The Patient Perspective Regarding Ambulatory Surgery: An Observational Study

A Perspetiva do Doente Sobre a Cirurgia em Regime de Ambulatório: Um Estudo Observacional

ARTIGO ORIGINAL

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ABSTRACT

Introduction: Due to the advances in anesthetics and surgery, ambulatory surgery plays an increasingly important role. This regimen, despite showing several advantages, still instills fear in patients. The aim of this was to evaluate the level of knowledge and the perspective of patients regarding ambulatory surgery.

Material and Methods: A prospective study was carried out for two months in patients with pre-anesthetic consultation at a University Hospital Center. Demographic information, educational level, and previous ambulatory surgery were surveyed. Patients' level of knowledge about surgery, satisfaction, and the perceived advantages and fears regarding this regimen were evaluated. The analysis was performed with SPSS, and $p < 0.05$ was considered statistically significant.

Results: Two hundred and fifty-one patients were included. One hundred and twenty-eight (51%) patients disclosed having knowledge about ambulatory surgery. The main advantages perceived by patients were more peaceful recovery (44.7%), avoiding being surrounded by other patients (43.1%), and avoiding infection (37.2%). The main fears shown by patients were poor pain control (20.7%), having other health problems (13.1%), and poor control of nausea or vomiting (10%).

Conclusion: Patients may benefit from being more informed about the ambulatory surgical regimen in order to decrease their fears and increase their acceptance of the regimen. Providing more information to patients may result in increased satisfaction with this regimen.

Keywords: Ambulatory Surgical Procedures; Anesthesia; Patient Satisfaction

RESUMO

Introdução: Com os avanços observados a nível anestésico e cirúrgico, a cirurgia em regime de ambulatório tem cada vez mais expressão. Este regime, apesar das várias vantagens para os doentes, acarreta também vários receios. Os objetivos deste estudo foram avaliar o nível de conhecimento e a perspetiva dos doentes sobre a cirurgia em ambulatório.

Material e Métodos: Estudo prospetivo decorrido durante dois meses em doentes com consulta pré-anestésica num Centro Hospitalar Universitário. Foi inquirida informação demográfica, nível educacional e existência de cirurgia prévia em regime de ambulatório. Foram avaliados o nível de conhecimento dos doentes, a satisfação, as vantagens e receios relativos à cirurgia em regime de ambulatório. A análise foi feita com SPSS (v 27.0) e $p < 0,05$ foi considerado como estatisticamente significativo.

Resultados: Foram incluídos 251 doentes. Destes, 128 (51%) doentes demostraram ter conhecimento sobre a cirurgia de ambulatório. As principais vantagens percebidas pelos doentes foram ter uma recuperação mais sossegada (44,7%), evitar estar rodeado de outros doentes (43,1%) e evitar infeção (37,2%). Os principais receios mostrados pelos doentes foram o mau controlo da dor (20,7%) e de náuseas/vómitos (10%) e ter outros problemas de saúde (13,1%).

Conclusão: Os doentes poderão beneficiar de ser mais informados sobre o regime cirúrgico em ambulatório de forma a diminuir os seus receios e aumentar a sua satisfação. Investir na informação do doente poderá aumentar a aceitação do regime de ambulatório.

Palavras-chave: Anestesia; Procedimentos Cirúrgicos Ambulatórios; Satisfação do Doente

INTRODUCTION

Ambulatory surgery (day surgery) is defined as an elective surgical procedure where patients are admitted and discharged from the hospital in less than 24 hours, in proper facilities and safety conditions in accordance with current clinical practice.[1] Another important concept is the extended recovery patient, that the International Association of Ambulatory Surgery (IAAS) defined as "a patient treated in ambulatory surgery/procedure center/unit, free-standing or hospital-based, who requires extended recovery including an overnight stay, before discharge the following day".[2] Nevertheless, in our study, we particularly focused on patients who were discharged from the hospital within the same day.

In order to evaluate the impact and prevalence of ambulatory surgery worldwide, the IAAS started to carry out multinational surveys. In its first edition, in the 1990s, a high inter-country disparity was noted, with the prevalence rate of outpatient surgery ranging between 9.9% in Portugal, 21.9% in Italy, 30.2% in France, 66.7% in the Netherlands, and 78.5% in Denmark.[3] In later editions, the progressive growth of this surgical regimen was notorious.[4] In 2015, in a small article where Appleby highlights the economic benefits of outpatient surgery in the UK, he emphasizes that in this country, from 7% of the total number of surgeries in 1974, ambulatory surgery came to represent 78% in 2013.[5]

While still having a large growth potential, in Portugal, ambulatory surgery represents 66.1% of all elective

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surgery (data collected by the Annual Report on Access to the National Health Service from 2019).[6] This figure is highly promising and is expected to grow to the levels seen in Northern Europe, where ambulatory surgery accounted for 69% and 74% of all surgeries in Sweden and Denmark, respectively, in 2009.[7]

Ambulatory surgery is currently performed in patients who were previously required to stay at the hospital.[2] This is due to recent surgical and anesthetic techniques.[2,8] Moreover, this option is better suited to minimally invasive surgeries, which are being performed more often.[9] The attempt to reduce the costs of healthcare services combined with the cost-effectiveness of ambulatory surgery are two added reasons for this increase.[2]

Additionally, ambulatory surgery has brought several advantages to patients. It allows patients to recover in their home environment, with minimal disruption to their routines,[10-13] and it helps avoid medication-related problems that can arise from prolonged hospitalization.[10] It is also associated with less pain and lower thromboembolic risk derived from early ambulation,[12] as well as with lower infection rates mainly because of the shorter hospital stay[10,12] and with lower stress levels for the patients' relatives.[12]

Patient satisfaction after ambulatory surgery appears to be high, fulfilling most of their expectations.[11,13-15] Also, patients who undergo this type of surgery appear to prefer this option, with 97% of them claiming that they would choose ambulatory surgery again.[16]

However, despite the fact that ambulatory surgery appears to be a well-accepted procedure,[11,14] patients still have some concerns about potential risks, namely postoperative complications.[11] More specifically, patients fear poor pain management, being dependent on others for help, suffering from a fall, lack of sufficient support, and nausea, etc.[17] They also fear not having enough knowledge about rehabilitation,[11] as well as not having enough generic knowledge on ambulatory surgery.[18]

Considering that the paradigm of medicine and surgery is evolving from being disease-focused, to becoming more patient-centered,[18] it becomes crucial to understand the patient's perspective regarding the advantages and concerns of ambulatory surgery. With this data, we will be able to include the patients as active participants in the decision-making process of their care.[19] A higher level of patient education leads to better surgical outcomes, overall satisfaction, reduced anxiety levels, and increased patient well-being.[20,21] The widely known enhanced recovery after surgery (ERAS) has already confirmed these positive findings.[22]

Therefore, the aim of this study was to evaluate patients' knowledge and perspectives about the ambulatory surgery.

MATERIAL AND METHODS

After receiving approval from our institutional ethics committee, we performed a prospective study at the Ambulatory Surgery Department, with the duration of two months (estimated period, based on the number of surgeries in our center, to obtain a number of responses close to that reported by similar articles[11,14,17,23]). Patients older than 18 years that were proposed for ambulatory surgery were included. The data were collected before the assessment visit with the anesthesiologist. Exclusion criteria were: patient's refusal, non-autonomous patients, unlettered patients.

Each patient was given a questionnaire (Appendix 1: https://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/16494/Appendix_01.pdf), which they filled. The questionnaire was developed by a group of anesthesiologists based on relevant articles that focused on knowledge of this regimen,[11,17] perceptions about outpatient surgery and its risks and benefits,[11,16,17] and on patient satisfaction with this option.[11,14,16,23] The following variables were included in the questionnaire: demographic data, the highest level of education, and previous experience in ambulatory surgery. We evaluated patient perception about ambulatory surgery, including the level of knowledge of patients, patient satisfaction, and patient perceived advantages and concerns regarding this regimen. Patient consent was obtained.

All the data collected in this study were compiled and summarized with descriptive statistics. The results are presented as percentages or medians.

Demographic variables, as well as the answers to the questionnaire, are presented as percentages or absolute values. Statistical analysis was performed using SPSS software (v 27.0). An association was sought between the patient's ambulatory surgery-related knowledge and the level of education or previous exposure to ambulatory surgery. A chi-square test was used. A p-value < 0.05 was considered statistically significant.

RESULTS

Two hundred and fifty-one patients participated in this study.

Demographic data, education level, and a history of previous ambulatory surgery are shown in Table 1.

Table 1 – Demographic data: gender, age, education level, previous ambulatory surgery

Gender, n (%)	
Masculine	75 / 29.9
Feminine	158 / 62.9
Non-respondents	18; 7.2
Age (median; Q1; Q3)	47; 38; 55
Education level, n (%)	
Did not finish high school	131 (52.2)
High school	63 (25.1)
College education	39 (15.5)
Non-respondents	18 (7.2)
Previous ambulatory surgery, n (%)	
Yes	91 (36.3)
No	127 (50.6)
Non-respondents	33 (13.1)

Table 2 – Patient-related knowledge about ambulatory surgery

Ambulatory surgery is, n (%):	
- A surgery in which the patient is discharged in the first 24 hours after the surgical intervention	128 (51.0)
- Wrongly answered	83 (33.1)
- Non-respondents	40 (15.9)
All the patients included in the study	251
Ambulatory surgery is, n (%):	
- A surgery in which the patient is discharged in the first 24 hours after the surgical intervention	48 (52.7)
- Wrongly answered	31 (34.1)
- Non-respondents	12 (13.2)
Patients who had been previously operated in an ambulatory basis	91

Results regarding the ambulatory surgery-related knowledge are shown in Table 2.

When asked if they would like to be given more information about ambulatory surgery, the majority (60.2%) answered positively. Forty-one patients did not respond.

We asked patients who were previously operated on an outpatient basis about their experience regarding the information provided in that previous surgery. Seventy-seven (84.6%) patients claimed to have received all the information needed to feel safe. When asked if they would prefer to have stayed in the hospital for a longer period of time, 79 (86.8%) replied “no”. Regarding the two questions mentioned, two and three patients did not respond, respectively.

Concerning patient fears regarding ambulatory surgery, we can see from Table 3 that poor pain management was the most prevalent concern, having been mentioned by 20.7% of patients.

When asked about the possibility of being able contact a doctor promptly in case of doubt, the majority (81.3%) of patients said “yes”. Thirty-five patients did not respond.

As for the patient perspective regarding ambulatory surgery, the non-respondents were 52, with 94.5% of the patients who answered the question considering it as advantageous. The main advantages pointed out by these patients are summarized in Table 4. Concerning the most relevant advantages inherent to ambulatory surgery, 63.3% of patients pointed to the reduction of surgical waiting lists, 23.1% to reduced healthcare costs, 11.6% to reduced daily routine disruptions, and 8.8% to reduced nurse and medical workload. This is depicted in Table 5.

When questioned about the most relevant aspects to their satisfaction regarding ambulatory surgery, as we can see in Table 6, 131 (52.2%) patients selected the surgical outcome.

Lastly, a possible association between knowledge about ambulatory surgery and the general level of education, as well as between knowledge about ambulatory surgery and a previous exposure to ambulatory surgery, was addressed.

Table 3 – Patients’ concerns regarding ambulatory surgery

What do you fear most about ambulatory surgery?	n (%)
- Poor pain management	52 (20.7)
- Not being able to perform your personal hygiene	17 (6.8)
- Suffer a fall	9 (3.6)
- Not having enough support	16 (6.4)
- Manage medication	0 (0)
- Poor nausea and vomit management	25 (10)
- Not being able to change the bandage	16 (6.4)
- Having other health related complications	33 (13.1)
- Non-respondents	122 (48.6)

Table 4 – Patients’ perception regarding the personal advantages of ambulatory surgery

What is, for you, the main advantage of having a surgery on an ambulatory basis?	n (%)
- Avoiding infection	70 (37.2)
- Sleep better, at home	39 (20.7)
- Having a more peaceful recovery	84 (44.7)
- Avoiding being surrounded by other patients	81 (43.1)
- Eating tastier food, at home	18 (9.6)
- Avoiding parking related problems	5 (2.7)
- Non-respondents	5 (2.7)

Table 5 – Patients' perception regarding the inherent advantages of ambulatory surgery

In your opinion, what do you consider to be the biggest advantage of ambulatory surgery?	n (%)
- Reducing patient daily routine disruptions	29 (11.6)
- Reducing surgical waiting lists	159 (63.3)
- Reducing nurse and medical workload	22 (8.8)
- Reducing heath care costs	58 (23.1)
- Non-respondents	47 (18.7)

Table 6 – Patients´ perception regarding the most satisfactory aspects about ambulatory surgery

In your opinion, what matters the most to the satisfaction derived from ambulatory surgery?	n (%)
- Hospital environment	14 (5.6)
- Doctor-patient communication	50 (19.9)
- Agility of the hospital process	80 (31.9)
- Procedure outcome	131 (52.2)
- Non-respondents	49 (19.5)

Statistically significant differences were not observed for any of the variables (*p*-value = 0.099 and *p*-value = 0.934, respectively).

DISCUSSION

In this study, only 51% of the patients demonstrated a reasonable amount of knowledge about this regimen. This percentage overlapped when just the patients previously operated on this regimen were considered, with 52.7% answering correctly. These findings may reflect the participant's low level of formal education participants. Furthermore, as previously mentioned, despite the enormous growth of ambulatory surgery, in Portugal, it is still not very significant compared to other countries,[7] a fact that may help explain this lack of knowledge. The study by Meneghini *et al*[24] regarding outpatient arthroplasty found similar findings: only 54.5% of the patients included were aware of this surgical option.

In our sample, 84.6% of patients previously operated on an ambulatory basis reported having all the information necessary to feel safe, which is similar to the data presented by Harju[25] and McCloy *et al*.[26] Moreover, 86.8% of patients stated that they would not have stayed in the hospital longer, which is in line with the findings of the study by Weale *et al*,[27] where 90% of patients who were operated on an outpatient basis preferred this regimen. Also, in the study by Philip,[16] 97% of the sample stated that they would opt for the same regimen again. This translates into a high level of satisfaction regarding ambulatory surgery, not only due to the responses obtained but also due to the fact that patients tend to repeat this choice, which is in line with the available literature, where high levels of satisfaction are described.[11,13-16]

In our study, the surgical outcome, the agility of the hospital process, and the doctor-patient communication were the aspects observed as most relevant to patient satisfaction. This is consistent with the studies by Lemos *et al*,[14] which reported the final outcome and the clinical information as being statistically significant, with an odds ratio of 3.153 and 1.609, respectively. For Holland *et al*,[23] the clinical quality and safety, as well as courtesy and sensitivity, were the only dimensions of patient satisfaction that were statistically significant. Chung *et al*[15] showed that the doctor-patient quality of interaction is one of the most important predictors of patient satisfaction.

The majority (60.2%) of patients conveyed a desire for more information, which is in line with the previous literature. In the study by Otte,[13] patients stated a desire for more information regarding their surgery, surgical outcome, and recovery. Thus, it becomes advisable to create training initiatives in order to provide information about the peri-operative period to the patient.

Regarding the advantages perceived by the patient, s the reduction in infection rate the most prevalent in our study (37.2%) and the recovery comfort, which combines both having a more peaceful recovery (44.7%) and avoiding being surrounded by other patients (43.1%). These results are in line with the literature, wherein the studies by Adelani *et al*,[17] Meneghini *et al*,[24] and Evans *et al*[28] reported that avoidance of infection was one of the most common advantages. Furthermore, these studies reported prevalence rates of 57.3%, 72.8%, and 38.2%, respectively. Recovery comfort is emphasized in the study by Adelani *et al*[17] and Evans *et al*,[28] with prevalence rates of 42.7% and 73.4%, respectively. However, we observed some differences in the study by Adelani *et al*,[17] where avoiding being surrounded by other patients only ranks fifth, being mentioned by 18.8% of patients, whereas, in our study, this was one of the most prevalent advantages (43.1%).

In addition, the opinions of patients concerning the inherent advantages of ambulatory surgery were also evaluated, where reducing surgical waiting lists (63.3%) and reducing health care costs (23.1%) were the most perceived. These results show the opposite of what was found in the study by Yu *et al*,[11] where the economic aspects were the least valued (43%), whereas the social and the convenience aspects were mentioned by 87% and 60%, respectively. Also, in the studies by Otte[13] and Read,[29] the minimal disruption in

the lives of patients and their families was the most valued advantage.

Although patients acknowledge that ambulatory surgery has certain advantages, there is still a strong belief that the economic benefits are the main driving force of this practice. Comfort and healthcare improvement aspects are not recognized to be equally important. Thus, it is necessary to work towards improving the communication with the patient, explaining all the aspects in which this regimen proves to be beneficial and not just the economic benefits.

Patients perceive advantages in this regimen but also have some fears. These were also studied. The most frequently mentioned were poor pain management (20.7%), followed by fear of having other health-related problems, and poor management of nausea and vomiting. However, the response rate of this question was only 51.4%, which leaves us in doubt as to whether the lack of answers was due to patients' lack of concern or whether they simply did not answer the question, indicating that, perhaps, the question was poorly understood. Our observations are in line with the available literature where the majority (75%) of patients mentioned being afraid of suffering some postoperative complication.[11] In the study by Jenkins *et al*,[30] concerning postoperative complications in an ambulatory setting, pain, nausea, and vomiting were mentioned in a 1 - 10 ranking scale, with a 9 and an 8, respectively, being amongst the most disturbing complications. Also, in the study by Adelani *et al*,[17] the fear of feeling pain is referred to as the most prevalent (54.8%). Despite the efforts, pain, nausea, and vomiting are concerns that are often mentioned by patients, which demonstrates there are real and well-founded fears, with these being the most frequently reported adverse events in the literature regarding the postoperative period.[31-33] A plausible strategy might be to provide easy access to dedicated healthcare professionals so that patients can clarify their doubts. This strategy seems to be well accepted by patients, with most being in favor (81.3%).

This study has several limitations. The population under study was taken from the pre-anesthetic consultation. This may have led to more informed patients, both in anesthesia and in surgery, in contrast with the general population. The poor or incomplete filling of the questionnaire may have led to answers that are not representative of the reality of individual patients. Moreover, the low level of education of the majority of the participants may have led to more difficulties regarding the interpretation of the questionnaire. The use of a questionnaire as the means to obtain the data may have led to a misinterpretation of the questions, as well as to a limitation in terms of the answers obtained, unlike in an interview. The fact that the data originated from the same center may lead to responses that do not translate the national reality since there may be differences at the population level, as well as in the pre-operative education provided by the different centers.

Regarding the incomplete filling of the questionnaire, we admit that some patients might have felt inhibited due to their lack of knowledge about the topic. If this is the case, the results obtained may be overestimated. On the other hand, the place where it was delivered (in the consultation waiting room) could potentially have made it difficult for some patients to fill out the questionnaire. Finally, we admit that the questionnaire was not understood by some patients given the low educational level of the participants.

CONCLUSION

There may be a big gap in patient knowledge regarding ambulatory surgery, with only about half of patients in this study responding correctly. According to patients, the main advantages of ambulatory surgery include a peaceful recovery, avoiding being surrounded by other patients, and avoiding infection. Despite the high level of satisfaction found, patients reveal several fears about this regimen (poor pain control, having other health problems and poor control of nausea or vomiting being the most common), as well as a desire for more information. Therefore, it is important to provide more information and further integrate patients while meeting their needs. Satisfaction, acceptance, and in the end, the success of this regimen rely entirely on the patient. Thus, according to the new paradigm of medicine, a more patient-centered approach where the patient has a more active role in the decision process is needed.[13] We must look for new approaches to further improve the level of satisfaction and reduce the perceived fears, so that a higher acceptance rate of this regimen can be achieved.

AUTHORS CONTRIBUTION

MS: Design of the work and questionnaire, draft of the manuscript.

JS: Data acquisition, draft of the manuscript, statistics analysis.

JN: Design of the questionnaire, data processing,

FO: Data processing, statistics analysis.

EC: Draft of the questionnaire, critical review of the paper.

JM: Design of the work and questionnaire, critical review of the paper.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in 2013.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

PATIENT CONSENT

Obtained.

COMPETING INTERESTS

The authors have declared that no competing interests exist.

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