

Developing a checklist of educational guidelines for preoperative preparation for elective oncological surgeries

Elaboração de lista de orientações educativas para preparo pré-operatório de cirurgias oncológicas eletivas

Elaboración de una lista de pautas educativas para la preparación preoperatoria para cirugías oncológicas electivas

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ABSTRACT: Objective: To identify how patients who underwent elective oncological surgeries were informed about preparation before surgery and, based on this information, develop an educational checklist of preoperative guidelines. Method: This is a retrospective and cross-sectional research developed at an oncology institution in a small city in the state of São Paulo, Brazil. Two questionnaires were used, one for sociodemographic and health profile data, and the other to retrospectively identify preoperative guidelines. Descriptive statistical analysis was performed. Results: Of the 38 patients, 65.8% were women, with 42% undergoing mastectomy. The guidance provided verbally and in person prevailed, especially regarding the examination requested by the surgeon and personal documentation, which presented the same percentage: 78.9%. There were gaps in information provided about the possibility of using a probe, drains, or tubes for 63.2%. Conclusion: Patients' self-reports on preoperative guidelines showed flaws in the way this information was passed on and supported the development of the checklist of educational guidelines, highlighting the importance of structured written tools for the multidisciplinary team that can improve the quality and safety of preoperative care.

Keywords: Surgical Oncology, Elective Surgical Procedures, Checklist, Patient Safety, Perioperative Nursing.

RESUMO: Objetivo: Identificar como os pacientes que passaram por cirurgias oncológicas eletivas foram informados sobre o preparo antes da cirurgia e, com base nessas informações, elaborar uma lista educativa de orientações pré-operatórias. Método: Pesquisa retrospectiva e transversal desenvolvida em uma instituição de oncologia no interior de São Paulo. Dois questionários foram utilizados, um para os dados do perfil sociodemográfico e de saúde, e outro para identificar retrospectivamente as orientações pré-operatórias. Realizada análise estatística descritiva. Resultados: Dos 38 pacientes, 65,8% eram do sexo feminino, sendo 42% submetidas à mastectomia. Prevaleceram as orientações fornecidas de maneira verbal e presencial, especialmente sobre o exame solicitado pelo cirurgião e a documentação pessoal, que apresentaram o mesmo percentual: 78,9%. Houve lacunas de informação fornecida sobre a possibilidade de uso de sonda, drenos ou tubos para 63,2%. Conclusão: O autorrelato dos pacientes sobre as orientações pré-operatórias revelou falhas na forma de transmissão dessas informações e fundamentaram a construção da lista de orientações educativas, ressaltando a importância de ferramentas estruturadas de modo escrito para equipe multiprofissional que podem aprimorar a qualidade e a segurança do cuidado pré-cirúrgico. Palavras-chave: Oncologia Cirúrgica, Procedimentos Cirúrgicos Eletivos, Lista de Checagem, Segurança do Paciente, Enfermagem Perioperatória.

RESUMEN: Objetivo: Identificar cómo se informó a los pacientes sometidos a cirugías oncológicas electivas sobre la preparación antes de la cirugía y, con base en esta información, desarrollar una lista educativa de pautas preoperatorias. Método: Investigación retrospectiva y transversal desarrollada en una institución de oncología del interior de São Paulo. Se utilizaron dos cuestionarios, uno para datos sociodemográficos y de perfil de salud, y otro para identificar retrospectivamente pautas preoperatorias. Se realizó análisis estadístico descriptivo. Resultados: De las 38 pacientes, el 65,8% eran mujeres

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y el 42% fueron sometidas a mastectomía. Prevalció la orientación brindada de forma verbal y presencial, especialmente en lo que respecta al examen solicitado por el cirujano y la documentación personal, que presentó el mismo porcentaje, 78,9%. Hubo lagunas en la información brindada sobre la posibilidad de utilizar sonda, drenajes o tubos para el 63,2%. Conclusión: Los autoinformes de los pacientes sobre las guías preoperatorias revelaron fallas en la forma en que se transmitió esa información y apoyaron la construcción de la lista de guías educativas, destacando la importancia de herramientas escritas estructuradas para el equipo multidisciplinario que puedan mejorar la calidad y seguridad de las guías preoperatorias y la atención quirúrgica.

Palabras clave: Oncología Quirúrgica, Procedimientos Quirúrgicos Electivos, Lista de Verificación, Seguridad del Paciente, Enfermería Perioperatoria.

INTRODUCTION

Cancer is considered one of the main causes of early death in the world, and its incidence has shown accelerated exponential growth. Recent global data indicate approximately 19.3 million new cases (18.1 million, except nonmelanoma skin cancer) and almost 10 million cancer deaths (9.9 million, except nonmelanoma skin cancer). Estimates for 2040 are for an increase of almost 50% in the number of new cases¹.

In Brazil, according to data presented by the Brazilian National Cancer Institute (*Instituto Nacional do Câncer* – INCA), projections for the period from 2023 to 2025 are 704 thousand new cases of cancer per year, with approximately 70% incidence in the South and Southeast regions of the country. Among malignant tumors, the one with the highest incidence in Brazil is nonmelanoma skin tumors (31.3%), followed by female breast tumors (10.5%), prostate (10.2%), colon and rectum (6.5%), lung (4.6%), and stomach (3.1%)².

One of the treatments for cancer is oncological surgery, which, when indicated, is used to remove all or part of the tumor. Oncological surgery is also a way to assess the extent of the disease, making it possible to certify the cancer staging through surgery³.

It should be noted that the multiple approach to cancer treatment, combining different therapeutic modalities, such as chemotherapy and radiotherapy, can generally provide better results in terms of cure, survival, and quality of life³.

During this therapeutic process, the preoperative stage can trigger various reactions in the patient, such as insecurity, fear, despair, and anxiety, which at certain levels can cause memory blocks. This occurs due to the moment of physical and emotional fragility, whose aspects are intrinsically interconnected⁴.

Therefore, an anxious, fearful patient cannot be asked to remember the names of the medications in use, as well as anti-coagulant medications and those that can cause allergies or risks to life. This information is often requested hours before

surgery, after hospital admission, especially in cases where previous notes are forgotten. Both patients and healthcare professionals must understand that relying solely on memory may not be enough⁴.

Studies indicate that adopting a checklist is an encouraged practice, as it reduces the need to rely on memory and intuition⁵ and can reduce errors⁶. Previous research has shown worrying data related to postoperative events. In the United States, the mortality rate resulting from surgery within a 30-day period was 0.77%⁷. In Brazil, a survey showed that adverse events related to surgical site infections represented 50%, in a total of 60 cases analyzed⁸.

The checklist is a systematic verification of all steps of a procedure, in such a way that it can be carried out with maximum safety. Its purpose is to check and indicate items that could compromise patient safety⁹.

In response to global concern about safety in clinical and surgical procedures, in 2004, the World Health Organization (WHO) initiated the World Alliance for Patient Safety, with the purpose of raising awareness among healthcare professionals, promoting a commitment to quality, and boosting the formulation of public policies to encourage good practices in health care⁴.

In 2008, the WHO launched the global challenge “Safe Surgery Saves Lives,” which highlighted the Surgical Safety Checklist (SSC) as a fundamental tool for preventing and reducing adverse events and deaths related to surgical procedures⁴.

Faced with the challenge established in 2008, the search was to define safety standards applicable to all WHO member countries, in which Brazil was included. To meet this need, experts developed a SSC composed of three stages, which are: identification, which occurs before the induction of anesthesia; confirmation, carried out before skin incision; and registration, which occurs at the end of the surgery, before the patient leaves the operating room^{4,9}.

SSC can be adjusted to suit the demands of different countries and can be standardized according to the requirements

of each institution. This versatile characteristic in different contexts, the systematized structure and low-cost implementation of this tool reduces adverse impacts and provides safety in the provision of surgical care^{4,9}.

It also consists of a good practice tool that can contribute to preventing and reducing damage, improving the development of safe behaviors⁷. It is noteworthy that, in the surgical context, nursing plays a fundamental role in promoting patient safety, especially in surgical care, by sharing responsibility in the application of the SSC¹⁰.

Given the importance of the checklist in the surgical context and in other in-hospital services, the need for adequate and structured guidelines during the preoperative period is highlighted, as this moment represents an ideal opportunity to strengthen a preventive approach aiming to promote patient safety, guarantee the quality of care, and prevent possible harm in elective surgical procedures.

OBJECTIVE

To identify how patients who underwent elective oncological surgeries were informed about preparation before surgery and, based on this information, develop an educational checklist of preoperative guidelines.

METHOD

This is a retrospective and cross-sectional research carried out in an oncology care institution, located in the Central-East region of the state of São Paulo. The institution performs chemotherapy and radiotherapy procedures, administered alone or associated with pre- and postoperative treatments. Of the services provided, 80% are destined for the Brazilian Unified Health System (SUS), while 20% are for health insurance plans and individuals, in addition to providing services to the surrounding regions.

The study included individuals who underwent elective oncological surgeries performed by the SUS within 12 months of the date of data collection, aged 18 years or over, and those who voluntarily agreed to participate and signed the Informed Consent Form (ICF).

Individuals who had already responded to the questionnaires during the data collection period, those with difficulties in understanding and responding to the questionnaires, or in case of refusal to sign the ICF, were excluded.

The project was approved by the Research Ethics Committee (CEP) of the Centro Universitário das Faculdades Associadas — UNIFAE, CAAE: 68711823.0.0000.5382, Opinion No. 6.022.623

To assess representativeness and estimate the sample size, chemotherapy and radiotherapy appointments during one month were used as the study population, to assess the representativeness of the monthly sample. The institution provided information on the total number of appointments of $n=354$. During the data collection period, between the months of June and July 2023, $n=38$ was obtained. Considering the greatest possible variability for the simple random sample (prevalence of 50%), a significance level of 5%, a sampling error of 15% can be attributed to this sample.

The volunteers answered two questionnaires; one to obtain sociodemographic and health data consisting of 14 questions, seven of which were objective questions and the others were open-ended questions. And another questionnaire to retrospectively identify preoperative guidelines. A pilot questionnaire (not validated) was developed by the researchers themselves through previous studies related to the topic^{4,11}, with 18 objective questions, with the following response options for each item: verbally in person, verbally via telephone, in writing and verbally in person, only in writing, no information, does not apply. The other two questions are of the yes or no type of answer, the first referring to forgetting some guidance and the second, whether the individual would like to make any suggestions for improving preoperative guidelines. In the case of affirmative answers to both questions, there is the option of an elaborated answer. To develop the proposal for the educational checklist of preoperative guidelines, the self-reports of patients from this questionnaire were considered together with the scientific literature on the topic^{4,11}.

Patients were approached in the waiting room while waiting for a medical appointment or to receive chemotherapy or radiotherapy treatment. The primary researcher was responsible for data collection. The average time to complete the questionnaires was approximately 20 minutes.

The collected data were entered into the Excel for Windows (Microsoft Office 2022) program and descriptive statistical analysis was carried out using mean, standard deviation, absolute, and relative frequencies (ne %).

RESULTS

The sample of this study comprised 38 participants, aged between 27 and 82 years and with a mean age of 60.4 years

old (SD [Standard Deviation]: 12.13). We show the descriptions of other sociodemographic variables in Table 1.

In Table 2 we present the health characteristics of the participants in relation to current treatment, time elapsed since oncological surgery, and reported illnesses.

Table 1. Description of the participants' sociodemographic variables. São João da Boa Vista (SP), Brazil, 2023.

Variables	n	%
Sex		
Women	25	65.8
Men	13	34.2
Marital status		
With a partner	23	60.5
Without a partner	15	39.5
Has children		
No	3	7.9
Yes	35	92.1
Skin color or ethnicity		
White	29	76.3
Mixed-race	4	10.5
Black	5	13.2
City of residence		
São João da Boa Vista	17	44.7
Others	21	55.3
Occupation		
Retiree	19	50.0
None	7	18.4
Other professions	12	31.6
Level of education		
Illiterate	1	2.6
Some Elementary School	20	52.6
Elementary School	4	10.5
Some High School	1	2.6
High School	9	23.7
College Degree	3	7.9
Employment		
No	34	89.5
Yes	4	10.5
Minimum wage ranges		
Between 1 and 2	32	84.2
Between 2 and 3	5	13.2
Between 3 and 5	1	2.6

Data on how patients received preoperative information indicate that the majority was passed on verbally and in person, followed by a combination of verbally, in person, and in writing. Furthermore, there were cases in which information was not passed on in any way (verbally, in writing, or in person). For each method of passing on information, the respective items and percentages are described (Table 3).

Among the participants, 10.53% (n=4) forgot the guidance verbally passed on, 5.26% (n=2) forgot to take the tests requested on the day of surgery, and 5.26% (n=2) forgot to stop anticoagulant medications.

Regarding suggestions on improving preoperative guidelines, 26.32% (n=11) participated, with 15.79% (n=6) suggesting that the information be provided in some way through a checklist, in writing or in a booklet format, while 13.16% (n=5) suggested there should be information on the use of postoperative devices such as probes, drains, and colostomy bags.

Table 2. Health characteristics of the participants. São João da Boa Vista (SP), Brazil, 2023.

Characteristics	n	%
Undergone procedure		
Mastectomy	17	44.7
Quadrantectomy	4	10.5
Colectomy	10	26.3
Bladder TURP	4	10.5
Nephrectomy	2	5.3
Others	3	7.9
How long was the surgery performed (months)?		
1	4	10.5
Between 2 and 3	11	29.0
Between 3 and 6	9	23.7
Between 6 and 12	14	36.8
Do you have any illness?		
No	12	31.6
Yes	26	68.4
Which illness?		
Diabetes	14	36.8
Hypertension	18	47.4
Others	2	5.3
Current treatment		
Chemotherapy	24	63.2
Radiotherapy	14	36.8
No treatment.	4	10.5

In Chart 1 we present the proposal for a checklist of preoperative educational guidelines according to data obtained from patients undergoing elective oncological surgeries.

DISCUSSION

The sociodemographic and health data compiled in this study indicated the prevalence of women with breast cancer, in addition to validating projections of approximately 15% of new cases in the three-year period 2023–2025, being the most prevalent and with an incidence of 30.1%. In addition, we noticed a progressive incidence with age, especially after the age of 50, making age a significant risk factor², which corroborates the data obtained in this study.

Socio-educational data showed that the majority have a monthly income between one and two minimum wages, with some elementary school as level of education. The significant

influence of socioeconomic disparities on mortality and cancer incidence rates was observed, especially in disadvantaged regions and among groups with lower levels of education and income, corroborating findings from previous international¹² and national¹³ studies.

Among the associated comorbidities, almost half of the patients reported hypertension, and 63.2% were undergoing chemotherapy. Comorbidities, such as hypertension, diabetes, obesity, and other chronic diseases, are significant for the treatment and survival of women with breast cancer, especially during chemotherapy, when certain treatments can be harmful¹⁴ and some drugs may present cardiovascular risks, manifesting acutely, subclinically, or chronically after chemotherapy¹⁵.

With regard to therapeutic modalities for breast cancer, they range from conservative procedures for early stages to more invasive techniques for advanced stages¹⁶. The lack of access to screening, lack of understanding about self-care, and distance from specialized centers contribute to late detection, aggressive treatment,

Table 3. Preoperative guidance received by patients undergoing elective oncological surgeries. São João da Boa Vista (SP), Brazil, 2023.

Preoperative guidance received	Verbally in person		Verbally via telephone		In writing, verbally and in person		In writing and verbally via telephone		Only in writing		No information		Not applicable
	n	%	n	%	n	%	n	%	n	%	n	%	
Surgical consent form signed	1	2.6	0	0.0	22	57.9	1	2.6	6	15.8	8	21.1	0
Anesthetic consent form signed	1	2.6	0	0.0	25	65.8	1	2.6	3	7.9	8	21.1	0
Bring the medical admission guide	24	63.2	0	0.0	8	21.1	1	2.6	1	2.6	4	10.5	0
Bring tests requested by the surgeon	30	78.9	0	0.0	3	7.9	1	2.6	0	0.0	4	10.5	0
Personal documents	30	78.9	0	0.0	4	10.5	1	2.6	0	0.0	3	7.9	0
Removal of jewelry and adornments	21	55.3	0	0.0	2	5.3	1	2.6	0	0.0	14	36.8	0
Hair trichotomy or tonsure	9	45.0	0	0.0	0	0.0	0	0.0	0	0.0	11	55.0	18
Whole-body bathing	20	52.6	0	0.0	1	2.6	1	2.6	0	0.0	16	42.1	0
Bring a change of clothes and personal hygiene items	16	43.2	0	0.0	0	0.0	1	2.7	0	0.0	20	54.1	1
Solid food fasting	18	47.4	0	0.0	12	31.6	1	2.6	3	7.9	4	10.5	0
Liquid fasting	17	44.7	0	0.0	12	31.6	1	2.6	4	10.5	4	10.5	0
Suspension of anticoagulant medication	20	52.6	0	0.0	5	13.2	0	0.0	0	0.0	13	34.2	0
Allergies (medicines, latex)	25	65.8	0	0.0	9	23.7	0	0.0	0	0.0	4	10.5	0
Possible use of a colostomy bag	4	36.4	0	0.0	1	9.1	0	0.0	2	18.2	4	36.4	0
Possible use of probe, drains, or tubes	9	23.7	0	0.0	4	10.5	0	0.0	1	2.6	24	63.2	0
Name of the procedure	5	13.2	0	0.0	16	42.1	1	2.6	8	21.1	8	21.1	0
Partial or total removal of the breast	4	19.0	0	0.0	8	38.1	1	4.8	1	4.8	7	33.3	17
On surgical risks	13	34.2	0	0.0	10	26.3	0	0.0	6	15.8	9	23.7	0

Chart 1. Checklist of preoperative educational guidelines for elective oncological surgeries. São João da Boa Vista (SP), Brazil, 2023.

Checklist of preoperative educational guidelines for elective oncological surgeries	
Identification Data	
Full Name: _____	
Date of Birth: ____ / ____ / ____ Age: ____ Telephone : _____	
Mother's Name: _____	
Surgical Procedure	
Surgery Name: _____	
Date of Surgery: ____ / ____ / ____	
Date of Admission: ____ / ____ / ____ Time: _____	
Mark with an "X" the preoperative guidance received	
Bring documents of personal identification (ID/CPF [Individual Taxpayer Registration])	<input type="checkbox"/>
Bring tests requested by the physician	<input type="checkbox"/>
Bring surgical and anesthetic consent form signed	<input type="checkbox"/>
Do you take any anticoagulant? Yes <input type="checkbox"/> No <input type="checkbox"/>	
If so, which one(s)? _____	
Should it be suspended prior to the surgery? Yes <input type="checkbox"/> No <input type="checkbox"/>	
If so, for how many days? _____	
Are you taking any medication? Yes <input type="checkbox"/> No <input type="checkbox"/>	
If so, which one(s)? _____	
Do you have any allergies or sensitivity to medications or latex? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Use of some device (colostomy bag/probe/drains) or other Yes <input type="checkbox"/> No <input type="checkbox"/>	
General care guidance	
Bring a change of clothes and personal hygiene items	<input type="checkbox"/>
Removal of jewelry and adornments	<input type="checkbox"/>
Hair trichotomy of the operation site, when recommended	<input type="checkbox"/>
Whole-body bathing prior to admission	<input type="checkbox"/>
Solid food fasting of _____ hours, prior to admission	
Liquid fasting of _____ hours, prior to admission	
Observations informed by the patient	

I declare that guidance was dully provided to me, Signature: _____	
Professional responsible for providing guidance (stamp/signature): _____	
In case of doubts or unforeseen events that prevents undergoing the surgery, call: () XXXXXXXXXX	

and unfavorable prognosis¹⁷, with sequelae of pain, chronic swelling, high mortality, and results that affect quality of life¹⁶.

Patients' self-reports contributed to the development of the proposed checklist of preoperative educational guidelines, evidencing communication gaps. Most patients received guidance verbally or in person, mainly regarding tests requested by the surgeon and personal documentation. Furthermore, there was a gap in information about the use of devices such as probes, drains, or tubes.

These findings are worrisome and highlight the need for a joint effort by the multidisciplinary team to provide structured guidance to patients, including written information to clarify doubts, together with adequate team training¹⁸, as identified in the item related to the terms of anesthetic consent and surgical procedures that were communicated verbally, in person, and in writing, presenting the highest percentages in this mode of passing on information.

Currently, the institution does not have a tool in a structured written format for preoperative preparation guidelines. Therefore, patient reports are important for improving communication, for the patient safety culture, and for the process of implementing this resource. The initial proposal is to implement this tool for a minimum period of six months, allowing the multidisciplinary team to evaluate and contribute to the process. Furthermore, the checklist will be forwarded for consultation by experts in the field, aiming to ensure greater scientific rigor and make adjustments to the checklist of preoperative guidelines.

It should be noted that the culture of safe surgery is embedded in the institution so that, in fact, the checklist proposed for a given surgical moment is adhered to by the entire team and professionals responsible for providing the appropriate guidance, in order to avoid complications or preoperative inadequacies¹⁸.

It is noteworthy that each healthcare institution has the autonomy to draw up its own checklist to resolve surgical gaps. Authors of a study carried out in southern Brazil investigated the effects of adopting a surgical checklist, finding a significant reduction in the time in and out of the operating room ($p=0.002$), in the total surgery time ($p<0.001$), and in the interval between the beginning of anesthesia and the beginning of incision ($p=0.021$)¹⁹.

In parallel, an analysis of 5,145 hospital records in Canada showed that complete surgical checklists were related to better outcomes compared to incomplete checklists, including a lower incidence of surgical site infection (6.5 vs. 9.1%), reoperations (5 vs. 11.3%), readmissions (7.2 vs. 11.3%), and mortality (3.0 vs. 6.5%)²⁰.

As limitations of the study, initially, the development of the proposal for the checklist of preoperative guidelines had as a baseline the patients' self-report and the scientific

literature on the subject, in addition to the sample size which, as a cross-sectional study, cannot be generalized. However, this preliminary study consists in a valuable starting point for future implementation of a more structured communication process, in addition to greater quality and safety of surgical care by the multidisciplinary team.

CONCLUSION

In the present study we identified, through retrospective analysis, that most patients received direct guidance, whether verbally or in person, with emphasis on important aspects such as the tests requested by the surgeon and personal documentation. There was a gap in information regarding the use of devices, such as probes, drains, or tubes, thus highlighting the need for more comprehensive and detailed communication in relation to preoperative preparation.

Preoperative guidelines consist of a fundamental tool in the process of preparing the patient for surgery. Nevertheless, its effectiveness is maximized when complemented by guidance in writing, as proposed in the checklists. Therefore, a multidisciplinary approach to preoperative care and clear and comprehensive guidelines are necessary to guide healthcare professionals in this surgical process, in order to promote greater understanding and a more enlightening experience for patients, directly contributing to safety and the quality of surgical care.

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CONFLICT OF INTERESTS

The authors declare no conflicts of interest.

AUTHORS' CONTRIBUTIONS

JPWGS: Formal analysis, Conceptualization, Data curation, Investigation, Methodology, Resources, Writing – original draft, Writing – review & editing, Software, Validation, Visualization. SSM: Project administration, Formal analysis, Conceptualization, Data curation, Methodology, Resources, Writing – original draft, Writing – review & editing, Software, Supervision, Validation, Visualization.

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