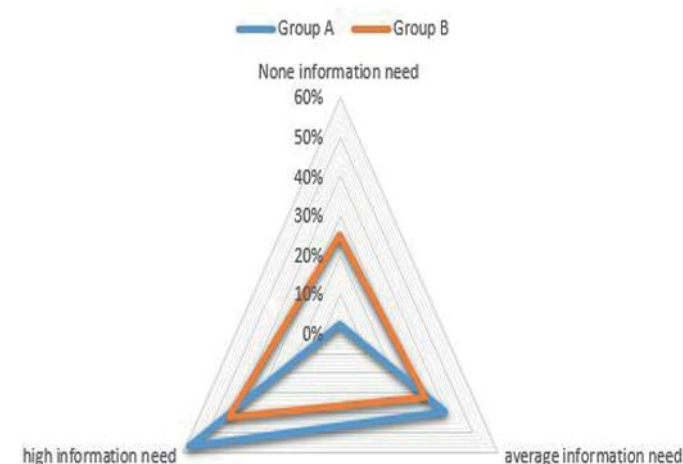
Table 2: The relationship between the scores of the anxiety (APAIS scale) with patient characteristics

	Group A		Group B		p-value
	Anxios	Non Anxios	Anxios	Non Anxios	
characteristics N (%)	27 (67,5%)	13(32,5%)	26(65%)	(14) 35%	
Level of education					
None	84,2%	15,8%	45%	55%	0.04
Primary	40%	60%	90%	10%	
Secondary	50%	50%	75%	25%	
University	100%	0%	83,3%	16,7%	
Gender					
Female	79,2%	20,8%	77,3%	22,7%	0.07
Male	50%	50%	50%	50%	
Patient's reason for anxiety					
Anesthesia> surgery	100%	0%	66,7%	33,3%	NS
Anesthesia= surgery	56,3%	43,8%	52,4%	47,6%	
Anesthesia < surgery	71,4%	28,6%	81,3%	18,8%	

Score < ou =11: no anxieux

Score >11: anxieux

N.S: no significatif

**Figure 1:** Distribution of patients according to the need for information (APAIS scale)

2 to 4: No information need

5 to 7: Average information need

>7: High information need

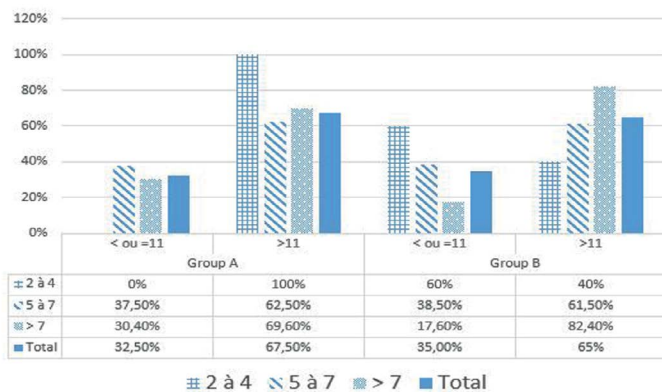


Figure 2: The level of anxiety according to the need for information

the APAIS scale, the pre-operative anxiety was increased slightly when the patients received the information about the anaesthesia procedure at a frequency of 67.5% as compared with 65% of the uninformed group. These results were also reported by [4] and [6], although the sample had pre-operative anaesthesia information, the level of anxiety was still higher. By contrast, in another investigation, it was found that the detailed pre-operative information about the course of general anaesthesia satisfied their need for information without causing anxiety [9]. This result is probably due to the contents of the information manual used or the perception or the interpretation of the information provided by the patient. In our study, we found this anxiety to be particularly pronounced for 69.6% of group A patients that expressed a high need for information. This was found by [6] confirming a positive high association between information seeking patients and high anxiety scores as measured by the APAIS. Several studies evaluated with controversial results the effect of socio-demographic characteristics on anxiety. In the present study women in both groups A and B were more anxious than men with a percentage respectively of 79.2% towards 50% in men and 77.3% as against 50% in men in group B. This is in line with other similar studies [6,10]. However, this study found women informed by anaesthetists had a frequency of 72.7% anxiety.

Conclusion

The preoperative anxiety remains an important problem for the health care team and the patient, which has important medical (intraoperative complications...), social and economic repercussions (increase in length of stay, drug consumption...). According to several studies, one of the exact and specific causes of the occurrence of preoperative anxiety is the lack of information. To date, no national multicenter study has been carried out to evaluate the impact of information on preoperative anxiety. In fact, despite the low statistical power of some of the results, probably due to the small size of the sample and its mono-centric aspect, this study provides information on the relationship between the degree of preoperative information and the level of anxiety of the patients, analyzing both variables individually and

the association between them. In general, the partial results obtained show a high prevalence of preoperative anxiety, with 66.25% of the patients in both groups A and B having an APAIS score above 11, which corresponds to a high level of anxiety. These results also point out that the percentage of 67.5% is slightly increased in the group of informed patients. Finally, this work shows that the female sex and the fasting population are commonly more anxious in both groups. A university education and a low level of education are successively of group A and B correlated to a high anxiety. This study therefore provides a basis for the formulation of actions aimed at populations at risk. The study argues for the need to strengthen the skills of health care personnel in the area of information and the health care provider/ patient relationship in order to limit its spread. Additional multicenter studies are needed to validate these data and to evaluate the value of information in preventing preoperative anxiety. The review of the literature revealed a dearth of information on this phenomenon in Morocco. Our study can be considered as a reference. In order to increase the statistical power of this study, we think it is relevant to consider the same type of study but in other centers.

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