

# Patient Satisfaction after Elective Major Gynaecological Surgery in 2 Reference Hospitals in Yaounde: A Cross-Sectional Study

Christiane Nsahlai<sup>1\*</sup>, Ojong Samuel<sup>2\*</sup>, Luchuo Engelbert Bain<sup>2</sup>, Elvis E. Tarkang<sup>2</sup>, Ombaku Kingsley<sup>1</sup>, Mapina M. Alice<sup>1</sup>, Gouané Mathias<sup>2</sup>, Foumane Pascal<sup>1</sup>

<sup>1</sup>Department of Obstetrics and Gynaecology, Faculty of Medicine, and Biomedical Sciences, The University of Yaoundé I, Cameroon

<sup>2</sup>Department of Family Health, Ministry of Public Health, Cameroon

Email: \*cnsahlai@yahoo.com, \*ojongsamuel27@gmail.com

**How to cite this paper:** Nsahlai, C., Samuel, O., Bain, L.E., Tarkang, E.E., Kingsley, O., Alice, M.M., Mathias, G. and Pascal, F. (2022) Patient Satisfaction after Elective Major Gynaecological Surgery in 2 Reference Hospitals in Yaounde: A Cross-Sectional Study. *Open Journal of Obstetrics and Gynecology*, 12, 941-957.

<https://doi.org/10.4236/ojog.2022.129079>

**Received:** July 5, 2022

**Accepted:** September 13, 2022

**Published:** September 16, 2022

Copyright © 2022 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative

Commons Attribution International

License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

## Abstract

**Introduction:** Patient satisfaction is a quality-of-care measure and reveals patients' appreciation of healthcare delivery. We sought to measure patient satisfaction following major gynaecological surgeries in 2 University Teaching Hospitals in Yaounde, Cameroon. **Methods:** This study was a cross-sectional, prospective study over 9 months (October 1st, 2018, to June 30th, 2019) at the Yaounde Gynaeco-Obstetric and Paediatric Hospital (YGOPH) and the Yaounde Central Hospital (YCH). By administering a modified Surgical Satisfaction Questionnaire (SSQ-8) via phone call 6 months after surgery, we appreciated and scored key aspects linked to patient satisfaction and obtained information on post-operative complications. Data were analysed using Microsoft Excel 18 and SPSS 21 setting significance at  $p < 0.05$ . **Results:** We recruited 72 patients aged 24 to 68 years. Our participants had a mean satisfaction score of  $26 \pm 7.854$  (59.7% satisfied and 40.3% dissatisfied). All aspects tested on the SSQ-8 questionnaire influenced patient satisfaction. Patients who said they were satisfied with pain control after surgery (OR = 0.207 CI = 0.070 - 0.609,  $p = 0.003$ ), and with surgical results in the SSQ-8 questionnaire (OR = 0.053, CI = 0.011 - 0.254,  $p < 0.001$ ) achieved statistically significant post-operative satisfaction. Contrarily, patients who were dissatisfied with surgery results (OR = 132.000, CI = 15.256 - 114.131,  $p < 0.001$ ) and those who developed complications (OR = 7.922, CI = 2.241 - 28.004,  $p < 0.001$ ) were significantly dissatisfied with surgery. Additionally, 47.2% declared a poor post-operative current health status versus 52.8% who claimed a good post-operative current health status. Following multivariate analysis, satisfaction with the results of surgery (OR = 0.071, CI = 0.008 - 0.657,  $p = 0.020$ )

and the occurrence of complications (OR = 7.284, CI = 1.146 - 46.273, p = 0.035) were the main determinants of patient satisfaction. Patient current health status evolved similarly to patient satisfaction and especially by satisfaction with time taken to resume work (OR = 0.039, CI = 0.004 - 0.398, p = 0.006) and pre-operative exercise routine (OR = 0.038, CI = 0.002 - 0.678, p-value = 0.026). **Conclusion:** Patient satisfaction with elective gynaecological surgery is low and determined by post-operative experiences and the occurrence of complications. Also, patients self-reported current health status tends to evolve similarly to satisfaction following surgery.

## Keywords

Patient Satisfaction, Elective Gynaecological Surgery, Yaounde

---

## 1. Introduction

Worldwide, the use of patient-reported outcome measures (PROMs) as part of a holistic approach to determine the adequacy of care, as against the traditional methods based uniquely on clinical outcomes is gaining ground [1] [2]. Defined as “any aspect of a patient’s health status that comes directly from the patient without prior interpretation of the patient’s responses by a physician or anyone else” [3], these PROMs involve 3 main areas, namely, quality of life, current health state, and patient satisfaction [4]. Unlike the previous two, satisfaction is an entirely subjective and complex concept with no consensual definition, that reveals varying considerations such as lifestyle, past experiences, future expectations, and individual or societal values [5] [6] [7] [8]. It, however, is best revealed as a measure of the extent to which a patient is contented with the health care they received from their health care provider [9], or the degree to which a patient feels they have received high-quality health care [10].

Donabedian [11] in 1966 while describing the quality of care, referred to three tangible aspects namely structure, process and outcome. In describing outcome, his focus was on the result of health care hence the terms morbidity and mortality. Since then, there has been an implied association between outcome statistics and quality of care [10] [12]. Thus, we are faced with the contrasting reality of the healthcare provider’s perspective based on objective post-operative clinical outcomes, and the perspective of the patient based solely on the more complex, subjective, and multi-dimensional perspective of the patient, independent of the course of clinical events. This subjectivity has strengthened many paternalistic physicians who question the validity of patient satisfaction as a measure of the quality of surgical care. Nonetheless, many authorities today agree that patient satisfaction is a performance indicator and a quality-of-care measure for medical and surgical services [10] [13] [14].

Many studies worldwide, have evaluated the determinants of PROMs in general and satisfaction, particularly following surgical care. In the clinical review by

Chow *et al.* describing the determinants of patient satisfaction with surgical care, “outcome expectations” are defined as the outcome of the health care interaction and whether it corresponds with the patient’s desires such as symptom relief or the occurrence of complications were identified as key to satisfaction [10]. Like others, they strongly advised that to improve on the measurability of what seems to be a very subjective variable, the tools used must respond to several criteria including appropriateness, reliability, validity, responsiveness, precision, interpretability, acceptability, and feasibility of the instruments [10] [15]. Other determinants of satisfaction with surgical care described by different authors include patient pre-operative knowledge levels, meeting patients’ pre-operative expectations, satisfactory pain relief, satisfactory hospital experiences and surgical technique especially minimally-invasive surgery [6] [16] [17] [18].

In Cameroon, Fouogue *et al.* in 2017 described high levels of post-operative satisfaction in patients who underwent laparoscopic fertility-enhancing pelvic surgery [19]. Yet studies evaluating patient satisfaction following elective major gynaecological surgery or following major surgery, in general, remain rare in our setting. We view patient satisfaction as a measure of consumer satisfaction with healthcare services, and that its integration into the evaluation of the quality of care could positively impact healthcare policy and surgical practice in our setting. We therefore sought to measure patient satisfaction following major gynaecological surgeries in 2 University Teaching Hospitals in Yaounde, Cameroon.

## 2. Methods

### 2.1. Study Design and Setting

This study was a prospective cross-sectional study over 9 months (October 1st, 2018, to June 30th, 2019), in patients undergoing major elective gynaecological surgery at the Yaounde Gynaeco Obstetric and Paediatric Hospital (YGOPH), and the Yaounde Central Hospital (YCH), two university teaching hospitals in Yaounde, Cameroon. These hospitals each provide reproductive healthcare services to over a thousand women per month and employ the services of 11 and 10 Obstetrician-Gynaecologists respectively. The YCH at its famed Principal Maternity has 2 operating rooms reserved for obstetrical and gynaecological surgical procedures. Conversely, Obstetricians/Gynaecologists share 4 operating rooms with the other surgical specialties at the YGOPH. Unlike the YCH, the YGOPH provides minimally invasive laparoscopic surgery and oncological breast surgery services. In both hospitals, Obstetrician-Gynaecologists collaborate with about 35 nurses and/or midwives, as well as 10 - 15 obstetrics and Gynaecology residents in training, and over 30 - 40 medical interns per period. Elective gynaecological surgeries are performed mainly by consultant Obstetrician-Gynaecologists assisted by residents in training. After surgery, the patients spend 24 hours or more in intensive care depending on the clinical state of the patient. From there they are transferred to the wards for periods of 5 - 7 days

before being discharged. Post-operative patient care following elective gynaecological surgery in both centres usually consists of 24 - 48 hours of parenteral therapy (antibiotic prophylaxis, analgesics, low-molecular weight heparin and IV fluids) administered by the nurses in the wards, followed by an oral relay lasting 5 - 7 days. During admission, they are re-evaluated daily either by a consultant or a resident in training. After discharge, patients are systematically reviewed by their surgeons 1 week and 1 month following discharge, although their clinical evolution or clinical history may warrant additional contacts with their physician.

## 2.2. Inclusion Criteria

Patients who were consulted 48 hours after elective gynaecological surgery and who consented to our study.

## 2.3. Exclusion Criteria

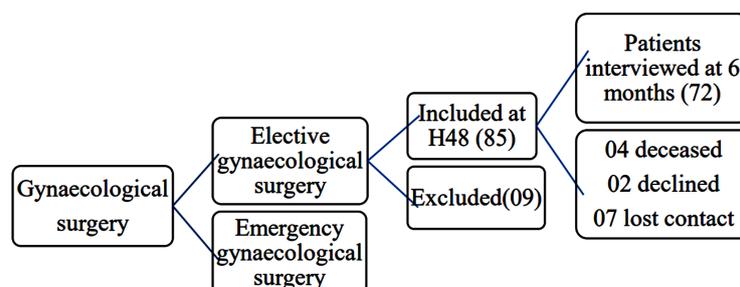
Patients operated upon in emergency, those with known cognitive or consciousness disorders, those who could neither communicate in English nor French and patients who withheld consent were excluded from the study.

## 2.4. Sample Size and Sampling

We carried out a facility-based convenience, consecutive and exhaustive sampling of all patients who met the inclusion criteria for the study from October 1st, 2018, to December 31st, 2018. During this period, we made first contact with the participants 48 hours post-operatively either in the gynaecological wards or the intensive care units. Using patients' files, we confirmed their eligibility for the study following which we presented our study to them and obtained their signed consent to administer to them a surgical satisfaction questionnaire via phone call 6 months after the date of surgery. **Figure 1** reveals the participants flow chart from our obtaining consent 48 hours after surgery, to each participant's final inclusion in the study 6 months after surgery.

## 2.5. Study Procedure and Data Collection

To evaluate participants' satisfaction with surgery, we administered a pre-tested modified version of the Surgical Satisfaction Questionnaire-8 (SSQ-8) via phone



**Figure 1.** Participants' flow chart.

call, which questionnaire had been validated previously for use in pelvic surgeries as well as general medical care [20] [21]. Prior to initiating the study, the original questionnaire was reviewed by 2 senior faculty members and their suggestions were used to revise the questionnaire. Next the revised questionnaire was pretested in September 2018 on 15 patients operated upon in March 2018 and identified from the surgical registers at the YGOPH to reassess for validity and reliability. Their responses enabled us to further revise our questionnaire and clarify identified ambiguities. We did not include the pretested patients in our study. During administration of the questionnaire, all unclear questions were explained to the patients. For all patients who granted consent 48 hours post-operatively, we filled the first part of the interviewer-administered questionnaire which included socio-demographic data (age, sex, marital status, educational level and address), the date of surgery, type of surgery and the indication for surgery. Following up to this, we called them 6 months after surgery and administered the SSQ-8 questionnaire to them via phone call. The questions focused on the patients' appreciation of pain control after surgery both in the hospital and at home; their satisfaction with how much time they needed to resume social activities, work, and their pre-surgical exercise routine; their appreciation of the results of their surgery; their willingness to return to their caregiver if given a choice and/or recommend their surgery to someone else with a similar ailment, and finally we asked them to auto-evaluate their post-operative current health state.

## 2.6. Data Analysis

We obtained our data using either the English or French versions of our validated structured questionnaires. Throughout the study period, we screened our data to rule out wrong information and ensure coherence between different fields. Double occurrences and incomplete information were constantly refined. To measure patients' satisfaction with surgery, we scored participants' satisfaction with different aspects of surgery evaluated on a scale of 1 to 5 as per a Likert scale. The scores attributed for the various responses were: "Very unsatisfied" or "Never" = 1; "Unsatisfied" or "Don't think so" = 2; "Neutral" = 3; "Satisfied" or "I guess yes" = 4; "Very satisfied" or "Absolute yes" = 5. We then summed up these scores to obtain each participant's satisfaction score on 40, representing the 8 aspects of the SSQ-8 that we evaluated. With this score, we categorised our participants into 2 groups of either "Satisfied" or "Unsatisfied" patients. Additionally, we chose to investigate the patients' perception of their current health state by asking them to attribute a score on a scale of 0 to 20 to their current health status. We explained to them that 0 represents the worst possible health state they could imagine, while 20 will mean they could not wish for better health. We predetermined, that all scores above and equal to 14 represented a good post-operative health state appreciation, whereas scores below 14 represented a poor current health state. We carried out data analysis using the

SPSS version 21 software. The data were described statistically, and the findings evaluated for normality. The Chi-squared and Fischer tests served to compare proportions and the Students t-test for differences in means. Data were then presented as proportions, means and standard deviations. The Odds ratio (OR) and confidence interval were calculated to measure the association between variables. Multivariate analysis was used to eliminate confounding factors in our analysis. We considered as statistically significant differences with p-value < 0.05.

## 2.7. Operational Definitions

For the purposes of our study, we used the following definitions and predetermined the following cut-off points for scores relating to participants' post-operative satisfaction and current health state:

- 1) Patient satisfaction is a measure of the extent to which a patient is contented with the health care, which they received from their health care provider [9].
- 2) Major gynaecological surgery: Gynaecological surgery (upon an organ on the chest wall or within the abdomen or pelvic cavity) involving a risk to the life of the patient [22].
- 3) Elective surgery: Surgery that can be scheduled in advance and in most cases indicated for a condition that is not life threatening or to improve a patient's quality of life. However, in some cases it may be for a serious condition such as cancer [22].
- 4) Satisfied = surgical satisfaction score  $\geq 28/40$
- 5) Very satisfied = surgical satisfaction score  $\geq 32/40$
- 6) Unsatisfied = surgical satisfaction score  $< 28/40$
- 7) Very unsatisfied = surgical satisfaction score  $< 16/40$
- 8) Poor current health state = Patient scores  $< 14/20$
- 9) Good current health state = patient scores  $\geq 14/20$

## 2.8. Ethical Considerations

Administrative authorisation was obtained from the competent authorities in both hospitals. The Faculty of Medicine and Biomedical Sciences via its ethics committee provided us ethical clearance for the study as per local requirements (Ethical Approval: N° 934/CIERSH/DM/2019). The study respected the ethical standards of the Declaration of Helsinki (World Medical Association 2004). All the participants in the study provided signed consent at inclusion.

## 3. Results

This study consisted of a prospective, cross-sectional evaluation of patients' satisfaction after elective, major gynaecological surgery. Of the 85 patients who granted consent to, 72 were retained for the study giving a retention rate of 84.7%.

### 3.1. Socio-Demographic Characteristics

The mean age of the participants was 41.57 years  $\pm$  10.41 years (range 24 years - 68 years). Amongst the participants, 65.3% were married, 55.6% had tertiary level education and 69.4% were gainfully employed. The bulk of our patients were seen at the YGOPH (61/72; 84.7%) compared to the YCH (11/72; 15.3%).

### 3.2. Clinical Characteristics

**Table 1** reveals the clinical characteristics of the cohort. Uterine surgery was the most frequent representing 58.4% of cases seen (hysterectomies at 27.8% and myomectomies at 30.6%), while 36.1% of participants had surgery for a cancerous pathology. Post-operatively at 6 months, 23.6% (17/72) of participants reported post-operative complications across both hospitals. **Table 2** reveals the frequency and type of complication for the two hospitals, with chronic post-operative pain (3/17), and surgical site sepsis (3/17) being the most reported complications among the participants in our study.

### 3.3. Surgical Satisfaction and Current Health State

In the cohort, we had a mean satisfaction score of 26  $\pm$  7.854 with scores ranging from 12 to 38 on 40 and a mean current health state score of 12.82  $\pm$  3.09 with scores ranging from 5 to 17 on 20. Also 59.7% (43/72) of patients reported overall satisfaction with surgery (satisfaction scores  $\geq$  28/40), while 40.3% (29/72) were dissatisfied with surgery (**Table 3**). Regarding the relationship between socio-demographic characteristics and surgical satisfaction, we noted that workers tended to be more satisfied than other groups with surgery while all six patients aged 60 years and above were dissatisfied with surgery (**Table 4**).

**Table 1.** Distribution of clinical characteristics.

Variables N = 72	Frequency (n)	Percentage (%)
<b>Cancer related surgery</b>		
Yes	26	36.1
No	46	63.9
<b>Type of surgery</b>		
Adnexectomy	6	8.3
Hysterectomy	20	27.8
Mastectomy	14	19.4
Laparoscopy	8	11.1
Myomectomy	22	30.6
Others	2	2.8
<b>Complications of surgery</b>		
Yes	17	23.6
No	55	76.4

**Table 2.** Distribution of post-operative complications.

Variables N = 17	Frequency (n)	Percentage (%)
<b>Yaounde Central Hospital (N = 4)</b>		
Chronic post-operative pain	1	5.9
Severe Anaemia	1	5.9
Septicaemia	1	5.9
Severe weight loss	1	5.9
Chronic post-operative pain	2	11.8
<b>Yaounde Gynaeco-Obstetric and Paediatric Hospital (N = 13)</b>		
Lymphoedema	2	11.8
Repeat surgery	2	11.8
Septicaemia	1	5.9
Severe weight loss	1	5.9
Surgical site sepsis	3	17.4
Wound dehiscence	2	11.8

**Table 3.** Distribution of patient satisfaction 6 months after surgery.

Variables N = 72	Frequency (n)	Percentage (%)
<b>SSQ-8 (4 class distribution)</b>		
Very Unsatisfied	14	19.5
Unsatisfied	15	20.8
Satisfied	25	34.7
Highly Satisfied	18	25.0
<b>SSQ-8 (2 class distribution)</b>		
Unsatisfied	29	40.3
Satisfied	43	59.7

**Table 4.** Distribution of patient satisfaction as per socio-demographic characteristics.

Variables N = 72	Unsatisfied n = 29 n (%)	Satisfied n = 43 n (%)	Odds Ratio (CI at 95%)	p-value
<b>Age (years)</b>				
[20 - 39]	8 (25.0)	24 (75.0)	0.302 (0.110 - 0.830)	0.018
[40 - 59]	15 (44.1)	19 (55.9)	1.353 (0.526 - 3.481)	0.530
[60 - 80]	0 (100.0)	0 (0.0)	*	0.002

## Continued

Marital Status				
Single	8 (38.1)	12 (61.9)	0.879 (0.310 - 2.493)	0.809
Married	21 (44.7)	17 (68.0)	1.716 (0.620 - 4.751)	0.296
Widow	0 (0.0)	4 (100.0)	*	0.091
Educational Status				
Primary	9 (64.3)	5 (35.7)	3.420 (1.010 - 11.584)	0.041
Secondary	9 (50.0)	9 (50.0)	1.700 (0.579 - 4.988)	0.331
University	11 (27.5)	29 (72.5)	0.295 (0.110 - 0.790)	0.013
Employment Status				
Worker	15 (30.0)	35 (70.0)	0.245 (0.085 - 0.706)	0.007
Unemployed	10 (62.5)	6 (37.5)	3.246 (1.024 - 10.285)	0.040
Retired	3 (75.0)	1 (25.0)	4.846 (0.478 - 49.987)	0.145
Student	1 (50.0)	1 (50.0)	1.500 (0.090 - 24.984)	0.776

Furthermore, satisfaction levels were high amongst all the patients who underwent laparoscopic surgery, while the occurrence of post-operative complications was significantly associated with post-operative dissatisfaction (76.5%;  $p < 0.001$ ). Otherwise, other clinical characteristics did not show any association with surgical satisfaction rates (**Table 5**).

Next, we noted a positive relationship between key aspects evaluated in the SSQ-8 questionnaire and overall patient satisfaction amongst which appropriate post-operative pain control, rapid post-operative activity resumption and rapid post-operative work resumption. Additionally, patients who were dissatisfied with surgery were less willing to undergo surgery again and less willing to encourage someone else to undergo surgery (**Table 6**).

As regards patients' appreciation of their current health state score, 47.2% of our cohort thought they had a poor post-operative health state after 6 months while 52.8% of them laid claim to a good post-operative health quality. Amongst these, socio-demographic variables did not significantly influence patients' reported post-operative health state. Of note, patients who developed complications post-operatively significantly reported lower scores for their current health state while patients who underwent laparoscopic surgery reported better current health states (**Table 7**).

On multivariate analysis, we realized that satisfaction with surgical results (aOR: 0.071, CI: 0.008 - 0.657,  $p$ -value: 0.020) was the most significant determinant of patients' post-operative satisfaction in our cohort, while clinically the occurrence of post-operative complications (aOR: 7.284 CI: 1.146 - 46.273  $p$ -value: 0.035) was significantly the greatest predictor of patient dissatisfaction with surgery (**Table 8**). Similarly, patients who were satisfied with time taken to

**Table 5.** Distribution of patient satisfaction by clinical characteristics.

Variables N = 72	Unsatisfied n = 29 n (%)	Satisfied n = 45 n (%)	Odds Ratio (CI at 95%)	p-value
<b>Cancer related surgery</b>				
Yes	12 (46.2)	14 (53.8)	1.462 (0.551 - 3.881)	0.445
No	17 (37.0)	29 (63.0)	*	*
<b>Type of Surgery</b>				
Adnexectomy	4 (66.7)	2 (33.3)	3.280 (0.550 - 19.232)	0.169
Hysterectomy	11 (55.0)	9 (45.0)	2.309 (0.808 - 6.597)	0.114
Mastectomy	4 (28.6)	10 (71.4)	0.528 (0.148 - 1.881)	0.320
Laparoscopy	0 (0.0)	8 (100.0)	*	0.014
Myomectomy	9 (40.9)	13 (59.1)	1.038 (0.374 - 2.884)	0.942
Others	7 (53.8)	6 (46.2)	1.962 (0.584 - 6.589)	0.271
<b>Complications</b>				
Yes	13 (76.5)	4 (23.5)	7.922 (2.241 - 28.004)	<0.001
No	16 (29.1)	39 (70.9)	*	*

**Table 6.** Post-operative satisfaction in relation to key aspects of the SSQ-8 questionnaire.

Variables N = 72	Unsatisfied n = 29 n (%)	Satisfied n = 43 n (%)	Odds Ratio (IC à 95%)	p-value
<b>Pain control after Surgery</b>				
V. unsatisfied	0 (0.0)	0 (0.0)	NA	NA
Unsatisfied	12 (100.0)	0 (0.0)	NA	<0.001
Neutral	11 (84.6)	2 (15.4)	12.528 (2.516 - 62.382)	<0.001
Satisfied	6 (20.0)	24 (80.0)	0.207 (0.070 - 0.609)	0.003
V. satisfied	0 (0.0)	17 (100.0)	NA	<0.001
<b>Pain control at home</b>				
V. unsatisfied	3 (100.0)	0 (0.0)	NA	0.31
Unsatisfied	20 (87.0)	3 (13.0)	29.630 (7.215 - 121.677)	<0.001
Neutral	4 (25.0)	12 (75.0)	0.413 (0.119 - 1.440)	0.158
Satisfied	2 (9.1)	20 (90.9)	0.085 (0.018 - 0.0404)	<0.001
V. satisfied	0 (0.0)	8 (100.0)	NA	0.014
<b>Time to return to normal activities</b>				
V. unsatisfied	5 (100.0)	0 (0.0)	NA	0.005

**Continued**

Unsatisfied	11 (100.0)	0 (0.0)	NA	<0.001
Neutral	11 (52.4)	10 (47.6)	2.017 (0.719 - 5.655)	0.179
Satisfied	2 (8.7)	21 (91.3)	0.078 (0.16 - 0.368)	<0.001
V. satisfied	0 (0.0)	12 (100.0)	NA	0.002
<b>Time to return to work</b>				
V. unsatisfied	6 (100.0)	0 (0.0)	NA	0.002
Unsatisfied	15 (100.0)	0 (0.0)	NA	<0.001
Neutral	6 (66.7)	3 (33.3)	3.478 (0.794 - 15.246)	0.084
Satisfied	2 (6.1)	31 (93.9)	0.029 (0.006 - 0.140)	<0.001
V. satisfied	0 (0.0)	9 (100.0)	NA	0.008
<b>Time to return to exercise routine</b>				
V. unsatisfied	2 (100.0)	0 (0.0)	NA	0.081
Unsatisfied	20 (100.0)	0 (0.0)	NA	<0.001
Neutral	6 (75.0)	2 (25.0)	5.348 (0.997 - 28.688)	0.034
Satisfied	1 (4.3)	22 (95.7)	0.034 (0.004 - 0.274)	<0.001
V. satisfied	0 (0.0)	19 (100.0)	NA	<0.001
<b>Results of surgery</b>				
V. unsatisfied	0 (0.0)	0 (0.0)	NA	NA
Unsatisfied	22 (95.7)	1 (4.3)	132.000 (15.256 - 114.131)	<0.001
Neutral	5 (22.7)	17 (77.3)	0.319 (0.102 - 0.997)	0.044
Satisfied	2 (7.4)	25 (92.6)	0.053 (0.011 - 0.254)	<0.001
V. satisfied	0 (0.0)	0 (0.0)	NA	NA
<b>Undergo surgery again</b>				
Never	13 (100.0)	0 (0.0)	NA	<0.001
Don't think so	9 (75.0)	3 (25.0)	6.000 (1.461 - 24.640)	0.007
Neutral	3 (42.9)	4 (57.1)	1.125 (0.232 - 5.446)	0.884
I guess yes	4 (12.5)	28 (87.5)	0.086 (0.025 - 0.293)	<0.001
Absolute yes	0 (0.0)	8 (100.0)	NA	0.014
<b>Advise the surgery to some else</b>				
Never	13 (92.9)	1 (7.1)	34.125 (4.121 - 282.567)	<0.001
Don't think so	12 (70.6)	5 (29.4)	5.365 (1.632 - 17.630)	0.004
Neutral	4 (20.0)	16 (80.0)	0.270 (0.079 - 0.918)	0.030
I guess yes	0 (0.0)	15 (100.0)	NA	<0.001
Absolute yes	0 (0.0)	6 (100.0)	NA	0.036

**Table 7.** Distribution of patient-reported current health state by clinical characteristics.

Variables N = 72	Poor current health state n = 34 n (%)	Good current health state n = 38 n (%)	Odds Ratio (CI at 95%)	p-value
<b>Cancer related surgery</b>				
Yes	15 (57.7)	11 (42.3)	1.938 (0.731 - 5.135)	0.181
No	19 (41.3)	27 (58.7)	*	*
<b>Type of Surgery</b>				
Adnexectomy	4 (66.7)	2 (33.3)	2.400 (0.411 - 14.022)	0.319
Hysterectomy	15 (75.0)	5 (25.0)	5.211 (1.635 - 16.602)	0.003
Mastectomy	5 (35.7)	9 (64.3)	0.556 (0.166 - 1.860)	0.337
Laparoscopy	0 (0.0)	8 (100.0)	NA	0.004
Myomectomy	10 (45.5)	12 (54.5)	0.903 (0.330 - 2.469)	0.842
Others	9 (69.2)	4 (30.8)	3.060 (0.846 - 11.72)	0.079
<b>Complications</b>				
Yes	13 (76.5)	4 (23.5)	5.262 (1.515 - 18.287)	0.006
No	21 (38.2)	34 (61.8)	*	*

**Table 8.** Multivariate analysis for determinants of post-operative patient satisfaction.

Variables	Adjust Odds Ratio	CI	p-value
Pain control after Surgery _ Neutral	36.806	51.228 - 1103.538	<b>0.038*</b>
Pain control at home _ Satisfied	0.090	0.002 - 3.771	0.207
Time to return to normal activities _ Satisfied	0.607	0.014 - 26.268	0.795
Time to return to work _ Satisfied	0.068	0.001 - 6.288	0.244
Time to return to exercise routine _ Satisfied	0.123	0.000 - 32.226	0.460
Results of surgery _ Satisfied	0.071	0.008 - 0.657	<b>0.020*</b>
Undergo a surgery again _ I guess Yes	0.364	0.009 - 14.343	0.590
Advise the surgery to some else _ Never	9.740	0.182 - 520.918	0.262

return to work (aOR: 0.039 CI: 0.004 - 0.398 p-value: 0.006), and those who were very satisfied with the time taken to return to exercise (aOR: 0.038, CI: 0.002 - 0.678, p-value: 0.026) reported significantly better scores for their current health state as revealed (**Table 9**).

**Table 9.** Multivariate analysis of determinants of patient-reported current health state.

Variables	Adjust Odds Ratio	CI	p-value
Pain control after Surgery _ Neutral	1.825	0.187 - 17.829	0.605
Pain control at home _ Unsatisfied	1.970	0.170 - 22.804	0.587
Time to return to normal activities _ Satisfied	1.311	0.187 - 9.216	0.785
Time to return to work _ Satisfied	0.039	0.004 - 0.398	<b>0.006*</b>
Time to return to exercise routine _ Very Satisfied	0.038	0.002 - 0.678	<b>0.026*</b>
Results of surgery _ Satisfied	0.154	0.019 - 1.278	0.083
Undergo a surgery again _ I guess Yes	0.824	0.099 - 6.844	0.858
Advise the surgery to some else _ Never	16.567	0.020 - 14049.191	0.414

#### 4. Discussion

This study evaluated 72 patients undergoing elective major gynaecological surgery in 2 University Teaching Hospitals in Yaounde. The primary goal was to score patients' overall satisfaction 6 months after surgery and identify those variables affecting patient satisfaction with surgery.

Overall, our mean satisfaction score revealed low patient satisfaction levels with elective gynaecological surgery in our setting. Patient pain control, the time taken to resume normal activities and/or work and/or exercise routine and their expressed satisfaction with surgical results variably exhibited influences on patient post-operative satisfaction. This correlates well with findings by Jones *et al.* [1] who described the positive influence of patients' post-operative experience on their self-reported outcomes. Similarly, Schaal *et al.* albeit evaluating patients following total hip replacement surgery identified a strong positive relationship between patient satisfaction and their recovery of physical activity, pain control and the reduction of functional limitations [12].

Also in our study, patients' post-operative satisfaction correlated with their willingness to return to their caregiver and/or counsel someone else to seek treatment with their caregiver with very unsatisfied patients preferably unwilling to choose to undergo surgery again if they had a choice and opting to not propose surgery to someone else with the same ailment and vice-versa. In their work, Schoenfelder *et al.* were categorical that patient satisfaction and willingness to return in women undergoing gynaecological care represented two mutually exclusive dependent variables which should be measured differently [23]. Our study revealed similar findings as per the fact that these two share a good number of predictors, is all subjective measures of the quality of care and could be mutually influencing to each other.

Satisfaction proportions in patients operated upon in the gynaecological setting were much higher in the findings by other authors. Jim *et al.* [24] or

Tchartchian *et al.* [17] both reported satisfaction levels greater than 90%. Further studies by Buda *et al.* and Fouogue *et al.* [19] [25] also confirm that irrespective of surgical indication, minimally invasive surgery was generally associated with high post-operative patient satisfaction. However, their studies all involved patients operated upon laparoscopically compared to our varied cohort of surgical techniques and indications. Moreover, we registered the best satisfaction levels in our cohort among the patients operated upon laparoscopically. Although the limited numbers could not permit us compare satisfaction in this group with the rest of our patients who had open surgery, our patients who had laparoscopic surgery reported better post-operative experiences and greater satisfaction with care.

The strongest predictor of post-operative satisfaction in our cohort was the occurrence of post-operative complications. Even after multivariate analysis to eliminate confounders, post-operative complications were still strong determinants of post-operative satisfaction. This corroborates reports by Chow *et al.* who said patient satisfaction was directly linked to outcome expectations, chief amongst which was symptom control [10]. Chronic post-operative pain, and post-operative site sepsis were the most reported complications in our cohort. Other authors have similarly reported on their relationship with decreased patient satisfaction following both emergency and elective surgery [1] [2] [5] [12].

Although not a primary goal of our study, we found out that patient satisfaction and patient-reported current health state shared several common predictors. Similarly, to mean satisfaction scores in our cohort, the mean self-reported current health status score indicated that a significant proportion thought their health status 6 months after elective gynaecological surgery was poor. Also, the occurrence of post-operative complications significantly smeared patients' perception of their health status. Finally, with respect to key parameters of the SSQ-8 questionnaire, satisfaction with the time taken to return to work, and with the time taken to resume normal exercise routine were the best predictors of a good health status score 6 months after elective gynaecological surgery in our cohort.

## 5. Limitations

By carrying out the study in tertiary centres in an urban setting in Cameroon with significantly higher costs of care compared to other healthcare facilities, we inadvertently had access to a more financially viable cohort of patients compared to the typical Cameroonian setting. However, this approach was our best chance of having access to patients undergoing elective gynaecological major surgery with a wide range of indications and surgical options because of the concentration of skilled surgical gynaecological care in these hospitals. Next, because of logistic and structural reasons, the study time was short with the result being a small sample size. Because of this we are cautious about any attempts at generalising our findings to the general population of patients undergoing elective gynaecological surgery or the overall surgical ecosystem in Cameroon.

## 6. Conclusion

In conclusion, patient satisfaction levels with elective gynaecological surgery are low and are dependent on the surgical technique, the occurrence of complications and their post-operative experience especially as regards pain control and the recovery of physical and functional capacity. Also, patient-reported current health state is influenced by similar predictors as satisfaction and tends to vary similarly with satisfaction.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

## References

- [1] Jones, C.H., O'Neill, S., McLean, K.A., Wigmore, S.J. and Harrison, E.M. (2017) Patient Experience and Overall Satisfaction after Emergency Abdominal Surgery. *BMC Surgery*, **17**, Article No. 76. <https://doi.org/10.1186/s12893-017-0271-5>
- [2] Patton, J.T., Howie, C.R., Lane, J.V. and Gaston, P. (2013) What Determines Patient Satisfaction with Surgery? A Prospective Cohort Study of 4709 Patients Following Total Joint Replacement. *BMJ Open*, **3**, e002525.
- [3] Lipscomb, J., Gotay, C.C. and Snyder, C.F. (2007) Patient-Reported Outcomes in Cancer: A Review of Recent Research and Policy Initiatives. *CA: A Cancer Journal for Clinicians*, **57**, 278-300. <https://doi.org/10.3322/CA.57.5.278>
- [4] Hallock, J.L., Rios, R. and Handa, V.L. (2017) Patient Satisfaction and Informed Consent for Surgery. *American Journal of Obstetrics & Gynecology*, **217**, 181.e1-181.e7.
- [5] Benwu, K.M. and Gebremedhin, H.G. (2019) A Prospective Study on Elective Surgical Inpatient Satisfaction with Perioperative Anaesthesia Service at Ayder Comprehensive Specialized Hospital, Mekelle, Ethiopia. *BMC Anesthesiology*, **19**, Article No. 46. <https://doi.org/10.1186/s12871-019-0696-8>
- [6] Farley, H., Enguidanos, E.R., Coletti, C.M., Honigman, L., Mazzeo, A., Pinson, T.B., et al. (2014) Patient Satisfaction Surveys and Quality of Care: An Information Paper. *Annals of Emergency Medicine*, **64**, 351-357. <https://doi.org/10.1016/j.annemergmed.2014.02.021>
- [7] Barr, J.K., Tierney, E.G., Sofaer, S., Duquette, C.E., Waters, J.W. and Petrillo, K.M. (2006) Using Public Reports of Patient Satisfaction for Hospital Quality Improvement. *Health Research and Educational Trust*, **41**, 663-682. <https://doi.org/10.1111/j.1475-6773.2006.00508.x>
- [8] Dennison, C.R. (2002) The Role of Patient-Reported Outcomes in Evaluating the Quality of Oncology Care. *The American Journal of Managed Care*, **8**, 580-586.
- [9] Wikipedia (2017) Patient Satisfaction. [https://www.wikipedia.org/wiki/Patient\\_satisfaction](https://www.wikipedia.org/wiki/Patient_satisfaction)
- [10] Chow, A., Mayer, E.K. and Darzi, A.W. (2009) Patient-Reported Outcome Measures: The Importance of Patient Satisfaction in Surgery. *Surgery*, **146**, 435-443. <https://doi.org/10.1016/j.surg.2009.03.019>
- [11] Donabedian, A. (1966) Evaluating the Quality of Medical Care. *The Milbank Quarterly*, **44**, 166-203. <https://doi.org/10.2307/3348969>
- [12] Schaal, T., Schoenfelder, T., Klewer, J. and Kugler, J. (2016) Determinants of Patient

- Satisfaction and Their Willingness to Return after Primary Total Hip Replacement: A Cross-Sectional Study. *BMC Musculoskeletal Disorders*, **17**, Article No. 330. <https://doi.org/10.1186/s12891-016-1196-3>
- [13] Gilbody, S.M., Whitty, P.M., Grimshaw, J.M. and Thomas, R.E. (2003) Improving the Detection and Management of Depression in Primary Care. *Quality & Safety in Health Care*, **12**, 149-155. <https://doi.org/10.1136/qhc.12.2.149>
- [14] Mpingaa, E.K. and Chastonaya, P. (2011) Satisfaction of Patients: A Right to Health Indicator? *Health Policy*, **100**, 144-150. <https://doi.org/10.1016/j.healthpol.2010.11.001>
- [15] Higginson, I.J. and Carr, A.J. (2001) Measuring Quality of Life: Using Quality of Life Measures in the Clinical Setting. *BMJ*, **322**, 1297-1300. <https://doi.org/10.1136/bmj.322.7297.1297>
- [16] Kenton, K.S. (2017) What Impacts Patient Satisfaction with Reconstructive Pelvic Surgery? *American Journal of Obstetrics and Gynecology*, **217**, 108-109. <https://doi.org/10.1016/j.ajog.2017.06.017>
- [17] Tchartchian, G., Gardanis, K., Bojahr, B. and Leon de Wilde, R. (2013) Postoperative Patient Satisfaction after Laparoscopic Supracervical Hysterectomy. *JSLs*, **17**, 107-110. <https://doi.org/10.4293/108680812X13517013318067>
- [18] Arms III, G., Sun, C.C., Burzawa, J.K., Fleming, N.D., Nick, A.M., Rallapalli, V., et al. (2015) Improvement in Quality of Life after Robotic Surgery Results in Patient Satisfaction. *Gynecologic Oncology*, **138**, 727-730. <https://doi.org/10.1016/j.ygyno.2015.07.013>
- [19] Fouogue, J.T., Fouelifack, F.Y., Fouedjio, J.H, Dohbit, J.S, Sando, Z. and Mboudou, E.T. (2017) Evaluation of Patients' Satisfaction after Laparoscopic Surgery in a Tertiary Hospital in Cameroon (Africa). *The Pan African Medical Journal*, **28**, Article No. 216. <https://doi.org/10.11604/pamj.2017.28.216.11441>
- [20] Baker, R. and Whitfield, M. (1992) Measuring Patient Satisfaction: A Test of Construct Validity. *Quality in Health Care*, **1**, 104-109. <https://doi.org/10.1136/qshc.1.2.104>
- [21] Murphy, M., Haff, J. and Lucente, V.R. (2011) The Surgical Satisfaction Questionnaire (SSQ-8): A Validated Tool for Assessment of Patient Satisfaction Following Surgery to Correct Prolapse and/or Incontinence. *JMIG*, **18**, 49-50. <https://doi.org/10.1016/j.jmig.2011.08.171>
- [22] Merriam-Webster Medical Dictionary (2018) Major Surgery Medical Definition. <https://www.merriam-webster.com/medical/major%20surgery>
- [23] Schoenfelder, T., Schaal, T., Klewer, J. and Kugler, J. (2014) Patient Satisfaction and Willingness to Return to the Provider among Women Undergoing Gynecological Surgery. *Archives of Gynecology and Obstetrics*, **290**, 683-690. <https://doi.org/10.1007/s00404-014-3248-y>
- [24] Keon, J. (2014) Patient Satisfaction, Vaginal Bleeding, Sexual Function Following Laparoscopic Supracervical Hysterectomy. *Korean Journal of Women Health Nursing*, **20**, 148-154. <https://doi.org/10.4069/kjwhn.2014.20.2.148>
- [25] Buda, A., Cuzzocrea, M., Montanelli, L., Passoni, P., Bargossi, L., Baldo, R., et al. (2013) Evaluation of Patient Satisfaction Using the EORTC IN-PATSAT32 Questionnaire and Surgical Outcome in Single-Port Surgery for Benign Adnexal Disease: Observational Comparison with Traditional Laparoscopy. *Diagnostic and Therapeutic Endoscopy*, **2013**, Article ID: 578392. <https://doi.org/10.1155/2013/578392>

## Annexes

### Modified Surgical Satisfaction Questionnaire (SSQ-8)

Questions	Answer				
	5	4	3	2	1
1) How satisfied are you with how your pain was controlled in the hospital after surgery?	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied
2) How satisfied are you with how your pain was controlled at home after surgery?	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied
3) How satisfied are you with the amount of time it took for you to return to your normal activities e.g., housework or social activities outside the home?	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied
4) How satisfied are you with the amount of time it took for you to work?	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied
5) How satisfied are you with the amount of time it took for you to return to your normal exercise routine?	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied
6) Did you develop any complications following your surgery?					
7) How satisfied are you with the results of your surgery?	Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied
8) Looking back, if you had “to do it all over again”, would you have the surgery?	Absolute yes	I guess yes	Neutral	Don't think so	Never
9) Would you recommend this surgery to someone else?	Absolute yes	I guess yes	Neutral	Don't think so	Never
10) On a score of 0 to 20 where 0 is the worst level of health you can have, where 10 means you feel your health levels are average following surgery and 20 means you are in the best possible health since surgery, how would you score your current health levels?					