

# Satisfaction of Surgical Informed Consent and Associated Factors Among Women Undergone Obstetric and Gynecologic Surgery at Jimma Medical Center, Jimma, Oromia Region, Ethiopia 2020.

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## Research article

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# Abstract

**Background:** Informed consent is a process in which a healthcare provider obtains permission from an individual before delivering a certain health intervention. Patient satisfaction towards informed consent process is one main indicator of patient experience on health care services and mirror image of quality health care. The objective of this study was to assess the level of women satisfaction towards surgical informed consent and its associated factors at Jimma Medical Center, Ethiopia, 2020.

**Method:** Facility based cross-sectional study was conducted from April 1 to May30, 2020 at Jimma Medical Center. A total of 372 surgical patients were selected using a systematic random sampling method. The collected data was coded, entered into Epi data version 3.1 and analyzed using SPSS version 25. Bivariate and multivariate regression was carrying out to determine the association between outcome variable and independent variable.

**Result:** A total of 372 study participants were interviewed and giving a response rate of 97.8 %. Of this majority respondents were 167(44.9%) between 28-37 years old, married 310(83.3%), Urban residence 242 (65.1%) and housewife 168 (45%). Patients' satisfaction towards surgical informed consent was 43%. Multivariate logistic regression analysis showed that residence (AOR: 2.279, 95% CI: 1.257-4.131), current referred history (AOR: 1.856, 95% CI: 1.033-3.337), language of the written consent form (AOR: 2.076, 95% CI: 1.143-3.773), time taken for informed consent provision (AOR: 5.227, 95% CI: 2.499-10.936) and patient to health provider relationship (AOR: 5.419, 95% CI: 3.103-9.464) were positively associated with patient satisfaction.

**Conclusion:** In this study, the level of patient satisfaction towards surgical informed consent process was relatively low compared with previous studies. Health care professionals need to give emphasize on way of delivering informed consent, patients' need and obey a standard informed consent process with evidence based practice to improve patient satisfaction.

## Background

Patients' surgical informed consent for the operation is one vital part of preoperative care (1). Informed consent is the process in which a healthcare provider obtains permission from an individual before delivering a certain health intervention such as therapy, treatment and surgery. It is agreement on propose surgery perform between patient with health care providers (2).

The process of informed consent contains more than signing a prescribed form. It involves basic elements including the nature of the procedure; reasonable of operation, alternatives to the proposed intervention; the relevant risks, benefits and uncertainties with sharing a satisfactory amount of information to the consenting individual, addressing their concerns, fears, questions and discussing possible outcomes (3,4). However, the habitual informed consent form content of information didn't consider the patients' needs and right (5).

Patient satisfaction has been defined as the degree of meeting between a patients' expectations of ideal care with their perception of the real care received (6,7). It is an important measure of healthcare quality (8). Patient satisfaction towards informed consent is increase when offer the written informed consent combine with verbal informed consent information during the preoperative period (9). Satisfied patients are more likely to obey treatment, take an active role in their own care and continue using health care services, voluntary involvement in decision making and stays within a healthcare provider (10).

Common reasons for postoperative patients dissatisfaction and usual complain by surgical patients were deformities, scars, asymmetry and infections (11). It would have mitigated or reduce if proper and sufficient patient center preoperative informed consent delivered about indication of operation, alternative, advantage, consequence and complication of surgery.

The ultimate goal of offering surgical informed consent include improve client understanding of the proposed procedure, maintain trust between patient to healthcare providers, increase patient satisfaction and minimize litigation issues related to surgical procedure (3). However, the status of patient satisfaction towards informed consent provision still low, especially in African countries compare with high income country (12–16). It shows that value given to what patient expectation and as well type of service being patient to satisfy while provision of informed consent has huge variation at clinical area.

Generally; patients satisfaction depends on the difference between expectation and perception, so that it seems advisable to analyze in depth which aspects of the health services provide greatest satisfaction to surgical patients. The primary significant of this study shows the degree of patient satisfaction towards surgical informed consent provided and to know the factors which lead the patient dissatisfied.

## **Methods**

### **Study design & setting**

A cross-sectional study was conducted in Jimma Medical Center located in Jimma town, Ethiopia. Jimma Medical Center is a referral hospital for the south west part of Ethiopia. It is a teaching tertiary hospital with four major clinical departments including internal medicine, surgery, pediatrics, and gynecology/obstetrics in which Fistula rooms are contained and also has other clinical departments, dentistry, ophthalmology, Orthopedics, psychiatry, Reproductive health center, dermatology and ART clinic. Obstetrics and gynecology wards had 76 available beds for postoperative care. Around 1,461 and 900 patients were undergone obstetric and gynecological related surgery within past six month respectively (the previous 6 month report). Averagely around 787 patients were done surgery within two month. The study period was from April 1 to May 30, 2020.

### **Study participants**

Women who undergone obstetrics and gynecologic surgeries were study participants of this study. Surgical patients who undergone Ob-Gyn surgery age of 18 year old and above was include in this study. However, these women who had repeated surgery at the same admission, critically ill and known psychiatric illness were excluded from the study.

## Sample size determination

The sample size was determined using single population proportion formula by considering 62 % proportion (P) which took from research done in Hawassa (17); with 95% confidence interval (1.96);  $\alpha=0.05$  and 5% marginal of error. By adding a non-response rate of 5%, the final sample size was 380.

## Sampling technique

Systematic sampling technique was employed to select study participant from 787 total two month surgical cases after determining the interval (K value). The k-value was determined by dividing total two month surgical case (787) to the final sample size (380) that given approximately 2. The first study participant was selected by simple random technique from the first two individual and then the next participant was chosen every two interval from the registration book until the final sample size reached.

## Data collection measurement tool

The data collection measurement tool was adapted from different literatures developed for similar purpose (4,12). The body questioners have six parts. The first part about general socio-demographic consist of 8 items, the second part deals with patient related factors consist 7 items; third one about service related factors consist 8 item, the fourth part deal with patient to healthcare provider relationship consist 9 items, adopted from validation of the patient to doctor relationship questionnaire (PDRQ-9) study done in German (19), the fifth part deal about patients' knowledge towards surgical informed consent and the last part deal about the satisfaction of surgical informed consent it contain 10 items with five Likert scale option (range from 1 completely dissatisfied to 5 completely satisfied). Data was collected using structured closed ended questionnaire. The data collection method was using interviewer administered questionnaire and document review. Two BSc and one MSc nurses were recruited as data collectors and supervisor respectively.

## Dependent Variable

Satisfaction of surgical informed consent

## Independent Variables

- **Social-demographic characteristics:** Age, educational status, occupation, marital status, income and residence.
- **Patient related factors:** Parity, knowledge, type of surgery, previous medical history and previous surgery.
- **Health care providers related factors:** Patient to health care provider relationship
- **Service related factors:** Referred history, language of the written consent form, profession who request informed consent, timing of consent, time taken to provide of informed consent, time taken to decision making and person who signed on informed consent.

## Operational definition & definition of terms

**Surgical patients:** mean elective-emergency surgery and obstetrics, gynecology patients who operated during the study period.

**Patient satisfaction:** define as meeting someone's expectations hence enjoyment from received services and product.

**Satisfied:** In this study refer study participants who have acquiring the overall satisfaction above mean satisfaction scores (33.3) on the given items to measure respondents' satisfaction (13).

**Dissatisfied:** In this study refer participants who have acquiring the overall satisfaction below mean score (33.3) on the given items to measure respondents' satisfaction.

**Knowledge on surgical informed consent:** about surgical informed consent if women answered knowledge questions with above mean score consider good knowledge otherwise having poor knowledge (18).

**Patient to doctor relationship:** The patient to doctor relationship can be seen as the perception of the patient concerning the caring shown by the doctor and the attitude and behavior of the doctor towards the patient. The PDRQ contain 9 items with yes/no option. When the patients choose greater than 7 items with yes response, considered as good PDR (19).

## Data analysis procedure

The collected data was coded and entered to Epi data version 3.1 and exported to SPSS version 25. Hosmer and Lemeshow test was done to confirm the model fitness; its p-value was 0.072; so the model has been fitted. Bivariate and Multivariate analysis were done between satisfaction of surgical informed consent and explanatory variables. In bivariate logistic regression the variables which had p-value less than 0.25 was considered as candidate variable for multivariable logistic analysis. In multivariable

analysis those variables which had p-value less than 0.05 were considered as statistically significant with outcome variable. The finding of the data was presented by using tables, figures and graphs.

## Data Quality Assurance

The questionnaire was initially prepared in English then translated to local language Afaan Oromo and Amharic, then translated back to English. Prior to actual data collection, pretesting of the questionnaire was conducted on 5% of the total samples (19 women) undergone surgery in Shenen Gibe Hospital. After that appropriate corrections and mandate the questionnaire were made. One day training was given for the supervisor and data collectors. During data collection period, the data was checked for completeness and consistency of information. Any error, ambiguity, incompleteness or other problems was addressed through communication with data collectors before beginning of the next day data collection activities. The reliability of the patients' satisfaction tool was done by using Cronbach Alpha, it was 0.83.

## Results

### 5.1 Socio-demographic characteristics

From total 380 samples, 372 study participants were involved directly in this study giving a response rate of 97.8%. The majority study respondents were married 310 (83.3%) and 167 (44.9%) were between 28-37 years with mean age of 29.5. Majority 182 (48.9%) were Muslim, 267 (70.1%) study participants were Oromo. The majority 242 (65.1%) participants were living in Urban, 168 (45%) were housewife, 291 (78.2%) were literate and nearly half 47.1% had less than 1500EB monthly income (Table 1).

### 5.2 Patient related factors

Among study participants half (52.2%) of them were multipara. Around three fourth of study participants (74.5%) had undergone emergency surgical procedure. Majority study participants 319 (86%) underwent operation with reason of pregnancy related case followed by 20 (5.4%) gynecological cancer, 12(3.2%) gynecological benign tumor and 11 (3%) pelvic organ disorder. One hundred three (27%) respondents had previous history of surgery, among those 60 (58.3%) of them had once time surgical history while the rest 43 (41.7%) patients had more than one time surgical history (Table 2)

#### Respondents' knowledge on surgical informed consent

Figure 1: Women knowledge on surgical informed consent at Jimma Medical Center, Jimma, Oromia Region, Ethiopia 2020.

Women were asked to assess their knowledge towards surgical informed consent. Majority (77.1%) of women had poor knowledge; and the rest around one quarter (22.9%) of them had good knowledge towards surgical informed consent (Figure 1).

## 5.3 Service related factors

Two hundred fifty eight (69.4%) study participants were referred from other health facilities. Above half 62.9% women were responding that the consent form written with in their mother tongue. The majority 302 (81.2%) study participants reported that surgical informed consent was taken by GP/resident, followed by obstetrician-gynecologists 44 (11.8%) and nurse/midwives 26 (7%). More than half 208 (56%) respondents reported that they received informed consent counseling immediately before surgery. The consent form was signed by the patients themselves 352 (94.6%) while the rest 20 (5.4%) were signed by their relatives (Table 3).

## 5.4 Healthcare provider related factors

### 5.4.1 Patient to health provider relationship

Figure 2: Patient to health care providers' relationship status at JMC, Jimma, Ethiopia, 2020.

Women were asked to assess patient to health care providers while they received provision informed consent. Out of total interviewed study participants 179 (48 %) of women had good patient to health providers' relationship (Figure 2).

## 5.5 Women satisfaction on surgical informed consent

Women were scored highest satisfaction value on three satisfaction measurement items; i.e. on awareness of benefit of operation, involvement in the discussion about operation and involvement in decision making its accounts 79.1%, 89.5% and 91.2% respectively. In contrast to this the respondents scored lowest satisfaction value on five patient satisfaction measurement items; i.e. on alternative of operation, chance to express opinions, the chance to ask questions, the amount of information provided about operation and the explanation about operation its accounts 24.7%, 30.1%, 33.3%, 44.9%, and 46.2% respectively (Table 4)

Figure 3 : The overall mean satisfaction level of respondents on surgical informed consent at Jimma Medical center, Jimma, Ethiopia 2020.

Women were asked to assess their level of satisfaction with the SIC they received prior to their surgical procedure on a five-point scale. The finding of this study showed that 160 (43%) of respondents were satisfied and the rest 212 (57%) of respondents were dissatisfied on informed consent provision (Figure 6).

### Factors associated with Satisfaction of informed consent

In bivariate logistic regression 15 variables which had p-value less than 0.25 was considered as candidate variable for multivariate logistic analysis. These variables were age, educational status, residence, marital status, occupation, parity, type of surgery, referred history from other health facility, language of written consent form, timing of consent, time taken to provide informed consent, person signing the consent form, professional request the operation, knowledge to wards SIC and patient to healthcare providers relationships (Table 5).

In multivariable logistic analysis 5 variables had p-value less than 0.05. These variables were residence, referred history from other hospital, language of written consent form, time spent while provided SIC and patient to healthcare provider relationship statistically significant with outcome variable (Table 6).

The result of multivariable logistic regression analysis showed that the respondents who came from urban setting 2.2 times (AOR: 2.279, 95% CI: 1.257-4.131) more likely satisfied than those who came from rural residence. Respondents who haven't referred history from other health setting were 1.8 times (AOR: 1.856, 95% CI: 1.033-3.337) more likely satisfied towards provision of informed consent compared to those who have referred history from other health facility.

Women received written informed consent with their mother tongue were two times (AOR: 2.076, 95% CI: 1.143-3.773) more likely satisfied towards informed consent than counterpart. Patients who had received information about surgical informed consent for 10 minutes duration were 5.2 times (AOR: 5.227, 95% CI: 2.499-10.936) more likely satisfied on provision of informed consent than patients who have received the information for less than 5 minute.

Furthermore women had good patient to health care providers relationship were 5.4 times (AOR: 5.419, 95% CI: 3.103-9.464) more likely satisfied towards informed consent process than counterpart.

## Discussion

The result of the study revealed that women satisfaction level towards surgical informed consent was 43% (95% CI: 38.2% to 48.7%). The finding of this result in line with study done in Egypt and Eritrea its accounted 48.4% and 45% patients satisfied with SIC provision respectively

(16,20). However this study finding of women satisfaction level lower than study conducted in Netherland, Israel, Ethiopia, Rwanda and Pakistan on patients satisfaction towards informed consent which accounted 80.8%, 80 %, 62.1% , 67.4% and 48.9% respectively (13,15,17,21,22). Patients' satisfaction towards provision of surgical informed consent varies from country to country; the possible reason might be due to health care service quality and patients flow rate variation.

The finding of this study showed women who came from urban residence were two times more likely satisfied towards informed consent process as compared to respondents who came from rural residence. It supported by study conducted in Eritrea; patients who came from urban settings were more satisfied on consent information compared to patients those who came from a rural setting (16). This might be due to

the fact that the urban living populations have been know patient autonomy and competent to raise questions for healthcare providers to told them about their current condition, progress and the plan of intervention that will be done.

According to this study finding; surgical patients who hadn't referred history from other health setting were 1.8 times more likely satisfied compared to those who had referred history from other health facility. The possible reason might be due to patients who had referred history from other health facility have be worries on their case or diseases because their case beyond the service given by local health facility and they came to seeking further investigation and intervention. They also have being anxious and stressful in new hospital environment and healthcare provider since they came from other hospital.

Women satisfaction on surgical informed consent was statistically significant with language of written informed consent. Women who received written informed consent with mother tongue were two times more likely satisfied towards informed consent than counterpart. It supported by study done in Switzerland the consent form written in a simple layman language and simpler wording improve patients' ability to understand the information provided and strongly associated with patients' satisfaction (12). Simply provision of information doesn't guarantee to say a patient understood what healthcare providers told to them unless we provided the information within their mother tongue due to the fact that patients belonged to various ethnic groups that speak different languages (17). This might be due to delivering of clear information to women within their mother tongue, lead them to easily understand the information given by health care providers and have being satisfied.

Furthermore, time spent while provision of surgical informed consent was positively associated with women satisfaction towards surgical informed consent. Patients who had received information about surgical informed consent for greater than 10 minutes time duration were 5 times more likely satisfied than patients who received the information for less than 5 minute. It support by study done in Nigeria revealed that; time spent in explaining surgery procedure and possible outcome could calm patients and reduce level of anxiety (23). This might be due to adequate time provided to women during informed consent process allow them to easily understand the information provision. When health care providers explaining proposed surgery with adequate time, then the women coped from their anxiety and they have been satisfied.

Furthermore women satisfaction towards informed consent was significantly associated with patient to health care provider relationship. According to this study the respondents who had good relationship with health care providers were 5.4 times more likely satisfied towards informed consent process than counterpart. It supported by study done in Netherland reported that a better perceived patient to doctor relationship was related to higher patient satisfaction (24). Similarly, study conducted in Australia revealed that patient centered health care service with effective communications skills result trust between patient and healthcare provider and improved patient satisfaction (25). This might be due to good patient to health care providers relationship build trust between them; then the patients have been ready to open their mind to receive the information provided by health care providers.

## Limitation of the study

Generalizability issue because of this study done on women who undergone on obstetrics and gynecologic related case it didn't address major surgery and other surgical case. Social desirability biases also other limitation on this study.

## Strength of the study

The strength of this study; it used probable sampling technique and had high response rate.

## Conclusion

According to this study finding the level of patient satisfaction with in the surgical informed consent services was relatively low compared with previous studies conducted in the country and other countries in the world. The patient satisfaction is one indicator of health service quality. Residence, language of written informed consent, time spent while provision of SIC, utilization of the recommend component of SIC and patient to healthcare provider relationship were the determinant factors for women satisfaction towards informed consent.

## Recommendation

The Jimma Medical Center should develop informed consent form based on patient case to surgery department. Fixed and uninform printed consent form for all case is not valid it should be specific to patient and disease or case oriented.

Jimma Medical Center should prepare training session for health professionals to strength patient to health provider relationship and to improve way of delivering informed consent service.

Healthcare provider needs to give emphasis to their way of informed consent provision; patients need and follow standard informed consent guideline to come up with evidence based practice.

The health care providers should give enough time while provision of surgical informed consent to patients. It should not be just rush to signed consent form rather give adequate time and information until patients understood the information provided to them and ready themselves to decision making.

The forthcoming researcher should be emphasized the perspective of health care providers of surgical informed consent process.

## Abbreviations

AOR: Adjusted odd Ratio; COR: Crude Odd Ratio; JMC: Jimma Medical Center, SIC: surgical informed consent.

## Declarations

### **Ethical approval and consent to participate.**

Ethical letter was obtained from institutional review board of Jimma University. After obtain the ethical review board support letter, it was submitted to Jimma Medical Center. Then after getting permission from the hospital, verbal consent was obtained from individual participants. Moreover, study participants were informing about aim of the study and the data used only research purpose. The data collection was done using anonymously to confirm the respondents' confidentiality. All the participants were told that their participation would be on voluntary basis and their information will be kept confidential.

### **Consent of Publication**

Not applicable

### **Availability of data and materials**

The datasets used for this study could be deposited in publicly available repositories where appropriate and upon reasonable request. All relevant raw data supporting the findings and conclusions of this study can also be freely available from the corresponding author through E-mail- tsegabiya54@gmail.com or with other means to any scientist wishing to use them for non-commercial purposes without breaching participant confidentiality upon reasonable request. There will not be any concern on ethical aspect for this as participant data was de-identified.

### **Competing interests**

The authors declare that they have no competing interest

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The fund of this research was obtained from Jimma University, Jimma, Ethiopia. The role of the funder was only providing the fund needed for this study

### **Author's contribution**

**TB:** Develops proposal and the final draft of the research.

**AT:** Participate in analyzing and interpreting the data, discussing the findings of the study and drafting the manuscript.

**YB:** Participate in analyzing and interpreting the data, discussing the findings of the study. All authors have read and approved the manuscript.

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Table 1: Sociodemographic characteristics of study participants at JMC, Ethiopia, 2020. (n=372)

<b>No</b>	<b>Variable</b>	<b>Classification</b>	<b>Frequency</b>	<b>Percent</b>
<b>1.</b>	Age	18-27	157	42.2
		28-37	167	44.9
		38-47	41	11.0
		>48 <sup>+</sup>	7	1.9
		Total	372	100.0
		Mean and SD	29.5 ±3.5	
<b>2.</b>	Education status	No formal education	81	21.8
		Primary(1-8)	121	32.5
		Secondary (9-12)	113	30.4
		Diploma and above	57	15.3
<b>3.</b>	Marital status	Single	50	13.4
		Married	310	83.3
		Divorced	9	2.4
		Widowed	3	.8
<b>4.</b>	Religion	Orthodox	123	33.1
		Protestant	64	17.2
		Muslim	182	48.9
		Other <sup>1</sup>	3	.8
<b>5.</b>	Ethnicity	Oromo	267	71.8
		Amhara	37	9.9
		Tigre	5	1.3
		Gurage	59	15.9
		Other <sup>2</sup>	4	1.1
<b>6.</b>	Occupation	Housewife	168	45.2
		Private employee	33	8.9
		Government employee	68	18.3
		Merchant	29	7.8
		Farmer	56	15.1

		Student	18	4.8
7.	Residence	Urban	242	65.1
		Rural	130	34.9
8.	Monthly income	<500	110	29.6
		501-1500	65	17.5
		1501-2500	71	19.1
		2501-3500	43	11.6
		3501-4500	22	5.9
		>4501	61	16.4
Other <sup>1</sup> Catholic <sup>1</sup> wakefata <sup>2</sup> Yem, <sup>2</sup> Dawuro				

Table 2: patient related factors, Jimma Medical center, Oromia region, Ethiopia, 2020 (n=372).

No	Variable	Category	Frequency	Percent
1.	Parity	Null	14	3.8
		One	160	43.0
		Two to four	150	40.3
		Greater than five	48	12.9
2.	Type of surgery (Schedule of surgery)	Elective	95	25.5
		Emergency	277	74.5
3.	Reason of the operation done	<sup>1</sup> Gynecological benign tumor	12	3.2
		<sup>2</sup> Gynecological cancer	20	5.4
		Fistula	10	2.7
		Related to pregnancy	319	85.8
		<sup>3</sup> Pelvic organ prolapse	11	3.0
4.	Previous medical history	No	330	88.7
		DM	6	1.6
		Hypertension	26	7.0
		Other(anemia, PPH, AUB)	10	2.7
5.	Previous surgical history	Yes	103	27.7
		No	269	72.3
6.	Number of operation done	1	60	58.3
		≥2	43	41.7

<sup>1</sup>Fibroma, Myoma, Adenoma, Adenomyosis. Endometriosis, polyps ...etc

<sup>2</sup>Cervical Ca (squamous cell carcinoma or adenocarcinoma) , Endometrial Ca, Ovarian Ca....etc

<sup>3</sup>Cystocele, Urethrocele, Uterine prolapse , Vaginal vault prolapse, Rectocele & Enterocele

Table 3: Service related factors, Jimma Medical Center, Oromia region, Ethiopia, 2020 (n=372).

No	Variable	Category	Frequency	Percent
1.	Referred history	Yes	258	69.4
		No	114	30.6
2.	Language of written informed consent	Within mother tongue	234	62.9
		Deferred from mother tongue	124	33.3
3.	Consent requested by	Ob-gyn specialist	44	11.8
		General practitioner/resident	302	81.2
		Midwife/nurse	26	7.0
4.	Timing of consent	The day before date of surgery	65	17.5
		On the day of surgery	87	23.4
		Immediately before surgery	208	55.9
		On the operation table	12	3.2
5.	Time taken to provide informed consent	Less than 5 minute	231	62.1
		5 to 10 minute	76	20.4
		Greater than 10 minute	65	17.5
6.	Timing taken to decision making	Less than 1 hour	343	92.2
		Greater than 1 hour	29	7.8
7.	Person signed on informed consent	Self	352	94.6
		Parent/spouse	20	5.4

Table 4: Satisfaction of respondents to wards SIC, JMC, Oromia Region, Ethiopia, 2020.

<b>No</b>	<b>Item</b>	<b>Completely dissatisfied</b>	<b>Dissatisfied</b>	<b>Neutral</b>	<b>Satisfied</b>	<b>Completely satisfied</b>
1.	The information on indication of operation	26(7.0%)	166(44.6%)	13(3.5%)	124(33.3%)	43(11.6%)
2.	The alternative of operation	28(7.5%)	89(23.9%)	163(43.8%)	71(19.1%)	21(5.6%)
3.	The chance to express opinions	25(6.7%)	223(59.9%)	12(3.2%)	89(23.9%)	23(6.2%)
4.	The chance to ask questions	22(5.9%)	210(56.5%)	16(4.3%)	95(25.5%)	29(7.8%)
5.	The amount of information about operation	33(8.9%)	150(40.3%)	17(4.6%)	131(35.2%)	41(11.0%)
6.	The information was easy to understand	32(8.6%)	133(35.8%)	13(3.5%)	155(41.7%)	39(10.5%)
7.	The awareness on benefit of operation	9(2.4%)	49(13.2%)	20(5.4%)	210(56.5%)	84(22.6%)
8.	The awareness on risk of operation	10(2.7%)	90(24.2%)	156(41.9%)	56(15.1%)	60(16.1%)
9.	Involvement of in the discussion about operation	3(8%)	23(6.2%)	13(3.5%)	166(44.6%)	167(44.9%)
10.	Involvement in the decision making on operation	7(1.9%)	15(4.0%)	11(3.0%)	117(31.5%)	222(59.7%)

Table 5: Bivariate logistic regression of factors associated with patients' satisfaction on SIC 2020.

No	Variable	Category	Satisfaction status		COR 95% CI	P-value
			Satisfied	Dissatisfied		
1.	Age	18-27	56	101	1 **	
		28-37	82	85	1.740 (1.114-2.717)	.015
		38-47	17	24	1.278 (.633-2.578)	.494
		>48+	5	2	4.509 (.847-24.001)	.077
2.	Educational status	No formal education	37	44	1 **	
		Complete elementary school	38	83	.544 (.304-.974)	.041
		Complete secondary school	48	65	.878 (.494-1.56)	.658
		Diploma and above	37	20	2.200 (1.095-4.421)	.027
3.	Marital status	Single	26	24	1 **	
		Marriage	128	182	.649(.357-1.182)	.158
		Widowed-divorce	6	6	.923(.262-3.255)	.901
4.	Residence	Rural	45	85	1 **	.017
		Urban	115	127	1.710 (1.101-2.658)	
5.	Occupation	Housewife	77	91	1 **	
		Private employee	10	23	.514 (.230-1.146)	.104
		Government employee	38	30	1.497 (.849-2.639)	.163
		Merchant	12	17	.834 (.375-1.855)	.657
		Farmer	18	38	.560 (.296-1.059)	.075

	Student	5	13	.455 (.155-1.332)	.151	
6.	Monthly income	<500	49	61	1	
		501-1500	23	42	.682 (.362-1.283)	.265
		1501-2500	31	40	.965 (.529-1.760)	.907
		2501-3500	15	28	.667 (.321-1.386)	.278
		3501-4500	12	10	1.494 (.596-3.747)	.392
		>4501	30	31	1.205 (.643-2.256)	.561
7.	Parity	Null	4	10	1 **	
		1	64	96	1.667 (.501-5.544)	.476
		2-4	66	84	1.964 (.590-6.545)	.084
		>5	26	22	2.955 (.812-10.745)	.405
8.	Type of surgery	Emergency	105	172	1 **	.001
		Elective	55	40	2.252 (1.402-3.619)	
9.	Previous medical Hx	No	143	187	1	
		DM	3	3	1.308 (.260-6.575)	.745
		HNT	11	15	.959 (.427-2.151)	.919
		Renal, anemia	3	7	.560 (.142-2.205)	.407
10.	Previous Surgical history	Yes	48	55	1.223 (.775-1.932)	.387
		No	112	157	1	
11.	Referred history from other hospital	Yes	103	155	1 **	.071
		No	57	57	1.505(.966-2.345)	
12.	Language of written	Defer from	40	84	1 **	.009

consent form		mother tongue				
		In mother tongue				
			109	125	1.831(1.161-2.889)	
<b>13.</b>	Consent request by	ob-gyn specialist	33	11	4.800 (1.690-13.634)	.003
		GP or resident	117	185	1.012 (.444-2.305)	.978
		Midwives /nurse	10	16	1 **	
<b>14.</b>	Timing of consent	the day before date of surgery	45	20	3.150 (.891-11.136)	.075
		on the day of surgery	33	54	.856 (.251-2.917)	.803
		immediately before surgery	77	131	.823 (.252-2.682)	.746
		on the operation table	5	7	1 **	
<b>15.</b>	Time spent to decide	< 1 hour	147	196	.923 (.431-1.979)	.837
		≥1 hour	13	16	1	
<b>16.</b>	Time spent to provided informed consent	<5 minute	72	159	1 **	
		5-10 minute	44	32	3.036 (1.781-5.178)	.001
		> 10 minute	44	21	4.627 (2.566-8.345)	.001
<b>17.</b>	who sign on informed consent form	Self	146	206	1 **	.017
		Parent/spouse	14	6	3.292 (1.236-8.768)	
<b>18.</b>	Knowledge to wards SIC	Poor knowledge	118	169	1 **	.176
		Good knowledge	42	43	1.399 (.861-2.274)	
<b>19.</b>	Patient to healthcare provider relationship	Poor	47	146	1 **	.001
		Good	113	66	5.319 (3.400-8.320)	

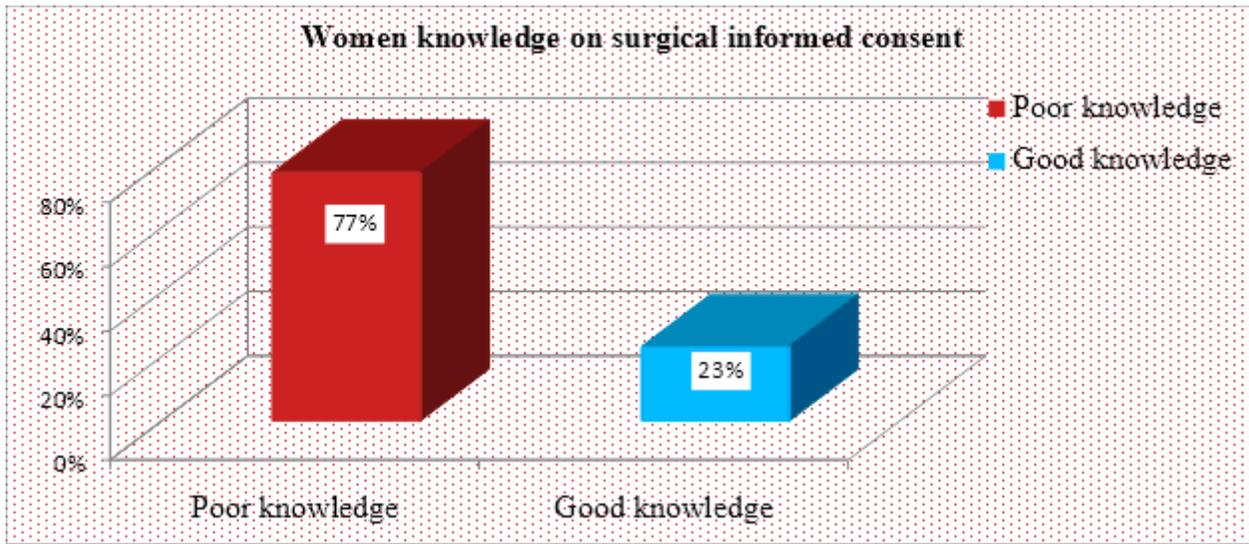
Key: COR: crude odd ratio 1: Reference category \*\* candidate variable to multivariate logistic regression

Table 6: Multivariable logistic regression of factors associated with patients' satisfaction towards SIC, 2020.

No	Variable	Category	Satisfaction status		COR ( 95% CI)	AOR (95% CI)
			Satisfied	Dissatisfied		
1.	Residence	Rural	45	85		1
		Urban	115	127	1.710 (1.101-2.658)	2.279 (1.257-4.131)**
2.	Referred history from other health facility	Yes	103	155		1
		No	57	57	1.505(.966-2.345)	1.856 (1.033-3.337)*
3.	Language of written consent form	Defer from mother tongue	40	84		1
		With mother tongue	109	125	1.831(1.161-2.889)	2.076 (1.143-3.773)*
4.	Time spent while provided SIC	<5 minute	72	159		1
		5-10 minute	44	32	3.036(1.781-5.178)	1.794(.887-3.627)
		> 10 minute	44	21	4.627(2.566-8.345)	5.227 (2.499-10.936)**
5.	Patient to health care providers relationship	Poor	47	146		1
		Good	113	66	5.319 (3.400-8.320)	5.419 (3.103-9.464)**

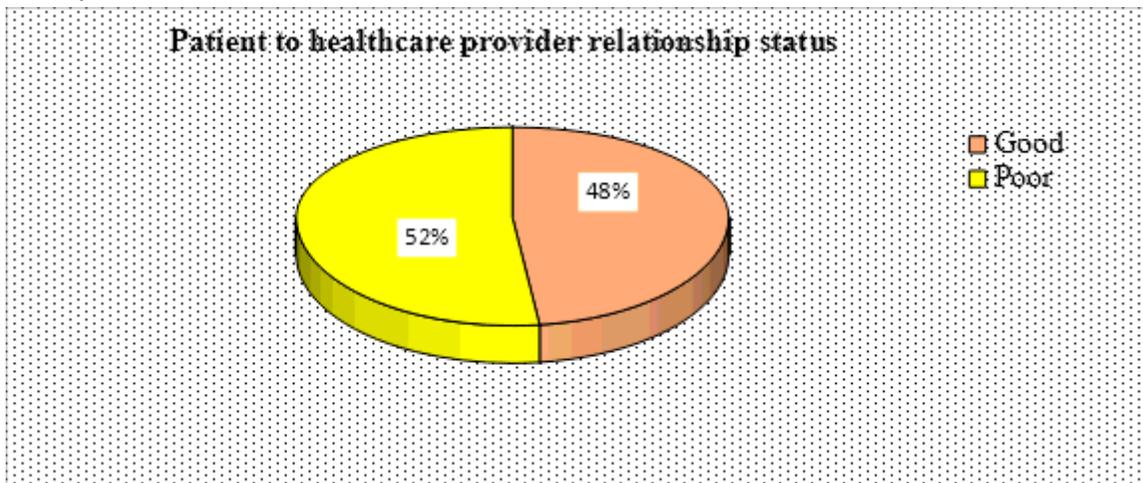
Key: - COD: Crude Odd Ratio, AOD: Adjusted odd Ratio \*\* Significant at P-value <0.01 \* Significant at p-value at <0.05

## Figures



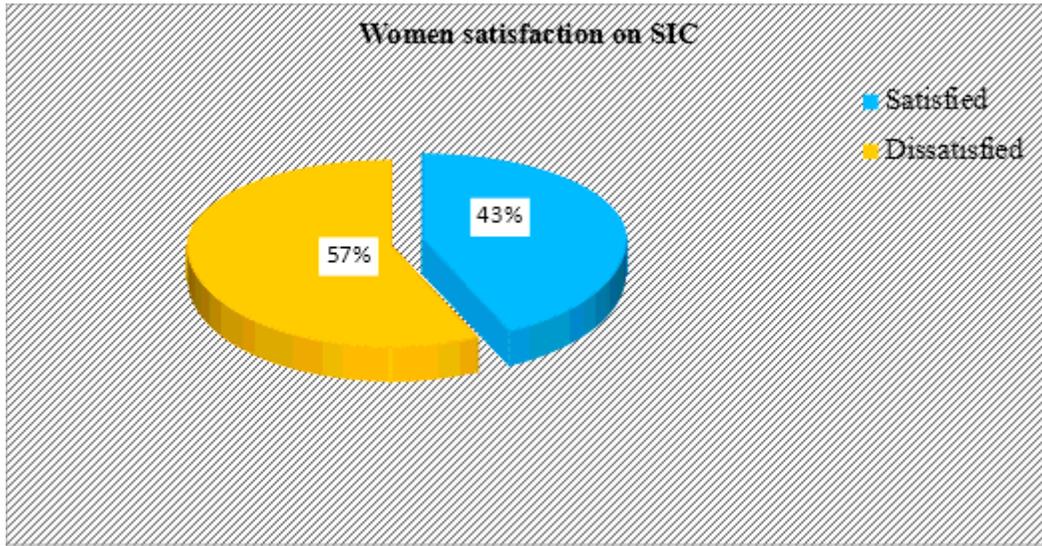
**Figure 1**

Women knowledge on surgical informed consent at Jimma Medical Center, Jimma, Oromia Region, Ethiopia 2020.



**Figure 2**

Patient to health care providers' relationship status at JMC, Jimma, Ethiopia, 2020.



**Figure 3**

The overall mean satisfaction level of respondents on surgical informed consent at Jimma Medical center, Jimma, Ethiopia 2020.