

DISCOMFORT PATIENTS EXPECT AND EXPERIENCE IN THE IMMEDIATE POSTOPERATIVE PERIOD

DESCONFORTOS ESPERADOS E VIVENCIADOS POR PACIENTES NO PÓS-OPERATÓRIO IMEDIATO

DESCONFORTOS ESPERADOS E VIVENCIADOS POR PACIENTES NO PÓS-OPERATÓRIO IMEDIATO

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Objective: verify the discomfort patients expect and experience in the immediate postoperative period. **Method:** descriptive and quantitative study, pre and post-test developed at two public hospitals. In the preoperative period, the patients listed the discomfort they expected to experience among the ten most common sources of discomfort cited in the literature. In the immediate postoperative period, they indicated which discomfort they actually experienced and attached fictional amounts to avoid them. The data were collected between August and October 2016. **Results:** 160 patients participated in the research. The discomfort that was expected, experienced and to whose prevention the highest amounts were attached were pain (5,870), thirst (2,255) and hunger (2,125). This discomfort presented a significant correlation between the ranking and the amount attached to prevention. **Conclusion:** pain was the most anticipated and experienced discomfort and the highest amount was attached to its prevention. The experienced sources of discomfort thirst, hunger, weakness, and cold surpassed the expected discomfort in the immediate postoperative period.

Descriptors: Perioperative care. Postoperative care. Postoperative complications. Pain. Thirst.

Objetivo: verificar os desconfortos esperados e vivenciados por pacientes no pós-operatório imediato. Método: estudo descritivo, quantitativo, pré e pós-teste, realizado em dois hospitais públicos. No pré-operatório, os pacientes enumeraram os desconfortos que esperavam vivenciar, dentre dez desconfortos mais comuns, citados em literatura. No pós-operatório imediato indicavam quais desconfortos realmente vivenciaram e atribuíram valores monetários fictícios para evitá-los. A coleta de dados foi realizada de agosto a outubro de 2016. Resultados: participaram da pesquisa 160 pacientes. Os desconfortos esperados, vivenciados e com maiores valores monetários fictícios para preveni-los foram dor (5.870), sede (2.255) e fome (2.125). Estes desconfortos apresentaram correlação significativa entre seu ranqueamento e o valor distribuído para sua prevenção. Conclusão: a dor foi o desconforto mais antecipado

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e o mais vivenciado, assim como o que teve maior valor atribuído para sua prevenção. Os desconfortos vivenciados sede, fome, fraqueza e frio ultrapassaram as expectativas de desconfortos esperados no pós-operatório imediato.

Descritores: Assistência perioperatória. Cuidados pós-operatórios. Complicações pós-operatórias. Dor. Sede.

Objetivo: verificar las incomodidades esperadas y vividas por pacientes en el posoperatorio inmediato. Método: estudio descriptivo, cuantitativo, pre y post-prueba, desarrollado en dos hospitales públicos. En el preoperatorio, los pacientes enumeraron las incomodidades que esperaban vivir, entre diez incomodidades más comunes citados en la literatura. En el posoperatorio inmediato indicaban cuales incomodidades realmente vivieron y atribuyeron valores monetarios ficticios para evitarlas. Los datos fueron recolectados de agosto a octubre del 2016. Resultados: participaron de la investigación 160 pacientes. Las incomodidades esperadas, vividas y con mayores valores monetarios ficticios para prevenirlas fueron dolor (5.870), sed (2.255) y hambre (2.125). Estas incomodidades presentaron correlación significativa entre su ranking y el valor distribuido para su prevención. Conclusión: el dolor fue la incomodidad más anticipada y la más vivida, y también tuvo el mayor valor atribuido a su prevención. Las incomodidades vividas sed, hambre, debilidad y frío ultrapasaron las expectativas de incomodidades esperadas en el posoperatorio inmediato.

Descriptores: Atención perioperatoria. Cuidados posoperatorios. Complicaciones posoperatorias. Dolor. Sed.

Introduction

The need for surgical intervention represents a striking event and entails direct repercussions in people's daily life. Viewed as a health risk, surgery brings physical and emotional imbalances.

Preoperative stress leads to feelings that may negatively influence the performance of and recovery from the procedure⁽¹⁻²⁾. In a study of 106 patients in the preoperative period of cardiac surgery, 59.4% had minimal anxiety levels and 19.8% levels that were considered severe. Women with previous cardiac surgical experience had significantly higher scores⁽³⁾.

The surgical procedure represents, therefore, a stage of restlessness for the patient, due to the fear of the unknown and the stress generated by the preparatory procedures necessary for the surgery. Patients use previous experiences to anticipate events in the procedure to be done. In case of doubts about what is going to happen, they use alternative means to clarify them, such as the internet and reports of people close to him, who can influence the expectation regarding the surgical act and its potential discomfort⁽⁴⁾.

The sources of discomfort are, almost always, subjective symptoms, detected only in the patient's reports. In the perioperative period, the surgical discomforts, such as stress, pain, hunger, thirst, anxiety, and dryness in the mouth, begin

in the preoperative period due to the prolonged fasting time. In addition, they may come from the anesthetic-surgical procedure itself, such as pain, bleeding, weakness, drowsiness, hypothermia, among others⁽⁵⁻⁶⁾.

Because it is a highly subjective experience, it is often necessary to use alternative measures to quantify the discomfort experienced⁽⁵⁾. One study evaluated the willingness of 808 patients to pay a dummy dollar amount for perfect antiemetics and analgesics that avoided these discomforts in the immediate postoperative period. The highest amounts were for pain (US\$ 35) and nausea (US\$ 17)⁽⁷⁾.

Evaluating patients' preferences permits a better understanding of their expectations regarding the surgical procedure and can guide the therapeutic behavior to be adopted. The importance lies in deepening the understanding of how the patient perceives and anticipates the clinical outcomes after surgery, collaborating, for example, in choosing the type of anesthesia and minimizing possible complications after the surgical period⁽⁷⁻⁸⁾.

A survey of 514 participants under medical care found that the main discomforts reported by patients undergoing general anesthesia were pain (27.4%), thirst (23.8%), nausea (5.1%), vomiting (2.2%), and cold (29%). Despite these

discomforts, patients were fully satisfied with the quality of their anesthetic recovery⁽⁹⁾.

Many perceptions and fears that surgical patients present in the preoperative period are projections of what they fear to feel in the immediate postoperative period (IPO). For the team that attends the patient in the perioperative period, these sensations are not explicit, just as it is not known which of these discomforts can actually happen. These considerations led the researchers to the following question: Is there congruence between the preoperative and postoperative discomforts and the patients' preference for the prevention of these discomforts when they are asked to assign a fictional monetary amount to avoid their occurrence?

Physical and emotional discomforts are part of the surgical experience. Knowing the patient's preference for the prevention of these discomforts is essential to make the surgical experience less stressful and guide the development of guidelines for practice. Studies that attempt to grasp the patient's preference use a strategy called willingness-to-pay. Research using this approach, however, is focused on the anesthesiologist's perspective⁽⁸⁾. Examining the actions and expectations of surgical patients in the nursing context has practical significance for the planning and implementation of care.

Knowing what discomforts surgical patients believe they will experience after the surgical act and planning actions that guide the preoperative nursing visit to reduce or attenuate the patient's concerns justify the accomplishment of this research.

In view of this, this study aimed to verify the discomforts patients expected and experienced in the immediate postoperative period.

Method

Quantitative study with a comparative approach (pre and post-test), conducted in two public hospitals: hospital A, university hospital, tertiary, with 313 beds, referral institution for trauma, with an average of 600 surgeries/month; and hospital B, a secondary care institution with

130 beds, reference for orthopedic traumas of average complexity, with an average of 200 surgeries/month, located in Londrina (PR), Brazil.

Non-probabilistic convenience sampling was used, determined by the period of three months (August-October) in 2016. The inclusion criteria were: age range between 18 and 90 years, minimum education level third year of primary education, oriented and conscious and hospitalized during the first postoperative day. The presence of some limitation in communication during the IPO was the exclusion criterion. The research participants were 218 patients. Fifty-eight were excluded because they were discharged before completing the first postoperative day. The final sample consisted of 160 patients, male and female, submitted to scheduled surgeries.

The data collection was carried out in four moments, through a structured script. First: demographic and clinical data. Second moment: list of the discomforts the patient expected to experience in the immediate postoperative period. Patients received a metal clipboard numbered from 1 to 10 and ten magnetized strips showing the names of the ten most frequent postoperative discomforts in the literature. Each patient was asked to order the strips according to the discomforts (s)he expected in the immediate postoperative period, considering 1 to be the most anticipated discomfort and thus sequentially up to 10. Third: postoperatively, patients were again contacted and they were asked to repeat the task of the previous item, but this time considering the discomforts actually experienced in the immediate postoperative period. The ranking should observe the intensity, being 1 the most intense and 10 the least intense. Fourth moment: ten fictitious monetary notes were offered, with the value of ten units each. The patient was asked how many fictitious monetary units he would pay so as not to experience every discomfort (s)he actually experienced in the immediate postoperative period.

A pilot study was developed with five patients in hospital A for the refinement of the script and necessary adjustments. These participants were excluded from the final sample. Data

collection was performed from August to October 2016 by trained nursing undergraduates. In the preoperative period, patients admitted to the surgical ward who met the inclusion criteria were invited to participate in the study and to sign the Informed Consent Form. During this period, the patients answered the first two moments of the research script. On the first postoperative day, the patients were again contacted, when they answered the last two moments of the script.

Data processing and analysis were done in a database in an Excel spreadsheet. Statistical analyses were performed using IBM SPSS Statistics version 21.0. Demographic characteristics were described by means of absolute frequency, percentages, and central trend measures. The normality of the quantitative variables was evaluated using the Shapiro-Wilk test. The classification of the discomforts was determined through the sum of the three main discomforts the patients cited. Through that sum, the discomforts could be ranked, respecting the order of their citation frequency.

To evaluate the significance of the changes related to the anticipated discomforts and the discomforts that were experienced in the immediate postoperative period, the McNemar test was used. The dummy monetary amount variable presented non-parametric distribution and was presented by means of median and interquartile range (P25-P75). The correlation between the discomforts and the dummy monetary amount distributed by the patients to

avoid the discomfort was established through the Spearman correlation test. For all tests, the significance level was set at 5% ($p < 0.05$).

The study complied with the formal requirements contained in Brazilian and international standards for research involving human beings (CAAE: 56033616.0.0000.5231).

Results

The sample consisted of 160 patients, distributed in both hospitals (Hospital A $n=79-49.4\%$ / Hospital B $n=81-50.6\%$). Male patients ($n = 87-54.4\%$), married ($n = 85-53.1\%$), and elective surgery ($n=117-73.1\%$) were predominant. The absence of comorbidities was prevalent ($n=118-73.8\%$), followed by systemic arterial hypertension ($n=26-16.3\%$) and diabetes mellitus ($n=12-7.6\%$). The most representative surgical clinic was orthopedic surgery ($n=65-40.6\%$) followed by general surgery ($n=47-27.5\%$), vascular ($n=16-10\%$), urological surgery ($n=10-6.3\%$) and other clinics ($n=35-15.7\%$). The mean age was 43.64 years, ranging from 18 to 84 years (SD: 15.8). Previous surgical experience was predominant ($n=123-76.9\%$) and pain was the most recalled discomfort ($n=45-36.6\%$).

In total, 150 (93.8%) patients anticipated the occurrence of discomforts in the IPO of the current surgery. The discomforts they assumed they would feel during the immediate postoperative period and those they actually experienced at that time are shown in Table 1.

Table 1 – Congruence between ranking of discomfort anticipated and experienced by immediate postoperative patients. Londrina, Paraná, Brazil – 2016 (N=160) (continued)

Discomfort	Anticipated			Experienced			p*
	n	%	Ranking	n	%	Ranking	
Pain	123	76	1	93	58	1	0.57
Thirst	56	35	2	90	56	2	0.00
Hunger	52	32	3	65	41	3	0.00
Cold	38	24	6	45	28	4	0.00
Anxiety	48	30	4	41	26	5	0.03
Weakness	48	30	5	32	20	6	0.16
Nausea	36	22	7	31	23	7	0.00
Trembling	12	7	10	20	12	8	0.00

Table 1 – Congruence between ranking of discomfort anticipated and experienced by immediate postoperative patients. Londrina, Paraná, Brazil – 2016 (N=160) (conclusion)

Discomfort	Anticipated			Experienced			p*
	n	%	Ranking	n	%	Ranking	
Vomiting	29	18	9	13	8	9	0.01
Bleeding	34	21	8	12	7	10	0.72

Source: Created by the authors.

* McNemar test.

The fictional amounts the patients attributed to avoiding the discomfort experienced, if possible, are displayed in Table 2, distributed in relation to the medians and interquartile ranges.

Table 2 – Distribution of fictional amounts in relation to the prevention of discomfort experienced in the immediate postoperative period. Londrina, Paraná, Brazil – 2016 (N=160)

Discomfort	Patients who attributed amounts		Median Fictional Amount		Total Amount
	n*	%	Interquartile Range	P25-P75	
Pain	92	57	50	40-100	5870
Thirst	73	46	20	10-50	2255
Hunger	61	38	30	12,5-50	2125
Cold	36	22	30	10-50	1095
Anxiety	36	22	30	20-50	1445
Weakness	26	16	30	20-30	920
Nausea	9	6	50	15-50	540
Trembling	36	22	20	10-50	680
Vomiting	20	12	15	10-20	345
Bleeding	24	15	10	0-20	305

Source: Created by the authors.

* The patients could attribute amounts to more than one source of discomfort, provided that they did not surpass 100 fictional units.

In Table 3, the correlation is displayed between the discomfort experienced in the immediate postoperative period and the patient's distribution of fictional monetary units to prevent those sources of discomfort.

Table 3 – Correlation between discomfort experienced in the immediate postoperative period and the fictional amount to avoid it. Londrina, Paraná, Brazil – 2016 (N=160)

Discomfort	Spearman's rho	P*
Pain	-0.294	0.00
Thirst	-0.550	0.00
Hunger	-0.661	0.00
Cold	-0.621	0.00
Anxiety	-0.355	0.03
Weakness	-0.683	0.00
Nausea	-0.693	0.00
Trembling	-0.292	0.17
Vomiting	-0.670	0.00
Bleeding	-0.648	0.05

Source: Created by the authors.

* Spearman's correlation coefficient.

Obs.: Spearman's rho was negative because the sources of discomfort were ranked from the most unwanted to the least unwanted.

Discussion

This study presented an innovative approach, allowing the patients to explore preoperative expectations in relation to the discomforts they might experience, confronting them with the discomforts they experienced in the IPO. In addition, the patients provided an important classification of each of these discomforts. It is necessary to create mechanisms by which the patients can expose their fears in order to establish proper preoperative instructions, seeking to open a space for dialogue, allowing them to talk about their fears, past experiences, helping them to discern the reality, distinguishing it from myths and fears⁽¹⁰⁾.

Another relevant factor was the opportunity for patients to classify the discomfort monetarily, assigning an amount that, if possible, they would pay to avoid it. The monetary classification played an important role, as it helped in the understanding, making the discomforts more palpable for the patients and making it easier for the researchers to interpret how important it would be to avoid the discomfort.

Most of the patients had undergone previous surgical procedures. This fact may impact the patients in their way of facing the new procedure, as the memories of these experiences can be positive or negative. Patients who presented no significant discomfort in previous surgical experiences were more optimistic about the new procedure^(1,4). The memory of one or more discomforts during the IPO in previous surgeries triggers negative memories of the surgical experience, especially if the relief interventions were not totally effective.

Most patients reported expecting some discomfort after the surgical procedure. Patients who underwent prior surgery assumed that the discomforts would be the same as felt previously. They stated that they were searching the internet for information about their surgical procedure, regardless of whether or not they had previous experiences. They also reported asking other surgical patients in the same ward questions about the procedure and its discomforts.

Searching the internet about the surgical procedure allows the patients to actively act with the healthcare team in their care. It is difficult to control the quality of the information obtained though, which can harm those patients who obtained wrong or erroneous information^(5,12).

Pain was the discomfort most recalled from previous surgical experiences. Of high incidence, it affects up to 80% of the patients who undergo some type of surgery, justified by the tissue trauma caused during the surgical procedure⁽¹¹⁾.

The perception of pain varies among individuals and cultures and may be associated with or related to actual or potential tissue damage. The fact that the patients emphatically refer to this discomfort, in anticipation of discomforts, and its high prevalence in the IPO, reinforces the need to pay attention to the pain of surgical patients⁽¹³⁾.

The discomforts of thirst, hunger, cold, anxiety, nausea, tremors and vomiting presented statistically significant differences regarding the change in the ranking between the anticipated and experienced discomforts ($p < 0.05$). This result reinforces that the discomforts the patients pay less attention to in the preoperative period are those that in fact cause distress in the IPO.

In this study, pain was the most anticipated discomfort in the preoperative period and was confirmed as the most experienced in the IPO. Pain, thirst, and hunger were repeated as the most prevalent and, therefore, there was congruence between the discomforts the patients anticipated and those that they actually experienced in the immediate postoperative period.

Nine of the discomforts listed presented a significant correlation between the classification and the fictitious monetary amount attributed to avoiding them in the IPO ($p < 0.5$). Only bleeding did not present a significant correlation ($p = 0.17$). This is mainly due to the low citation frequency in both the expectation and its occurrence in the IPO. In addition, only 305 dummy monetary units were allocated for the prevention of bleeding.

Patients attributed the largest number of fictitious monetary amounts to pain, demonstrating the emphasis on avoiding this

discomfort. In studies that also used monetary allocation as an outcome, it was observed that patients were willing to pay, on average, US\$ 50.00 to not feel pain in the IPO⁽⁷⁻⁸⁾.

In a study of 134 patients, 65.7% of the patients reported that this type of discomfort was reported in the immediate postoperative period of orthopedic surgeries. These results show that pain occupies a central position when it comes to anticipated and experienced discomforts. They also point out that, even if incident and undesirable, it is still undertreated and undervalued in the postoperative period⁽²⁾.

It was observed, however, that thirst and hunger exceeded the patients' expectation in the preoperative period. Thirst, a symptom that is hardly valued in clinical practice, ranks second as an anticipated and experienced discomfort. It was anticipated in the preoperative phase but its importance increased, as the patients ranked thirst among the first three positions in the postoperative period, practically equivalent to pain in terms of the discomforts actually experienced ($p < 0.05$).

The results of this study showed that thirst outweighs other symptoms. Many patients experienced intense thirst in the IPO and would like to have the possibility of not experiencing that discomfort. In another study, patients reported thirst with dry mouth, thick tongue, choking sensation, dry throat and anxiety to drink water. In addition, they used analogies such as "desert", "camel" and allusions to thoughts of death when they tried to describe the suffering the symptom had caused⁽¹⁴⁾.

Thirst has also been reported in other studies with strategies similar to the one used in this study. In one study⁽⁸⁾ with 132 patients, thirst was ranked last in the list of discomforts the patient anticipated feeling in the IPO. It is believed that this difference in ranking results mainly from the fact that the patients were contacted preoperatively and had not experienced this discomfort in the current procedure. Patients who had previous experiences ($n = 95$) reported that thirst was the fourth most remembered

discomfort (18.1%), behind nausea (31.6%), pain (30.5%) and vomiting (25.3%)⁽⁸⁾.

In the surgical patients, pain can be triggered by factors that interfere in osmolarity or volumetric balance, such as preoperative fasting time, emotional condition, intraoperative blood loss, administration of anticholinergic and opioid medications, and maintenance of the opening of the oral cavity during the anesthetic procedure. These factors directly interfere with the presence and intensity of thirst during the entire perioperative period^(5,15-16).

The patients also experienced cold during the immediate postoperative period. Hypothermia changes the functions of the thermoregulatory center and is related to intraoperative factors, medications, infusion of cold substances during the surgical period, and can lead to a series of complications, such as increased surgical site infection rate, bleeding, elevated energy expenditure, in addition to patient dissatisfaction⁽¹⁷⁾.

Preoperative anxiety was ranked fourth and is related to the fear of the unknown, doubts about the anesthetic procedure and feeling of vulnerability. Anxiety can lead to negative results in the immediate postoperative period, due to the possible loss of autonomy for a certain period and concern about not receiving adequate care from the team. In the list of discomforts experienced in the IPO, however, anxiety dropped to the fifth place⁽¹⁸⁻¹⁹⁾.

Nausea, although classified seventh in this research in both the anticipated and experienced discomforts, is highlighted in the medical literature. A study carried out with 808 patients evaluated the willingness to pay for antiemetics and prophylactic analgesics in elective surgeries. Those patients were evaluated one day before and two weeks after surgery. The assessment was based on the maximum amount of money patients were willing to pay to avoid nausea, vomiting, and pain. It was shown that nausea is incident in the immediate postoperative period and that patients would pay between US\$ 11.82 and US\$ 17 not to experience it⁽⁷⁾.

Another study of 80 surgical patients submitted to elective surgeries under general anesthesia showed that, on average, they were willing to pay about US\$ 56.00 to avoid nausea and vomiting. Of the total participants, 26% experienced nausea and were willing to pay between \$ 73.00 and 11% were willing to pay around \$ 100.00. The value offered to patients was between \$ 0.00 and \$ 500.00. To avoid such discomforts, antiemetics would be offered by the hospital participating in the research⁽²⁰⁾.

The importance of studies with similar strategies lies in the fact that they broaden the understanding of which discomforts patients most anticipated and actually experience in daily clinical practice. This knowledge also contributes to the individual planning of actions in order to avoid those symptoms, positively influencing the patients' surgical experience and accelerating their recovery and hospitalization process⁽⁷⁻⁸⁾.

A wide field of studies currently exists in the perioperative environment, but finding similar researches or presenting the same method was challenging and brought limitations in relation to the discussion of the data found. Another limitation, which the researchers presented at the time of data collection, is related to the patient's willingness to respond to the research. Many patients were discharged from the recovery room or, due to complications, were referred to the intensive care unit.

Conclusion

The main discomforts anticipated preoperatively for the IPO included pain, thirst, and hunger. These results, therefore, demonstrate congruence with the discomforts actually experienced. The discomforts experienced thirst, hunger, weakness, and cold surpassed the expectations of discomforts expected in the IPO.

The highest total monetary amounts were attributed to pain, thirst, and hunger, which are consistent with the presence of discomforts

the patients reported. The results of this study reinforce that the discomforts after the procedure are known and awaited by the patients. The search for information about the procedure can take place through observation and questioning of patients who have already been submitted to the surgery, conversations with professionals or on websites.

Thirst has become an important focus of research, mainly due to the high degree of prevalence and intensity of discomfort and also the lack of care actions.

The results of this study can be used in the elaboration of health team strategies for patient orientations during the preoperative period. The knowledge of the discomforts the patients feared most will allow the team to act both through actions to prevent their occurrence and through identification and early action measures in the IPO. These measures increase the safety and quality of the surgical experience, enhancing patient satisfaction with the care provided.

Collaborations:

1. conception, design, analysis and interpretation of data: Robertha Pickina Juvencio Silva, Ana Raquel Pontello Rampazzo, Leonel Alves do Nascimento and Ligia Fahl Fonseca;
2. writing of the article and relevant critical review of the intellectual content: Robertha Pickina Juvencio Silva, Ana Raquel Pontello Rampazzo, Leonel Alves do Nascimento and Ligia Fahl Fonseca;
3. final approval of the version to be published: Robertha Pickina Juvencio Silva, Ana Raquel Pontello Rampazzo, Leonel Alves do Nascimento and Ligia Fahl Fonseca.

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