



Research article

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Client Satisfaction towards Quality of Safe Abortion Care in Nekemte Health Facilities, East Wollega Zone, Oromia Regional State, Ethiopia

Fantahun Guteta*, Desalegn Wirtu, Motuma Getachew and Gemechu Kejela

Department of Public Health, Institute of Health Sciences, Wollega University, Nekemte, Western Ethiopia

*Corresponding author: Fantahun Guteta, Department of Public Health, Institute of Health Sciences, Wollega University, Nekemte, Western Ethiopia; E-mail: Fantishgu2020@gmail.com

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Abstract

Safe abortion care is abortion care given by skilled health service providers and trained healthcare providers which is care given via medically or surgically depend on the duration of the pregnancy in a health facility. Poor client satisfaction towards the safe abortion care services is a significant contributor for non-use of the service among women in Ethiopia that leads to unsafe abortion with its consequences.

Objective: To assess the client satisfaction towards safe abortion care and associated factors among women's who came for safe abortion service at Nekemte health facilities, Eastern Ethiopia, 2019.

Methods: A facility based quantitative cross sectional study was conducted among 348 participants from selected health facilities. Interviewer administered client exit interview using semi-structured questionnaire, was conducted. Pre-testing was done on 5%(17) of eligible subjects at Sire town health facilities before actual study. Data was entered in to Epi-Data version 3.1 and exported to SPSS version 20.0 for analysis. All variables with a P value <0.25 at binary logistic regression were taken into multivariable logistic regression to control for confounding. Finally, variables with p-value less than 0.05 at multivariable logistic regression were considered as statistically significant predictors of the outcome variable.

Results: A total of 348 responded to the questionnaire, making response rate of 100%. The mean age of the respondents was 21.59 years ($SD \pm 2.9$). The overall client satisfaction in this study was 200(57.5%) (95% CI).

Conclusion: Client satisfaction with safe abortion care in this study was 57.5%. Place of residence, sex of service providers, procedural types, information on available service, payment for the service, and facilities ownership shows statistically significant association with the outcome variable. So, the concerned body should give special attention to the identified predictors to improve the service satisfactions of the clients in the study area.

Keywords: Abortion; Pregnancy; Quality of safe abortion care; Satisfaction; Ethiopia

Abbreviations

APHRC: African Population and Health Research Center; CAC: Comprehensive Abortion Care; FGAE: Family Guidance Association of Ethiopia; GP: General Physician; HC: Health Center; MVA: Manual Vacuum Aspiration; MCH: Mothers and Child Health; NGO: Non-Government Organization; NRH: Nekemte Referral hospital; PAC: Post-Abortion Care; PAFP: Post Abortion Family Planning; SAC: Safe Abortion Care; WHO: World Health Organization; WU: Wollega University; WUTH: Wollega University Teaching Hospital.

Introduction

Abortion is the ending of a pregnancy by removal or expulsion of an embryo or fetus before it can survive outside of the uterus. An abortion that occurs without intervention is known as a miscarriage or spontaneous abortion and when deliberate steps are taken to end a pregnancy, it is called an induced abortion [1]. Safe abortion care is a medical or surgical care given by skilled health service providers based on the duration of the pregnancy in a health facility [2]. According to implementation guide for article 551 sub article 1-A of Ethiopia, where the pregnancy is a result of rape or incest, termination of pregnancy shall be carried out based upon the disclosure of the woman whether rape or incest has occurred. This fact will be noted in the medical record of the woman and women who request termination of pregnancy after rape and incest are not required to submit evidence of rape and incest and/or identify the offender in order to obtain an abortion service [3].

Unintended pregnancy among adolescents (10 years-19 years) and young women (20 years-24 years) is a global public health problem and adolescents face challenges in accessing quality of safe abortion care. Poor quality of safe abortion care related mortality is one of the main causes of maternal mortality worldwide. Abortion stigma is a barrier to provide quality abortion care. Stigma may reduce individuals' and communities' access to abortion, impede health worker's ability to provide comprehensive and people-centered care and lead to discrimination, this can compromise the quality of abortion care [4,5].

Health care providers have an important role in the provision of quality of abortion services. However, the shortage of health care providers in low-income countries is critical and exacerbated by the unwillingness of some health care providers to provide abortion services [6]. In Zimbabwe only 20% of facilities had basic capability to provide quality of safe abortion care and 10% of facilities had comprehensive capability. Poor quality of safe abortion is still a leading cause of maternal death in most Sub-Saharan African countries. For instance, the provision of quality of safe abortion care in healthcare facilities in Kenya is still low, with access hindered by restrictions on abortion [7].

According to a nationally representative study by the African Population and Health Research Center (APHRC), in Kenya women younger than 25 years constituted almost half of patients (49%) treated for severe complications of induced abortion in that year. More than a

quarter of these young women (26%) received poor quality abortion care treatment. The quality of abortion care services for young people is compromised for a number of reasons, including barriers faced by health care providers themselves. Half of abortions globally are unsafe, almost all of them occur in developing countries, with the higher number of deaths concentrated in Africa, especially Sub-Saharan Africa, and South Asia. Poor quality of safe abortion care is still common and demands a heavy toll on women in Ethiopia [8].

Poor quality of safe abortion care services is a significant contributor of maternal morbidity and mortality in Ethiopia and other developing countries; therefore, this study assessed the client satisfaction towards safe abortion care and associated factors in Nekemte town health facilities. The result of the study will enhance the knowledge of health providers on the issue of maternal health and safe abortion care services. It also gives information about client satisfaction on abortion care for stakeholders of Nekemte health facilities. In addition, the study will be used as foot step for further research in this topic and related matters.

Materials and Methods

Study design, area and period

A facility based quantitative cross sectional study was conducted in Nekemte town health facilities from June 22, 2019 to October 22, 2019. Nekemte town is located in East Wollega Zone of Oromia region; 328 Km from West of Addis Ababa. In Nekemte town, there are two government health centers, two government hospitals, 39 private clinics, 43 private pharmacies, 9 NGO clinics. According to Nekemte town health office report of 2019, 23,731 women in child bearing age reside in the town.

Population and eligibility criteria

All pregnant women who come for safe abortion care services at Nekemte town health facilities were the source population, and all selected pregnant women who need safe abortion care services from selected health facilities were the study population for the study. Women receiving safe abortion care service by any method at any ages of gestation were included in the study. Patient in critical condition, unconscious patient, patients who have hearing problem and mentally disabled were excluded from the study.

Sample size

The sample size was determined by using single population proportion formula with the following assumption;

$$n = \frac{(Z\alpha/2)^2 P(1-P)}{d^2}$$

d2

Where,

n=Sample size,

Z_{a/2}=1.96 (Z=Score corresponds to 95% CI),

P=Proportion of patient satisfaction with quality of safe abortion care and

$$D=(\text{Margin of error})=5\%$$

To calculate the sample size, the proportion of patient satisfaction with quality of safe abortion care, p=60.48% (0.6048) which is taken from study conducted in Addis Ababa [9].

With 95% confidence interval, 5% margin of error and considering 10% non-response rate, the sample size becomes 404. Correction formula was used since the source population is less than 10,000. Therefore, the final sample size is calculated as:

$$N=2511$$

$$n=n/1+n/N$$

$$n=404/1+404/2511=404/1.152=347.97$$

Therefore, the final sample size becomes 348.

Sampling technique

Health facilities were selected based on availability of CAC service. Based on these criteria, one government hospital (Nekemte specialized hospital), two government health centers and two non-governmental organizations (FGAE and Merie stops) were selected by using simple random sampling. Those selected health facilities were conducting Medical Abortion (MA) and Manual Vacuum Aspiration (MVA). The number of study units in each health facilities was obtained using proportionate allocation to size technique considering facility's average of 12 months (1 year) of CAC achievement. Then, systematic sampling technique was used to select the study respondents (*i.e.*, $K_{th}=N/n \Rightarrow 2511/348 \approx 7$ which means $K_{th}=7$), thus every 7th client who come for safe abortion service are recruited after the number three is randomly selected from numbers 1-7.

Measurement

Safe abortion is the termination of pregnancy by qualified and skilled persons using correct techniques in sanitary conditions. Level of satisfaction: Is a “proportions of patient” who was satisfied with the variables; representing by five-point likert scale (1) Very dissatisfied, (2) Dissatisfied, (3) Neutral, (4) Satisfied, And (5) Very Satisfied was used. Those who were satisfied in greater or equal to mean score were categorized under satisfied and those who was satisfied in less than factor mean score of the items were categorized as dissatisfied/unsatisfied.

Data collection method

Interviewer administered client interview using semi-structured questionnaire which contain client socio-demographic characteristics, reproductive and maternal factor, structure, process and outcome related characteristics. The questionnaire was prepared first in English, translated into Afan Oromo and back to English by a language expert to check for its consistency and the Afan Oromo version was used for data collection.

Data collection procedures

Ten (10) diploma nurses were recruited and assigned to selected facilities and one health officer was assigned to supervise them. Based on the systematic sampling technique selected participants were interviewed in a separate and quite room before the client leaves the respective health institution.

Data process and analysis

The collected data was checked for completeness, coded and entered in to Epi Data version 3.1 and the entered data was exported to SPSS version 20.0 and cleaned for inconsistencies and missing values. Descriptive analysis such as frequency, percentage, and graphs was

used to describe some variables. Binary logistic regression was carried out. All variables showed significance association with patient satisfaction of safe abortion care at P value <0.25 in the crude analysis was included into the multiple logistic regressions to identify the most important predictors of utilization of safe abortion care by controlling the effects of confounding variables. The strength of association was measured by P value <0.05 at 95% confidence interval and all assumptions and Model fitness tests were conducted before the final model was constructed.

Data quality control

To keep the quality of the quantitative data, questionnaires were prepared initially in English by the investigator and translated to Afan Oromo and retranslated back to English by language expert to compare for its consistency. Prior to the actual data collection, pre-testing was done on 5%(17) of eligible subjects at Sire town health facility and necessary amendment was made to ensure the accuracy and consistency of the questionnaire based on the findings of the pretesting. Data collectors and supervisor were trained for one day on the study instruments and data collection procedures then after the principal investigator and the supervisors were checks the collected data every day for completeness and corrective measures was taken accordingly. The collected data were thoroughly clean, coded, and entered before the commencement of the analysis.

Results

Socio demographic characteristics

In Figure 1 all 348 women were interviewed during visiting health institutions in Nekemte town for safe abortion care services, making response rate of 100%. Majority 202(58.0%) of the women were aged between 20 years and 24 years and 80(23.0%) were 15 years-19 years of age. The mean age of the respondents was 21.59 years ($SD \pm 2.9$).

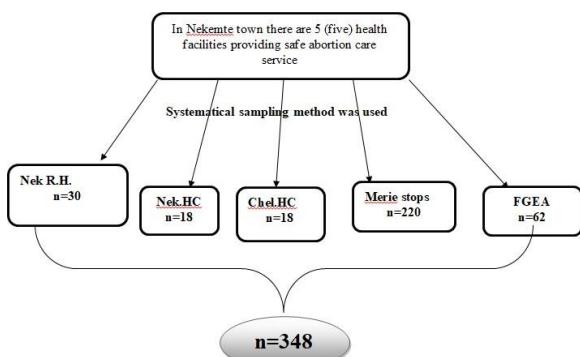


Figure 1: Schematic presentation of sampling procedure of Nekemte health facilities Oromia regional state Ethiopia 2019.

In Table 1 the concerning occupation of respondent's, majority, 135 (38.8%) were students. Almost half 179 (51.4%) were protestant religion followers and majority 270(77.6%) were urban residents more than half 188 (54.0%) of the participants.

Variable	Categories	Frequency (n=348)	Percentage (%)
Age in years	15-19	80	23

	20-24	202	58
	25-29	60	17.2
	30-34	6	1.7
Religion	Orthodox	151	43.4
	Muslim	16	4.6
	Protestant	179	51.4
	Catholic	2	0.6
Ethnicity	Oromo	269	77.3
	Amhara	70	20.1
	Tigre	1	0.3
	Gurage	8	2.3
Marital status	Single	188	54
	Married	153	44
	Divorced	7	2
Monthly family income	500-1000 birr	32	9.2
	1001-1500 birr	52	14.9
	1501-2000 birr	79	22.7
	>2001 birr	185	53.2
Education background	No formal education	6	1.7
	Primary (Grade1- 8)	35	10.1
	High school	179	51.4
	College/university	128	36.8
With whom currently the clients are living	Family	144	41.4
	Relatives	19	5.5
	Friend	108	31
	Husband	77	22.1

Table 1: Sociodemographic characteristics of respondents of who proposed for safe abortion care at Nekemte Health facility East Wollega Zone Oromia region Ethiopia 2019.

Maternal and reproductive factors

In Figure 2 from the total respondents, 107(30.7%) had history of previous pregnancy and 39(11.2%) had history of previous abortion and half of the participants 192(55.2%) were not used FP before current pregnancy and more than one third (36.5%) were used injectable family planning.

Types of FP used before current pregnancy

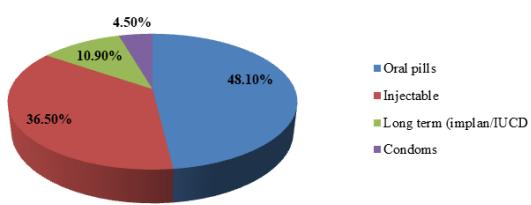


Figure 2: Used FP before current pregnancy termination of the participants in Nekemte health facilities East Wollega Zone Oromia region Ethiopia 2019.

In Table 2 most of abortion 320(92%) were performed in the first trimester of pregnancy and also among all participants three fourth 255(73.3%) of the pregnancy was terminated by medication and most of 322(92.5%) took post abortion family planning.

Variable	Categories	Frequency	Percentage
History of previous pregnancy (n=348)	Yes	107	30.7
	No	241	69.3
History of previous Abortion (n=348)	Yes	39	11.2
	No	309	88.8
Frequency of previous abortion (n=39)	One time	36	92.3
	Two times	3	7.7
Previous abortion was occurred (n=39)	Spontaneously	7	17.9
	Induced	32	82.1
	Total	39	100
Gestational age of current pregnancy (n=348)	1st trimester	320	92
	2nd trimester	28	8
Procedure type of pregnancy termination (n=348)	Medication	255	73.3
	Manual vacuum aspiration	93	26.7
Post abortion family planning (n=348)	Yes	322	92.5
	No	26	7.5

Table 2: Reproductive and maternal related factors of respondents of who proposed for safe abortion care at Nekemte Health facility East Wollega Zone Oromia region Ethiopia 2019.

In Figure 3 more than half 197(56.6%) of reason of termination of pregnancy was because of the pregnancy was occurred by rape. Whereas 2.0% were because of no need of additional child.

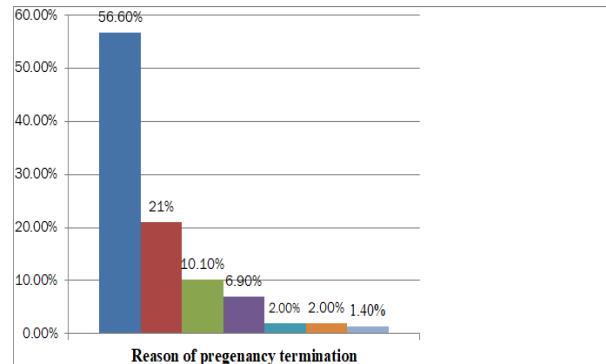


Figure 3: Reason of pregnancy termination of the participants of Nekemte health facilities East Wollega Zone Oromia region Ethiopia 2019.

Client satisfaction

In this study, patient satisfaction was assessed by 18 items of satisfaction measurement with 3.8 mean values. There are 9 items for measuring of both clients' satisfaction with structure and process of safe abortion care. Overall satisfaction level was classified into two categories satisfied and dissatisfied by using mean score.

Those who were satisfied in greater or equal to mean score was categorized under satisfied and those who was satisfied in less than mean score of the items was categorized as dissatisfied/unsatisfactory.

Client satisfaction with structure related characteristics

In Table 3 regarding Satisfaction with structure, nine (9) items of satisfaction measurement with mean score of 3.71, and greater than half 194(55.7%) were satisfied with structural related characteristics.

Variables	Categories	Frequency (n=348)	Percent (%)
Moderns of medical equipment	Dissatisfied	6	1.7
	Neutral	46	13.2
	Satisfied	184	52.9
	Very satisfied	112	32.2
Technical skills of service providers	Neutral	39	11.2
	Satisfied	251	72.1
	Very satisfied	58	16.7
Physical environment	Very dissatisfied	1	0.3
	Dissatisfied	41	11.8
	Neutral	151	43.4

	Satisfied	126	36.2
	Very satisfied	29	8.3
Cleanliness of office or clinic	Dissatisfied	19	5.5
	Neutral	35	10.1
	Satisfied	182	52.3
	Very satisfied	112	32.2
Comfort of waiting room	Dissatisfied	29	8.3
	Neutral	35	10.1
	Satisfied	204	58.6
	Very satisfied	80	23
Waiting time of clinic	Dissatisfied	47	13.5
	Neutral	190	54.6
	Satisfied	79	22.7
	Very satisfied	32	9.2
Working hours of clinic (7/24hr)	Dissatisfied	84	24.1
	Neutral	128	36.8
	Satisfied	106	30.5
	Very satisfied	30	8.6
Easiness service of getting laboratory	Dissatisfied	10	2.9
	Neutral	128	36.8
	Satisfied	175	50.3
	Very satisfied	35	10.1
Availability of service providers	Dissatisfied	37	10.6
	Neutral	111	31.9
	Satisfied	158	45.4
	Very satisfied	42	12.1

Table 3: Distributions of participants by their level of satisfaction with structural related characteristics, Nekemte town, August-October 2019.

Client satisfaction with process related characteristics

In Table 4 the concerning of satisfaction of the participants with process of safe abortion care with mean score of 3.9, more than half 178(51.1%) were satisfied and among all, 89(25.6%) were very satisfied with equity of the treatment.

Variable	Categories	Frequency (n=348)	Percent (%)
Respect shown by service providers	Dissatisfied	3	0.9
	Neutral	105	30.2
	Satisfied	189	54.3

	Very satisfied	51	14.7
Comfort shown by service providers	Dissatisfied	2	0.6
	Neutral	109	31.3
	Satisfied	233	67
	Very satisfied	4	1.1
Mutual understanding b/n clients and service provider.	Neutral	25	7.2
	Satisfied	238	68.4
	Very satisfied	85	24.4
Trust on service providers	Dissatisfied	2	0.6
	Neutral	11	3.2
	Satisfied	294	84.5
	Very satisfied	41	11.8
Cooperation shown by service providers	Neutral	39	11.2
	Satisfied	269	77.3
	Very satisfied	40	11.5
Adequacy of information given by service providers	Dissatisfied	2	0.6
	Neutral	102	29.3
	Satisfied	222	63.8
	Very satisfied	22	6.3
Equity of treatment	Neutral	22	6.3
	Satisfied	237	68.1
	Very satisfied	89	25.6
Explanation of procedures	Dissatisfied	3	0.9
	Neutral	138	39.7
	Satisfied	193	55.5
	Very satisfied	14	4
Advice given by service providers	Dissatisfied	3	0.9
	Neutral	135	38.8
	Satisfied	191	54.9
	Very satisfied	19	5.5

Table 4: Distributions of participants by their level of satisfaction with process of safe abortion at Nekemte health facilities, Nekemte town, August-October 2019.

In Figure 4 in overall services, 200(57.5%) of the women were satisfied and the rest 148(42.5%) were dissatisfied with the safe abortion services.

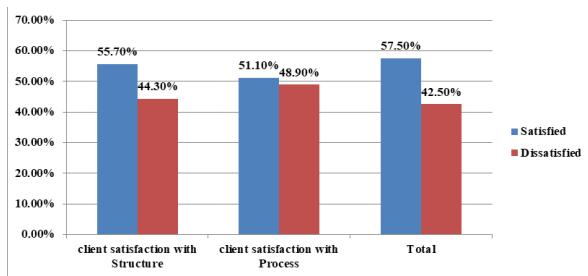


Figure 4: Overall client satisfaction with safe abortion care services at Nekemte health facilities east Wollega zone Oromia regional state Ethiopia 2019.

Factors associated with client satisfaction with safe abortion care

In Table 5 the multivariable logistic regression, variables which significantly predict level of satisfaction with safe abortion care were resident, sex of care provider, procedure type of pregnancy termination, information on availability service and pay for the service. Urban residents were 55.5% (AOR 95%CI: 0.445(0.201,0.983)) less likely to be satisfied with the safe abortion care service compared to those living in rural residents, and also clients who get safe abortion care service from male service providers were 54.8% (AOR 95%CI: 0.452(0.237,0.867)) less likely to be satisfied with the service compared to those who get the service from female service providers. Similarly, clients those who didn't get information on available service were 95% (AOR 95%CI: 0.05(0.007,0.346)) less likely to be satisfied with the safe abortion care service compared to their counterparts. Also those pay for the service were 98.7% (AOR 95%CI: 0.013(0.002,0.088)) less likely to be satisfied with the safe abortion care service compared to those who not pay for the service.

Variables	Patient satisfaction with safe abortion care			
	Satisfied	Dissatisfied	AOR (95% CI)	P-value
Resident				
Rural	49	29	1	0.045
Urban	123	147	0.445(0.201, 0.983)	
Sex of care provider				
Female	75	96	1	0.016
Male	97	80	0.452(0.237, 0.867)	
Procedure type of pregnancy termination				
Medication	138	117	1	0.015
MVA	34	59	0.409(0.200, 0.838)	
Information on availability service				
Yes	170	160	1	0.002

No	2	16	0.05(0.007, 0.346)	
Pay for the service				
No	163	140	1	<0.001
Yes	9	36	0.013(0.002, 0.088)	
Facility's ownership				
Government	24	42	1	0.02
NGO	148	134	0.185(0.045, 0.763)	

Table 5: Multivariate logistic regression model showing predictors of client satisfaction with safe abortions care service at Nekemte health facilities, East Wollega zone, Oromia regional state Ethiopia 2019.

Discussion

According to this study it was found out that overall satisfaction with quality of safe abortion care in the study population was 57.5% and greater proportion of dissatisfaction was recorded on process related characteristics. Which is lower than study finding in Addis (60.48%), health facilities in Jimma town, health facilities of Guraghe zone 83.5% and in Yukti Yojana program in Bihar, India (90%), also this result is greater than findings of a study conducted in Jimma town health facilities 54(23.7%). The difference could be due to subjective nature of the subject matter; because measure of satisfaction needs standardized scales and tools for accurate measurement but most of the literatures measure satisfaction with simple yes/no response category [11].

According to the standard of WHO medication abortion methods can be used up to 12 weeks of pregnancy which is in line with this study. Majority 255(73.3%) were terminated by medication after administering mifepristone, which is lower than study finding in Tigray for safe termination, misoprostole alone resulted in a complete procedure in 81.2% of clients, mifepristone-misoprostole in 90.3% of women and in India 99%. This difference might be because in this study majority of the participants were in the first trimester. In this study 56.6%, 21% and 1.4% of reasons of termination of pregnancy were; rape, to postpone child bearing and disagreement with partner. This is high when compared with the finding of study conducted in health facilities of Guraghe Zone, Southern Ethiopia where 40.4% pregnancy termination was because of partner pressure [13,14]. But study conducted in Jimma reveals that 39.2% and 22% were postponed due to lengthen child bearing and disagreement with partner respectively [12]. This difference might be because majority of the respondents in this study are single and they are living with their family and the client's awareness related with SAC services and the national abortion law was found to be very low.

One of the major components of safe abortion care services is integration of post abortion family planning to prevent repeated unwanted pregnancy and hence repeated abortion. It is recommended to at least counsel post abortion women about the immediate return of fertility and available options of family planning. In this study 92.5% of the post abortion clients adopted post abortion family planning methods post counseling from the facilities which is significantly

higher than the study conducted in Jimma Ethiopia and in Togo which is 70.1% and 37% respectively [13]. The inconsistence of the studies may be the counseling method of the providers because counseling is valued by clients and can improve access to information and clarify misconceptions and further facilitate contraceptive use. This study further revealed that predictors of clients' satisfaction with safe abortions care services are place of residence, sex of care provider, type of procedure used for pregnancy termination, information on availability of services, pay for the service and the owner of health facilities. Clients who terminated pregnancy by using MVA were 59.1% (AOR 95% CI: 0.409(0.200,0.838)) less likely to be satisfied with safe abortion care compared to those who terminated pregnancy by medication. This finding is in line with the study conducted in health facilities of Jimma town, south west Ethiopia and a study conducted in Addis Ababa. This might be due to early medication abortion has been proven to be safe, effective, and acceptable and MVA procedure is somewhat painful procedure compared to medical termination of pregnancy. A woman has better access when services are affordable and delivered in timely manner without undue logistical and administrative obstacles. Emergency services should always be available regardless of the woman's ability to pay [14]. However, payment for the service is one of the predictors of clients' satisfaction with safe abortions care services. This study reveals that those who pay for SAC service were 98.7% less likely to be satisfied in SAC compared to their counterparts (AOR 95% CI: 0.013(0.002,0.088)).

Strength and Limitations

Strength: This study also employed standardized five point likert scale and reliable tools for measurement of satisfaction.

Limitation: Social desirability bias could have affected the quality of data collected because study subjects might get difficulty to answer dissatisfaction in the presence of an interviewer.

Conclusion

The study found out that, the overall satisfaction with safe abortion care among the study respondent was 57.5% and greater proportion of dissatisfaction was recorded on process related characteristics. The predators of satisfaction with safe abortion care showed that residents, sex of service providers, procedural types, information on available services, payment for the service, and facilities ownership showed statistically significant association. Based on the study findings, the following recommendations were made:

For zonal health office

The head of each health facilities, regional and zonal health department and NGO'S working on abortion care service should have avail guideline to each department of health facilities for proper safe abortion care service and all the health professionals should follow it during care/procedure.

For Nekemte health facilities

Nekemte health facilities heads and staff members should have strength timely supervision mechanism of health facilities on safe abortion care services and suitable equipment for abortion care services. Nekemte health office should give special attention and to conduct regular supervision for health facilities those who are taking payment for SAC from the patients and should take action.

For head of each health facilities

The head of each health facilities and those who are providing safe abortion service should have involved in the strengthen techniques and help to reduce problems related with abortion care.

For researchers

Further studies in relation to factors contributing to safe abortion care services are needed.

Declaration

Ethical considerations

Ethical approval was obtained from ethical review committee of Wollega University. A formal letter for permission and support was written to the respective administrator office of Nekemte health facilities. The purpose and process of the study was explained to all participants. Information on the study was given to the health facility and to the health care workers working in the institution. Informed consent was obtained from study participants. In order to protect the confidentiality of the patient information, personal identifiers such as names or ID were not used during the data collection analysis and reporting of findings.

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Authors' contributions

Fantahun Guteta was participated in the topic selection, design, and development of the proposal, data collection, data entry, analysis and writing of the manuscript.

Dr Desalegn Wirtu (Phd) was the major advisor; he participated in the study design, revision of the proposal, analysis and writing of the manuscript.

Mr. Motuma Getachew was a co-advisor; he participated in the topic selection, study design, development of the proposal, data analysis and revision of the manuscript.

The author(s) read and approved the final manuscript.

Gemechu Kejela was participated in the study design, development of the proposal, data collection, and preparation of the manuscript.

All authors revised and approved the manuscript.

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Availability of data and materials

The data sets used and analyzed for the current study are available from the corresponding author on reasonable request.

Conflict of Interest

The authors declare that they have no conflict of interest regarding the publication of the paper.

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