



**PROPOSAL FOR PRE-SURGERY NURSING CARE: REDUCTION OF SURGICAL CANCELLATIONS BY USERS OF THE UNIFIED HEALTH SYSTEM**

**PROPOSTA DE ACOLHIMENTO PRÉ-OPERATÓRIO DE ENFERMAGEM: REDUÇÃO DE CANCELAMENTOS CIRÚRGICOS DE USUÁRIOS DO SISTEMA ÚNICO DE SAÚDE**

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**Abstract:** Canceling surgeries creates stress for the patient and burdens the institution, reflecting inefficiency in hospital administration. The present study, designed as a quantitative, observational, descriptive, retrospective, prospective and cross-sectional research, analyzed the scheduled, performed and suspended surgeries of the Unified Health System (with the highest percentage of cancellations), in a teaching hospital, categorized by specialty, reason for suspension and source of payment, from the years 2014 to 2017. The study proposes a nursing intervention system, in order to reduce the cancellation of UHS surgeries, based on a nursing consultation and active search (telephone contact with the patient or family member), 48 hours before surgery. The study, carried out with 159 UHS patients with scheduled elective surgeries, found that the average of surgical suspensions was 17%, above the general historical average (10.5%) and the historical average of UHS (14%). After the intervention, the observed suspension rate was 15.3%, lower than the rate of 22%, when there was no prior contact.

**Keywords:** Nursing. Scheduling. Cancellation. Patient. Operating room. Hospital administration.

**Resumo:** O cancelamento de cirurgias gera *stress* para o paciente e onera a instituição, refletindo ineficiência na administração hospitalar. O presente estudo, delineado como uma pesquisa quantitativa, observacional, descritiva, retrospectiva, prospectiva e com corte transversal, analisou as cirurgias agendadas, realizadas e suspensas do Sistema Único de Saúde (com maior percentual de cancelamentos), em um hospital de ensino, categorizadas por especialidade, motivo de suspensão e fonte pagadora, entre os anos de 2014 a 2017. O estudo propõe um sistema de intervenção de enfermagem, a fim de diminuir o cancelamento de cirurgias do SUS, com base de uma consulta de enfermagem e busca ativa (contato telefônico com o paciente ou familiar), 48 horas antes da cirurgia. O estudo, realizado com 159 pacientes do SUS com cirurgias eletivas agendadas, constatou que a média de suspensões de cirurgias foi de 17%, acima da média histórica geral (10,5%) e da média histórica do SUS (14 %). Após a intervenção, a taxa de suspensão observada foi de 15,3%, inferior à taxa de 22%, quando não havia o contato prévio.

**Palavras-chave:** Enfermagem. Agendamento. Cancelamento. Paciente. Centro cirúrgico. Administração hospitalar.

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## 1 Introduction

The cancellation of elective surgeries has been studied not only in Brazil but also in other countries (Paschoal & Gatto, 2006; Cavalcante, Pagliuca, & Almeida, 2000; Perroca, Jericó, & Facundin, 2007), such as Canada, France, Holland, United States and United Kingdom (Leslie, Beiko, Vlymen, Van, & Siemens, 2013; Gaucher, Boutron, Marchand-Maillet, Baron, Douard, & Bethoux, 2016; Veen-Berkx, Elkhuizen, Kuijper, Kazemier, 2016; Smith, Mauermann, Cook, Hyder, Dearani, & Barbara, 2014; Mehta, Bryson, Mangwani, & Cutler, 2014). According to Kumar and Gandhi (2012), the reported incidence of cancellation in different hospitals varies from 10% to 40%, with many reasons for canceling elective surgeries. The holdup of surgeries with the patient inside the Surgical Centre (SC) generates an increase in costs for the hospital and the loss of optimization of the room, with the inclusion of another surgery. The emotional impact and costs can be less if the cancellation occurs before leaving activities and hospitalization (Avila, Gonçalves, Martins, & Moyses, 2012).

Several authors have reported that most suspensions of surgery have preventable causes, due to the lack of planning, and can be avoided with management adjustments, such as: implementation of a pre-surgery anesthetic and nursing evaluation; telephone confirmation with the patient the day before surgery; bed management versus surgical map the day before surgery; and more intense work with the medical team, who underestimate the surgical time and end up compromising other surgeries (Perroca, Jericó, & Facundin, 2007; Oliveira & Mendonça, 2014; Risso & Braga, 2010; Avila & Bocchi, 2013; Paschoal & Gatto, 2006). Inadequate clinical conditions and non-attendance are the most frequent causes of suspension of surgeries related to patients (Paschoal & Gatto, 2006; Perroca et al., 2007; Avila & Bocchi, 2013; González-Arévalo, Gómez-Arnau, Delacruz, Marzal, Ramírez, et al., 2009; Kumar & Gandhi, 2012; Avila, Gonçalves, Martins & Moyses, 2012). The medical team appears with the main cause of suspension unrelated to the patient (Nascimento, Tillvitz, & Fonseca, 2013).

Mehta et al. (2014) pointed out that in the United Kingdom public health suffers serious risks from this problem. In Brazil, though, UHS patients are always the most affected, which has caused great damage to public coffers, being a common problem in public hospitals or linked to the public network (Paschoal & Gatto, 2006; Antonio, Munari, & Costa, 2002). Ávila et al. (2012) pointed out that there are few publications on surgery cancellation in Brazilian institutions, belonging to the private network. However, it is not frequent in private institutions, due to the proximity between the patient, the responsible physician and the hospital or, also, due to the intense and rigorous administrative control over the expenses incurred, without



justification (Antonio, Munari, & Costa, 2002).

Considering the UHS principles of universality, equity and comprehensiveness, the need for health care directions for resolution is understood, with person-centred care, based on uniqueness and integrality (Carrião, Marques & Marinho, 2019). To analyze the impact generated by the cancellation of surgeries, it is necessary to study the causes on several aspects: the patient or user, the institution and the health team. From the patient's perspective, the cancellation of the surgery generates feelings and frustrations that seem to have been forgotten by the health team, according to Cavalcante et al. (2000). According to the authors, each patient comes with a share of expectations and fears, according to their personal history. The surgeries, regardless of size, for aesthetic purposes or not, healing or palliative issues, require prior preparation of the patient and his family, who often need to leave work, homes and their normal life for some time, and they need to mobilize resources physical, emotional and even financial to face this moment.

From the institution's viewpoint, the cancellation of a surgery is a failure resulting from poor administrative planning of the SC (Garg., Bhalotra, Bhadoria, Gupta, & Anand, 2009), causing a decrease in surgical demand and an increase in care costs (Paschoal & Gatto, 2006). When the cancellation occurs before admission, there are no costs for the institution (Garg et al., 2009). However, when the cancellation already occurs within the CC, there is an increase in the operational cost, with losses for the institution, with the possibility of losing the opportunity to include another patient, underutilization of the SC rooms, an increase in the permanence rate (and risk of nosocomial infection) with consequent increase in the day-bed and decrease in bed availability (Cavalcante, Pagliuca, & Almeida, 2000). The damage also occurs due to the waste of sterilised material and rework, both in the preparation of the operating room and in the sterilisation process (Risso & Braga, 2010).

Surgical movement is considered a variable that interferes with the quality and productivity indicators of hospitals. It consists of parameters for evaluating productivity in the Operating Room (OR), that is, occupancy rate, length of stay, anesthetic recovery, time interval between surgeries, delay and surgery suspension rate (Duarte & Ferreira, 2006). From the perspective of the health team, the cancellation of surgery significantly affects the activities of the SC nurse, who has a work process aimed at managing and administering the unit, supplying it with materials and equipment in order to provide the best conditions for the surgical act (Morgan, Bernardino, & Wolff, 2010). The scheduling of a surgery involves a considerable number of people such as surgeons, anesthesiologists, nurses, assistants, among others, in



addition to a large amount of specialised materials and equipment (Paschoal & Gatto, 2006).

If surgeries are canceled, operating rooms are underutilized, efficiency is compromised, the surgical waiting list increases, in addition to the high costs for the institution and, when dealing with a UHS patient, for the whole country. Avoiding cancellation is an essential step in reducing these costs. The surgical team issues an advance notice covering the information necessary for the preparation of the scheduled surgery. Thus, for each warning, a structure is set up in the CC: reservation of the OR, materials and equipment, reserve of ICU and/or blood products.

Based on the above, the initial hypothesis of the present study is related to the idea that the growing rate of cancellations of surgeries in the public hospital sector occurs due to intra and extra-hospital factors, either due to the lack of a measure of intervention by health professionals. health or linked to old practices and values established by medical specialty. A second hypothesis relates to the positive impact of changing guidelines, which must be translated into practices that reinforce the relationship between nursing professionals and patients, through prior communication, before being subjected to various surgical procedures in a public network.

This study proposes, as a general purpose, a pre-surgery nursing intervention to reduce the cancellation of surgeries for UHS patients. The specific objectives are, therefore, to identify the rate of suspensions associated or not with patients, by medical specialty, by paying source and the cause of the cancellation and, further, to assess the impact of an active search system, by telephone, 48 hours before of the surgical act.

## 2 Methodological procedures

This is a quantitative, observational, descriptive, retrospective, prospective and cross-sectional research on the cancellation of elective surgical procedures for UHS patients. The research was carried out at the Surgical Centre and at the Specialties Ambulatory, served by UHS at Santa Lucinda Hospital, a medium-sized general hospital, located in upstate São Paulo, in the city of Sorocaba, which maintains an academic link with the School of Sciences Medical and Health at the Pontifical Catholic University of São Paulo, both maintained by the São Paulo Foundation. The hospital is characterized as a Teaching Hospital, for it provides a teaching and learning field for undergraduate and graduate students in Medicine and Nursing, as well as other courses such as Nursing Technician and Surgical Instrumentation. It has 138 active beds and serves 70% of patients in the Unified Health System, several health plans and private



individuals.

The research project was sent to the Research Ethics Committee of the FCMS of the Pontifical University of São Paulo, Campus Sorocaba/SP, on the 11th of April 2016, being approved on the 26th of April 2016, with the substantiated opinion number 1,514,876. All participants who agreed to participate in the study signed the Free and Informed Consent Form (ICF).

A pilot study was carried out with 39 patients with scheduled elective surgeries, among the specialties attended at the UHS outpatient clinic, from August to October 2016. After the validations of the model, a study with 159 UHS patients, with scheduled elective surgeries, was developed in September 2017, a typical month for the number and specialty of surgeries. Surgical data (scheduled, performed, suspended), by medical specialty, by paying source and due to suspension, were collected from January 2014 to November 2017, after authorization from the hospital. The nursing intervention consisted of a pre-surgery nursing consultation to welcome patients, reinforce medical guidelines, advise on points that are not always addressed by surgeons, following this patient's schedule until the date of surgery. The nursing consultation was based on data used daily in forms of the Systematization of Pre-Surgery Nursing Care (PSNC) in use in the hospital. This consultation was made for patients at the UHS outpatient clinic with surgery already scheduled, of all specialties attended at the clinic.

As already mentioned, the pre-surgery nursing interventions in 39 patients in the pilot study and, in 159 patients in the definitive study, were composed of the following specialties: gastrosurgery, gynecology, orthopedics, ENT, plastic, thoracic, urology and vascular. Cardiac surgery was disregarded for being in another clinic, without access to the researcher. The patient was informed by the scheduling department of his respective Hospitalization Authorization (HA); he/she was called to attend the clinic and, together with the surgeon, set the date for the surgical procedure. With the surgery notice filled out, he/she returned to the scheduling department and then his/her surgery was registered on the surgical map, and the patient was referred to the nursing consultation.

The nursing consultation contains the patient's identification, contact numbers, date and specialty of the proposed surgery, weight, height, religion, allergies, guidelines, etc. The purpose of this consultation was explained and after reading, consenting and signing the consent form, the nursing consultation (interview) was carried out with reinforcement of items such as: preparations, fasts and exams, emphasizing the commitment to make a active search, through a phone call two days before the surgery, to remind you of the scheduled date, reinforce the



guidelines and know if everything was prepared, including the time of hospitalization, as recommended by Gaucher, Boutron, Marchand- Maillet, Baron, Douard and Bethoux (2016).

The study, therefore, took place in three moments: the nursing consultation at the outpatient clinic, the active search made the day before the surgery, through telephone contact and the verification of the effectiveness of the intervention, after the date of the surgery, if it was carried out or not, and if not, what is the cause. Between the three moments, it took from a few days to months, depending on the date the surgery was scheduled.

### 3 Analysis and discussion of results

#### 3.1 Retrospective analysis of the data

The results of the retrospective analysis refer to the data collection of surgeries (scheduled, performed, suspended), by medical specialty, by paying source and by reasons for holdup, from the years 2014 to 2017. The average number of surgeries canceled in this period was 10.3%, although there was a drop to 7.7% in 2017. This decrease occurred mainly due to the implantation of preceptorship, active both in the specialty clinic and in the CC, being the doctor working at the clinic, the same person responsible for the surgery. It is also worth mentioning the increase in surgeries from non-SUS sources and stability in UHS surgeries. As the UHS suspension percentage is higher than the other sources, the total percentage decreases. Table 1 shows the total values of surgeries scheduled, performed and suspended in the period from 2014 to 2017, by paying source:

**Table 1** - Total surgeries scheduled, performed and suspended in the period from 2014 to 2017, by paying source, at HSL, Sorocaba, SP

Paying source	Scheduled	Done	% by source	Suspended	% Suspension
UHS	12341	10633	43.4%	1708	13.8%
Health Plan	9519	8692	35.5%	827	8.7%
Private	5475	5182	21.1%	293	5.4%
<b>Total</b>	<b>27335</b>	<b>24507</b>	<b>100%</b>	<b>2828</b>	<b>10.3%</b>

**Source:** HSL Hospital Management System data collection, Sorocaba-SP.

It is observed that the number of surgeries performed by UHS is the highest isolated percentage (43.4%), and the combined non-SUS sources (health insurance and private) represent 56.6% of surgeries performed. However, the percentage of UHS surgeries suspended (13.8%) is higher than that of other sources alone (8.7% of the health insurance and 5.4% of







the private).

Some specialties had a higher than average suspension rate (10.3%), such as obstetrics (19.9%), but had a share in the total number of surgeries (1.1%), less than the average number of surgeries by specialty (4.8%). Thus, to better visualize the impact of each specialty, an impact factor for each suspension was calculated, multiplying the volume of surgeries performed for each specialty in relation to the total and the respective suspension rate. Table 2 shows the totals by specialty, in decreasing order of impact.

**Table 2** - Total surgeries scheduled, performed and suspended by specialties, from 2014 to 2017, at HSL, Sorocaba, SP, in decreasing order of impact

Specialties	Scheduled	Done	% of total	Suspended	% suspended	Impact
Orthopedics	6362	5653	23.1%	709	11.1%	145
Plastic	5143	4718	19.3%	428	8.3%	76
Gastro	4591	4103	16.7%	489	10.7%	73
ENT	3444	3144	12.8%	300	8.7%	35
Urology	1975	1596	6.5%	378	19.1%	20
Gynecology	1945	1818	7.4%	127	6.5%	9
Vascular	952	793	3.2%	158	16.6%	4
Cardiac	1101	1029	4.2%	72	6.5%	3
Head and neck	662	629	2.6%	33	5.0%	1
Obstetrics	341	274	1.1%	67	19.6%	1
Thoracic	257	232	0.9%	24	9.3%	0
Mastology	257	244	1.0%	13	5.1%	0
Dermatology	106	86	0.4%	20	18.9%	0
Pediatrics	47	40	0.2%	6	12.8%	0
Oncology	52	48	0.2%	4	7.7%	0
Renal TX	30	30	0.1%	0	0%	-
Buco Maxilo	20	20	0.1%	0	0%	-
Anesthesia	18	18	0.1%	0	0%	-
Neurology	15	15	0.1%	0	0%	-
Ophthalmology	12	12	0%	0	0%	-
Physiatry	5	5	0%	0	0%	-
<b>Total</b>	<b>27335</b>	<b>24507</b>	<b>100%</b>	<b>2828</b>	<b>10,3%</b>	<b>-</b>

**Source:** HSL Hospital Management System data collection, Sorocaba-SP.

In the case of urology, with a significant impact and whose percentage (19.1%, with 378 cancellations) was higher than the average (10.3%), the fact was taken for discussion with the head of the discipline for evaluation with the preceptor and the residents who attended the clinic.



Obstetric surgeries (cesarean deliveries) were canceled for specific reasons such as: changing the procedure from the SC to the Obstetric Centre (OC) or else the baby was already born. In 2015, 52.4% of birth cancellations were due to their transfer to the CO due to the lack of a transport incubator that was to be repaired, and the births are no longer scheduled for the SC. The cancellations of orthopedics and gastro occurred due to the clinical conditions of the patients, the scheduled number exceeding the time of the team, the specialty not compatible with the scheduled procedure. The percentages of suspensions are shown in Table 3:

**Table 3** - Percentage of causes of surgery suspensions between 2014 and 2017, in decreasing order of the total percentage of cases

Base Cause	2014%	2015%	2016%	2017%	Total cancelled	Total%	Type of cause
Medical Conduct	32.1%	28.2%	23.3%	14.3%	756	26.7%	Extra
Clinical conditions	19.8%	22.8%	18.0%	31.4%	622	22.0%	Patient
Not hospitalized	18.4%	19.4%	17.8%	15.2%	487	17.2%	Patient
Internment Vacancy	2.6%	5.6%	20.3%	0.6%	225	8.0%	Extra
Refused/Quitcusou /Desistiu	5.7%	5.5%	6.8%	11.0%	191	6.8%	Patient
Lack of ICU Vacancy	7.0%	5.6%	1.5%	11.6%	163	5.8%	Extra
Scheduling failure	6.4%	3.8%	2.0%	1.9%	105	3.7%	Extra
Lack of exams	1.4%	2.1%	2.8%	3.9%	73	2.6%	Patient
Lack of fasting	2.3%	1.3%	1.9%	2.2%	51	1.8%	Patient
Lack of material (company)	2.5%	1.6%	0.7%	0.3%	39	1.4%	Extra
Lack of material (CME)	1.0%	2.2%	0.4%	1.7%	36	1.3%	Extra
Lack of surgeon	0.4%	1.8%	0.5%	1.7%	32	1.1%	Extra
Lack of anesthesia (*)	0%	0%	1.5%	0.6%	15	0.5%	Extra
Lack of blood products	0.3%	0.2%	0.8%	0.6%	12	0.4%	Extra
Pre-surgery preparation (*)	0%	0%	0.7%	1.7%	11	0.4%	Patient
Patient died (*)	0%	0%	0.4%	0.8%	5	0.2%	Extra
Lack of equipment (*)	0%	0%	0%	0.8%	3	0.1%	Extra
Lack of clinical evaluation (*)	0%	0%	0.3%	0%	2	0.1%	Extra
Lack of nursing equipment (*)	0%	0%	0%	0%	0	0%	Extra
Surgical time exceeded (*)	0%	0%	0%	0%	0	0%	Extra
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>99.7%</b>	<b>100%</b>	<b>2828</b>	<b>100%</b>	<b>-</b>

**Note:** (\*) Causes not used in the 2014 and 2015 classifications.

**Source:** HSL Hospital Management System data collection, Sorocaba-SP.

The significant increase, in 2017, in the percentage of the cause referring to the patient's clinical conditions was due to a change in the patient's profile this year: decrease in orthopedic surgeries resulting from trauma (younger patients), keeping the surgeries with the older people; increase in otolaryng care for children, more susceptible to lung diseases; increase in urology surgeries, also due to age and poorly controlled underlying diseases; and cardiac surgery with







infections acquired in other hospitals.

According to Avila et al. (2012), surgical cancellation is still a major challenge for professionals and national and international health institutions. Although there are differences between the main causes of cancellations between institutions, we observed that the problems are common to all and that users have great emotional, financial and health damage or that of others who await their surgery. There is no consensus on a cancellation fee considered acceptable, as they are very variable and sometimes underreported and/or omitted. In fact, according to González-Arévalo et al. (2009), this depends on the type of institution, the type of surgery or procedure, the population served and the health system.

Araújo, Nascimento, Azedo, Xavier, Costa and Araújo (2020) investigated the suspension rates and the reasons for the cancellation of 8,622 elective surgeries in a public teaching hospital in Rio Grande do Norte, from April 2015 to April 2016. Of the total scheduled surgeries, 74.2% were performed and 25.8% canceled. The main reasons for cancellations were related to the following aspects: organization of the unit (34.4%); human resources (27.1%); patient (6.5%); materials and equipment (6.2%), without justification (5.5%) and conditional surgery (0.3%). The authors reported that most reasons for cancellation would be preventable.

### *3.2 Analysis after the nursing intervention*

In the 159 patients observed, the waiting time from HA to the performance of the surgery was up to five months in most surgeries, for 121 patients (76.1%); from the sixth to the twelfth month there were 28 patients (17.6%); and over 12 months there were 10 patients (6.3%). Patients with authorization dates prior to the research approval date at the Research Ethics Committee (CEP), were contacted to sign the informed consent form and make the nursing consultation. The results of surgeries performed and suspended, by specialty, are described in Table 4.



**Table 4 -** Total surgeries scheduled, performed and suspended by specialties, during the research period, at HSL, Sorocaba, SP, in decreasing order of impact

Specialty	Scheduled	Accomplished	% of total	Suspended	% Suspension	Impact
ENT	41	36	27.3%	5	12.2%	1.2
Urology	29	19	14.4%	10	34.5%	0.9
Gastro	22	18	13.6%	4	18.2%	0.5
Orthopedics	31	29	22%	2	6.5%	0.4
Gynecology	15	11	8.3%	4	26.7%	0.2
Vascular	10	9	6.8%	1	10%	0.1
Thoracic	3	2	1.5%	1	33.3%	0.0
Plastic	8	8	6.1%		0%	0.0
<b>Total</b>	<b>159</b>	<b>132</b>	<b>100%</b>	<b>27</b>	<b>17%</b>	<b>-</b>

**Source:** HSL Hospital Management System data collection, Sorocaba-SP.

The average of suspensions of research surgeries was 17.0%, above the general historical average (10.3%) and the historical average of UHS (14.0%). This increase is explained by the increase, in 2017, in cancellations due to clinical conditions, previously justified by the change in the patient's profile this year. The results of the active search performed 48 hours before surgery are described in Table 5.

**Table 5 -** Relationship of the active search (telephone contact) with the surgeries performed or suspended, during the research period.

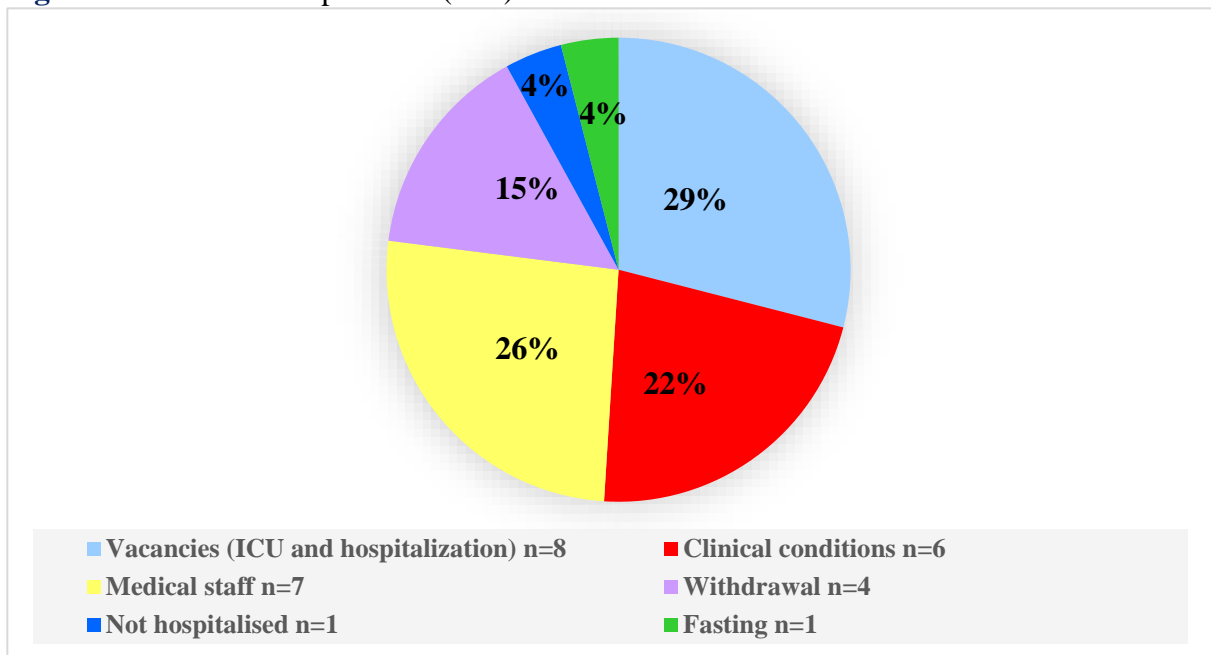
Contact	Total	% of contact	Accomplished	Suspended	% suspension
Family	50	31.4%	43	7	14%
Patient	68	42.8%	57	11	16.2%
Non-contact	41	25.8%	32	9	22%
<b>Total</b>	<b>159</b>	<b>100%</b>	<b>132</b>	<b>27</b>	<b>17%</b>

**Source:** Data collection from the HSL Hospital Management System, Sorocaba-SP and in contacts with patients or family members.

Suspension rates after contact with a family member (14.0%) or with the patient (16.2%) were lower than the rate when contact did not occur (22.0%). The combined rate of contact with family members or patients is 15.3%, above the historical UHS cancellation rate of 14.0%. The causes of suspensions in the survey period (n/%) are shown in Figure 1.



**Figure 1 - Causes of suspensions (n/%)**



**Source:** Research data in the HSL Hospital Management System, Sorocaba-SP.

As for the causes, 12 suspensions (44.4%) were due to the patient (clinical conditions, did not hospitalize, gave up, fasting) and 15 (55.6%) were due to other extra patient causes (medical staff, ICU vacancies and hospitalization). The suspension rate for clinical conditions of the research was 22%, below the 2017 rate for the same reason, 31.4%. Araújo et al. (2020) reported that the highest cancellation rate was due to the unit's organization, where the prevalent error was surgical programming (17.4%) associated with scheduling errors and double scheduling. As a result, the category related to human resources had the highest rate of lack of anesthetist (9.7%). The third highest patient-related rate revealed non-attendance (11.1%) as a primary cause. The lack of hospital beds (6.2%) is also a problem related to cancellations after the patient's admission. The lack of preparation (4.8%) stands out as an important factor related to the pre-surgery phase, with the absence of fasting and problems related to exams (tests not performed, expired and/or insufficient and the need for reassessment).

When it is not possible to avoid the suspension, it is possible to avoid coming to the SC through a pre-surgery visit, be it medical or nursing, since the stress of the suspension inside the SC unit generates much greater discomfort for the patient and his family; such visits have already been described in national studies (Oliveira & Mendonça, 2014; Risso & Braga, 2010; Santos, 2013; Kruse, Almeida, Keretzky, Rodrigues, Silva et al. (2009) and international (González-Arévalo et al., 2009) with positive results, as it is considered a fundamental support in the evaluation of the patient, with this the suspensions for insufficient fasting, lack of exams,



inadequate clinical conditions would be reduced, such measures would avoid the preparation and the transfer of it to the CC, reducing the waste of nursing hours, materials and sterile clothing, in addition to optimizing the OR time.

According to the literature, factors related to patients have always prevailed as the major causes of cancellations (Paschoal & Gatto, 2006; Mehta et al., 2014). In the study, factors related to patients were about 11% lower than those not related to the patient, in contrast to the values of 2017, with 60% for patients and 40% extra patients. For patients with surgeries scheduled much later than the date of the doctor's appointment, the difficulty in performing the exams, due to lack of time, or too much time and the exams are considered "expired" by the anesthesiologist, there is no way not to consider that socioeconomic and cultural factors, education level, etc. influence the rate of surgery cancellations. There is a high rate of cancellation and a large number of surgeries performed by SUS. Studies beyond this reveal an average of 75% of cancellations attributed to users of the system (Paschoal & Gatto, 2006; Mehta et al., 2014).

Nascimento, Tillvitz and Fonseca (2013) stressed that underreporting and omission of surgical suspension are common practices in health institutions. However, communication about the cancellation of surgeries is quite ineffective for the patient (Avila et al., 2012; Risso & Braga, 2010; Kruse et al., 2009). After all, who is responsible for communication: responsible physician, anesthesiologist, or nurse? The doctor is the legal responsible for the patient/surgery, the anesthetist is often the one who detects that his clinical conditions are inadequate and the nurse is the manager of the unit and the responsibilities need to be shared, without ever harming the patient, who is then fragile (Kruse et al., 2009). The medical explanations are short and objective, but they do not always satisfy the patient, and he hardly questions the surgeon, and the nurse at this moment is the bridge between them, with a more humanized reception, directing the problem to a solution, welcoming him together with your family, in such a way that the trust between you and the institution will not be broken (Risso & Braga, 2010).

On the one hand, the patient also does not inform the hospital of his withdrawal, non-attendance or inadequate clinical conditions and if he does, the information does not reach the surgical unit in time to avoid the waste of materials or nursing hours or even to replace it, optimizing the use of OR (Paschoal & Gatto, 2006). A bond was created with the patients selected for the active search, to the point that one of them complained about not having been contacted before, as "he/she was waiting early". As well as the joy of being received at the SC by the nurse who made the contact, a demonstration of confidence and gratitude. Even those





who said they had no doubts, always asked something or were even grateful for the call. Even with the call, a mother did not bring her ex younger son and had his surgery suspended. This episode reflects that active search is not always the solution.

There were moments of fragility, when there were two suspensions due to lack of hospital space, which occurred minutes after telephone contact and the patients returned the call asking why. This is the problem that the active search is not integrated into the scheduling system. The emotional impact on the patient after the cancellation can generate a broken bond of trust with the institution and/or health professionals, which contributes to the decrease in the quality of care (Macedo, Kano, Braga, Garcia, & Caldeira, 2013). One of the measures to minimize the cancellations of UHS patients is the reception performed by a nurse before admission, who would evaluate the clinical conditions, exams, fasting time, use of anticoagulants and other issues pertinent to the surgical act; another would be a pre-anesthetic visit to the room, before the patient was transferred to the CC, which would avoid being on a stretcher for hours, dressed in a nightgown, without his/her underwear, his/her dental prosthesis, finally stripped of various belongings. The patient keeps his/her mouth covered, avoiding talking out of shame. Many prevent their families from seeing them that way (embarrassed).

#### 4 Conclusions

The present study demonstrated that it is possible to have a better understanding of the process and that working harmoniously leads to the integration of the system with the medical and nursing teams together with the surgical scheduling, reception, inpatient units and the SC to reduce surgery cancellations.

With an important participation in the institution's organizational chart, the nurse can contribute satisfactorily OR that the scheduled surgeries are not suspended but performed on the scheduled date and with all necessary safety conditions, through a planned and articulated nursing care together with the multidisciplinary team and with the elaboration of an efficient administrative plan, which should be one of the objectives of nursing care together with the hospital's administrative team, such as: planning the beds according to the surgical map, not scheduling more surgeries than the ones available beds, working with the medical team at discharge in a timely manner, adjusting the schedule to avoid idle times with the inclusion of another patient, in short, there are several points for improvement and monitoring through quality indicators.

One limitation of the study observed is that it was not possible to segregate surgery data

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by specialties for UHS patients and the lack of comparison with other centres in other locations. The active search can be intensified, which can be explored with great benefits for both the patient and the institution in other locations. Since it is not an onerous procedure, nursing intervention can bring numerous benefits, such as: optimization of vacancies and operating rooms, improvement of information for patients, with a favorable cost benefit for both sides. For future studies, the system can be made available in the form of applications, in order to guarantee another means of communication for the confirmation or cancellation of the scheduled procedure.

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