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## Original Article

# Knowledge and perception of surgical informed consent among adult surgical patients in Arba Minch and Jinka General Hospitals, Southern Ethiopia

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**Abstract**

***Background:*** *The surgical informed consent process and format are not uniform nationally and internationally. The objective of this study was to assess the knowledge and perception of adult patients towards the legal nature of surgical informed consent in Arbaminch and Jinka General Hospitals, South Ethiopia.*

***Methods:*** *Responses from 423 post-operative adult surgical patients were taken using pretested structured interviewer-administered questionnaires for five months. A hospital-based cross-sectional study of all adult surgical patients who were operated were involved before discharged from December 1 2021-April 30, 2022 in Arbaminch and Jinka general hospitals, Southern Ethiopia. Stratified sampling technique was used. The collected data entered into EPI-data version 3.1 and exported to SPSS (version 25) software for statistical analyses. A significant level was determined at a P-value <0.05 with 95% confidence interval.*

***Results:*** *A total of 423 adults with a response rate of 100% were included in the study. Of the respondent's consent, only 210 (49.6%) was taken by an operating surgeon, and the majority was taken by a general practitioner, nurse, and midwife. Surprisingly consent taken by the porter was 5(1.2%). Of the respondents, only 188(44.4%) had good knowledge and only 58 (13.7%) had a good perception regarding surgical informed consent. Patients exposed for consent signing previously, had 4.06 times higher knowledge than those unexposed (AOR=4.06, 95% CI :-( 1.80, 4.492)). Those patients living in an urban area were well aware of surgical informed consent (AOR=0.246, 95% CI :- (0.212, 1.660)). Level of understanding of surgical informed consent, significantly increased for those informed by an operating surgeon (AOR=4.45, 95% CI :- ( 1.95, 5.09)).*

***Conclusion:*** *Majority of our patients had poor knowledge and poor perception regarding the legal nature of surgical informed consent. Living in urban, signing informed consent previously and consent taken by operating surgeon affected level of knowledge positively. The consent had to be taken at least by the operating surgeon.*

***Keywords:*** *Knowledge, Perception, Surgical informed consent*

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## Background

Surgical informed consent is an agreement between patient and surgeon. It secures 100% autonomy of patient on decision of the procedure either to proceed or cancel (1–3). The consent process started since early 1970s(2,4). Surgical informed consent is a process involving information exchange, understanding, decision and giving a written consent(1,3–5). In India, only 13.48% were informed about complication of the surgery and only 33.15% informed about alternatives of treatment(1). There is limited literature on surgical informed consent globally(1). Study done in china, showed significantly poor knowledge on medical information because of limited information delivery to patients(5). Another study done in Iran showed either inadequate or absent information delivery about core points of informed consent for surgical patients(6). Informed consent is a tool that increases mutual trust between patients and health personnel(6). Globally there is no a well-structured uniform surgical informed consent, and it is different from country to country(1,6–8). Giving of the patient(7,9).

adequate time for the patient while delivering relevant information about specific disease increases satisfaction. Delivering clear understandable information to patient by operating health personnel increases satisfaction and decreases unnecessary expectations(4,9). According to different studies, majority of patients do not know complications of surgery and risks of anesthesia adequately(3). Factors associated with poor performance of surgical informed consent process are patient living status, health system functionality status of the nation and attitude of the health worker based on salary and job satisfaction(2). The surgical informed consent should be taken either by the surgeon himself/herself or by specially trained expert in consent taking(8). According to the United nation goal decision on surgical informed consent, every country should have equivalent practice regarding the informed consent process(7).

In Egypt, data for surgical informed consent process is incomplete(2). In Ghana, Only few patients know what the diagnosis is and procedure done(8). There is limited awareness regarding surgical management risk and the right to reject treatment in South Africa (7). Study done in Sudan showed 54% of patients have poor knowledge on informed consent(5).

Knowledge of patients regarding surgical informed consent is only 10.5%(1). Another study done in Ethiopia showed incomplete surgical informed consent form and process(10). A study from Jimma University showed 77.2% of patients have poor knowledge regarding surgical informed consent(11). One study in Ethiopia showed less than 50% level of understanding in Ethiopia(12). Northern Ethiopia report showed, more than 50% of patients are giving their autonomy to their doctors(4). The objective of this study was to know the level of knowledge and perception of the surgical patients and associated factors regarding surgical informed consent in the study period and place.

## Material and Methods

### Study settings and period:

Hospital based cross-sectional study was done on Knowledge and perception towards surgical informed consent and associated factors among adult surgical patients in Arba Minch and Jinka General Hospitals, Southern Ethiopia, from December 1st 2021 to April 30th 2022. Arbaminch General Hospital is found in Arba Minch town which is the administrative center of Gamo zone. Arba Minch town is located 505 km southwest from Addis Ababa, the capital city of Ethiopia and 275 km Southwest of Hawassa, capital city of Southern nation nationalities and peoples region. There were ten general surgeons, three Obstetrics and gynecological surgeons, one ophthalmologic surgeon, two plastic surgeons, two orthopedic surgeons and one neurosurgeon in this hospital when the study was conducted. At least 300 to 400 operations per month is done including all departments and units of surgery in Arbaminch General Hospital and also is teaching hospital for Arbaminch university medical students. On the other hand, Jinka General Hospital is located in Jinka town South Omo zone that is located in Southwest of Hawassa and Addis Ababa, Ethiopia. In Jinka General Hospital, there were two General Surgeons, two Obstetrics and gynecological Surgeons, one orthopedic Surgeon and one ophthalmologic Surgeon performing at least 100 to 200 operations per month in the study period. Study participants were included from surgical ward, orthopedics ward, ophthalmology unit, plastic and reconstructive unit, and Obstetrics and gynecological wards of the two hospitals. The study was conducted from December 2021 to April 2022 among adult surgical patients in mentioned hospitals.

**Source population:**
All adult surgical patients in Arbaminch and Jinka General Hospitals, December 2021-April 2022.

**Study population**
All adult post-surgical patients admitted in both Hospitals during the data collection period.

**Study unit:**
Each selected post-operative adult surgical patients in both Hospitals during the study period.

**Eligibility criteria:**
Age below 18years and critical patients were excluded from the study.

**Sample size and sampling procedure:**
The largest sample size for the study was estimated from p-value for perception (0.5) because the p-value for knowledge and associated factors makes the sample size lower. The p-value for perception was not known and the final sample size was estimated to be 384. By considering 10% non- response rate, over all sample size was 423. Of all operated patients from both hospitals, 423 patients were selected based on the eligibility criteria set. A questionnaire comprising socio-demography, knowledge and perception was developed from different literatures(11,13). A pretested and structured questionnaire was prepared in English and then translated to Amharic and local languages and back translated to English to maintain its consistency. A stratified sampling technique for both hospitals and each department was used, and a systematic sampling technique was used for each patient in the ward based on his/her bed number. Trained BSc nurses were assigned to each ward in both hospitals, and all the process was supervised. By interviewer administered questionnaires, 423 patient's data were collected from patients operated but

before discharge prospectively.

**Data collection technique and quality control:**
Knowledge and perception level was assessed using sixteen knowledge questions and five perception questions. For both knowledge and perception level, each question was given "1" for those said yes and "0" for those said no. Then the sum of the scores and mean were calculated. Those scored below mean were categorized under poor knowledge and above were categorized under good knowledge. Similarly those below mean were categorized under poor perception and above mean were categorized under good perception.
Data were checked for completeness, accuracy and consistency using Epi-data version 3.1 software. Data were analyzed at multiple levels using SPSS version 25 for socio-demographic data, knowledge and perception regarding surgical informed consent. The results were expresses as text and tables. Bivariate and multivariate logistic regression was done for multivariate after checking chi square test showing p-value ≤0.05.

**Operational definitions:**
Good knowledge- those scored above the mean among sixteen knowledge questions included (11, 13).
Poor knowledge-those scored below the mean among sixteen knowledge questions included (11, 13).
Good perceptions-those scored above the mean among five perception questions included (11, 13)
Poor perception-those scored below the mean among five perception questions included (11, 13)

**Results**

Socio-demographic characteristics

All the 423 respondents agreed and responded. Mean age of the respondents was 37.7±15.19years. Minimum and maximum ages of respondents were 18 and 85 years, respectively. Of the respondents, 42.8% were males and 57.2% were females (table 1).

**Table 1.** -Socio-demographic characteristics for Arbaminch and Jinka General Hospital respondents, Ethiopia 2022

| Variables | Category | Frequency (%) |
|---|---|---|
| Hospital | Arbaminch general hospital | 383 (90.1) |
| | Jinka general hospital | 100(23.6) |
| Department | General surgery | 225(53.2) |
| | OBGY | 102(24.1) |
| | Orthopedic surgery | 53(12.5) |
| | Plastic and reconstructive | 12(2.8) |
| | Ophthalmologic surgery | 31(7.3) |
| Gender | Male | 181(42.8) |
| | Female | 242(57.2) |
| Age category | 18-30 | 184(43.5) |
| | 31-40 | 98(23.2) |
| | 41-50 | 58(13.7) |
| | 51-60 | 50(11.8) |
| | >60 | 33(7.8) |
| Residency | Urban | 227(54) |
| | Rural | 196(46) |

**Knowledge**

More than three fourth of the participants do not know the operation time and similarly more than three fourth do not know the anesthesia risks. Also 71.4% of the patients did not tell complication of surgery. Over all knowledge level of patients regarding surgical informed consent was only 44.4% (table 2).

**Table 2.** -Knowledge level result for Arbaminch and Jinka General Hospital respondents, Ethiopia 2022.

**Perception**

| Variable | Category | Frequency (%) |
|---|---|---|
| Knowledge level | Poor | 235(55.6) |
| | Good | 188(44.4) |

More than 70% of patients considered signing consent was only for the protection of hospital and surgeons. Also more than half of the participants believed that they had no right to change their decision after signing consent (table 3). Perception results showed only 13.7% of the participants had good perception (table 4).

**Table 3.** -Perception frequency for Arbaminch and Jinka General Hospital respondents, Ethiopia 2022

| Variable | Category | Frequency (%) |
|---|---|---|
| Did you think signing consent remove compensation | No | 201(47.5) |
| | Yes | 222 (52.5) |
| Did you think signing consent is protection of surgeon and hospital only | No | 298(70.4) |
| | Yes | 125(29.6) |
| Did you think you can change your mind after signing consent | No | 241(57) |
| | Yes | 182(43) |
| Will you allow your relatives to sign if needed | No | 98( 23.2) |
| | Yes | 325(76.8) |
| Did you decide alone confidently | No | 235(55.6) |
| | Yes | 188(44.4) |

**Table 4. -**Perception level result for Arbaminch and Jinka General Hospital respondents, Ethiopia 2022

| Variable | Category | Frequency (%) |
|---|---|---|
| Perception level | Poor | 365(86.3) |
| | Good | 58(13.7) |

**Associated factors for knowledge and perception**

Patients exposed for consent signing previously, had 4.06 times higher knowledge than those unexposed (AOR=4.06, 95% CI :-( 1.80, 4.492), P=0.001). Those patients living in an urban area were well aware of surgical informed consent (AOR=0.246, 95% CI :- (0.212, 1.660), P=0.001). Level of understanding of surgical informed consent, significantly increased for those informed by an operating surgeon (AOR=4.45, 95% CI :- (1.95, 5.09), P=0.002). Educational status had no significant effect on level of knowledge of patients (table 5). No significantly associated factor identified regarding level of perception.

**Discussion**

Most of our study participants were females. Of respondents, 70% attended at least above grade 1. Irrespective of the patient attitude and perception, literatures secure 100% patient autonomy(1,2,11–16,3–10). Age of the participants from SPMMCH was nearly similar to our patient age range of 18-85years(14). Majority of our patients had lower educational status which is in agreement with the results a study in Iran(78.7%)(6). Consent taken by operating surgeon in our study was only 49.6% which was different from that of the study in Iran (85%)(6). In our study, even there was consent taken by a porter. It may be because of poor system control and process of the surgical informed consent in Ethiopia, particularly in the study hospitals. Nearly 100% of the patients signed consent which is more than in the study reported from Nigeria, 68.3%. On the contrary, our patients level of understanding was poorer probably because of operating surgeon was not fully involved in the consent process(9). About 66.2% of the patients knew legal ground of surgical informed consent in our study which is less than that from study conducted in SPMMCH, Ethiopia(13). It may be because of low educational level of the respondents. Although only 53.2% knew alternatives of treatment, it was better than those from other studies conducted at different setups majority being less than 50%(1,12,14). Nearly 50% of the respondents had knowledge on ability to change decision even after signing consent which is better than those from the study conducted in SPMMCH(13). About 59.1% of patients knew their operating surgeon which is better than 33.5% reported by Befekadu, et al(13).

Patients from our study knew their operating surgeon for the surgeons might have explained and discussed during OPD visit. Although majority of our respondents knew the reason for surgery, 78.6%, 77.1% and 86.3% of the respondents did

**Table 5.** -Bivariate and Multivariate analysis result for knowledge of Arbaminch and Jinka General Hospital respondents, Ethiopia 2022.

| Variables | Category | Level of knowledge | | COR (95%CI) | P value | AOR (95%CI) | P value |
|---|---|---|---|---|---|---|---|
| | | Good | Poor | | | | |
| Have you signed before | Yes | 175 | 169 | 4.81(1.309, 5.263) | 0.007 | 4.06(1.80, 4.492) | 0.001* |
| | No | 14 | 65 | 1 | | | |
| Educational status | No formal education | 90 | 47 | 1 | | | |
| | Formal education | 99 | 187 | 3.62(2.83, 4.281) | 0.223 | 3.26(2.72, 4.388) | 0.381 |
| Residency | Urban | 68 | 159 | 0.265 (0.204,1.463) | 0.004 | 0.246(0.212, 1.660) | 0.001* |
| | Rural | 121 | 75 | 1 | | | |
| Who took consent | Operating surgeon | 135 | 75 | 5.3(2.329, 7.739) | 0.000 | 4.45(1.95, 5.09) | 0.002* |
| | Others | 54 | 159 | 1 | | | |

not know starting time of the procedure, when to resume work post-operatively and anesthesia risks respectively. This shows lower level of knowledge similar to those from the study reported by Befekedau et al(13).

About 70.4% of respondents perceived that consent was only for protection of Surgeon and Hospital, and 57% of respondents thought that they could not change their mind after signing consent which was worse than study reported from Gondar University, Ethiopia(11). Our study showed 55.6% of respondents had poor knowledge which is in agreement with the ones reported by Nurhusein et al(11). The present finding, however, is not in agreement from those of the studies conducted in Nigeria and South Africa(2,9). Probably it's because of higher educational profile of patients in Nigeria and South Africa. Another study from SPMMCH, Ethiopia showed only 10.5% of patients had good knowledge(13). Study reported from Sudan showed 54% of patients did not understand informed consent at all(16).

Over all except those from Nigeria and South Africa, the level of knowledge on surgical informed consent is low. So over all our study reflected lower level of knowledge and perception regarding legal nature of surgical informed consent.

## Conclusion

Majority of our patients had poor knowledge and poor perception regarding the legal nature of surgical informed consent. Living in urban, signing informed consent previously and consent taken by operating surgeon affected level of knowledge positively. The consent has to be taken at least by the operating surgeon.

## Declarations

**Ethical clearance-** ethical clearance was obtained from IRB office of Arbaminch University, college of medicine and health sciences before doing the research. The reference number is IRB/1160/2021.

**Consent for publication-**written informed consent for each patient was taken while collecting data, identification number was not included. No videos or images specific to patients was included in collected data.

**Availability of data and materials:** The data in this manuscript will be accessed by the contact address of the corresponding and Co-Authors.

**Competing interests:** the author declared no competing interest

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**Authors contributions:**

Yonas Abera[1]-have made substantial contributions to conception and design, data collection, analysis and interpretation, drafted and critically revised the article, and finally approved the article for publishment.

Menaye Yihune[2] – have made substantial contributions to conception and design, data collection, analysis and interpretation, drafted and critically revised the article, and finally approved the article for publishment.

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