

# Women's satisfaction towards comprehensive abortion care and its determinants in Mekelle Health facilities, Tigray region, Northern Ethiopia: a mixed research approach

Kibrey Hadush<sup>1</sup>, Mussie Alemayehu<sup>1</sup>, Shishay Wahdey<sup>1</sup>, Dejene Ermias<sup>2</sup>, Sisay Moges<sup>3\*</sup>

<sup>1</sup>Department of Reproductive Health, School of Public Health, College of Health Science Mekelle University, Mekelle, Ethiopia;

<sup>2</sup>Department of Public Health, College of Medicine and Health Sciences, Wachemo University, Hossana, Ethiopia;

<sup>3</sup>Department of Family Health, Hossana College of Health Sciences, Hossana, Ethiopia

## Abstract

**Background and objectives:** Every year, it is estimated that half a million pregnancies in Ethiopia terminate in abortion. In Ethiopia, unsafe abortion is one of the leading causes of maternal death. Improving the quality of health care is one of the transformative agendas of Ethiopia's Health Sectoral Transformation Plan. Therefore, the main aim of this study was to assess women's satisfaction with comprehensive abortion care and its determinants in Mekelle health facilities, Tigray Region. Ethiopia.

**Materials and Methods:** A facility-based cross-sectional study with a mixed research strategy was conducted. Women who receive abortion care at three health facilities in Mekelle constituted the study participants. The study participants were chosen using a systematic random sampling procedure with proportionate allocation. Data was collected through client exit interviews with mothers. A multiple linear regression model was used to investigate the determinants of client satisfaction.

**Result:** A total of 317 mothers were enrolled in the study. Out of the 317 respondents, 168 (53%) were aged 20 to 24 years, with a mean age of  $24.4 \pm 4.9$  years. The total mean score of client satisfaction with post-abortion care was  $2.35 \pm 0.24$ , and 273 (86.1%) of respondents were happy with the service provided by the health facilities. Based on multiple linear regression, a stronger art of care and respect resulted in a 70.8% increase in customer satisfaction. Additionally, the physical environment's safety would increase pleasure by 12.5%. Providing information about the procedure increased consumer satisfaction by 57.1%. An increase in service quality would increase client satisfaction by 84.1%.

**Conclusion:** A safe environment, good art of care and respect, providing adequate information to the client, and better-quality care would improve client satisfaction.

## Introduction

About 99% of all abortions carried out in Africa are unsafe, and the risk of maternal death from an

unsafe abortion is one in every 150 procedures, which is the highest in the world [1-4]. Ethiopia is one of the developing countries with the highest

**\*Correspondence:** Sisay Moges, Department of Family Health, Hossana College of Health Sciences, Hossana, Ethiopia. Email: [Sisaymoges55@gmail.com](mailto:Sisaymoges55@gmail.com);

© 2025 The Author(s). This is an open access article distributed under the terms of the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/) (CC BY 4.0).

mortality rate, where unsafe abortion accounts for 32% of all maternal deaths [5]. According to the Health Sector Transformation Plan (HSTP), about half a million pregnancies are estimated to be aborted each year in Ethiopia, and an estimated 620,300 abortions were performed in 2014 [6]. The majority of abortions (66%) were performed by NGOs, while most post-abortion care (72%) was provided by public hospitals and health centers (7).

The availability of comprehensive abortion care (CAC) services at all levels of the healthcare system, including medical abortion, has the potential to increase access to safe abortion, thereby reducing the burden of unsafe abortion. To reduce the morbidity and mortality due to unsafe abortion, Venture Strategies Innovations, the Bixby Center for Population, Health, and Sustainability at the University of California, Berkeley, and the Tigray Regional Health Bureau in Northern Ethiopia collaborated to initiate a pilot project to increase the access to comprehensive abortion care services. CAC services include standard pre and post procedure abortion care. Post-procedure care includes follow-up, provision of post-abortion family planning (PAFP), counseling on danger signs, sexually transmitted diseases (STD), and giving appointments [8-10]. However, Ethiopia has made major progress in making safe abortion accessible for many women, but many Ethiopian women continue to have abortions outside of health facilities, often under unsafe conditions [7].

Studies in Ethiopia revealed that approximately one-fourth of the clients of abortion services were not satisfied with the service. Studies on the quality of post-abortion care in Tigray show that 59.5% of clients are dissatisfied with the services [11-13]. Assuring client satisfaction during safe abortion care can decrease unsafe abortion because a satisfied client is a source of good information for others. Therefore, this study aimed to assess women satisfaction and its determinants towards comprehensive abortion services in Mekelle health facilities in north Ethiopia.

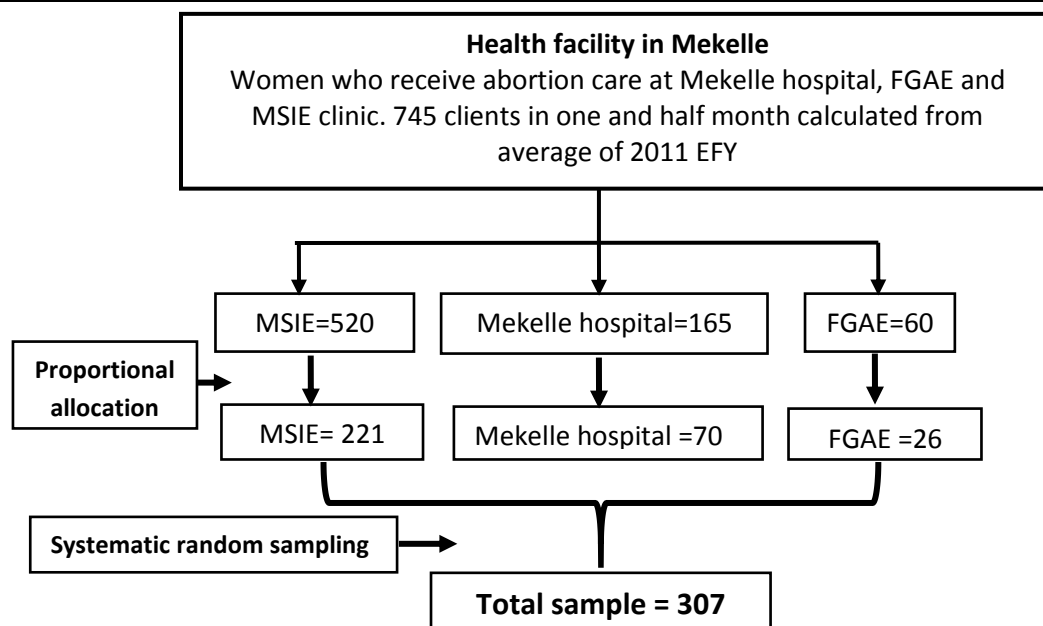
## Methods and Materials

**Study setting, design, and participants:** In this study, a mixed-methods approach in a convergent design was used in Mekelle health facilities. A

mixed research method was used, and data were collected and analyzed concurrently but separately, then the results from the two data sources were merged and integrated. Study participants comprised of women who receive abortion care at health facilities in Mekelle Facilities were Mekelle Hospital, Family Guidance Association of Ethiopia (FGAE), and Marie Stopes International Ethiopia (MSIE) clinics.

**Sample size determination:** The sample size for quantitative data was estimated using Epi-Info 7, considering the proportion of client satisfaction with post-abortion care in Ethiopia as 75% [11]. Besides, a 5% marginal error and a 95% confidence interval were used. Adding a 10% non-response rate, the maximum sample size required was 317. For qualitative data, a total of 50 procedures were observed proportionally in the selected health institution. For the quantitative data, systematic random sampling was used. Thus, one general hospital (Mekelle Hospital) and two NGOs' clinics (FGAE and MSIE) were selected for the study. Study participants were selected using proportional allocation to the size of client flow in each health facility (Figure-1).

**Data collection tools and procedure:** Before actual data collection, the data collection tool (checklist) was pre-tested at Ayder Specialized Hospital on 5% of the total participants. The exit interview data collection method was used to minimize the bias introduced during data collection. And quantitative data were collected using a pretested questionnaire adapted and developed after reviewing different literature by bachelor nurses who were previously trained in abortion care. We used a checklist that was developed by the Federal Ministry of Health Services Quality Directorate for the assessment of client satisfaction, adapted and modified considering other tools developed by the 3-point Likert Scale, which ranges between 1 and 3 on the scale (1 = agree, 2 = neutral, 3 = disagree). The scores for each domain were calculated by summing the answers to all items in each domain and the clients' overall and component-wise satisfaction. Therefore, each client's satisfaction score was measured out of 57. International Pregnancy Advisory Services (IPAS) tool and equipment and supply checklist adopted from Ethiopian abortion guidelines were used for



**Figure-1:** Schematic presentation of the proportional allocation of study participants from three health facilities in Mekelle, 2020.

observation. The observation, equipment availability assessment, and observation of procedures were conducted during the procedure of the service that was done by three health professionals who had TOT certification for comprehensive abortion care.

**Data processing and data analysis:** Quantitative data were analyzed using SPSS version 25. The characteristics of study participants were summarized using descriptive statistics. Multiple linear regression was conducted to assess the predictors of client satisfaction and adjust for confounders. Statistical significance was determined using less than 5% of the level of significance with a 95% CI. Quantitative data analysis was done using thematic analysis. The qualitative finding was used for triangulation with the result of the quantitative data, explaining whether it was similar or contradicting.

## Results

### Socio-demographic characteristics of the respondents

Out of the 317 respondents, 168 (53%) were aged 20 to 24 years, with a mean age of  $24.4 \pm 4.9$  years.

The mean age of the participants for their first pregnancy was  $21.85 \pm 2.89$  years, and the mean income was ETB  $2971.43 \pm 1775$  ETB. Majority (62.5%) were single, and 198 (25.2%) were students. Nearly all (98.7%) clients were from Tigray, and nearly half (46.1%) of the study participants were orthodox religious followers, and nearly half (46.1%) had completed secondary school or above (Table-1).

### Reproductive history

The majority of the clients were primigravida (242; 76%), and only 75 (23.8%) had at least one child. Of most clients, 66% were in the age category of 20–24 years during their first pregnancy. The commonest reasons listed for termination were incest (44%), followed by rape (34%). Around 92% of the pregnancies were terminated during the first trimester; 251 (85%) were safe abortions, and 77% utilized medical abortion (MA). The mean number of abortions was  $1.8 \pm 0.48$  (Table-2).

### Dimensions of client satisfaction

Client satisfaction was measured using five factors: the art of care, the physical environment, information,

**Table-1:** Socio-demographic characteristics of clients in health facilities of Mekelle, 2020 (n=317).

| Variables                        | Number (%) |
|----------------------------------|------------|
| <b>Age category (Years)</b>      |            |
| 15-19                            | 22 (6.9)   |
| 20-24                            | 168 (53)   |
| 25-29                            | 80 (25.2)  |
| >29                              | 47 (14.8)  |
| <b>Occupation</b>                |            |
| Student                          | 82 (25.9)  |
| Housewife                        | 60 (18.9)  |
| Governmental employee            | 33 (10.4)  |
| Merchant                         | 58 (18.3)  |
| Employment in the private sector | 48 (15.1)  |
| Commercial sex worker            | 10 (3.2)   |
| House-maid                       | 26 (8.2)   |
| <b>Marital status</b>            |            |
| Single                           | 198 (62.5) |
| Married                          | 98 (30.9)  |
| Divorced                         | 21 (6.6)   |
| <b>Educational status</b>        |            |
| No education                     | 12 (3.8)   |
| Primary                          | 41 (12.9)  |
| Secondary                        | 118 (37.2) |
| More than secondary              | 146 (46.1) |

privacy and confidentiality, and quality of care. Each dimension was evaluated using a distinct indication with a Likert-scaled score ranging from not satisfied (score=1) to satisfied (score=3). The art of caring was made up of five components, with mean scores ranging from 2.52 to 2.75. Items in this component stressed the relevance of the provider's interpersonal approach to women's satisfaction with care. The physical environment has five components, with mean values ranging from 2.51 to 2.64. This dimension's items concentrate on satisfaction with the physical environment in which care is administered. This component's items characterized the physical environment as having overall niceness, comfort, attractiveness, and conformability with the procedure and waiting room, as well as the cleanliness of facilities and equipment. This component's overall mean score was  $2.62 \pm 0.42$ . The information component has five items with

**Table-2:** Reproductive history of clients in health facilities of Mekelle, 2020 (n=317).

| Variables                          | Number (%) |
|------------------------------------|------------|
| <b>Gravidity</b>                   |            |
| Primigravida                       | 242 (76.3) |
| Multigravida                       | 75 (23.7)  |
| <b>History of abortion</b>         |            |
| No                                 | 269 (84.9) |
| Yes                                | 48 (15.1)  |
| <b>Previous type of abortion</b>   |            |
| Post abortion care                 | 14 (4.4)   |
| Safe                               | 34 (10.7)  |
| <b>Previous procedure</b>          |            |
| MA                                 | 43 (13.6)  |
| MVA                                | 16 (5)     |
| <b>Current pregnancy wanted</b>    |            |
| No                                 | 257 (81.1) |
| Yes                                | 60 (18.9)  |
| <b>Reason for termination</b>      |            |
| Rape                               | 108 (34.1) |
| Incest                             | 140 (44.2) |
| Health reason                      | 24 (7.6)   |
| Other (fetal deformity, Under-age) | 7 (2.2)    |
| <b>Gestational age</b>             |            |
| < 8 weeks                          | 202 (63.7) |
| 8 - 12 weeks                       | 90 (28.4)  |
| 12 - 28 weeks                      | 25 (7.9)   |
| <b>Type of current abortion</b>    |            |
| Post abortion care                 | 46 (14.5)  |
| Safe                               | 271 (85.5) |
| <b>Current procedure</b>           |            |
| MA (medical abortion)              | 245 (77.3) |
| MVA (manual vacuum aspiration)     | 72 (22.7)  |

mean scores ranging from 1.55 to 2.56. This component included statements concerning the type of information provided about treatment, such as follow-up care and post-abortion services. It also represents the need to make things easier for women by providing the necessary information about the operation. Post-abortion counselling received a minimum mean score of  $2.21 \pm 0.42$ . The privacy and confidentiality section had four items, with a mean score ranging from 2.32 to 2.54. Those questions, with an overall mean score of  $2.45 \pm 0.41$ , reflected how a woman's privacy was protected while she was being counselled and treated.

The four components that composed the quality of care had a perceived mean score ranging from 2.01 to 2.76. This component, which included addressing the availability of suitable medical devices and supplies, examined women's impressions of service providers' competence and adherence to high diagnostic and treatment standards. The availability of equipment and materials had the lowest mean score (2.01), while the component's total mean score was 2.1 (Table-3).

#### Client satisfaction

The total mean score of client satisfaction with post-abortion service was  $2.35 \pm 0.24$  out of 3.0, and 273 (86.1%) of the respondents were satisfied with the service given by the health institutions. When we compared the mean scores of satisfaction factors, quality care had the lowest mean score (2.10). Concerning post-abortion family planning services, FGAE, MSIE, and Mekelle Hospital provided the services to 88.5%, 57% and

**Table-3:** Dimensions of client satisfaction in health facilities of Mekelle, 2020.

| Art of care and respect   | Mean | SD   |
|---|------|------|
| The staff at this facility was welcoming and made me feel comfortable             | 2.61 | .740 |
| The health care provider explained my procedure                                   | 2.70 | .677 |
| Service provider respectfully treating you  | 2.75 | .589 |
| Actively listening to your ideas  | 2.52 | .682 |
| Responding your question  | 2.58 | .649 |
| Total   | 2.64 | .377 |
| <b>Physical environment</b>   |      |      |
| Environmental hygiene of the toilet   | 2.51 | .749 |
| Adequacy of water supply  | 2.52 | .719 |
| compound sanitation   | 2.64 | .667 |
| The atmosphere of the procedure room is good                                      | 2.60 | .660 |
| The waiting room seats are comfortable  | 2.61 | .649 |
| Total   | 2.62 | .424 |
| <b>Information and counselling</b>  |      |      |
| Staffs at the reception ease me to obtain all information                         | 2.18 | .694 |
| There are clear signs and direction to indicate where to go in the service areas  | 2.56 | .730 |
| Counseling on post abortion and home care   | 1.99 | .794 |
| Transparency of information   | 2.39 | .697 |
| Information regarding MA and MVA  | 1.55 | .721 |
| Total   | 2.21 | .418 |
| <b>Privacy and confidentiality</b>  |      |      |
| I feel enough privacy while being treated.  | 2.54 | .726 |
| Privacy and confidentiality while counselling                                     | 2.49 | .649 |
| Privacy by using screen and closing the door                                      | 2.32 | .674 |
| Feel free during examination and procedure since it was not interrupted by others | 2.37 | .746 |
| Total mean  | 2.45 | .416 |
| <b>Quality care</b>   |      |      |
| Pain management   | 2.18 | .640 |
| Health care providers and their staffs were available during my visit             | 2.10 | .751 |
| Their equipment and material  | 2.01 | .481 |
| Regarding provider skill and displayed confidence                                 | 2.76 | .430 |
| Waiting time  | 2.43 | .702 |
| Total mean  | 2.10 | .341 |

Note: MA: medical abortion, MVA: Manual Vacuum Aspiration,

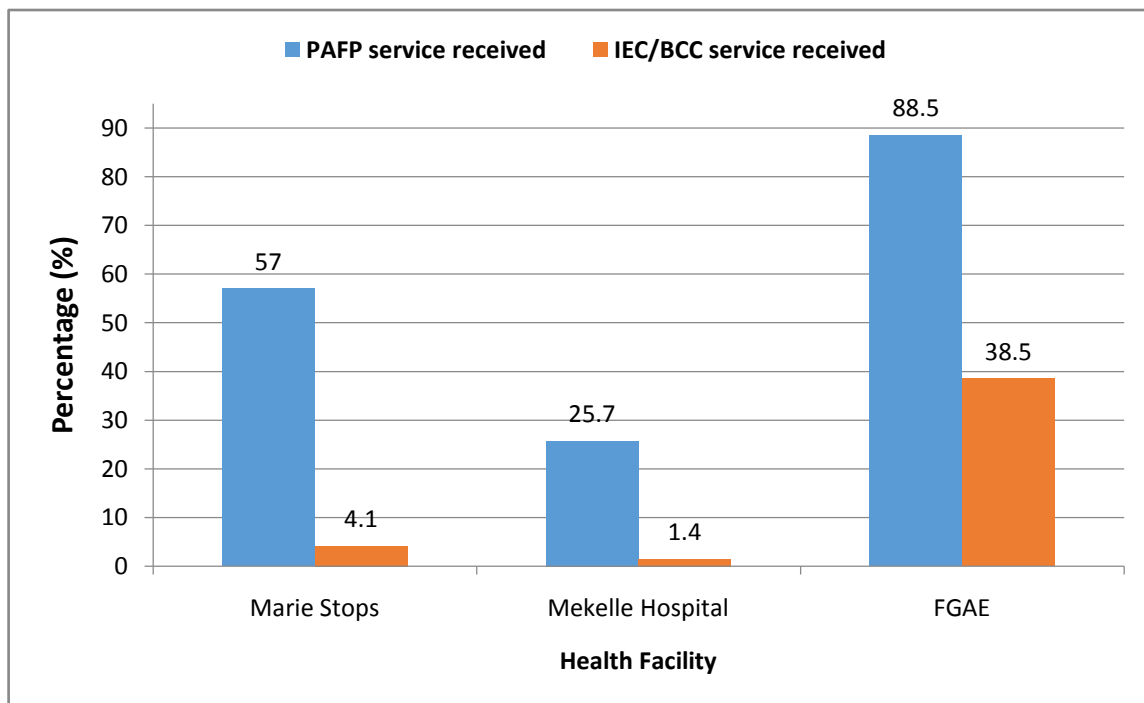
25.7% participants respectively (Figure-2). Moreover, in-service providers of FGAE express that they have good experience giving counselling repeatedly during the MA. Only a few participants (5.4%, 11.5% and 12.9%) had to travel for more than an hour to reach the respective health facilities.

#### Factors driving client satisfaction in the quality of abortion service

To produce a valid and rebuttable result, all of the relevant assumptions of multiple linear regression were reviewed. First, the linearity assumptions for continuous variables and the relationship between dependent and independent variables were evaluated using scatter plots, indicating that the linearity assumption was fulfilled. Furthermore, the collinearity criterion was fulfilled since there was no multicollinearity (VIF score was less than 10 and tolerance was greater than 0.2), the errors have constant variance (homoscedasticity), residuals are

normally distributed, and there is no influential case in this model.

According to the findings, a unit score rise in the art of care and respect resulted in a 70.8% boost in client satisfaction ( $\beta=0.708$ , 95%CI: 0.558, 0.959). When the mean score of physical environment safety increases by one unit, the satisfaction score increases by 12.5% ( $\beta=0.125$ , 95 % CI: 0.082, 0.167). Furthermore, information provision about the procedure would result in a 57.1% increase in client satisfaction with every unit increase in its score ( $\beta=0.571$ , 95% CI: 0.222, 0.801). Keeping clients' privacy and secrecy was another component that was significantly associated with client satisfaction ( $\beta=0.177$ , 95 % CI: 0.132, 0.222). Every unit increase in the mean score of the quality care component results in an 84.1% increase in customer satisfaction ( $\beta=0.841$ , 95% CI: 0.685, 0.996). However, after adjusting for covariates, age and number of pregnancies were not substantially related to satisfaction (Table-4).



**Figure-2:** Participants' response regarding availability of PAFP and IEC/BCC services and travel time to reach the health facilities of Mekelle. PAFP: post abortion family planning, IEC: information Education and Communication, BCC: behavioral change communication.

**Table-4:** *Multivariate linear regression analysis of predictors for client satisfaction on abortion care in Mekelle health facilities, Tigray region, Northern Ethiopia.*

| Predictors                  | Intercept ( $\beta$ ) | St. Error | T      | P-value | 95% Confidence Interval |
|-----------------------------|-----------------------|-----------|--------|---------|-------------------------|
| Art of care and respect     | .708                  | .026      | 3.897  | .000    | .558, .959              |
| Physical environment        | .125                  | .022      | 8.107  | .000    | .082, .167              |
| Information                 | .571                  | .023      | 5.769  | .000    | .222, .801              |
| Privacy and confidentiality | .177                  | .023      | 2.487  | .013    | .132, .222              |
| Quality of care             | .841                  | .028      | 7.756  | .000    | .685, .996              |
| Age of the women            | -.004                 | .003      | 8.566  | .089    | -.010, .002             |
| Number of pregnancies       | .027                  | .013      | -1.371 | .171    | .001, .052              |
| Constant                    | .464                  | .119      | 3.897  | .000    | .230, .699              |

**Observation of post abortion care (PAC) delivery****Pre and post procedure service provision and care:**

The supply and delivery of pre- and post-procedural services and care were monitored and assessed among 50 clients. Hand washing was observed in 71% of the 50 procedures observed. Personal protective equipment, such as gloves, aprons, masks, and eye goggles, was used in 81% of procedures. This means that around 19% of the processes were performed without the use of personal protective equipment, indicating a material deficit.

Furthermore, the availability of equipment, supplies, and drugs at health institutions to meet the Ministry of Health (MOH), World Health Organization (WHO), and international organizations such as IPAS' basic equipment requirements was investigated. We have chosen a list of WHO-recommended equipment, MOH-required supplies, and IPAS-required drugs. Thus, vital equipment such as Ambo bags, oral airways, suction apparatus, oral airways, and oxygen apparatus were missing in the health institution care units of service. Furthermore, laboratory supplies were in short supply at Mekelle Hospital and MSIE. Similarly, personal protection equipment was not provided in the Mekelle hospital because service providers at MSIE and Mekelle Hospital have said that the HIV test kit is not accessible. And 45% of the procedures exhibited signs of visual or auditory pain during physical examination, and only 15% of them appear to have sufficient pain control. During the process, patients were asked whether they were in pain, and in 85% of instances, there was evidence of discomfort, which was not

appropriately controlled during the procedures, and only 17.2% were given pain medicine. The findings from quantitative and qualitative data are consistent in that the mean score for pain management had the lowest score

Post-procedure safety and care were also monitored. Regarding vital signs, after the completion of the procedure, only 32% of the client's vital signs were monitored. Regarding the counselling of PAFP, overall, 51% of clients received PAFP counseling. Similarly, regarding the counselling of STIs and HIV, only 14% of procedures received counseling.

**Discussion**

Patient satisfaction measures the extent to which a patient is content with the health care received from health care providers. It has increasingly been recognized as one of the most vital signs of quality health care services. This study has shown that women's satisfaction with CAC has five main underlying factors: the art of care, the physical environment, information, privacy and confidentiality, and the quality-of-care providers. A mean score of 2.35 for client satisfaction was observed in this study, with 86.1% satisfied considering the mean value as a cutoff point. That indicates that women who took part in this study reported that they were generally highly satisfied with the care. This is consistent with the findings of the study conducted in the Oromia and Amhara regional states of Ethiopia, which found that the majority of women rated high satisfaction with abortion services [14]. However, the level of

satisfaction in this study was lower than the finding from a previous study in Tigray that most women (99%) rated their overall experience as “good” (vs. “bad” or “so-so”). In the study, when asked about the reasons for their rating, the most commonly mentioned reasons were that they were treated well by the provider, cramping was easy to tolerate, and the services provided were close to their home [15]. Client satisfaction in this study was 86.1%, which was nearly similar to studies conducted in Addis Ababa (92%) and Jimma (76.3%) town health facilities in Ethiopia [12,13]. On the other hand, client satisfaction level was reported as only 57.7% in Oromia town health facilities [16]. The difference might be due to the difference in the study setting; the current study included non-governmental clinics, so the service might be better off as compared to governmental facilities.

In this study, 55% of clients rated the waiting time before the examination as good. It is lower than a study conducted in the Gurage Zone on the quality of post-abortion care, which was 76% [17]. This difference could be due to the measurement tools used. The study in Gurage asked whether it was long or short in terms of time, but our study had three scales: good, neutral, and poor. The 7-year difference in the period of the two studies could also affect the client's awareness level regarding the service. On the other hand, 44% of clients rated the adequacy of the counselling as good. In contrast to this, a similar study conducted in Addis Ababa was higher at 72.7% [12]. This difference could also be due to the measurement scales. In the observation part, during pre-procedure, service providers introduced themselves in 13% of the procedures. A study conducted in Tigray on post-abortion quality care in 2013 was in line with this finding [11]. Hand washing practice before and after the procedure reported in this study was 71%, which was way higher than a previous study done in Tigray on post-abortion care, which was only 11.1% [11]. This difference could be due to the setup of the health facilities where the studies were done. The previous study was conducted only in a government facility. On the other hand, the providers could increase hand washing practices due to fear of the new emerging fatal virus COVID-19. The provision of PAFP in this study was 51%,

which was similar to the previous study in Tigray in 2013 [11]. The qualitative part also supports this finding. Service providers at Mekelle Hospital express that most of their clients do not voluntarily take family planning, and they have different reasons. In the case of spontaneous abortion, it is because they need to give birth early. On the other hand, in the case of safe abortion, the reason being that they they would not be exposed again and fear side effects.

In this study, the art of care and quality care were identified as the major factors that predict satisfaction with CAC. As previous studies have shown that [18] patient satisfaction is greatly influenced by respectful treatments such as the provider's patience, compassion, and attentiveness. Given the sensitive nature of abortion treatment, it is not surprising that this element was deemed the most significant. Furthermore, based on observation data, the availability of appropriate medical devices and supplies and adherence to high diagnostic and treatment standards are the common drawbacks of health facilities that may affect client satisfaction. Similar to other previous studies [19,20], a safe physical atmosphere around the treatment area was discovered to be important to women getting abortion care. This indicates that attempts to improve quality should focus on the physical environment. We demonstrated that providing information regarding the process before the procedure is a crucial element that increases client satisfaction, implying that providing all necessary information is an essential component of high-quality abortion services. Similarly, the relevance of the information provided was also highlighted in an earlier study done in Addis Ababa [20] and the Oromia region, Ethiopia [16]. The information must be thorough, accurate, and simple to grasp, and it must be provided in a way that allows a woman to freely provide her fully informed permission while also being sensitive to her needs and viewpoints [21]. Furthermore, maintaining clients' privacy and secrecy was another factor that was strongly related to client satisfaction. Lack of privacy may dissuade women from obtaining safe and legal abortion options, leading to unsafe abortions. Privacy and secrecy are fundamental principles of medical ethics that must be upheld [22].



The study had some limitations. There might have been an observation bias of the healthcare professionals in this study. They might tend to follow protocols since they were aware that they are being watched. During the research period, quality services were occasionally threatened due to a shortage of coaches, cleaners, a crowded waiting area, transparent windows, and no separate abortion room.

This study found that consumer satisfaction in healthcare institutions was good. However, there were gaps in adequate client counseling on the benefits and drawbacks of treatments. Follow-up monitoring of providers' counseling skills, distribution of IEC/BCC materials, and post-procedure follow-up should be strengthened. Healthcare institutions and providers should prioritize quality improvement, information dissemination, and proper client care and respect.

#### Acknowledgment

We would like to thank Mekelle University, participants, data collectors, and supervisors.

#### Authors' Contributions

KHM contributed to the generation of the topic, methodology, and analysis. MA and SW contributed to critically reviewing the proposal, data analysis, and manuscript. SM and DE contributed to the data analysis and assisted in the development of the manuscript. All authors read and approved the final manuscript

#### Competing Interests

The authors declare that they have no competing interests

#### Ethical consideration

Ethical approval was obtained from the Health Research Ethical Review Committee (HRERC) of the College of Health Sciences at Mekelle University. A letter of permission was obtained from the School of Public Health with reference number ERC 1565/2020, and it was then submitted to the

concerned body in the facility. Consent was obtained from the mothers and healthcare providers. The confidentiality of the collected data was secured. During observation, the oral consent of the provider was taken, and the privacy of clients was reserved.

#### Availability of data and materials

If needed, the raw data in Excel format for this article is available.

#### Funding

The study is not funded.

#### References

1. World Health Organization (WHO). Unsafe abortion: global and regional estimates of the incidence of unsafe abortion and associated mortality in 2008, 6<sup>th</sup> edition. Geneva: World Health Organization, 2011.
2. World Health Organization (WHO). Safe Abortion: Technical and Policy Guidance for Health Systems. Geneva: World Health Organization. 2012
3. Grimes DA, Benson J, Singh S, Romero M, Ganatra B, Okonofua FE, Shah IH. Unsafe abortion: the preventable pandemic. *Lancet*. 2006; **368**(9550): 1908-1919. doi: 10.1016/S0140-6736(06)69481-6.
4. Brookman-Amisssah E, Moyo JB. Abortion law reform in sub-Saharan Africa: no turning back. *Reprod Health Matters*. 2004; **12**(24 Suppl): 227-34. doi: 10.1016/s0968-8080(04)24026-5.
5. Federal minster of health (FMOH). Technical and Procedural Guidelines for Safe Abortion Services in Ethiopia. Addis Ababa: Federal Ministry of Health of Ethiopia; 2006.
6. Ministry of Health-Ethiopia. Health Sector Transformation Plan (HSTP II). 2020/21-2024/25.
7. Singh S, Feters T, Gebreselassie H, Abdella A, Gebrehiwot Y, Kumbi S AS. Induced Abortion and Postabortion Care in Ethiopia. Fact sheet. New York, USA: Guttmacher Institute. 2017

8. Prata N, Gessesew A, Holston M, Moran M, Weinrib, R. Comprehensive Abortion Care Pilot Project in Tigray, Ethiopia. Final Report. Venture Strategies Innovations, Tigray Regional Health Bureau, Bixby Center for Population, Health and Sustainability; 2011.
9. Welsh A, editor. RCOG Best practice in comprehensive abortion care. Paper No. 2 2015;. Published by the Royal College of Obstetricians and Gynaecologists, 27 Sussex Place, Regent's Park, London NW1 4RG.
10. IPPF. First trimester abortion guidelines and protocols. London SE1 3UZ United Kingdom: by the International Planned Parenthood Federation; 2005.
11. Demtsu B, Gessesew B, Alemu A. Assessment of Quality and Determinant Factors of Post-Abortion Care in Governmental Hospitals of Tigray, Ethiopia, 2013. *Fam Med Med Sci Res*. 2014; **3**(4). doi:10.4172/2327-4972.1000140
12. Mulugeta T. Addis Ababa University Faculty of Medicine School of public health Addis Ababa University Faculty of Medicine School of public health. Assesment Qual Abort care. 2009; (July): 1–85.
13. Kitila SB, Yadassa F. Client satisfaction with abortion service and associated factors among clients visiting health facilities in Jimma Town, Jimma, South West, Ethiopia. *Quality Primary Care*, 2016; **24**(2): 67-76.
14. Kumbi S, Melkamu Y, Yeneneh H. Quality of post-abortion care in public health facilities in Ethiopia. *Ethiop J Heal Dev*. 2008; **22**(1): 26–33.
15. Prata N, Gessesew A, Holston M, Weinrib R, Cartwright A. Benefits of introducing medical methods for abortion related services: The case of Tigray, Ethiopia. October 2011. Conference: 139st APHA Annual Meeting and Exposition 2011.
16. Guteta F, Wirtu S, Getachew M and Kejela G. Client Satisfaction towards Quality of Safe Abortion Care in Nekemte Health Facilities, East Wollega Zone, Oromia Regional State, Ethiopia. *J Womens Health, Issues and Care*. 2022; **11**: 1.
17. Tesfaye G, Oljira L. Post abortion care quality status in health facilities of Guraghe zone, Ethiopia. *Reprod Health*. 2013 Jul 23; **10**: 35. doi: 10.1186/1742-4755-10-35..
18. Crow R, Gage H, Hampson S, Hart J, Kimber A, Storey L, Thomas H. The measurement of satisfaction with healthcare: implications for practice from a systematic review of the literature. *Health Technol Assess*. 2002; **6**(32): 1-244. doi: 10.3310/hta6320.;
19. Wiebe ER, Sandhu S. Access to abortion: what women want from abortion services. *J Obstet Gynaecol Can*. 2008; **30**(4): 327-331. doi: 10.1016/S1701-2163(16)32801-8.
20. Mossie Chekol B, Abera Abdi D, Andualem Adal T. Dimensions of patient satisfaction with comprehensive abortion care in Addis Ababa, Ethiopia. *Reprod Health*. 2016; **13**(1): 144. doi: 10.1186/s12978-016-0259-0. PMID: 27923388;
21. Sedgh G, Singh S, Shah IH, Ahman E, Henshaw SK, Bankole A. Induced abortion: incidence and trends worldwide from 1995 to 2008. *Lancet*. 2012; **379**(9816): 625-632. doi: 10.1016/S0140-6736(11)61786-8.
22. Fenton JJ, Jerant AF, Bertakis KD, Franks P. The cost of satisfaction: a national study of patient satisfaction, health care utilization, expenditures, and mortality. *Arch Intern Med*. 2012; **172**(5): 405-11. doi: 10.1001/archinternmed.2011.1662.

**Cite this article as:**

Hadush K, Alemayehu M, Wahdey S, Ermias D, Moges. Women's satisfaction towards comprehensive abortion care and its determinants in Mekelle Health facilities, Tigray region, Northern Ethiopia: a mixed research approach. *IMC J Med Sci*. 2025; 19(1): 004. DOI:<https://doi.org/10.55010/imcims.19.004>