

Safe Abortion Care, Utilization of Post Abortion Contraception and associated Factors, Jimma Ethiopia

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Abstract

Background: Each year, throughout the world, approximately 210 million women became pregnant and around one in 10 pregnancies end in an unsafe abortion. The interventions to prevent unsafe abortion and its complications include providing safe abortion service, treatment of abortion complications and access to modern contraceptive services. In Ethiopia and the study area in particular, availability of safe abortion care (SAC) and utilization of post abortion family planning is not well documented.

Objective: To assess the availability of safe abortion care utilization of post abortion contraception and associated factors in Jimma town, south west Ethiopia.

Methods and Materials: A facility based cross sectional study design was implemented from December 2015 to January 2016 in public, NGO and private health facilities of Jimma town. Women seeking abortion care services were interviewed using structured questionnaire and purposefully selected key informants including facility heads service providers and MCH head from the town health office were also interviewed using interview guides. Checklist assisted service observation and health facility audit was conducted. Epi Data version 3.1 is used for data entry and SPSS version 20.0 for analysis.

Results: From 184 post abortion clients, 98(53.3%) were between 18-24 years of age, for 109(59.2%) education level is high school and above, 75(40.8%) and 23(30.7%) had history of previous pregnancy and abortion respectively. In this study, safe abortion care is found available in 6 health facilities 2 hospitals, 1 health center, 2 NGO, and 1 private clinic. Two of the health facilities were categorized as comprehensive and four others as basic safe abortion centers. The other two were categorized as non basic SAC facilities. Post abortion family planning utilization is 70.1%. From a total of 385 abortion related services during the three month from November 2015 to January 2016, 43(11.2%) were directed to treatment of abortion related complications. Severe abortion complications accounts 6(1.5%) of these complications and 1(0.2%) was reported to be resulted from unsafely terminated pregnancy. Age 18-24 years (AOR 95% CI: 9.308(2.817, 30.754)), married (AOR 95% CI: 6.711(1.099, 40.963)), having good awareness about the SAC services (AOR 95% CI: 4.594(1.185, 17.818)) were associated with PAFP utilization.

Conclusion and Recommendation: In this study, more than quarter of the clients left the health facilities without post abortion family planning (PAFP). This is calling for action to scale up the counselling services, avail full options of contraception and raise awareness of the community on prevention and consequences of unwanted pregnancy and resulting abortion related complications.

Keywords: Safe abortion; Post abortion; Family planning; Ethiopia

Introduction

One of a critical step toward maternal morbidity and mortality was made at the 1994 ICPD and its progress review in 1999, a conference commonly known as ICPD+5, when the problem of unsafe abortion was recognised as a public health concern. This recognition resulted in subsequent commitments by many countries to ensure that post-abortion care is part of national health programmes and services. It was also agreed that health systems have the responsibility to ensure that abortion is safe in circumstances where it is legally indicated [1,2]. Globally abortion is the third direct cause of maternal mortality

contributing for nearly 8% of the scene and this reaches up 10% in Latin America and sub-Saharan African countries [3].

In most developed countries, where there is ready access to safe, legal abortion, complications and deaths from unsafe abortion are rare [3]. However, with the exception of a few countries, access to safe abortion in developing countries is limited to a restricted number of narrow conditions [4].

More than half of all women in the developing world are at risk of unintended pregnancy because and nearly six million accidental pregnancies occur each year [4]. In general, women continue to need access to safe voluntary abortion as a result of earlier age of menarche and later age of marriage in many developing countries, which often

leaves women at greater risk of unwanted pregnancy and hence abortion [5,6].

Challenges such as service limitations, including shortages of facilities ready to provide legal abortions, lack of health professionals trained in safe techniques like manual vacuum aspiration, and opposition to abortion on the part of some trained health professionals are contributing to the unavailability and accessibility of SAC services in the world [7,8].

International, regional and national human rights bodies and courts increasingly recommend decriminalization of abortion, and provision of safe abortion care, to protect a woman's life and health. Ensuring that laws, even when restrictive, are interpreted and implemented to promote and protect women's health is essential [4]. One of the reasons for abundance of unsafe abortion is because safe abortion services are frequently not available, even when they are legal; they are for a variety of indications in almost all countries [9].

Policies that increase availability of Safe abortion care services aim to achieve three ultimate outcomes: to reduce morbidity and mortality from unsafe abortion; to ensure reproductive choice for women faced with unintended pregnancy; and to reduce the incidence of repeat unintended pregnancies and unsafe abortion by integrating post abortion contraception [10]. The basic principles is that, if women who desire to terminate a pregnancy have access to and obtain an abortion or post abortion care under safe conditions, they will be less likely to suffer or die from abortion complications [11].

However, although in many countries governments are accelerating efforts to improve access to safe and elective abortion, such services and post abortion care have poor service quality, and are difficult for women to obtain [12]. In many countries that have made abortion broadly legal whether recently or decades ago administrative barriers of many kinds make it difficult to obtain a safe abortion [7]. Two of the most evident barriers impeding women from receiving safe abortion care are lack of awareness about reproductive rights, including safe abortion services and gaps in availability and accessibility of services [13].

In Ethiopia, Unsafe abortion is the most common cause of maternal mortality, accounting for up to 10% of all maternal deaths [13]. It is estimated that there are 3.27 million pregnancies occurring every year, of which approximately 500,000 end in either spontaneous or unsafely induced abortion. Only 27% of the total abortions were conducted safely in health facilities in 2008 in the country [14].

In response to these problems, the Federal Democratic Republic of Ethiopia [FDRE] has reviewed its abortion law in 2005 followed by abortion service delivery guidelines in 2006. This has increased safe and legal abortion care by expanding the types of health care workers and facilities that provide this service. However, women in Ethiopia still face major obstacles to accessing safe abortion care [15]. Two of the most evident barriers impeding women from receiving safe abortion care are, lack of awareness about reproductive rights, including safe abortion services as well as gaps in availability and accessibility of services [14].

The government has been working to insure the availability and utilization of safe abortion services including safe abortion for all cases permitted by the law, management of abortion complications and post abortion contraceptives. Nevertheless, barriers as lack of access to information and services, lack of proper referral linkage, failure to appropriate constellation of services including contraception prevent

the service from women's access and continue to fuel the problem of unsafe abortion.

In Ethiopia, there is huge knowledge gap for programmers, researchers and implementers on abortion in general and most of the available evidences focus on the quality of post abortion care and its determinants. Availability of safe abortion care and utilization of post abortion contraception in particular are less studied and documented. This study therefore, aims to assess the availability of safe abortion care, utilization of post abortion family planning and associated factors in Jimma town, Southwest Ethiopia.

Methods and Materials

Study area and period

This study was conducted in Jimma town south west of Ethiopia. Jimma town is found 352 KMs from the capital city Addis Ababa, and is one of the trade centres in the south western part of the country. According to CSA 2014, Jimma town has a projected total population of 186,446 of which 95,087 (50.1%) are women. Two public hospitals, 4 public health centres, two NGO and 32 Private clinics make up the health facility profile of the town and 13 of these health facilities are known by the town health office as safe abortion care service providers. This study was conducted in two hospitals and two health centres from public, two private and two NGO clinics providing abortion related services in the town from November 2015 to January 2016.

Study design

A facility based Cross sectional study design with both qualitative and quantitative methods of data collection was employed.

Population

Source population: All women who came to seek abortion related services from all health facilities of Jimma town.

Study population: All women who came to seek abortion related services from the selected health facilities during the study period.

Sample size and sampling technique

Sample size determination

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

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

Where, n= sample size, $Z\alpha/2=1.96$ (Z = score corresponds to 95% CI), P= proportion of post abortion family planning utilization and D= (Margin of error) = 5%

To calculate the sample size the prevalence of post abortion family planning, p = 0.86 is taken from a facility based post abortion care assessment in Addis Ababa in 2009 [16] with 95% confidence interval, 5% margin of error and considering 10% non-response rate, and the final sample size (n) be 204.

For qualitative study in-depth interview was conducted with purposively selected eight abortion service providers and with eight facility heads or unit heads in case of hospitals and the remaining one in-depth interview was carried out with the maternal health department of Jimma town health office. Total of sixteen service

observations, two observations at each facility, was carried out to observe the client provider interaction and counselling using a structured observation checklist by a trained and well experienced health professional. Facility audit and review of abortion and EmOC register at each health facilities was also conducted to get three month safe abortion care related services of the health facilities.

Sampling technique

Two hospitals and two NGO facilities were purposely selected; two 50% of the health centres and 30% of the seven private health facilities were randomly selected from Jimma town for this study. A sample of 204 women who came to seek abortion related service from all selected health facilities were selected using proportionate allocation to size technique considering facility's average one year SAC achievement. Consecutively every woman who visited the selected health facilities were interviewed until the allocated number of study subjects for each facility is reached.

Purposive sampling was employed to include the abortion service providers, unit heads, and MCH department head of the town's health office. The purpose of the selection was based on their knowledge and sufficient information they provide about safe abortion services.

Data Collection Procedures

Data collection instruments and process

Interviewer administered client exit interview using semi-structured questionnaire which contain client socio-demographic and economic characteristics, reproductive and contraceptive history, awareness related to abortion law and services, questions related to acceptance of post abortion family planning.

The questionnaire was prepared first in English translated in to Amharic and back to English by a knowledgeable person to check for its consistency and the Amharic questionnaire was used for data

collection. Based on the sampling technique every client registered for abortion related services at each facility were identified by the data collectors and interviewed in a separate and quite room before the client leave the respective health institution.

For the qualitative study, Interview guides were used to interview key informants including service providers, facility heads, and officials from the health system. A check list was used to assess the availability of essential equipment and supplies required for safe abortion care and other facility characteristics. Structured observations were conducted to assess client-provider interaction and physical setting of the abortion/post abortion unit and use of appropriate technology during uterine evacuation.

Six diploma nurses were recruited and assigned to selected facilities and one health officer was assigned to supervise them. The supervisor who is trained on safe abortion care service provision also conducted all the interviews, the structured service observations, and facility audit and the principal investigator conducted review of documents.

Additionally, the safe abortion care (SAC) model was used to assess the availability of safe abortion care in the health facilities.

The Safe Abortion Care (SAC) Model

As an alternative measure, process indicators for emergency obstetric care (EmOC) have been used to monitor service delivery coverage, utilisation and quality of obstetric interventions for more than a decade. However, the EmOC model gives minimal attention to the treatment for an unsafe abortion and no attention to safe abortion services or contraception [17].

In 2006 the EmOC model was re-conceptualised as Safe Abortion Care Model, to create a new approach to measure the burden of abortion complications and focused on the three elements of SAC: treatment for abortion complications, induced abortion and post-abortion contraception [18] (Table 1).

Signal functions for basic SAC facilities	Signal functions for Comprehensive SAC Facilities
Perform induced abortion for uterine size ≤ 12 weeks for all legal indications Provide post abortion contraception Administer essential antibiotics Administer intravenous replacement fluids Administer oxytocics Perform removal of retained products for uterine size ≤ 12 weeks	Perform all basic functions and: Perform induced abortion for uterine size > 12 weeks, for all legal indications Perform removal of retained products for uterine size > 12 weeks Perform blood transfusion Perform laparotomy

Table 1: Signal functions for Safe Abortion Care adopted from Healy J, 2006

Data Analysis and Presentation

The collected data was checked for completeness, coded and fed to EpiData version 3.1 and was exported to SPSS version 20.0 and cleaned for inconsistencies and missing values. Descriptive analysis such as frequency, percentage, and graphs were used to describe some variables. Binary logistic regression was carried out.

All variables showed significance association with post abortion family planning at P value ≤ 0.25 in the crude analysis were included into the multiple logistic regressions to identify the most important predictors of utilization of post abortion contraception 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.

The qualitative data was translated in to English by the principal investigator. Then response was color coded and categorized accordingly and was analyzed thematically so as to supplement the quantitative findings.

Data Quality Control

To keep the quality of the quantitative data, questionnaires were prepared initially in English by the investigator and translated to

Amharic 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% of eligible subjects at Agaro town, a woreda found 45 kms from the study area 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. The principal investigator and the supervisor checks the collected data every day for completeness and corrective measures were taken accordingly. The collected data was thoroughly cleaned, coded, and explored before the commencement of the analysis.

Ethical Consideration

Ethical clearance was obtained from Jimma University College of health sciences ethical review committee and formal letter was also obtained from population and family health department to be delivered to the town health office before the commencement of the study. Health facilities were approached with a formal letter written from the town health office.

All the study participants were well informed verbally and the benefit of the study along with their right to refuse before proceeding with the questions. Privacy and Confidentiality of study participants

were assured by taking them to separate recovery room for interview and the information that was provided by each respondent were kept confidential.

Results

Client socio-economic characteristics

A total of 184, 90.2% of the 204 initially proposed safe abortion care related clients who came to the study facilities during the two month study period were interviewed for this study.

From the respondents, 107(58.2%) came from the town while the remaining 47(25.5%) and 30(16.3%) came to seek SAC services from the semi urban and rural areas respectively. Majority of 98(53.3%) of the clients were in the age group of 18-24 and the mean age was 22.7 years with standard deviation of ± 4.7 . Majority of the client's religion was Orthodox and Muslim with 86(46.7%) and 80(43.5%) respectively and for 97(52.7%) of the respondents were Oromo in ethnicity.

Of the total respondents 59(32.1%) were high school students followed by clients who have some primary level education 50(27.2%) and in regard to their occupation and marital status, 80(43.5%) were student and 87(43.7%) were single.

The monthly income for most of the clients 120(65.2%) was reported to be is less than 500 birr (Table 2).

Variable	Frequency	Percentage (%)
Age in years		
<18 years	32	17
18 – 24 years	98	53
25 – 29 years	44	24
≥30 years	10	5.4
Educational status		
No education	25	14
Primary (Grade 1- 8)	50	27
High school	59	32
Above	50	27
Marital status		
Single	87	47
Married	62	34
cohabited	21	11
Divorced/ Widowed	14	7.6
Religion		
Muslim	80	44
Orthodox	86	47
Protestant	18	9.8

Occupation		
Student	80	44
House wife	37	20
Govt employee	16	8.7
Merchant	15	8.2
Daily labourer	10	5.4
Private Employee	13	7.1
House maid	13	7.1
Monthly Income		
<500 birr	120	65
501 – 1000 birr	31	17
>1000 birr	33	18

Table 2: Socio-demographic and economic characteristics of Safe Abortion Care clients, Jimma, 2016

Reproductive and contraceptive history of the clients

From the total respondents, 75(40.8%) has history of previous pregnancy and from those who had history of previous pregnancy 23(12.5%) has history of previous abortion particularly 2(1.0%) had abortion two times. For 156(84.8%) clients, the pregnancy was terminated safely in the health facility while the remaining 28(15.2%) clients get safe abortion care at the health facilities for incomplete abortion cases.

Contraceptive use before the current pregnancy is 20.1% and most of these were using OCP and injectables 15(40.5%) and 13(35.1%) respectively. From the non users, 67(45.6%) didn't have intention to have sex and 33(23.8%) don't know about contraception at all.

The reasons for the remaining clients were opposition from partners, fear of side effects, using natural methods, religious reasons and wanting to get pregnant (Table 3).

Variable	Frequency	Percentage (%)
History of previous pregnancy		
Yes	75	40.8
No	109	59.2
History of previous Abortion		
Yes	23	30.7
No	52	69.3
Frequency of previous abortion		
One time	21	91.3
Two times	2	8.7
How previous abortion occurred		
Spontaneously	4	17.4
Induced out of health facility	3	13
Safely Induced in health facility	16	69.6
GA of current pregnancy in weeks		
<9 weeks	137	74.5

9 – 12 weeks	34	18.5
>12 weeks	13	7.1
How the pregnancy is terminated		
Spontaneously	28	15.2
Safely Induced in health facility	156	84.8
Reason why termination is requested for current pregnancy		
Rape		
Postpone child bearing	62	39
Disagreement with partner	35	22
Financial problem	25	15.7
No Nee of additional child	15	9.4
Minor age	13	8.2
Incest	5	3.1
Hx of FP use before the current pregnancy		
Yes		
No	37	20.1
What types of FP were used?		
Oral Pills	15	40.5
Injectables	13	35.1
Condom	5	13.5
Long term	4	10.8
Reason for non users		
Not planned to have sex	67	45.6
Do not know about FP	33	23.8
Using natural methods	14	9.5
Want to be pregnant	14	9.5
Fear of side effects	10	6.8
Opposition from partner	3	2.1
Religious reasons	4	2.7

Table 3: Reproductive and contraceptive history of Safe Abortion Care clients, Jimma, 2016

Availability of safe abortion care (SAC)

In this study, health facilities performance of the signal functions were assessed for three months, one month prior and two months during the data collection period.

Accordingly, each two hospitals perform all the ten signal functions of the comprehensive SAC facility and hence designated as comprehensive SAC facility, besides one health center, two NGO clinics, and one private clinic each were performing all six signal

functions of the basic health facility and hence designated as basic SAC facilities.

The remaining two health facilities, one public health center, and one private clinic were performing five of the six signal functions of the basic health facilities during the period mentioned and therefore classified as non basic health facility according to the SAC model (Table 4).

Signal Functions	Health facilities							
	PHC 1	PHC 2	NGO Clinic 1	NGO Clinic 2	P. Clinic 1	P. Clinic 2	PHO 1	PHO 2
Perform induced abortion for uterine size ≤ 12 weeks	Y	Y	Y	Y	Y	Y	Y	Y
Provide post abortion FP	Y	Y	Y	Y	Y	Y	Y	Y
Administer essential antibiotics	Y	Y	Y	Y	Y	Y	Y	Y
Administer intravenous fluids	Y	Y	Y	Y	Y	Y	Y	Y
Administer oxytocics	Y	Y	Y	Y	Y	Y	Y	Y
Perform removal of retained products for uterine size ≤ 12 wk	Y	N	Y	Y	N	Y	Y	Y
Perform induced abortion for uterine size >12 weeks	NA	NA	NA	NA	NA	NA	Y	Y
Perform removal of retained products for uterine size >12 wk	NA	NA	NA	NA	NA	NA	Y	Y
Perform blood transfusion	NA	NA	NA	NA	NA	NA	Y	Y
Perform laparotomy	NA	NA	NA	NA	NA	NA	Y	Y

Table 4: Facility evaluation for availability of Safe Abortion Care using the signal functions of the SAC model in Jimma town, 2016

Additionally the safe abortion care (SAC) indicators were calculated for each eight facilities for the three months period from November 2015 to January 2016.

The health facility assessment for availability of Safe abortion care using the SAC indicators in Jimma town 2016 result is shown as follows (Table 5).

Facilities	SAC Indicators					Facility Designation
	Total signal functions performed	Proportion of abortion complications	Serious abortion complications	Extent of induced safe abortions	Use of appropriate technologies	
PHC 1	6	(1/2)	No serious** complications	93% (13/14)	Yes	Basic facility
PHC 2	5	0 (0/1)	>>	100% (13/13)	Yes	Non Basic facility
Private Clinic 1	5	0	>>	100%(24/24)	Yes	Non Basic facility
Private Clinic 2	6	(2/2)	>>	95.2% (40/42)	Yes	Basic facility
NGO Clinic 1	6	30% (3/10)	>>	96.5% (83/86)	Yes	Basic facility
NGO Clinic 2	6	100% (19/19)	>>	85.9%(116/135)	Yes	Basic facility
PHO 1	10	25% (4/16)	25% (1/4)	72.7% (16/22)	Yes	Comprehensive facility SAC
PHO 2	10	16.7%(14/84)	35.7% (5/14)	71.4% (35/49)	Yes	Comprehensive facility SAC

Table 5: Health facility assessment for availability of Safe abortion care using the SAC indicators in Jimma town 2016

Client's awareness about safe abortion care services and the law

In this study, 24(13.0%) of the clients replied that they heard about the safe abortion care law of the country and 23(12.5%) mentioned some of the legal prerequisites to get safe abortion care.

69(37.5%) of the clients replied that they don't know about legal places to get SAC services while the remaining mentioned types of health facility where safe and legal SAC service is provided. Almost two third of the respondents don't know that repeated abortion causes bad health consequences and only 76(41.3%) mentioned some of the bad consequences of repeated abortion.

Generally, the clients were 23(12.5%) of the clients were labeled as having good awareness of the safe abortion care related services and laws but the remaining majority of clients don't have enough awareness of the safe abortion care in Ethiopia.

Post abortion family planning (PAFP)

In this study a total of 184 client exit interview were conducted on safe abortion care clients in Jimma town. Client records were also observed to confirm the adoption of contraceptives after the abortion care services. From the total study participants, 147(79.9%) want to have more children but want to delay for awhile and 37(20.1%) do not want to have more children at all.

Regarding for how long they want to delay child bearing, 119(82.1%) replied for more than 24 months, 11(7.6%) for 12 to 24 months and 15(10.3%) want to wait for 6 to 11 months before getting pregnant again. Only 2(1.4%) want child as soon as possible (Figure 1).

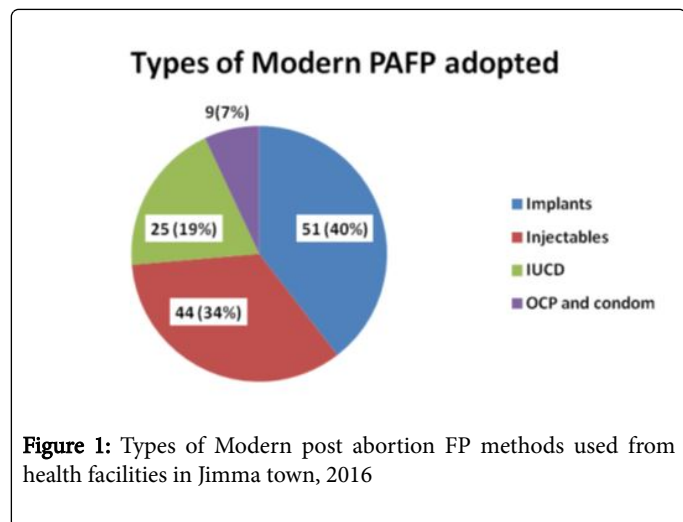


Figure 1: Types of Modern post abortion FP methods used from health facilities in Jimma town, 2016

From the total study participants 129(70.1%) adopted modern contraceptives from the respective SAC facilities. Majority of the post abortion clients 51(39.5%), 44(34.1%) and 25(19.4%) used Implants, Injectables and IUCD respectively. The remaining 9(7.1%) adopted short term methods, most of which is OCP. Majority of those clients 113(87.6%) adopted PAFP in private and NGO clinics and only 16(12.4%) of the PAFP was provided in public facilities.

Abortion Complications

Accordingly, from a total of 184 client's who were interviewed for this study, records revealed that 28(15.2%) came to the health facility with abortion complications after having either spontaneous abortion or induced abortion. In 5(38.5%) of these complications in health facilities while the combination of the two MA and MVA, when used resulted in only 2(15.4%) non severe complications. A client record

review and logbook analysis for the period of three months, one month prior and two months during the data collection in the health facilities revealed that, a total 385 abortion 4(2.2%) of them were diagnosed as having severe abortion complications and the other 24(13.0%) had non severe classifications.

Safe induced abortion services in the health facilities also resulted in 13(7.1%) non severe complications and Procedures performed by related services were provided during the three month from November 2015 to January 2016. Of these clients, 43(11.2%) came to the health facilities with some form of abortion complications and 6(1.5%) of these abortion complications were diagnosed and treated as having severe complications and involve severe vaginal bleeding, anemia and sepsis which required 1 to 3 days of hospital admission. Majority of these complicated abortion cases came to the health facility after spontaneously terminated pregnancy and only 1(0.2%) client was reported having unsafe termination of pregnancy out of health facility.

Factors Associated with Post Abortion Family Planning Utilization

Significant association was observed on bivariate logistic regression between post abortion family planning utilization and being in age group from 18 to 24 years (OR 95% CI: 8.828 (3.571, 21.823)), Married (3.385 (1.585,7.229)) monthly income between 500 to 1000 ETB (OR 95% CI: 4.196(1.379,12.766)). History of previous pregnancy (OR 95% CI: 0.381 (0.189, 0.765)), the history of family planning use before the index pregnancy (OR 95% CI, 0.101 (0.023, 0.438)) Clients awareness about SAC services in Ethiopia (OR 95% CI, 0.334 (0.137, 0.813)), Presenting to health facility with abortion complications (OR 95% CI, 0.357 (0.157,0.811)) Level/ Type of health facility (OR 95% CI, 1.833 (0.388,8.654)) and Ownership of facility (OR 95% CI: 0.350 (0.164,0.747)) (Not shown).

The above variables were taken to multiple logistic regressions to control confounder if any and to construct the final model for post abortion family planning utilization. Clients between 18 and 24 years of age are 9.3 times more likely to adopt post abortion family planning compared to those with in the age less than 18 years (AOR 95% CI: 9.308(2.817, 30.754)).

Similarly those in age group of 25 to 30 years are also 6.5 times more likely to adopt PAFP than those with in the age less than 18 years (AOR 95% CI: 6.511(1.220,34.745)). Married clients are 6.7 times more likely to adopt PAFP than single clients with (AOR 95% CI: 6.711(1.099, 40.963)).

Similarly, Safe abortion clients with good awareness about the national abortion related regulations were 4.6 times more likely to adopt post abortion family planning than those who has less awareness (AOR 95% CI: 4.594(1.185, 17.818)) and however, Clients who came to the facility after spontaneous or induced abortion complications are 0.08 times less likely to adopt contraception from the health facility (OR 95 % CI, 0.075(0.012, 0.476)) (Table 6).

Variables	PAFP utilization		Unadjusted and adjusted OR	
	Yes	No	OR (95%CI)	AOR (95%CI)
Age				
Age<18 years	9	23	1	1

18-24 years	76	22	8.828 (3.571, 21.823) *	9.308(2.817,30.754) *
25-30 years	37	7	13.508 (4.423,41.253)	6.511(1.220,34.745) **
>30 years	7	3	5.963 (1.257,28.281)	1.017(0.084,12.369)
Marital Status				
Single	48	39	1	1
Married	50	12	3.385 (1.585,7.229)**	6.711(1.099,40.963) **
Divorced/widowed	12	2	4.875 (1.029,23.094)	2.380(0.285,19.901)
Unmarried but in a stable union	19	2	7.719(1.693,35.188)**	3.584(0.682,18.848)
Monthly Income				
<500 birr	74	46	1	1
500 – 1000 birr	27	4	4.196(1.379,12.766)	0.306(0.069,1.359)
>1000 birr	28	5	3.481(1.255,9.656)	0.529(0.091,3.062)
Hx of Previous Pregnancy				
Yes	61	14	0.381 (0.189,0.765)	1.244(0.313,4.949)
No	68	41	1	1
Hx of FP use before this pregnancy				
Yes	35	2	0.101 (0.023,0.438)	6.355(0.926,43.633)
No	94	53	1	1
Clients awareness about SAC services				
Have awareness	11	12	0.334 (0.137,0.813)**	4.594(1.185,17.818) **
No awareness	118	43	1	1
Presenting with abortion complications				
Yes	14	14	0.357(0.157,0.811) **	0.075(0.012,0.476) **
No	115	41	1	1
Level/ Type of health facility				
Clinic level	111	37	1	1
Health Center	11	2	1.833 (0.388,8.654)	1.460(0.111,19.281)
Hospital	7	16	0.146 (0.056,0.382)	0.173(0.021,1.439)
Ownership of facility				
Private	11	2	1.925 (0.407,9.115)	1.533(0.245,9.610)
Public	18	18	0.350 (0.164,0.747)	0.652(0.104,4.089)
NGO	100	35	1	1

Table 6: Factors associated with post abortion family planning utilization among SAC clients in health facilities in Jimma town

Service Providers' Related Factors

The professions of service providers interviewed were health officers, midwife, and clinical nurse and they have experience ranging from 2-16 years with mean experience of 7.75 years in service provision. All of the service providers have trainings on safe abortion

care service and consider that they are competent in in abortion service provision. However, only about one third of the service providers have up-to-date training on SAC within the last year and the remaining took SAC training within the range of 2-8 years ago.

Absence of training opportunity was mentioned as a reason in all these cases. When asked if they have any skill or knowledge gap in providing SAC components, almost all of them replied that they need skill reinforcement on FP counseling for abortion clients and more than half replied that they lack confidence on uterine evacuation using Manual Vacuum Aspirator (MVA) to terminate pregnancy. All of the service providers have Positive attitude towards post abortion family planning and are striving to provide PAFP for all of their abortion related clients. Five of the service providers are labeled as having moderate SAC knowledge and the remaining three were labeled as having poor SAC knowledge.

Health Facility Related Factors

In this study, eight health facilities from all sectors, including two private medium level clinics, two medium level NGO clinics two health centres and two hospitals were assessed using structured facility audit check list for availability of trained manpower on SAC, use of appropriate SAC technologies, availability of SAC service delivery rooms, integration of other RH services, sign posts announcing the availability of the services. Accordingly, all of the health facilities have trained man power with the least one in private clinics and up to six service providers in NGO clinics and hospitals.

It is also observed that appropriate technologies recommended by the WHO are being used to terminate pregnancy safely and to treat abortion related complications in all health facilities in Jimma town. All of the health facilities provide SAC integrated with RH or MNCH services and post abortion family planning service is integrated within the same service room with SAC and usually provided by the same service provider. However, sign post announcing the safe abortion care was found in only one of the NGO facilities.

Utilization of Post Abortion Family Planning

Majority of the key informants mentioned during the in-depth interview about their facility's intention to achieve maximum level of post abortion family planning coverage. One facility head said, "All of our service providers are trained to counsel and provide PAFP and they also understand the risks of repeated unwanted pregnancy if the clients didn't receive contraception. As a result most of our clients adopt modern PAFP and but few still resist to use for their own reasons. Youth clients specially say they will never engage into sexual contact again and don't want to use FP." Similarly the other interviewee said, "There could be Poor counseling, sometimes unavailability of all FP options and clients own factors like fear of side effects or misconceptions that can prevent them from using PAFP.

The informant from the town health office said,

"...If we prevent unwanted pregnancy we may not be worried about abortion, therefore family planning provision is mandatory for every post abortion clients. Therefore, we recommended all health facilities to work towards this goal of preventing unwanted pregnancy by integrating family planning into their abortion services as per the standard. Most of the health facilities report to post abortion contraceptive rate of more than 80% especially the two NGO clinics have special attention to PAFP and private facilities those working as blue star also work to integrate FP into their abortion services intensively. We observed low PAFP integration in public facilities particularly hospitals..."

Post abortion contraception counseling sessions were observed and in 8 (50%) of the cases the clients were greeted and rapport building was done, the women's reproductive desire was assessed, the women was helped to choose method of choice and ensured that woman understood her method of choice. However, a medical eligibility criterion (MEC) was used in none of the post abortion cases. Similarly, half of the post abortion counseling sessions were not well structured and did not adhere to important family planning counseling components. Generally, more than two third of the family planning counseling sessions were labeled as having poor client provider interaction.

Abortion Related Complication

Almost all of the key informants mentioned that abortion related complications are one of their focus areas in order to reduce maternal morbidity and mortality. Majority of the facility heads discussed during the interview that they have clients who come with minor complications after spontaneous abortion or miscarriages but it is difficult for them to distinguish these cases from unsafely induced abortions unless they found peculiar suggestive evidences like presence of foreign bodies around the genitalia during examination. One interviewee said,

"... it is always difficult to differentiate between unsafely induced abortion and spontaneous miscarriages unless critical investigation is conducted which we don't usually do. When a woman with incomplete abortion arrives, we just focus to treatment of the emergency case, and we usually report incomplete abortion rather than dealing with the real cause of the abortion..."

Unsafe abortion practices are clandestine and often remain secrete among the practitioners and those who go to these places to get pregnancy terminated in fear of being prosecuted. This makes the abortion complications resulting from unsafe practice under reported. One of interviewee from the health system said,

"...In our health facility we don't often see abortion complications from unsafe procedures. But I don't know whether it is due to the fact that unsafe abortion has actually disappeared from the community or that the clients are hiding their case when they come for treatment of incomplete abortions..."

The key informant from the town health office states that, "...these days, it is uncommon to hear about severe and life threatening unsafe abortion complications. Abortion related complication is the least reported and only few facilities report minor complications like vaginal bleeding as complication of miscarriages or the safe procedures. This can be explained by the fact that safe abortion services are widely accessible to those who need them and the increased community's awareness towards these problems. In Jimma town alone, more than ten health facilities provide the service and unsafe abortion is no more a big agenda for the health system. However, our biggest concern is responsible sexuality is decreasing as the service is more accessible to the young citizens. Therefore it is equally important for us to strengthen the other complimentary programs like safer sex practice and family planning programs.

Discussion

This study shows that safe abortion care services are available both geographically and in almost all of the health facilities assessed. 100% of the comprehensive facilities and 4 out of 6 (67%) basic health

facilities achieved the comprehensive and basic safe abortion care facility designation respectively. This is congruent with the safe abortion care (SAC) model recommendation which states that a minimum of five safe abortion care health facilities per a population of 500,000, at least one of which offering Comprehensive SAC services [18]. In Tigray region, a study conducted to assess availability of SAC services revealed that facilities had conversely achieved 91% of the basic level and 67% of the comprehensive level [19].

This difference occurs might be because this study was conducted back in 2009 at a regional level covering very vast number of health facilities including rural areas. For the two health facilities that are designated as non basic SAC facilities, due to the absence of management of abortion related complications within the three months period, absence of clients seeking these services could be the main reason which may not be sufficient evidence to conclude that these health facilities are not providing the signal functions for basic facility.

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. To this end, 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 70.1% of the post abortion clients adopted modern family planning methods from the SAC facilities which is significantly higher than the SAC model's recommendation of 60% PAFP adoption rate and an institutional study conducted in Debreworkos town where only 59.2% of the post abortion clients adopted PAFP. However, it is lower than a study conducted in Addis Ababa and Tigray region where the PAFP adoption rate was found to be more than 80% [16,19].

The difference may arise from the fact that the Tigray study was conducted following a pilot SAC project in the region and possible frequent follow up to the project sites played role to strengthen the PAFP program [19]. Almost 59% of those clients adopted long term post abortion family planning which is better from a facility based study conducted in Addis Ababa where only 12% adopted long term methods [16]. This difference is may be due to the change in the health systems momentum to increase long term family planning methods. The fact that two third of the family planning counseling sessions had poor client provider interaction and lack of updated basic and refresher trainings on safe abortion care as witnessed from the service observation and service provider's interview, may also contributed for the decreased PAFP utilization in this study.

In addition to increasing access to safe induced abortion care, treatment of abortion complications is considered as one of the major components of the SAC model. In this study, 11.2% of the total SAC services were directed to treatment of abortion complications. 1.5% of these clients were diagnosed to have severe abortion complications involving severe vaginal bleeding, anemia and sepsis hence, required 1 to 3 days of hospital admissions. Most of these severe cases were complications resulted from spontaneous abortion or miscarriage while only one of these severe cases was reported to have unsafe termination of pregnancy out of health facility. This is very low when compared with the national study where one-half (48%) of women treated for obstetric complications in the facilities had abortion complications. This result can mainly be attributed to availability and increased access to safe abortion care in Jimma town on one hand and on the contrary, one interviewee said,

“... it is always difficult to differentiate between unsafely induced abortion and spontaneous miscarriages unless critical investigation is conducted which we don't usually do. When a woman with incomplete abortion arrives, we just focus to treatment of the emergency case, and we usually report incomplete abortion rather than dealing with the real cause of the abortion...” Hence, this can result in under reporting of the problem.

Client's age was one of the associated factors with the post abortion family planning utilization and those in the age group between 18 and 24 years and 25 to 30 years are 9.3 and 6.5 times more likely to adopt post abortion family planning compared to clients with age less than 18 years respectively. Married clients are 6.7 times more likely to adopt PAFP than single clients and this is different from a study conducted in Debreworkos town [19] where married women are less likely to utilize PAFP [AOR: 0.56, 95% CI: (0.34, 0.90)]. In our study however, younger and single clients were less likely to utilize PAFP. The key informants also raised a statement that supports this finding as,

“...youth and single clients' donot use PAFP often and tell that they will never be engaged into sexual contact again as a reason.”

This could be due to wrong perception of the clients that they are at low or no risk of repeated unwanted pregnancy, fear of side effects and misconceptions related with family planning which could be addressed with good client provider interactions during the PAFP counselling sessions.

In this study, the client's awareness related with SAC services and the national abortion law was found to be very low. But those who have good awareness about the abortion related services were 4.6 times more likely to adopt post abortion family planning than those who has less awareness. Hence, wide scale awareness raising activities are required to increase safe abortion services and law, family planning and unwanted pregnancy related awareness of the community in general and the women in particular.

Clients who came to the facility after spontaneous or induced abortion complications are 92% less likely to utilize PAFP from the health facility which might be due to the fact that they will be in some form of pain and don't pay attention to the counseling sessions.

Most of the service providers were trained on SAC provision more than two years ago and majority of them replied that they lack confidence in applying MVA for termination of pregnancy. Additionally, based on the knowledge assessment result five of them were labelled as having intermediate SAC related knowledge and three as having poor knowledge. This could be due to absence of up-to-date basic and refresher safe abortion care trainings for the service providers and can be a reason for the poor client provider interaction observed during the family planning counselling sessions of the SAC service in the health facilities.

Limitation of the Study

Since this study was conducted in health facilities, it may not give the real utilization of post abortion family planning and perhaps clients might also show courtesy bias during the exit interview. To minimize this problem, client were assured that all their words will be kept confidential and told the importance of their true and genuine comments to improve SAC services. With fear of limited number of clients coming to the health facilities, the minimum possible sample was taken for this study which might affected the determinant factors of post abortion family planning utilization.

Conclusion

Geographically two comprehensive and more than four basic facilities are available in Jimma town to provide safe abortion care. Almost all of the health facilities assessed were also performing the signal functions to their level and hence designated as appropriate safe abortion care facility according to the SAC recommendation.

This study revealed that significant number of post abortion clients adopt contraception services after safe abortion care in health facilities in Jimma town. However, still more than a quarter of post abortion clients leaving the health facilities without any form of modern contraception. Service provider's knowledge about the SAC service is also not satisfactory and majority of the PAFP counselling sessions had poor client provider interaction.

Young and single clients who have wrong perception of being at low or no risk of repeated unwanted pregnancy, having poor awareness about the existing abortion related regulations and those who are presenting to the health facility with some form of spontaneous or induced abortion complications are less likely to use post abortion contraception demanding further awareness raising interventions.

Recommendations

The health office and other partners should work closely to increase the post abortion contraception utilization rate which helps to prevent unwanted pregnancy which is the root cause for maternal morbidity and mortality resulting from abortion and its complications.

Contraceptive counselling play a major roles in exploring the desired client's reproductive needs, creating awareness, addressing misconceptions and fear of side effects and develops clients informed choice ability. Hence service providers should build up their counselling skills.

The regional health bureau and its partner organizations need to arrange up-to-date SAC trainings and refresher programs to address the service provider's Knowledge gaps in order to insure the quality of SAC services.

Authors' Contributions

EE participated in the conception, design, and implementation of the study, statistical analysis, interpretation, and drafting of manuscript. MA and BA participated in developing the study design, the implementation, and the interpretation of the findings. All authors have read and approved the final manuscript

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