

Surgery cancellations at a public hospital

Cancelamento de cirurgias em um hospital da rede pública

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ABSTRACT

Objective: To determine the frequency of cancellation of scheduled surgeries at a public hospital in the city of São Paulo, and to identify the reasons of cancellation. **Methods:** A descriptive, exploratory, retrospective study, with quantitative analysis, of records of procedures cancelled and medical charts of patients whose surgeries were cancelled, between January 2006 and July 2007. **Results:** Of the 6,149 (100%) surgeries scheduled for the period surveyed, 701 (11.4%) were canceled and 5,448 (88.6%) conducted; among the surgeries cancelled, most were general surgeries (237/33.8%) and orthopedic surgery (200/28.5%); surgeons or assistant surgeons (518/73.9%) and anesthesiologists (183/26.1%) were responsible for cancellations. The primary reasons for cancellation were unfavorable clinical status of patients (225/32.1%), no show up of patients (119/17.0%), change in medical management (79/11.3%), patient not appropriately prepared (53/7.5%) and lack of material (52/7.4%). **Conclusions:** This study enabled identifying the frequency and causes of surgical cancellations at a public hospital, so as to contribute to improving professional performance in this area.

Keywords: Surgery; Surgery department, hospital; Operating rooms

RESUMO

Objetivo: Levantar a incidência de cancelamento de cirurgias programadas em um hospital da rede pública do município de São Paulo e identificar os motivos que levaram ao cancelamento das cirurgias. **Métodos:** Estudo descritivo, exploratório, retrospectivo, com análise quantitativa, realizado por meio das fichas de registros de procedimentos cancelados e prontuários de pacientes cujas cirurgias foram suspensas entre Janeiro de 2006 e Julho de 2007. **Resultados:** Das 6.149 (100%) cirurgias programadas para o período pesquisado, 701 (11,4%) foram canceladas e 5.448 (88,6%) realizadas; dentre as cirurgias canceladas, a maioria dos cancelamentos foi feita pela cirurgia geral (237/33,8%) e pela cirurgia ortopédica (200/28,5%); os responsáveis pela suspensão foram: cirurgião ou assistente (518/73,9%) e anestesiológista (183/26,1%); os principais motivos que levaram ao cancelamento das cirurgias foram: condição clínica

desfavorável do paciente (225/32,1%), não internação do paciente (119/17,0%), mudança de conduta médica (79/11,3%), paciente sem preparo adequado (53/7,5%) e falta de material (52/7,4%). **Conclusões:** Este estudo permitiu identificar a incidência e as causas de cancelamento cirúrgico em um hospital da rede pública, de modo que se possa contribuir para melhoria da atuação profissional frente a esta problemática.

Descritores: Cirurgia; Centro cirúrgico hospitalar; Salas de cirurgia

INTRODUCTION

To undergo a surgical procedure is an important event in a person's life, because through this procedure there is an expectation of healthy living and better quality of life.

The surgery is a unique experience for every patient and depends on the psychosocial and physiological factors in each situation. Thus, two persons do not react in the same way to similar surgeries⁽¹⁾. For the patient, any surgery – be it simple or not – has an important meaning and might lead to behaviors as intense as any traumatic situation⁽²⁾.

The aims of surgical procedures are diverse, including diagnostic, elective treatment, prevention, relief of symptoms, cure, reconstruction or cosmetic purposes. Any surgical operation, even simple procedures, induces a series of psychological and physiological reactions⁽³⁾.

Surgeries can be also classified by organs or systems, as follows: cardiovascular, thoracic, intestinal, neurological, orthopedic surgery, among others⁽¹⁾.

Despite the fact that some interventions are considered smaller processes by health professionals, it is always a significant experience to patients and families. A surgery may trigger psychological (anxiety, fear) and physiological (neuroendocrine reactions) stress, and it

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is considered a potential or real menace to a person's body integrity. Moreover, and it can interfere in need for support during any phase of the process.

Any surgery, even when scheduled, means an injury to the individual and its physical and emotional integrity. The impact of surgical intervention is observed in patients, who trying to expose their feelings may develop distress, depression and even isolation. The patient's emotional status and his/her feelings in relation to the situation influence the physiological status and might interfere in the scheduled surgery⁽⁴⁾.

Surgeries to be performed depend on the work of all surgical team, and nurses, in this context, are those who can assume emotions that patients may feel, presenting a real fear which expand to the family members. As a key personnel within the hospital structure, nurses are able to contribute to elective surgeries being performed at the scheduled date and with all safety conditions required⁽²⁾.

The operating room (OR) must be constantly connected to the inpatient's units, thus requiring a defined communication system so that the units can provide vital information on patient's physical and emotional status during the intraoperative period. This process enables continuity of care, which should be customized, planned and implemented for being a patient's right⁽⁵⁾.

By preparing for a surgery, patients have expectations, doubts and fears in relation to what is going to happen, because hospitals represent an unfamiliar environment, with unknown people, far from their family, and they trust in healthcare professionals and hope receive appropriate care⁽¹⁾.

Patients are generally stressed for facing an unknown but necessary situation, when they are informed that surgery will not be carried out on the date and time scheduled. The reasons for cancellation could be absence or delay of the surgical team; poor communication among medical team, OR and inpatient's units; lack of material or inputs necessary for surgery; failure in the preoperative preparation; lack of laboratory tests, among others⁽⁶⁾.

Cancellation, sometimes, brings us difficulties in dealing with feelings of patients, and this situation is worsened due to particularities of each person, because the same situation triggers different responses in diverse people. Each person reacts in a different manner in the same situation⁽⁷⁾.

To cancel a surgical intervention is an important occurrence that has not been properly addressed by healthcare teams. Apparently calling off scheduled surgeries does not cause much trouble to the multiprofessional team, who understands this fact as a

routine, inherent to the organizational and functional structure of the institution⁽²⁾.

Usually, when patients have a surgery cancelled, they have already undergone the process imposed by hospital routine – hospital admission, physical and emotional preparation, waiting for surgery, and referred or not to the OR. All these stages can increase anxiety levels⁽⁸⁾.

The suspension of a scheduled surgical procedure may have devastating effects, even when the reasons are elucidated; the greater the number of surgeries called off for the same individual, the less confident he/she will feel. Sometimes, patients perceived surgery as a big challenge, having to come to hospital many times – in such cases, cancellation may meet their expectations⁽⁷⁾.

In providing care to a patient whose surgery was cancelled, some embarrassing situations may occur, since the team does not know which information the individual received, if he/she is aware of the reasons of cancellation, or how they feel about this fact⁽⁶⁾.

Patients demonstrate intense frustration which leads to some kind of fantasy. In addition, suspension makes the preoperative period longer, extending or not the length of hospitalization stay and may result in longer postoperative recovery if the surgery occurs⁽⁸⁾.

Longer hospital stay disturbs some private life aspects of patients (work, family, activities), besides causing anxiety, mainly when the date to resume daily activities is not defined⁽⁹⁾.

In general, medical charts are the source of written information used at hospitals. They represent the legal document that protects both patient and institution. The notes on medical chart are not always clear, complete, accurate and understandable⁽⁵⁾.

Surgery cancellation is a situation which demands attention of the health team and hospital administration since it often brings unpleasant feelings to the individual who was about to be operated on and to his/her family⁽¹⁰⁾.

It also involves losses to the institution, delay in surgical schedule, problems for other patients waiting for surgery, operational and financial costs for the organization, and negative effects in delivering care to the population, mainly to those at a disadvantageous position⁽²⁾.

This study aims to identify the reasons of surgery cancellation at a public hospital and to contribute to improve of nursing team performance in this situation.

OBJECTIVE

To determine the incidence of scheduled surgery cancellation at a public hospital in the city of São Paulo and to identify the reasons leading to such cancellations.

METHODS

This is a descriptive, exploratory, retrospective, level-I study, with quantitative data analysis, carried out at the OR and the Medical Record Service of Hospital Geral de Pedreira (HGP). It is a public hospital in the Southern region of the city of São Paulo. The OR comprises eight rooms with an average of 500 procedures per month in several medical specialties, particularly general surgery, pediatrics, orthopedics, gynecology and obstetrics, ophthalmology, otorhinolaryngology (ear-nose-throat-ENT) and vascular surgery. The sample was composed of records of cancelled procedures documented in an OR book and medical charts of patients whose surgeries were cancelled from January 2006 to July 2007.

For data collection, the authors prepared a form (Appendix) including sample identification, occupation of the professional responsible for cancellation and reasons for cancellation. Data were gathered after approval of the research project by the Scientific Committee of Faculdade de Enfermagem do Hospital Israelita Albert Einstein (HIAE), the Research Ethics Committee of the HIAE, the Research Ethics Committee of the HGP, and those in charge of the OR and Medical Records Service. After formal approvals,

the main author of this study verified the surgery records books and the OR records, and analyzed the medical charts of patients whose surgeries had been cancelled and which were at the Medical Records Service.

RESULTS

Figure 1 shows that out of 6,149 surgeries scheduled (100%), 5,448 (88.6%) were performed and 701 (11.4%) were cancelled from January 2006 to July 2007. Tables 1, 2 and 3 demonstrate the surgeries cancelled by medical specialties, professional responsible for calling off and the reasons for cancellation.

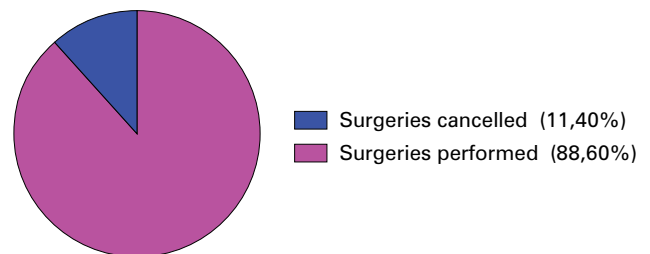


Figure 1. Surgeries performed and cancelled from January 2006 to July 2007

Table 1. Number of surgeries cancelled by medical specialties, from January 2006 to July 2007

Specialty	Jan 2006	Feb 2006	Mar 2006	Apr 2006	May 2006	Jun 2006	Jul 2006	Aug 2006	Sept 2006	Oct 2006	Nov 2006	Dec 2006	Jan 2007	Feb 2007	Mar 2007	Apr 2007	May 2007	Jun 2007	Jul 2007	Total n°	%
General surgery	20	24	17	5	13	9	15	15	17	15	8	8	14	5	8	12	12	12	08	237	33.8
Orthopedics	9	5	13	5	21	16	12	13	12	13	9	10	8	9	3	7	11	10	14	200	28.5
Pediatric surgery	3	---	6	5	9	6	5	9	1	---	5	1	2	2	2	4	3	2	2	67	9.6
Vascular	6	1	5	1	4	4	6	5	5	4	2	4	2	4	4	4	1	1	2	65	9.3
Gynecology	2	2	1	1	7	3	1	5	2	3	2	1	---	1	1	4	1	5	8	50	7.1
Endoscopy	1	---	2	---	5	6	6	7	2	3	---	---	---	2	1	1	2	---	6	44	6.3
ENT	3	1	3	---	3	2	1	4	2	1	3	1	1	1	1	1	1	---	---	30	4.3
Ophthalmology	---	---	---	---	1	---	---	---	---	---	1	1	3	1	---	---	1	---	---	8	1.1
Total	44	33	47	17	63	46	46	58	41	39	30	26	30	25	20	33	32	30	40	701	100

ENT = ear, nose, throat (otorhinolaryngology)

Table 2. Number of surgeries cancelled by professional responsible for cancellation, from January 2006 to July 2007

Professional responsible for cancellation	Jan 2006	Feb 2006	Mar 2006	Apr 2006	May 2006	Jun 2006	Jul 2006	Aug 2006	Sept 2006	Oct 2006	Nov 2006	Dec 2006	Jan 2007	Feb 2007	Mar 2007	Apr 2007	May 2007	Jun 2007	Jul 2007	Total n°	%
Surgeon/assistant surgeon	33	25	32	13	51	43	33	46	27	28	25	20	18	20	13	19	23	22	26	518	73.9
Anesthesiologist	11	8	15	4	12	3	13	12	14	11	5	7	11	5	7	14	9	8	14	183	26.1
Total	44	33	47	17	63	46	46	58	41	39	30	27	29	25	20	33	32	30	40	701	100

Table 3. Number of surgeries cancelled by reasons for cancellation, from January 2006 to July 2007

Reasons	Jan 2006	Feb 2006	Mar 2006	Apr 2006	May 2006	Jun 2006	Jul 2006	Aug 2006	Sept 2006	Oct 2006	Nov 2006	Dec 2006	Jan 2007	Feb 2007	Mar 2007	Apr 2007	May 2007	Jun 2007	Jul 2007	Total n°	%
UCC	17	7	22	5	18	13	18	22	12	11	12	9	12	4	6	15	7	7	8	225	32.1
NSP	6	2	5	3	10	7	10	16	7	5	9	3	6	7	6	4	3	4	6	119	17.0
CMM	2	3	2	5	9	4	3	3	9	4	5	2	---	4	5	6	2	3	8	79	11.3
NAP	5	1	6	---	2	5	5	5	2	7	2	4	---	---	---	1	1	3	4	53	7.5
LM	---	3	---	1	1	5	3	2	1	3	2	2	2	3	1	2	9	7	5	52	7.4
DPP	2	---	2	---	6	2	---	2	2	6	---	6	5	3	---	---	3	3	3	45	6.4
NV-ICU	6	3	5	---	4	4	1	1	3	---	---	---	1	2	---	2	5	2	3	42	6.0
IMT	---	9	2	1	5	---	---	---	---	---	---	---	3	---	---	---	---	---	---	20	2.9
PDWO	2	3	1	2	---	1	1	2	1	1	---	1	---	---	---	---	1	---	---	16	2.3
EEP	---	---	1	---	4	1	2	3	2	2	---	---	---	---	---	1	---	---	---	16	2.3
LE	2	1	---	---	---	---	---	---	---	---	---	---	---	2	2	2	---	1	1	11	1.6
DST	---	1	1	---	---	3	2	---	---	---	---	---	---	---	---	---	---	---	---	7	1.0
LAC	1	---	---	---	1	---	1	1	---	---	---	---	---	---	---	---	---	---	1	5	0.7
EW	1	---	---	---	---	1	---	---	2	---	---	---	---	---	---	---	---	---	---	4	0.6
DA	---	---	---	---	3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3	0.4
NRA	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	1	---	---	2	0.3
ISO	---	---	---	---	---	---	---	1	---	---	---	---	---	---	---	---	---	---	---	1	0.1
PRB	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	1	0.1
Total	44	33	47	17	63	46	46	58	41	39	30	27	30	25	20	33	32	30	40	701	100

UCC = unfavorable clinical conditions; NSP = no show up of patient; CMM = change in medical management; NAP = patient with no appropriate preparation; LM = lack of material; DPP = delay previous procedure; NV-ICU = no vacancy at ICU; IMT = insufficient medical team; PDWO = patient did not want to be operated on; EEP = excess of emergency procedures; LE = lack of examinations; DST = delay of surgeon's team; LAC = lack of anesthesia consent; EW = event in ward; DA = delay in admission; NRA = no room available; ISO = inverted surgery order; PRB = patient refused to receive blood

DISCUSSION

Although surgery cancellation has not been much addressed in the specialized literature, there are some studies carried out at hospital reporting rates of cancellations different from those of the present paper.

In a study performed at a teaching hospital, the authors found 33% of cancelled surgeries, and suggested further investigations in this area⁽²⁾. Another investigation performed at Hospital Universitário de Uberlândia, in the State of Minas Gerais, showed a rate of 25.4%⁽⁹⁾. Another research with patients submitted to ophthalmologic procedures demonstrated 19.5% (39 patients) of surgeries cancelled⁽¹¹⁾.

A study that collected data for 12 months at a teaching hospital in a town in the State of São Paulo, showed the specialty that called off surgeries more often was ophthalmology (39.9%) followed by orthopedics (16.6%) and ENT (15.9%)⁽¹⁰⁾.

In another research with a three-month data collection from February to March 2002, the authors reported 560 surgeries cancelled (25.4%), and the number of cancellations increased in the months surveyed – February (22%), March (26%) and April (30%)⁽⁹⁾. Such fact was not observed in the present study.

A study performed at a large public hospital in the metropolitan region of Fortaleza, Ceará, showed that

in a four-month data gathering period, there were 379 cancelled surgeries corresponding to 33% of total surgeries. Cancellation rates remained high in all months, and the following specialties stood out: general surgery, ophthalmology, head and neck surgery and orthopedic surgery⁽²⁾. None of these studies mentioned the professionals responsible for cancellation.

In the present study, the most frequent reason for cancellation was unfavorable clinical condition, when patients were not in appropriate preoperative conditions and the procedures were called off. It is important to mention that most of these cases could be avoided by means of a preoperative visit of nurses from the OR or wards, and by the pre-anesthesia visit by anesthesiologists. These assessments also aim to identify the patient's psychological and clinical conditions. In addition, some patients may have problems related to associated diseases. A research performed at Hospital de Base de São José do Rio Preto in the State of São Paulo, described a total of 138 individuals whose surgeries were cancelled due to perioperative hypertension⁽¹⁰⁾.

The second reason for cancellation was no show up of patients. In such cases, a surgery for another patient is scheduled, regardless of being elective or not, provided the same has already been admitted to hospital.

Changes in medical management were the third reason for cancellation, followed by patient with no appropriate preparation, which could be avoided by a preoperative visit. The professionals caring for patients in the wards should deliver care, clarify doubts of patients and families and provide information about the perioperative period. In the specific case of this study, many patients had received insufficient information, were poorly oriented about fasting and fluid intake and believed that fasting means no ingestion of solid foods.

The reason of lack of material is directing related to tasks of the OR nurses from the surgical center and from the material management unit, regarding anticipation and provision of resources to meet the programmed surgical planning. When verifying the impossibility to meet the demand of materials, nurses must inform the OR so that patients will not be submitted to unnecessary preoperative preparation.

In a research carried out at a teaching hospital, the most frequent reasons for cancellation were problem related to patients, such as not coming on the date scheduled for surgery and unfavorable clinical conditions⁽⁴⁾. Another study showed that the main reasons for cancellation were no show up of patients (29.5%), delays (14.1%), unfavorable clinical conditions (12.9%) and replacing a scheduled surgery by another operation (11.4%)⁽⁹⁾. Comparing the results of this investigation with the present study, it is found that the reasons for cancellation are similar, including their frequency.

Surgery cancellation should be avoided as much as possible, since patients expect to have their needs met. However, the hospitals many times cannot control all situations, such as the case of patients with no clinical conditions after preoperative evaluation and preparation, and of those who do not show up in the day scheduled. Hence, each organization should establish specific measures to reduce the rate of surgery cancellation.

In the "total quality" age, it is inadmissible that hundreds of people have their healthcare needs not met, and a great amount of financial resources be wasted or badly used. As healthcare providers, nurses have the responsibility to participate in planning of organizations and to contribute to provide the necessary services and specialized nursing care⁽²⁾.

Therefore, the appropriate control of scheduled surgeries leads to patients being less exposed, shortening length of stay, reducing risks of nosocomial infection and treatment costs. Besides, the hospital will have increased productivity, better return on investments and better quality of care delivered.

These results suggest that hospitals should perform more than simple surveys on number of the

cancelled procedures, they should carry out studies and discussions around the topic, trying to improve care provided and promote the participation of nursing and multiprofessional teams in the organization and planning of the institution.

CONCLUSIONS

This study allowed identifying in the institution surveyed that out of 6,149 surgeries scheduled between January 2006 and July 2007, 701 (11.4%) were cancelled and 5,448 (88.6%) were performed.

Among 701 surgeries cancelled, most were general (237 or 33.8%) and orthopedic (200 or 28.5%) surgeries. Surgeons or their assistant surgeons and anesthesiologists were the professionals responsible for calling off the procedures (518 or 73.9% and 183 or 26.1%, respectively).

The main reasons for cancellation were unfavorable clinical condition of patients (225 or 32.1%), no show up of patients (119 or 17%), changes in medical management (79 or 11.3%), patient with no appropriate preparation (53 or 7.5%) and lack of material (52 or 7.4%).

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Appendix – Data collection instrument**Surgery cancellation at a public hospital**

1. Gender
() male () female
2. Age: _____
3. Scheduled surgery: _____
4. Suggested anesthesia: _____
5. Surgery scheduled date: _____
6. Cancellation date: _____
7. Professional responsible for cancellation: _____
8. Reason for cancellation: _____