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Satisfaction survey after an ERAS (Enhanced Recovery After Surgery) protocol in colorectal elective surgery in patients over 70 years of age

Encuesta de satisfacción tras aplicación de un protocolo de recuperación intensificada ERAS (Enhanced Recovery After Surgery) en cirugía electiva colorrectal en mayores de 70 años

Keywords: Anesthesia Recovery Period, Colorectal Surgery, Patient Satisfaction, Aged, Health Surveys

Palabras clave: Periodo de Recuperación de la Anestesia, Cirugía Colorrectal, Satisfacción del Paciente, Anciano, Encuestas epidemiológicas

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Abstract

Introduction: Enhanced Recovery After Surgery (ERAS) programs have been shown to reduce hospital stay, without increasing the rate of complications or readmissions 30 days after discharge; however, there is limited information about patient satisfaction.

Objective: To determine the satisfaction of our patients following the implementation of an ERAS protocol in elective colorectal surgery.

Materials and methods: A period of 4 days after discharge, a telephone survey was conducted based on the enhanced recovery in abdominal surgery clinical survey of the first 55 patients aged 70 years or older, who underwent elective colorectal surgery

according to an ERAS protocol at the Hospital Universitario de Guadalajara, Spain. This is a cross-sectional analytical study.

Results: Most of our patients are very satisfied with the care and the way they were treated by the health staff during their hospitalization, and they would be willing to undergo surgery again following this protocol. Most of them consider that the information received in the pre-anesthesia and surgery consultation is very good, and they value this consultation as one of the most positive aspects of the protocol. More than half of the patients did not experience any nausea or vomiting and rated their pain as ≤ 3 (minimum 0 and maximum 10). Most considered the introduction of oral feeding and ambulation as on time or somewhat early.

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Conclusion: Elderly patients undergoing elective colorectal surgery according to an ERAS protocol are highly pleased with the care received. Standardized surveys are required to be able to contrast outcomes.

Resumen

Introducción: los programas de recuperación intensificada postoperatoria (*Enhanced Recovery After Surgery* (ERAS)) reducen la estancia hospitalaria, sin aumentar la tasa de complicaciones ni de reingresos a los 30 días tras el alta, pero hay poca información acerca del grado de satisfacción de los pacientes.

Objetivo: conocer la satisfacción de nuestros pacientes tras la aplicación de un protocolo ERAS en cirugía electiva colorrectal.

Materiales y métodos: cuatro días tras el alta, se realizó una encuesta telefónica basada en la encuesta de la guía clínica RICA (Recuperación Intensificada en Cirugía Abdominal) a los 55 primeros pacientes con edad mayor o igual a 70 años operados de cirugía electiva colorrectal según un protocolo ERAS. Es un estudio analítico transversal.

Resultados: la mayor parte de nuestros pacientes están muy satisfechos con la asistencia y con el trato recibido por el personal sanitario durante su ingreso hospitalario, y se volverían a operar siguiendo este protocolo. La mayoría consideran que la información recibida en la consulta de pre-anestesia y cirugía es muy buena, y valoran esta consulta como uno de los aspectos más positivos del protocolo. Más de la mitad de los pacientes no tuvieron náuseas ni vómitos y calificaron su dolor como ≤ 3 (mínimo 0 y máximo 10). La mayoría consideraron el inicio de tolerancia oral y deambulación como a tiempo o algo pronto.

Conclusiones: Los pacientes ancianos operados de cirugía electiva colorrectal según un protocolo ERAS están muy satisfechos con la asistencia prestada. Se necesitan encuestas estandarizadas para poder comparar resultados.

Introduction

The Intensive Recovery Programs, also called "Fast-track" Surgery or ERAS (*Enhanced Recovery After Surgery* Program), start right at the time of diagnosis and are intended to identify the individual needs of our patients to optimize treatment, before, during, and after surgery,^{1,2} by reducing perioperative stress and improving clinical practice, adopting evidence-based medicine to manage the patient.^{1,3} These programs shorten the hospital stay without increasing the rate of complications or readmissions.^{1,3-8} This approach requires a close collaboration among surgeons, anesthesiologists, endocrinologists, nurses, and other healthcare staff. Several trials have shown the effectiveness of the ERAS protocols in colorectal surgery, as compared against the conventional strategy.^{2,9,10} However, these protocols challenge the traditional doctrine of surgery, and hence, their implementation has been slow and have not been universally adopted yet.^{11,12}

The impact of these protocols on the level of patient satisfaction is unclear, as few articles have been published on the topic.^{9,10,13}

The purpose of this study is to describe the level of satisfaction of the first 57 patients over 70 years of age, who underwent elective colorectal surgery according to the guidelines of an ERAS protocol, based on the *Enhanced Recovery Guidelines in Abdominal Surgery* (ERGAS)¹⁴ and on the recommendations of the ERAS society¹⁵ at the Hospital Universitario de Guadalajara (Spain), considered a tertiary hospital. The ERGAS guidelines were prepared in November 2014 by the Ministry of Health, Social Services and Equality in Spain, and edited in 2015. The guidelines included a survey to identify the level of patient satisfaction during hospitalization. This survey (Annex 1) is the one we have used for our study. The guidelines are a multimodal rehabilitation protocol that reviews the traditional perioperative practices and has analyzed the scientific evidence thereof.¹⁴

Material and methods

This is descriptive, cross-sectional study approved by the Ethics Committee of the Hospital Universitario de Guadalajara on April 25, 2016. Since May 1, 2016 the *Protocol of Enhanced Recovery for Elective Colorectal Surgery of the Hospital Universitario de Guadalajara*, based on the ERGAS guidelines and the recommendations of the ERAS society¹⁵ was implemented as a standard clinical practice in our hospital. The inclusion and exclusion criteria are those under the ERGAS guidelines.¹⁴

Inclusion criteria: Major abdominal surgery procedures, not susceptible to a major ambulatory surgical approach, that meet the following characteristics: Age 70 years or older, adequate cognitive status (able to understand the surgical procedure), American Society of Anesthesiologists I, II, and III.

Exclusion criteria: Emergent surgery and younger than 70 years old.

Since that time, all patients undergoing elective colorectal surgery and meeting our inclusion and exclusion criteria, shall be operated on in accordance with the guidelines. Every patient signed an informed consent before surgery, which explained that the procedure was going to follow the guidelines of a new protocol and that the patient could withdraw his/her informed consent at any time. A specific pre-anesthesia visit was planned 1 day/week, with the participation of maximum 10 patients that were going to be operated on based on the ERAS protocol. At least 45 minutes were assigned to each patient. During this time, patients were educated about their preparation, the use of respiratory incentives during the pre and operative phase, quitting harmful lifestyles, and the patient received all the information required about their surgery and tailoring of their surgical treatment. Nutritional enhancement protocols and pre-operative anemia treatment were

also administered. In addition, the patients received a document with all the written information and a timeline for the whole process. They were informed about their participation in the study, and an explanation was given about the contents of the telephone survey. The decision was made not to administer the survey using a written form on the day of discharge, because of the work overload of the healthcare staff. So, it was decided to administer the survey over the phone, 4 days following patient discharge, so that the patient had time to adapt back to their home environment, but soon enough so that they could remember and respond as accurately as possible.

The anonymous telephone interview (the interviewer was blind to the patient's identity, diagnosis, type of surgery, presence or absence of complications; the only information was the telephone number—Annex 1) was conducted by the same person.¹⁴ The interviewer just read the questions one-by-one and recorded the patient's answer. The survey was divided into several sections and the patients had to choose one of the options to the various questions: (1) quality of the information before surgery; (2) healthcare staff kindness; (3) satisfaction with hospital facilities: operating room and comfort of patient rooms; (4) rate level of postoperative pain on a numeric scale, 0 no pain and 10 excruciating pain; (5) subjective opinion regarding whether the start of oral fluids and ambulation was early or not. Whenever possible, based on the patient's progress, the surgeon prescribed oral feeding and ambulation over the first 24 hours postop^{16,17}; (6) postoperative nausea or vomiting (PONV); (7) quality of the information received from the surgeon and nurse following discharge; (8) professionalism and skill of the healthcare staff; (9) level of satisfaction during hospitalization; (10) indicate whether you would undergo surgery again according to this same protocol, and whether you would recommend it to a friend; (11) observations, positive and negative experiences, and room for improvement.

The clinical and demographic information was also collected. All tumors were staged—Tumor, Node, Metastasis (TNM)—¹⁸ based on T.¹⁹ Any complications were evaluated according to the Clavien–Dindo classification.²⁰ The mean hospital stay is recorded as the number of in-hospital days from the day of admission (which is 1 day before surgery, as per our protocol) until the day of hospital discharge, both included. Readmissions refer to the rate of rehospitalization for any cause, over the 30 days after discharge.

Statistical analysis

The SPSS (version 20.0, SPSS Inc.) program was used for the statistical analysis. The results are presented as the number of patients that experienced an event and the percentage in discrete variables; and mean \pm standard deviation or median and interquartile range in continuous variables.

Table 1. Demographic and clinical data

	ERAS Group n (%)
Age Mean \pm SD	80.1 \pm 5.4
Females	26 (45.6%)
Males	31 (54.5%)
Body mass index Mean \pm SD	25.8 \pm 4.1
ASA 1	4 (7%)
ASA 2	25 (43.9%)
ASA 3	28 (49.1%)
Colorectal cancer	53 (93%)
Transit reconstruction	4 (7%)
TNM staging of colorectal cancer	
0	1 (1.9%)
1	7 (13.2%)
2	13 (24.5%)
3	21 (39.6%)
4	11 (20.8%)
5	0 (0%)

ASA=American Society of Anesthesiologists; ERAS=Enhanced Recovery After Surgery; ICU=Intensive Care Unit; SD=Standard Deviation; TNM=Tumour, Node, Metastasis.

Source: Authors.

Results

The clinical and surgical data of our 57 first patients, aged 70 or more years old, consecutively undergoing elective colorectal surgery in accordance with the ERAS protocol at the Hospital Universitario de Guadalajara, since the adoption of the protocol on May 1, 2016 until January 31, 2017, are shown in [Tables 1 and 2](#). Two of these patients died during hospitalization, so the survey was conducted in only 55 patients. None of the patients undergoing this surgery was excluded over the study period, as all of them met the inclusion criteria.

General data

Nineteen (34.5%) patients had no education, 27 (49.1%) had elementary schooling, 4 (7.3%) high-school education, and 5 (9.1%) university. All were Spaniards.

Medical information

All our patients knew that the surgery was conducted by a general surgeon. In addition, they knew the name of the

Table 2. Surgery-associated data

	ERAS Group n (%)
Type of surgery	
Transit reconstruction	5 (8.8)
Right hemicolectomy	22 (38.6)
Left hemicolectomy	7 (12.3)
Sigmoidectomy	14 (24.6)
Lower anterior resection	5 (8.8)
Hartmann	1 (1.8)
Abdominoperineal resection	3 (5.3)
Laparoscopy	20 (35.1)
Open surgery	37 (64.9)
Mean hospital stay (days) Mean \pm SD	10.1 \pm 3.9
Patients with no complications	36 (63.2)
Clavien–Dindo complications	21 (36.8)
1	4 (19)
2	7 (33.3)
3	8 (38.1)
4	0 (0.0)
5	2 (9.5)
ICU	2 (3.5)
Readmission at 30 days	5 (8.8)
Mortality	2 (3.5)
Pain (0–10)	2 (0–5)

ERAS=Enhanced Recovery After Surgery; SD=Standard deviation.
Source: Authors.

surgeon, they expected the surgeon and the rest of the surgical team to be introduced before the procedure to explain the surgery and the anesthetic procedure again, checking for understanding and acceptance. To lower the patient's anxiety, the surgeon doing the intervention was the same person who evaluated the patient and followed the patient after diagnosis. This was not the case with the anesthesiologist, because the pre-anesthesia consultation could have been done with a different doctor.

Pre-operative information

Most of our patients (80%) felt that the information received from the surgeons and anesthesiologists before surgery was very good; 10 patients (18.2%) rated the

information as good, 3 (5.4%) said it was average, and none rated the information as poor or very poor (Table 3).

How did the healthcare staff treat you?

As shown on Table 3, 47 (85.5%) patients indicated that they were very well treated by the healthcare staff, 7 (12.7%) said that they were well treated by surgeons and anesthesiologists, 5 (9.1%) said that they were treated well by nurses and a minority said that they were treated fairly. Only 2 (3.6%) of the patients said that they had been badly treated by nurses and 1 (1.8%), very badly treated.

Facilities and equipment

Ten (18.2%) patients considered that the operating room where their surgery was conducted was very adequate and 45 (81.8%) quite adequate.

Only 1 patient (1.8%)—who was isolated—was in a single room; the rest of the patients, 54 (98.2%), shared a double room.

Just 1 patient (1.8%) said that the room was adequate, 9 (16.4%) considered the room very adequate, 21 (38.2%) adequate, 22 (40%) not very adequate, and 2 (3.6%) very inadequate.

Pain

Forty-eight patients (84.2%) rated their pain as equal or less than 3, whereas only 7 (12.8%) rated their pain above 4.

Food

Thirty-six (63.2%) patients did not experience any post-operative nausea and vomiting, whereas 17 (29.8%) did. All patients received pre-operative prophylaxis for nausea and vomiting according to the Apfel criteria.^{16,21} A total of 9 (16.4%) patients felt that the indication for oral fluids by the surgeon was too soon in the postop (usually indicated before the end of the 24 hours postsurgery), 23 (41.8%) said it was somewhat early, 20 (36.4%) on time, and only 1 or 2 patients thought that the indication was delayed (Table 4).

Postoperative mobilization

Nine patients (16.4%) said that the surgeon's indication to stand up from the armchair and to start ambulation after surgery was too soon (usually indicated before the first 24 hours postsurgery), 23 (41.8%) said it was somewhat soon, 20 (36.4%) on time, and only 1 or 2 patients said it was late (Table 4).

Hospital discharge

As shown on Table 3, over 50% of the patients rated the information received at discharge by the surgeons and nurses as very good, and the rest said it was good.

Table 3. Survey results (information, care, and professional competence)

	Very good n (%)	Good n (%)	Average n (%)	Poor n (%)	Very poor n (%)
Information shared before surgery by					
Surgeons	42 (76.4)	10 (18.2)	3 (5.4)	0	0
Anesthesiologists	44 (80)	10 (18.2)	1 (1.8)	0	0
Care received during hospitalization from					
Surgeons	47 (85.5)	7 (12.7)	1 (1.8)	0	0
Anesthesiologists	47 (85.5)	7 (12.7)	1 (1.8)	0	0
Nurses	45 (81.8)	5 (9.1)	2 (3.6)	2 (3.6)	1 (1.8)
Information and recommendations at discharge by					
Surgeons	29 (52.7)	26 (47.3)	0	0	0
Nurses	32 (58.2)	23 (41.8)	0	0	0
Professional competence of					
Surgeons	48 (87.3)	7 (12.7)	0	0	0
Anesthesiologists	48 (87.3)	7 (12.7)	0	0	0
Nurses	43 (78.2)	7 (12.7)	2 (3.6)	3 (5.5)	0

Source: Authors.

Competence and professional coordination

Forty-eight (87.3%) patients considered that the level of professional competence of surgeons and anesthesiologists was very high, and 7 (12.7%) said it was good. In the case of nursing, 43 (78.2%) patients rated it as very good, 7 (12.7%) good, 2 (3.6%) average, and 3 (5.5%) as poor (Table 3).

Fifty-one (89.5%) of the patients considered that the healthcare staff that participated in the surgery was very coordinated and 4 (7%) was quite coordinated.

All of our patients were willing to undergo another surgery following the ERAS protocol, based on the ERGAS guidelines and would recommend it to a relative or a friend.

General satisfaction

Fifty-three (96.4%) patients were very satisfied with the care received and 2 (3.6%) quite satisfied; there were no unsatisfied patients with the care provided.

Among the most positive aspects that patients mentioned, 45 (81.8%) agreed that the surgery and anesthesia consultation before surgery took place with no rush and the healthcare staff was eager to assist and answer any questions to improve their health condition before surgery. A total of 30 (54.5%) said that the same surgeon assisted them from the time of diagnosis, conducted the surgery, dealt with any potential complications, and did the postoperative follow-up.

Table 4. Survey results (oral fluids and ambulation)

	Too early n (%)	Somewhat early n (%)	On time n (%)	Late n (%)	Very late n (%)
Food intake after surgery	9 (16.4)	23 (41.8)	20 (36.4)	1 (1.8)	0
Sitting on the coach after surgery	9 (16.4)	24 (43.6)	20 (36.4)	2 (3.6)	0
Walking after surgery	9 (16.4)	24 (43.6)	20 (36.4)	(3.6)	0

Source: Authors.

The most negative aspect mentioned by 38 (70%) patients was the work overload of the healthcare staff in the hospital, particularly the nursing staff. A total of 28 (50%) patients highlighted the fact that they shared a room.

With regards to improvements, the main comment made by 28 (50.9%) patients was the possibility to refurbish the hospital rooms to have individual patient rooms. Furthermore, 12 (21.8%) patients agreed on the need to hire more healthcare staff, particularly in the floors.

Discussion

The results of this survey show that most of our patients aged 70 years or older, undergoing elective colorectal surgery according to the ERAS protocol at the Hospital Universitario de Guadalajara, are very pleased with the care received during their hospitalization and are willing to undergo a new surgery under the guidelines of the ERAS protocol, in addition to recommending it to a family member or friend. There are very few articles published regarding the level patient satisfaction when operated on in accordance with an ERAS protocol, and the outcomes are similar to ours.^{13,17,22} It is fundamental that patients are satisfied with the care received to establish this type of protocol where the patient's collaboration is indispensable. Most of our patients rate the way they were treated by the healthcare staff during their hospitalization as very good or good and consider that the team that participated in their surgical procedure was very coordinated. Moreover, the surgeon is a point of reference for patients, and the fact that the same surgeon was involved from the time of diagnosis until discharge was considered a very important feature by over 50% of the patients. Probably this fact raises the level of patient satisfaction. None of the patients decided to withdraw the informed consent or relinquish the guidelines of the ERAS protocol to switch to conventional surgical procedure.

Most patients rated the level of coordination and professional competence of the medical staff involved in the surgery as very high. It is critical that patients trust the medical team at all times. The adoption of the ERAS programs requires a very motivated team, where the surgeon, the anesthesiologist, and nurses are the cornerstones. It is an absolute requirement to involve the patient and his/her family, as they should help us in accomplishing our objectives. The ERAS programs entail some changes with regards to traditional medicine, particularly with regards to early oral feeding and ambulation, not leaving any drainages or nasogastric tubes after the surgical procedure, avoiding the mechanical colon preparation, stressing the importance of respiratory physical therapy which we should explain to patients and their families before surgery, to get them involved in perioperative care and avoid overloading the healthcare staff, particularly in the floors, and help them understand why

we do things as we do, and generate confidence in this new approach. All of this is done together with the pre-anesthesia and surgery consultations, and is reflected in the written information given to the patient. The medical team as a whole, the patient, and his/her family shall all agree with this approach and join efforts; they must understand on which aspects we should focus our efforts each day, and why we do it.⁸

One of the most relevant aspects of the ERAS programs is to emphasize the importance of any verbal and written communication to our patients before surgery. Most patients rated the information as very good or good. The patient must be acquainted with the treatment options and have realistic expectations about the risks and benefits. The intent is to get the maximum collaboration and involvement of patients with their treatment process.^{23,24} The purpose of the pre-anesthesia and surgery consultations and of the information shared with patients was to reduce their fear and anxiety before surgery, and make them understand why we changed our practice and get them involved in that change. The written information given to patients during consultation comprised the complete process from the day of hospital admission to discharge, with particular emphasis on early mobilization, early oral feeding, and respiratory exercise.^{15,25} Over 80% of patients rate the pre-anesthesia and surgery consultations as very positive, based on the time specifically devoted to explain the process to each patient and optimize their health status—approximately 45 minutes per patient.

Most of our patients did not experience any PONV, and the level of pain was rated as less than, or equal to 3, which contributes to a higher level of satisfaction. Optimizing pain control during the perioperative period, reducing the use of opiates, is another key objective of the ERAS programs.^{14,15} Our protocol includes using epidural analgesia (if possible thoracic in case of laparotomy), regional blocks (of the transverse plane of the abdomen, the fascia and the rectus muscles), infiltration with local anesthetic of the laparoscopic ports or of the surgical incisions, and use of non-steroidal anti-inflammatory drugs and opiates if necessary.^{14,15,26,27}

Early mobilization and early introduction of oral feeding in the first 24 hours^{14,15,28,29} postoperatively under the surgeon's indication are 2 important items in the ERAS protocol and reflect good patient progress. Early mobilization reduces pulmonary complications and insulin resistance; to accomplish this goal, adequate pain control is essential, as well as limiting the use of catheters and drains.^{14,15} Notwithstanding the fact that patients were educated at length about the importance of this approach during the pre-anesthesia consultation, over 40% of our patients felt the introduction of oral feeding and mobilization were somewhat soon; 36.4% felt it was on time, and a minority considered it late or too late. This is one of the key changes of the ERAS protocol approach and

patients should be educated during the consultation, so that they understand the reasons behind this approach and be cooperative.

Other authors associate the level of education and the patient's nationality as factors that could impact patient satisfaction.³⁰ However, this was not the case with our patients, as all of them are very satisfied or satisfied, regardless of their level of education.

Notwithstanding the fact that almost all of our patients were in a double room during their hospitalization and many thought that the room was somewhat inadequate, and referred to the work overload of the healthcare staff, this did not affect their satisfaction, as all of them expressed a high level of satisfaction. We believe then that the actual care and the way patients were treated by the healthcare staff was more important than the hospital facilities.

Patients' satisfaction was not affected either by whether they experienced complications or not during their hospitalization, as none of the patients who were satisfied experienced complications, and the rest were all very satisfied, regardless of experiencing complications or not. This is probably due to the fact that one of the aspects mentioned by over 50% of the patients was that the same surgeon did the follow-up throughout the process, from diagnosis to discharge, taking care of any potential complications and treatment. This gave a lot of confidence in their physician and probably increased their satisfaction.

Our study has some limitations. The major limitation is the fact that it is not randomized, as all the patients undergoing elective colorectal surgery since May 2016 were included in the ERAS protocol and we cannot compare the results of the satisfaction survey against a group of patients undergoing conventional surgery. Furthermore, we have no control group to contrast our results with, and we could not call the patients who underwent elective colorectal surgery before the ERAS protocol, because it had been more than 1 year ago and it made no sense to survey them then because they would have forgotten much of the data. There is only 1 non-randomized trial comparing the satisfaction of patients undergoing conventional surgery and then following an ERAS protocol; the conclusions were that patients were equally satisfied in both groups.⁸ In this study, faster recovery with the implementation of the protocol may make patients more satisfied. Another potential limitation is that in our first 57 patients, the healthcare staff was attentive to administer the different items of the protocol, and consequently were very attentive to the patients at all times, which could have increased their satisfaction. It is quite complicated to compare these results against other trials, as the number of existing satisfaction studies is small and each one measures different variables, and as there are no standardized scales or indexes to measure the level of satisfaction of our patients. For this reason, we

conducted the study based on the survey used in the enhanced recovery in abdominal surgery guidelines, as a model established by the Ministry.

Further studies are needed to determine exactly the level of patient satisfaction, and standardized surveys or questionnaires should be developed so that we all measure the same variables and be able to compare results.

We may conclude that all patients aged 70 years or older, undergoing elective colorectal surgery at the Hospital Universitario de Guadalajara, following the implementation of an ERAS protocol, were very satisfied or satisfied with the care provided; the results obtained with these protocols in terms of shorter mean hospital stay, less complications and lower rate of readmissions, represent a high level of patient satisfaction.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors have obtained the informed consent of the patients and/or subjects referred to in the article. This document work in the power of the correspondence author.

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Conflicts of interest

The authors have no conflicts of interest to disclose.

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Annex 1: Satisfaction survey

1. General information

- o Age:
- o Sex: Male ☐ Female ☐
- o Nationality: Spanish ☐ Other ☐
- o Level of Education: No formal education ☐ Elementary ☐ High school ☐ University ☐

2. Medical data

- o The surgery was conducted by:
- o General surgeon ☐ Urologist ☐ Gynecologist ☐ Several ☐ Other ☐

3. Preoperative information

- o How would you rate the information you were given by the surgeon before surgery: Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor ☐
- o How would you rate the information you were given by the anesthesiologist before surgery: Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor ☐

4. How were you treated

- o How would you rate the way you were treated by the attending surgeon:
- o Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor ☐
- o How would you rate the way you were treated by the anesthesiologist: Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor ☐
- o How would you rate the way you were treated by the nursing staff: Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor ☐
- o How would you rate the way you were treated by the healthcare staff: Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor ☐

5. Facilities and equipment

- o In your opinion, the OR in which you were operated on and the equipment available was: Very appropriate ☐ Quite appropriate ☐ Appropriate ☐ Not very appropriate ☐ Not appropriate at all ☐

- o The room you stayed at after discharge from the ICU- PACU was:
 - o Single ☐ Double ☐ Other ☐
 - o In your opinion, the room you stayed at after discharge from the PACU was:
 - o Very appropriate ☐ Quite appropriate ☐ Appropriate ☐ Not very appropriate ☐ Not appropriate at all ☐
- 6. **Pain**
 - o What was your pain level after surgery? (0=no pain and 10=excruciating pain) 0 1 2 3 4 5 6 7 8 9 10
- 7. **Postoperative nutrition**
 - o Did you experience any nausea or vomiting after surgery? YES ☐ NO ☐
 - o When you were told that you had to eat or drink, you thought it was:
 - o Too soon ☐ Somewhat soon ☐ On time ☐ Late ☐ Too late ☐
- 8. **Postoperative mobilization**
 - o When you were told to stand up from the armchair, you thought it was:
 - o Too soon ☐ Somewhat soon ☐ On time ☐ Late ☐ Too late ☐
 - o When you were told to walk, you thought it was:
 - o Too soon ☐ Somewhat soon ☐ On time ☐ Late ☐ Too late ☐
- 9. **Hospital discharge**
 - o How would you rate the information and the recommendations you received from the surgeon:
 - o Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor ☐ I was not informed ☐
 - o How would you rate the information and recommendations you received from the nursing staff following discharge:
 - o Very good ☐ Good ☐ Fair ☐ Poor ☐ Very poor ☐ I was not informed ☐
- 10. **Professional competence and coordination**
 - o In your opinion, the level of professional competence of the surgeon was:
 - o Very high ☐ High ☐ Average ☐ Low ☐ Very low ☐
 - o In your opinion, the level of professional competence of the anesthesiologist was:
 - o Very high ☐ High ☐ Average ☐ Low ☐ Very low ☐
 - o In your opinion, the level of professional competence of the nursing staff was:
 - o Very high ☐ High ☐ Average ☐ Low ☐ Very low ☐
 - o In your opinion, the level of professional competence of the healthcare staff was: Very high ☐ High ☐ Average ☐ Low ☐ Very low ☐
 - o In terms of coordination among the team members, they were: Very coordinated ☐ Quite coordinated ☐ Coordinated ☐ Poorly coordinated ☐ Complete uncoordinated ☐
 - o If you had to undergo surgery again, with you do it according to the RICA (Enhanced Recovery in Abdominal Surgery) model:
 - o YES ☐ NO ☐
 - o If one of your relatives has to undergo surgery, would you recommend the RICA (Enhanced Recovery in Abdominal Surgery) model:
 - o YES ☐ NO ☐
- 11. **Overall satisfaction**
 - o What is your level of overall satisfaction with the care provided: Very satisfied ☐ Quite satisfied ☐ Satisfied ☐ Poorly satisfied ☐ Unsatisfied ☐
- 12. **Observations:**
- 13. **What was your most positive and your most negative experience?**
- 14. **Any improvements that could be introduced:**
 - Source: Adopted from.¹⁴