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# **Research Article**

# Medical and Social Needs Within 30 Days Postoperatively with Patients Who Underwent Outpatient Surgery in Ile De France During 2017

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# 1. Abstract

Follow-up; Postoperative

Keywords:

**1.1. Background:** The objective of this study is to analyze the medical and social needs expressed by patients operated on an outpatient basis within 30 postoperative days.

**1.2. Methods**: This is a prospective study from May to June 2017. The population, as well as the study of the link between patients' needs, sociodemographic characteristics, and surgical discipline, were described.

**1.3. Results:** For medical needs, 15.5% of patients called on Day 3, 14.7% on Day 13, and 7.1% on Day 23. These needs were dressings, pain, and bleeding. For social needs, 25.9% of patients called on Day 5, 12.8% on Day 15, and 7.1% on Day 25. These needs were difficulties in eating, moving, washing.

**1.4. Conclusion:** It is possible to anticipate the medical needs of patients thanks to preoperative consultations and the good following of instructions by patients. Social needs must also be taken into account in the management of patients.

### 2. Introduction

The development of ambulatory surgery (AS) remains to this day a major advance in the world of medicine in general and surgery in particular. Since the previous decade, it has become one of the symbols of the modern evolution of surgical organizations and care [1]. In several countries, since the 1980s, AS has been one of the priority modes of patient care. Indeed, the United States has always recorded high turnover rates, the latest of which is 70% in 2017 [2]. In Europe, it is Great Britain that is the pioneer of AS. In 2019, there was an 81% rate of coverage of outpatient surgical procedures [3]. In France, the follow-up of the patient is ensured

by a telephone call the day after the intervention, i.e., on D+1 [4]. Which makes it possible to follow the patient's recovery and detect any complication. But given the increase in flow in AS centers, this call consumes too much time for staff. The national OPERA study undertaken in 2015 by the French Society of Anesthesia and Resuscitation (SFAR) found that on average 15% of patients are not called, and this figure can reach 55% on Saturday mornings [5]. A similar observation was made by the High Authority of Health (HAS) in 2016 thanks to the results of the analysis of the indicators of quality and safety of care [6]. The "HAS" has demonstrated that patients consider the organization of discharge and return to home to be insufficient, with a score of 68/100 [6]. In particular, it was pointed out that half of the patients were not contacted again after discharge and 30 % were not given a telephone number to contact in case of emergency [6]. These results highlighted a priority need to improve the organization of discharge from hospital or clinic [6]. However, even if the calls at D+1 are realized, other concerns exist, including whether the call made at D+1 is sufficient. An internal study carried out at the Saint Louis Hospital in 2016 and whose results have not been published, showed that more than 20% of patients operated on in ASC had social and medical needs beyond D+1 [7]. Therefore, we proposed to carry out a prospective study on the medical and social needs of patients operated on in outpatient surgery within 30 post-operatory days in 7 establishments in the Ile de France region in 2017. Thus, the objectives of this study were to analyze the medical and social needs expressed by patients operated on an outpatient basis within 30 postoperative days to propose strategies to meet the needs and improve care.

### 3. Methods

#### 3.1. Diagram and Period of the Study

This was a prospective descriptive study between May and June 2017 carried out in 7 health institutions in Ile de France that had an Ambulatory Surgery Unit (UCA). It was a multipurpose UCA of a private institution (Ste Marie clinic); a UCA specialized in breast surgery of a Private Health Institution of Collective Interest (Institute Curie); a UCA specialized in ophthalmological surgery, a university hospital (HU) (Lariboisière Hospital), two multipurpose UCA of HU (Cochin and Saint Louis) and two multipurpose UCA of public hospitals (intercommunal hospital center and Creteil and Poissy-Saint-Germain).

### 3.2. Participants

Wearer the patients operated in ASC between May and June 2017 in the 7 IDF establishments (private, public, PSPH) with the highest volumes of AS performed. The non-inclusion criteria of the study were refusal to participate, lack of access to a mobile phone, and patients unable to read and write.

#### 3.3. Data Collection

A questionnaire was sent, by an automatic system of short messages services (SMS), to patients who had outpatient surgery during the 30 days post-operative. To do this, the SMS messages were sent in 3 periods: 1st week, 3rd week, and 4th week after the surgery. All patients received two SMS per period, two days apart: one SMS for questions on medical needs (D3, D12, and D23), and the second on social needs (D5, D15, and D25). The sending of the SMS was entrusted to the company "Calmédica". The data collected by the company "Calmédica" through the SMS were imported in Excel format, then transferred to the team of "Observatoire Regional de la Chirurgie Ambulatoire" (ORCA) for analysis. Verification of the data sent was done by the ORCA team before analysis.

#### 3.4. Ethical Aspects

This study was carried out with the agreement of the directors of each institution. Data were anonymized and patient consent was collected before the procedure, specifically upon admission.

#### 3.5. Analysis Plan

We described the sociodemographic characteristics of the study population using the following variables: age in year, sex, and surgical discipline. The results are presented in a table in the form of the median and interquartile range (AE) for quantitative variables, and numbers and percentages for qualitative variables. The notion of having a need was determined by having made at least one call in the 30 days following the operation. Patients who did not call because they did not know who to contact were also considered patients with needs. We then determined precisely the needs of the patients based on the reasons for their call. Pearson's or Yates Chi2 test at the 5% threshold was used to identify statistically significant differences between making a call and gender, age, and surgical discipline.

# 4. Result

The data collected for this study concerned 1439 patients operated on outpatient surgery basis in 7 hospitals in IDF between April and June 2017. Table I presents the socio-demographic and clinical characteristics of the 1439 outpatients operated on an outpatient basis in IDF between May and June 2017. The median age of these patients was 48 years with an interquartile range (AE) between 33 and 65 years. Patients over the age of 60 (34.3%) were the most represented, followed by those between the ages of 40 and 60 (33.1%). Nearly two-thirds of the patients in the study were women (59%). The types of surgeries that our population benefited from were mostly: plastic (21.3%), ophthalmic (18.1%), digestive/visceral (12.7%), orthopedic (10.6%), and stemmatological (10.1%). The response rate decreases over the days, for medical needs: 72%, 60%, and 59% of patients responded to J3, J13, and J23 respectively. For social needs, 72%, 65%, and 28% of patients responded to Day 5, Day 15, and Day 25 respectively. The proportion of patients who called for medical needs on Day 3 was 15.5%. This proportion decreased to 14.7% on Day 13 and then to 7% on Day 23. Concerning the people contacted for medical needs, the hospital was the most contacted, followed by the general practitioner, the nurse, and then the emergency services. The proportion of patients who called for social needs on Day 5 was 25.9% compared to 12.8% on Day 15 and 7.1% on Day 25. Family members are the most called for social post-operative needs (Table II). The most recurrent reasons for calls to D3 are dressings/scars (18.8%), pain (14.4%), and bleeding (10%). The rates of calls made decrease on Day 13 and Day 23 for each reason except for pain (Table III). The social need for which there were the most calls on Day 5 was having difficulty eating (31.2%), followed by difficulty getting around (27.8%). The difficulties for household chores and washing are respectively 14.8% and 14.1% on Day 5. These rates decrease for all needs on Day 15 and then on Day 25. This decrease is significant only between Day 5 and Day 15, and this is for eating, moving, and washing (Table IV). There is no statistically significant difference between the proportion of men and women who called for medical needs regardless of the post-operative day. On Day 3 and D23, the call for medical needs is not statistically significantly related to the age of the patients, but it is at Day 13. On every postoperative day, the call of patients is statistically linked to the surgical discipline of the intervention (Table V). Regarding the social needs (Table VI), there is a statistically significant difference between patients who called and those who did not, by sex (p<0.01), age (p<0.01), and discipline of the intervention (p<0.01). Table V: Call for medical needs by sex, age, and discipline in outpatient patients in IDF in 2017 on Day 3 (n=1031), Day 13 (n=862), and then on Day 23 (n=848)

Difficulty eating is statistically significantly related to gender and age. Women had more difficulty eating than men. The same applies to patients between the ages of 20 and 40 who have had more difficulty eating than other patients. Having difficulty washing is statistically related to age: patients under the age of 20 had statistically more difficulty washing than other patients. Difficulty moving and helping with household chores are not statistically significantly related to surgical discipline. Patients operated on for ophthalmological (p<0.01) or stemmatological (p=0.03) surgery

had statistically more difficulty eating than patients who did not have ophthalmological or stemmatological surgery. Patients who received orthopedic surgery (p<0.01) had statistically more difficulty washing than those who did not. The majority of patients who called for difficulty eating had had digestive/visceral surgery (70/83). The majority of patients who had difficulty getting around (26/75) or performing household chores (20/40) had undergone plastic surgery.

Characteristics	n	Proportion (%) or median (interquartile range)
Age in years	1438	48 (33 - 65)
Age in categories	·	
<10	95	6,6
10-20	95	6,6
20-40	279	19,3
40-60	476	33,1
>60	493	34,3
Missing data	1	0,1
Sex	·	
Man	588	40,9
Wife	849	59,0
Missing data	2	0,1
Surgical discipline		
Plastic	306	21,3
Ophthalmology	261	18,1
Visceral digestive	183	12,7
Orthopedics	153	10,6
Dentistry	145	10,1
Urology	122	8,5
Gynecology	121	8,3
Orl	97	6,9
Cardiology	28	1,9
Missing data	23	1,6

Table I: Sociodemographic and clinical characteristics of outpatients in IDF in 2017 (N = 1439).

Table II: Response rate, call rate, and call-ups by outpatients in IDF in 2017 (N = 1439).

		Response rate n(%)	Call rate	Hospital	Doctor	Nurse	Emergency room	
	D3	1031(71,7)	160(15,6)	69 (43,1)	34 (21,2)	29 (18,1)	20 (12,5)	
Medical need	D13	862(60)	127(14,8)	29 (22,8)	28 (22,0)	18 (14,2)	17 (13,4)	
	D23	848(59)	60(7,1)	4 (6,7)	10 (16,7)	4 (6,7)	4 (6,7)	
				Family	Professional Caregiver			
	D5	1037(72,1)	269(25,9)	237 (88,1)	14 (5,2)			
Social needs	D15	942(65,5)	121(12,9)	20 (16,5)		5 (4,1)		
	D25	408(28,4)	29(7,2)	4 (13,7)		2 (6,2)		

Table III: Reasons why outpatients operated on in IDF in 2017 made the call on Day3 (n = 160), Day 13 (n = 127) and Day 23 (n = 60).

Medical needs	D3		D13		D23	
	n(%)	IC 95%	n(%)	IC 95%	n(%)	IC 95%
Pain	23(14,4)	9,5-20,9	16(12,6)	7,5-19,9	8(13,3)	6,3-25,1
Bleeding	16(10,0)	6,0-15,9	10(7,9)	4,0-14,3	2(3,3)	0,5-12,5
Dressings/scars	25 (18,8)	21,0 - 41,7	13 (10,2)	5,7 - 17,1	3 (5,0)	1,3 - 14,8

Table IV: Social needs for which outpatients operated on in IDF in 2017 made the call on Day 5 (n = 269), D15 (n = 121) and D25 (n = 29).

Social needs	D5		D15		D25	
	n(%)	IC 95%	n(%)	IC 95%	n(%)	IC 95%
Eat	85 (31,2)	25,8-37,1	7 (5,7)	2,5 - 11,9	3 (10,0)	2,7-28,4
Move	75 (27,8)	22,6-33,1	10 (8,2)	4,2-15,0	1 (3,4)	0,0-19,9
See doing	38 (14,1)	10,3 – 19,0	1 (0,8)	0,0-5,1	0 (0,0)	-
Domestic help	40 (14,8)	10,9 - 19,8	11 (9,0)	4,8 - 16,0	0 (0,0)	-

Table V: Call for medical needs by sex, age, and discipline in outpatient patients in IDF in 2017 on Day 3 (n=1031), Day 13 (n=862), and then on Day 23 (n=848).

		D3		D13			D	23	
Variables	n =	= 1031		n = 862			n = 848		
variables	Call	Call		Call	Call		Call	Call	
	Yes	No	p	Yes	No	р	Yes	No	p
Sex			0.23			0,49			0,34
Man	55	339		51	319		26	293	
Wife	105	532		76	416		34	495	
Age			0.82			0,02			0,5
< 20	20	117		17	101		6	109	
20 - 40	33	173		49	211		19	138	
40 - 60	60	299		32	159		18	259	
> 60	47	282		29	264		17	282	
Disciplines			0.00			0,00			0,02
Plastic	42	186		20	99		9	165	
Ophthalmology	13	141		6	151		3	144	
Digestive/visceral	25	104		28	100		9	93	
Orthopedics	17	93		19	88		10	84	
Dentistry	10	98		14	92		10	82	
Urology	17	17		12	63		9	66	
Gynecology	10	89		14	69		2	77	
ORL	20	61		9	43		6	48	
Cardiology	3	18		3	19		1	20	

Variables	D 5 n =	= 1037		D 15 n = 942			D 25 n = 408		3
	Call Yes	Call No	р	Call Yes	Call No	р	Call Yes	Call No	р
Sex			<0.01			<0.01			<0.01
Man	69	321		33	329		22	248	
Women	200	447		88	492		7	131	
Age			<0.01			<0.01			<0.01
< 20	14	121		5	118		0	52	
20 - 40	78	120		22	152		2	78	
40 - 60	110	245		67	250		21	112	
> 60	67	110		27	301		6	137	
Disciplines			<0.01			<0.01			<0.01
Plastic	76	156		48	168		13	103	
Ophthalmology	30	138		10	153		1	46	
Digestive/visceral	41	82		25	90		4	43	
Orthopedics	45	69		25	77		8	35	
Dentistry	19	87		5	93		0	50	
Urology	13	77		2	70		0	37	
Gynecology	25	73		5	79		1	30	
ORL	14	54		3	55		2	23	
Cardiology	4	21		0	21		0	6	

**Table VI:** Call for social needs by sex, age, and discipline on Day 5 in patients operated on as an outpatient in IDF in 2017 on Day 5 (n=1037), Day 15 (n=942) then on Day 25 (n=408).

# 5. Discussion

The response rate to SMS is very encouraging regarding the use of SMS as a monitoring/evaluation tool for postoperative patients, although the response rate remains lower than that of David L. et al in 2016 [8] which was 81%. Few studies have used SMS for post-operative outpatient follow-up. The decrease in our response rate over the post-operative days is explained by the fact that patients recover better over time and therefore no longer find any interest in responding to SMS. The proportion of patients who called on D3 (15.5%) in our study is not very high for patients who have just had surgery. However, it is not negligible because it implies that despite the precautions taken preoperatively, patients still have medical needs. This result may be because the delivery of the information booklet at the patient's discharge did not happen or that the patients did not understand its usefulness. This underlines the importance of preoperative nursing consultation. The proportion of patients who called in our study decreased to 14.7% on Day 13 and then to 7.1% on Day 23. This decrease remains logical because the state of health of patients after surgery, (outpatient or not) improves over time. A study by Twersky R [9]. Carried out in 1994 listed a readmission rate of 3% within 30 postoperative days. Although lower than ours on Day 23, this low rate confirms that the medical need following outpatient surgery decreases over time. On the other hand, even if there is a decrease in medical needs, they are still present. Calling for medical needs is not related to the gender of patients regardless of the postoperative day, which seems logical. Calling is not related to age (except on Day 13). We expected patients over the age of 60 to call more than other patients

postoperatively. However, no clear link between "calling" and age could be identified. Further analysis will be required to address this point. There is, however, a link between calling and the surgical discipline of the procedure every day postoperatively. Indeed, some disciplines would entail more medical needs than others. The proportion of medical needs (dressing/scarring, pain, bleeding, nausea/vomiting) decreases with the postoperative days. This decrease remains logical given that the state of health improves over time. Very few studies have identified dressing/healing problems. The majority of studies looked at the pain, bleeding, and nausea/ vomiting. Dressing/scarring needs would imply problems of non-optimization or even a lack of postoperative care planning. Indeed, dressing appointments are organized with patients a priori. Therefore, unless it is wound infection, or forgetting the appointment, there should be no calls for dressing needs. This result needs to be explored in future studies. The percentage (14.4%) of patients who felt pain on Day 3 postoperative in our study remains low compared to the studies of Charlène T. in 2016 in Poitiers<sup>10</sup>, Beauregard's<sup>11</sup>, and the study of Chung F. in 1996 [12] which recorded respectively 30%, 40% and 28% of patients who described the pain as the first of the bothersome symptoms. These studies older than ours show that pain management seems to improve over the years but is still a topic of relevance. Pain management is an important focus of public health objectives [13]. Committees for the fight against pain have been set up in large health structures to facilitate its organization and management. The 2011 national survey on the evaluation of the impact of a prescription of analgesics made during the anesthesia consultation [14] made it possible to Volume 4 | Issue 9

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identify an improvement in the management of postoperative pain but only for patients hospitalized in a health institution (outpatients not included). In all cases, the prescription of analgesics in advance and the precise explanation of its consumption must be implemented to reduce these situations. On Day 3, patients called the hospital more (43.1%) than the general practitioner (21.2%), the nurse (18.1%), and the emergency room (12.5%). One might expect the majority of patients to call their physician before the hospital because of the patient-care relationship. But several explanations can justify this recourse to the hospital. Patients may have called the hospital because they had surgery there and they thought it would be better to call the center that holds their file and is following upon them. Other patients may have called the hospital because they could not reach their attending physician. Another possibility remains the absence of an attending physician for some patients because even if having an attending physician is recommended [15], it is not mandatory. The attending physician was the most contacted health professional after the hospital. This seems logical since patients have more confidence in their attending physician and the latter remains informed of his patient's file. It is probably easier for the patient to contact his doctor than another health professional. They were statistically more contacted by patients who had pain problems. This remains normal because prescriptions for analgesics are allowed only by doctors. Nurses have been contacted less because patients are not used to calling nurses in case of problems. The latter have been statistically contacted for problems with dressings/scars, which remains normal because they are the most qualified for this act, as part of their duties. Emergency services remain the least contacted. This could be because they could not contact the nurse or hospital and therefore by default called the emergency room. This situation should be exceptional given the level of saturation of emergencies. But the emergency room received calls from patients with bleeding. Indeed, when bleeding, it is normal to panic and calls the emergency room as a first resort. The proportion of patients who called for social needs on Day 5 (25.9%), remains considerable and not negligible. This proportion decreases on Day 15 and Day 25. As expected, patients recover over time and as a result, they manage to support themselves. The vast majority of these calls were intended for a family member (88% on D5 versus 5% for professional helpers). This difference is found regardless of the postoperative day. This preference for family members is explained by the fact that it is probably easier to be assisted by a loved one in terms of trust and availability (possibility of scheduling the intervention with a family member). An aspect not to be omitted is the absence of financial cost in case of accompaniment by the family. Factors associated with calls for patients' social needs are the gender, age, and surgical discipline of the procedure. These associations are statistically significant all over the 30 days postoperatively. As a result, it is noted that women had called more for social needs on Day 5 and Day 15 than men. As women are the ones who mostly take care of 6

household chores including cooking, it seems normal that they ask for more help after surgical intervention. Nevertheless, in terms of the surgical discipline of the intervention, patients who had received plastic, and orthopedic surgery were statistically significantly called the most for social needs throughout the study. On Day 5, those who had received digestive/visceral surgery were among the patients who called more for social needs. Orthopedic surgery is done on the musculoskeletal system, digestive/visceral surgery on the digestive tract; plastic surgery on all parts of the body (excision, lumpectomy, etc.), it seems logical that these patients have more difficulties for the needs of everyday life. But although relevant, this remains a conclusion to be taken with reservation because of the classification of surgical acts in our study and the small numbers. The majority of patients on Day 5 had more difficulty eating (31.2%), moving to (27.8%), doing household chores (14.8%), and washing (14.1%). These rates will decrease over the postoperative days. Of these four social needs listed, domestic tasks and difficulties in moving are not associated with gender, age, or surgical discipline of the procedures. We expected that difficulties in moving would be associated with the surgical discipline of the procedure, particularly orthopedic surgery. Perhaps a larger workforce could make that connection, or not. In contrast, difficulties eating are statistically related to gender, age, and discipline. Women, patients aged 20 to 40 years, and patients who had stemmatological or ophthalmological surgery had more difficulty eating than other patients. This confirms our finding regarding the link between appeals and gender. We have no explanation for the fact that patients aged 20 to 40 have more difficulty eating than patients of other ages. The difficulty of washing in patients who have benefited from stemmatological and ophthalmological surgery is normal because having surgery on the tooth and eye will cause difficulties to eat, and performing the acts of daily life. In terms of hygienic needs (washing), patients under 20 years of age had more difficulties than others. This difference is probably because, in the under-20 category, 90% are under 18 and are therefore still children/adolescents. We know that children/adolescents depend largely on parents for the gestures of everyday life. Therefore, following an intervention, it is logical that they have difficulty washing. Compared to the discipline, patients operated on for orthopedic surgery are those who have had more difficulty washing. Since the upper/lower limbs are affected by the operation, this difficulty was expected. Faced with the persistent needs of patients up to 30 days postoperatively, it is essential to rethink certain aspects of the management of patients after an ambulatory surgery by improving strategies to reduce the needs and improve the care of these patients. This study is one of the first studies that focus on the follow-up of patients operated on an outpatient basis up to 30 days postoperatively, and which addresses not only the medical but also the social aspect (which to our knowledge has not been taken into account in studies about outpatient surgery), and that use an innovative tool for patient monitoring (SMS). The main Volume 4 | Issue 9

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limitations of this analysis lie in its preliminary nature. Indeed, the small number of patients who have made a call does not make it possible to highlight robust results, to carry out a logistic regression analysis to describe the associated factors, but only trends and avenues of analysis that will have to be confirmed later with further studies. The use of convenience sampling raises the question of the representativeness of the patients included in this study, although the selected centers are those in which the volume of activity is the largest in IDF. In addition to that, the three main categories of institutions were chosen (private, public, PSPH). We have no information on the characteristics of patients not included in this study. We do not know if the characteristics of these patients are different from the patients included in our study. These results should therefore be extrapolated with reservation to the population of patients operated on an outpatient basis in IDF. The data collected is insufficient for advanced analysis. The use of SMS has limitations that were felt in this study: the loss of sight. Indeed, we have several non-responses that increase over the postoperative days even if in our case, the lost sight can be assimilated to patients not having need anymore. This mode of data collection also induces prevarication bias, as well as inconsistent responses. In addition to that, the use of SMS nevertheless presents a selection bias because it excludes the patients without a phone, not knowing how to read and write, not speaking French, and not knowing how to use a phone.

## 6. Conclusion

This study showed that the needs of patients (whether medical or social) after outpatient surgery go beyond D+1. Indeed, even if they decrease over the days, the fact remains that they persist up to 30 days after the operation. Pain is a medical need that comes up in many studies. It is therefore important to pay special attention to it when caring for patients. The social aspect is very important and must be taken into account in the care of patients because the difficulties of patients to carry out alone the gestures of daily life can be disabling especially for isolated patients.

While our results clearly show that patients' needs go up to 30 days postoperatively, they are also a starting point for further studies to highlight factors associated with patients' needs.

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