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Characteristics of women seeking abortion-related care in Addis Ababa, Ethiopia

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Executive Summary

Background

Unsafe abortion is one of the leading causes of maternal mortality in Ethiopia. However, access to safe abortion is gradually increasing in Ethiopia following the revision and liberalization of the criminal code by the government in 2005. Based on the abortion services guideline developed by the Ministry of Health, safe abortion services are being provided in public, non-governmental, and private facilities. Although the abortion service guideline includes provision of medication abortion to women with gestation of less than nine weeks and under certain additional circumstances, abortion procedures are limited to manual vacuum aspiration (MVA) and dilation and curettage (D&C).

The main purposes of this study were to assess the characteristics of women seeking safe termination or treatment of incomplete abortion at select public and private health facilities in Addis Ababa; to determine the potential need for medication abortion among women seeking services; and to inform the development and implementation of national guidelines and policies on abortion in Ethiopia.

Methodology

We analyzed secondary data that is routinely collected as service statistics by health facilities offering abortion-related care in Addis Ababa, Ethiopia. This was a prospective study, extracting data on key variables from client records as women presented for safe termination or treatment of incomplete abortion beginning in October 2008 and continuing until the sample size of 1,200 clients was met in February 2009, and included: socio-demographic characteristics, obstetric and gynecological history, service provision, history of contraceptive use, and family planning method provided at time of service. Bivariate analyses were conducted to describe the characteristics of women who sought abortion-related services.

We also conducted in-depth interviews with five abortion care providers to illuminate the contextual factors of abortion service provision in these clinics. Interviews were conducted using a semi-structured interview guide and covered the burden of unsafe abortion, client load for abortion-related services, characteristics of women seeking safe termination or treatment of incomplete abortion, the burden of repeat abortion, contraceptive use, and recommendations for service provision.

Findings

Overall, most women seeking abortion-related care during the study period were young, well-educated and single. The mean age of women requesting services was 25; 79% of women were aged 20 to 29. Most women were educated, with 75% of women having secondary education or above. More women were single (54%) than married (42%).

Significant differences in socio-demographic characteristics were revealed when clients presenting for safe termination (n=986; 82%) were compared to treatment of incomplete abortion clients (n=214; 18%). Women seeking treatment of incomplete abortion were more likely to be older (mean age of 26 vs. 25), married (77% vs. 34%) and less educated (57% reaching secondary or above vs. 79%) compared

to those seeking safe termination. Safe termination clients were more likely to be students (17% vs. 8%) or employed in professional/clerical (36% vs. 31%) or housekeeping (17% vs. 12%) positions. Women attending the health facilities for treatment of incomplete abortion were twice as likely to be housewives or unemployed (47% vs. 24%; $p<0.001$).

The mean gravidity of all clients was 2.3 while the mean parity was 0.9, indicating the role of abortion in fertility regulation among these clients. Indeed, almost a third of clients (31%) had at least one previous abortion (range 1 to 5). There were no significant differences in gravidity, parity, number of living children, and number of abortions between safe termination and treatment of incomplete abortion clients.

Over half the clients (57%) in this study had ever used a contraceptive method. A significantly higher proportion of safe termination clients reported ever using a contraceptive method (58% vs. 50%). The most common previous method of contraception was oral contraceptive pills (25%), followed by injectables (18%) and condoms (9%). Women coming for safe termination services were more likely to have used a short-term method as their last contraceptive method (37% vs. 23%; $p<0.001$).

The vast majority of women in this study received abortion-related services at a private facility (82% vs. 19%). Employed women and students generally went to private facilities while housewives/unemployed women were more than twice as likely to present at public facilities (52%) than private facilities (22%). Most women presented for abortion-related services in their first trimester, and safe termination clients were more likely to come earlier in their pregnancy.

Most clients (78%) received a contraceptive method post-abortion, with pills (32%), condoms (18%) and injectables (12%) being the most common methods. More women who received safe termination services received a contraceptive method post-abortion than clients who came for treatment of incomplete abortion (83% vs. 53%; $p<0.001$). Of those provided a contraceptive method post-abortion, 28% chose the same method they reported using prior to seeking abortion-related services. Almost a third of women who had never used contraception did not receive a method of contraception post-abortion (31%).

Interviews with abortion care providers confirmed that the majority of services at these facilities are abortion-related and that the socio-demographic characteristics of women and services sought differ between public and private facilities. Providers' perspectives on the burden of unsafe abortion varied by the type of health facility, from being a rare case in private facilities to constituting most of the abortion-related client load in public facilities. All four private providers mentioned that while repeat abortion is common, there has been a significant decline in the magnitude of complications due to unsafe abortion. Providers indicated socio-economic differences in service-seeking behavior: the urban middleclass women come at an earlier gestational age and were more likely to have previously used contraception/family planning. Lack of awareness, use-failure, and dependence on abortions were reasons providers gave for low contraceptive use among younger women. All providers said that

increased availability of medication abortion in Ethiopia would have beneficial effects on women's health and the health system.

Recommendations

Efforts at prevention of unwanted pregnancy and unsafe abortion should target the younger age group. Emphasis should be given to young and unmarried women as well as those of lower economic status. Accurate information on family planning, access to a variety of effective contraceptive methods, and availability of safe abortion services are paramount to reducing the burden of unwanted pregnancy, unsafe abortion and repeat abortion.

Medication abortion should be introduced to health facilities. Medication abortion can reduce the amount of time and medical resources invested in providing safe abortion care. It also provides women the choice of an additional safe option for abortion-related care.

Provision of post-abortion family planning should be strengthened both in public and private health institutions. All post-abortion clients should receive counseling and contraceptive methods before they leave health facilities. Women should be able to access these services during duty hours (night time and holidays).

Table of Contents

List of Tables and Figures

List of Tables

List of Figures

Acronyms

D&C	Dilation and curettage
FMOH	Federal Ministry of Health
IUD	Intrauterine device
MVA	Manual vacuum aspiration
MCH	Maternal and Child Health
MA	Medication abortion
PAC	Post-abortion care
SNNPR	South Nations, Nationalities and Peoples Region
SD	Standard deviation

Introduction

Unsafe abortion is one of the leading causes of maternal mortality in Ethiopia. Abortion-related death accounts for over 30% of maternal deaths in the country (Federal Ministry of Health March 2006). Exacerbating the problem, the total fertility rate remains very high at 5.4 children and close to one third of births are either mistimed or unwanted (Central Statistical Agency [Ethiopia] and ORC Macro 2006). There is a substantial unmet need (34%) for family planning in the country and contraceptive utilization is very low (Central Statistical Agency [Ethiopia] and ORC Macro 2006). According to the 2005 Demographic and Health Survey, only 15% of married women use any method of contraception. Moreover, teenage pregnancy and childbearing are common in the country. Over one third of women aged 15 to 24 years have begun childbearing and the unmet need for family planning among this age group is 31% (Central Statistical Agency [Ethiopia] and ORC Macro 2006). Approximately three percent of pregnancies in young women end in termination (Moor, Govindasamy et al. 2008). Among young women, pregnancy termination is the most common in women who have one or more of the following characteristics: under 20 years old; live in urban areas; are never married; or who have completed secondary or higher levels of education (Moor, Govindasamy et al. 2008).

Recognizing the burden of abortion in the country, the Ethiopian government has taken several critical steps to address the public health problem unsafe abortion poses. In the national reproductive health strategy issued in 2006, the government set a target to reduce maternal mortality 673 deaths to 250 deaths per 100,000 live births and reduce the proportion of abortion-related deaths from 32% to 10% by 2015 (Federal Ministry of Health March 2006). Additionally, in 2005, the government revised the criminal code to liberalize abortion services. Previously, safe abortion was provided only when the life of the woman was endangered or in the case of fetal deformity. Women can now access safe abortion services in the case of rape and incest and when the mother is physically or mentally unfit to bring up the child. It is also available on demand to adolescents under 18 years of age.

Recently access to post-abortion care (PAC) has improved for women with complications from unsafe abortion. According to a 2000 study on PAC (Gebreselassie and Fetters 2002) , only around half of facilities in the major regions in the country were able to provide care for clients with abortion-related complications. From the facilities that were providing the services, only a quarter were able to provide uterine evacuation using manual vacuum aspiration (MVA) and they were heavily dependent on dilation and curettage (D&C). Provision of post-abortion contraception was practiced by less than a quarter of health facilities. A follow-up study conducted in 2004 demonstrated a significant improvement in availability of PAC services (including MVA) and the provision of post-abortion family planning (Tesfaye, Fetters et al. 2006).

As of June 2007, 46% of hospitals and 19% of health centers in Oromia, Amhara, SNNPR, Tigray and Addis Ababa regions provided safe abortion care. Provision of uterine evacuation by either MVA or D&C

was available in 73% of hospitals and 27% of health centers as of June 2007; medication abortion was unavailable in the country (Geressu, Baruda et al. December 2007).

Following the revision of the criminal code and based on the mandate given by the House of Representatives, the Federal Ministry of Health (FMOH) issued a technical and procedural guideline for safe abortion services in the country (Federal Ministry of Health June 2006). Methods of pregnancy termination are clearly indicated for different levels of service provision and health service provider by gestational age and presence or absence of complications. Abortion services provided earlier in the pregnancy are associated with lower morbidity and mortality and reduced costs incurred to both the client and the health system (World Health Organization 2003; Bartlett, Berg et al. 2004).

According to the guidelines, safe termination and treatment of incomplete abortion should be provided using MVA, D&C, and medication abortion (MA) based on gestational age. The guidelines recommend MA using a combination of mifepristone and misoprostol for pregnancy termination up to nine completed weeks (Federal Ministry of Health March 2006), which is consistent with the World Health Organization's recommendations for first trimester abortion.

In order to meet government targets and expand access to safe abortion services, it is essential that the abortion service guideline developed by the FMOH be fully implemented. Although the use of MVA for safe termination and treatment of incomplete abortion is increasing, use of MA for early pregnancy termination and treatment of incomplete abortion has yet to be introduced in the country. The addition of MA to the range of abortion-related care options would expand access to and the safety of these services (World Health Organization 2003).

Objectives of the Study

The main purposes of this study were to assess the characteristics of women seeking safe termination or treatment of incomplete abortion at select public and private health facilities in Addis Ababa; to determine the potential need for medication abortion among women seeking services; and to inform the development and implementation of national guidelines and policies on abortion in Ethiopia.

The objectives of this study were to:

1. Describe socio-demographic characteristics of women seeking abortion services.
2. Describe the gestational age at which women present to health facilities to seek abortion care.
3. Assess contraceptive utilization, non-use, or method failure prior to the pregnancy for which abortion service is sought and contraceptive uptake after provision of abortion services.

Methodology

Four public facilities and three private clinics were selected based upon their relatively high abortion-related client loads and willingness to participate in the study. All hospitals predominantly serve the residents of Addis Ababa and provide specialized care as national referral hospitals serving all regions; the four public facilities also serve as teaching centers for doctors and nurses. The exact catchment area of each facility involved in this study is difficult to determine. Thus, the number of clients analyzed from each facility varied and is only indicative of each facility's abortion-related caseload relative to the other facilities included in this study.

This study included both a quantitative analysis of the service statistics of 1,200 women seeking abortion-related services from October 2008 to February 2009 in the seven facilities described above in Addis Ababa, Ethiopia and a qualitative analysis of interviews with five abortion-care providers from three of the facilities included in the study to illuminate the contextual factors of abortion service provision in these clinics.

Quantitative Analysis

We analyzed secondary data that is routinely collected as service statistics by health facilities offering abortion-related care in Addis Ababa, Ethiopia. This was a prospective study, extracting data from client records as women presented for safe termination or treatment of incomplete abortion beginning in October 2008 and continuing until the sample size of 1,200 clients was met in February 2009.

Sample Size Calculation

As a result of the revision to the criminal law, it is expected that safe abortion services will become increasingly available in Ethiopia. However, given that safe abortion services were only recently introduced to the health system in the country, there is no data on how many of the women who seek abortion-related care come for safe termination services. Therefore, for this study, we assumed that approximately 50% of women visit the selected facilities for safe abortion care. The margin of error is set at 5% and the confidence level at 95%. Based on a formula for a single population proportion, the total required sample size was 1,067 cases receiving abortion-related care at the selected facilities. Considering the possibility of non-response, the final sample size was increased to 1,200 cases, distributed among the facilities based on their estimated client loads.

Variables & Analysis Methodology

Box 1 shows the list of standard variables collected for each client. Data collected included: socio-

Box 1: Data Collected

1. Age
2. Residence
3. Education
4. Occupation
5. Marital status
6. Number of previous pregnancies
7. Number of previous births
8. Number of previous abortions
9. Uterine size (bimanual examination)
10. Ever use of contraceptives
11. Last contraceptive method used
12. Post-abortion contraception
13. Type of service: safe termination or treatment of incomplete abortion

demographic characteristics, obstetric and gynecological history, service provision, history of contraceptive use, and family planning method provided at time of service.

Bivariate analyses were conducted to describe the characteristics of women who sought abortion-related services by type of service provided (safe termination vs. treatment of incomplete abortion).

Qualitative Analysis

To enrich the quantitative findings, a convenience sample of five health care providers who provide abortion-related services at three of the study clinics participated in key-informant interviews. The three clinics were selected based upon client load and because they represented both the private and public sectors. All providers providing abortion-related services at the three selected clinics were eligible for inclusion in the interviews provided they were aged 18 years or older and able to give informed consent.

All interviews were conducted by the same interviewer using a standard 15-question interview guide covering the following topics: provider perceptions of the quality of current abortion services, their clients' characteristics, the impact of abortion on women's health, the type of services currently available and their recommendations for ways to improve and expand access to services. Interviews were not recorded; rather detailed notes were taken and thematically analyzed by topic.

Ethical Approval

This study was approved by the Institutional Review Board of the Ethiopian Public Health Association and the Committee for the Protection of Human Subjects at the University of California, Berkeley. This study did not require additional information beyond that which was routinely recorded during intake by the attending physician after obtaining consent from the client. Client identifiers such as names and card numbers were not used in the study.

Results

Quantitative Findings

Socio-demographic Characteristics

Examination of the socio-demographic characteristics revealed that overall most women seeking abortion-related care during the study period were young, well-educated and single (see Table 1). The mean age of all women who presented at the facilities for abortion-related care during the study period was 25 years, and the majority was between the ages of 20 and 29 years (79%). Just over half of all clients were single (54%), with slightly fewer reported being married (42%).

The majority of clients resided in Addis Ababa (91%); the 89 women presenting at the facilities from outside Addis Ababa represented all regions of the country, including the remote regions of Gambella and Somali.

Over half of the clients were educated up to the secondary level (52%), and almost a quarter (23%) of the women had completed above a secondary level education. One in four clients was unemployed or a housewife (28%). Employed women worked primarily in professional, sales, or clerical positions (36%) or in house work (16%). Students accounted for 16% of the women.

Significant differences in socio-demographic characteristics were revealed when clients presenting for safe termination (n=986) were compared to treatment of incomplete abortion clients (n=214). Compared to safe termination clients, treatment of incomplete abortion clients were twice as likely to be aged 30 years or older (26% vs. 12% respectively). In addition, women seeking treatment of incomplete abortion were more likely to be married (77% vs. 34%; p<0.001) and less educated compared to women seeking safe termination. Only 57% of women seeking treatment of incomplete abortion services reported reaching secondary education or above, compared to 79% of women coming to the health facilities for safe termination services. Of the 16 women who reported coming from abroad, they were from the USA, Middle Eastern countries and elsewhere in Africa and all sought safe termination services.

Table1: Socio-demographic characteristics

	Total # (%)	Safe termination # (%)	Treatment of incomplete abortion # (%)	p-value*
Total	1200 (100)	986 (82.2)	214 (17.8)	
Age				<0.001
Mean (± SD)	25.1 (4.4)	24.9 (4.1)	25.9 (5.6)	0.003
15 – 19	88 (7.3)	68 (6.9)	20 (9.4)	0.213
20 – 24	492 (41.0)	416 (42.2)	76 (35.5)	0.072
25 – 29	454 (37.8)	391 (39.7)	63 (29.4)	0.005
30 – 34	112 (9.3)	83 (8.4)	29 (13.6)	0.019
35 – 44	54 (4.5)	28 (2.8)	26 (12.1)	<0.001
Marital Status				<0.001
Single	641 (53.8)	598 (60.7)	45 (20.6)	<0.001
Married	495 (41.6)	337 (34.2)	165 (77.1)	<0.001
Divorced	49 (4.1)	45 (4.6)	5 (2.3)	0.140
Widowed	6 (0.5)	6 (0.6)	0	---
Current Residence				0.017
Addis Ababa	1086 (91.2)	889 (90.2)	206 (96.3)	0.004
Outside Addis Ababa	89 (7.5)	81 (8.2)	8 (3.7)	0.024

Abroad	16 (1.3)	16 (1.6)	0	---
Education				<0.001
No Education	94 (7.9)	71 (7.2)	24 (11.2)	0.049
Primary	201 (16.9)	134 (13.6)	69 (32.7)	<0.001
Secondary	619 (52.0)	531 (53.9)	91 (42.5)	0.003
Above Secondary	276 (23.2)	249 (25.3)	30 (14.0)	<0.001
Occupation				<0.001
Housewife/unemployed	335 (27.9)	234 (23.7)	101 (47.2)	<0.001
Student	187 (15.6)	170 (17.2)	17 (7.9)	<0.001
Professional/Sales/Clerical	429 (35.8)	363 (36.8)	66 (30.8)	0.099
Commercial Sex Worker/Masseuse	22 (1.8)	20 (2.0)	2 (0.9)	0.280
Waitress/hostess	34 (2.8)	32 (3.3)	2 (0.9)	0.065
House work [a]	193 (16.1)	167 (16.9)	26 (12.2)	0.084

* From χ^2 or t-test

[a] E.g. housemaid, cleaner, cook

There were several differences in occupation identified between women coming for safe termination versus treatment of incomplete abortion. Safe termination clients were more likely to be students (17% vs. 8%) or employed in professional/clerical (36% vs. 31%) or housekeeping (17% vs. 12%) positions. Women attending the health facilities for treatment of incomplete abortion were twice as likely to be housewives or unemployed (47% vs. 24%; p<0.001).

Reproductive History

Table 2 presents the reproductive history of clients seeking safe termination and treatment of incomplete abortion services at the selected health facilities during the study period. The mean gravidity of clients was 2.3 while the mean parity was 0.9, indicating the role of abortion in fertility regulation among these clients. Indeed, almost a third of clients (31%) had at least one previous abortion (range 1 to 5).

Table 2: Reproductive history

	Total	Safe termination	Treatment of incomplete abortion	p-value*
Number of pregnancies (including current)				0.563
Mean (± SD)	2.2 ± 1.4	2.1 ± 1.4	2.3 ± 1.5	0.25
1	508 (42.3)	427 (43.3)	81 (37.9)	0.143
2	337 (28.1)	275 (27.9)	62 (29.0)	0.745
3	190 (15.8)	151 (15.3)	39 (18.2)	0.291
4	69 (5.8)	54 (5.5)	15 (7.0)	0.383
5 – 11	96 (8.0)	79 (8.0)	17 (7.9)	0.973

Number of live births				0.276
Mean (± SD)	0.8 (1.2)	0.8 (1.2)	0.9 (1.3)	0.2007
0	710 (59.2)	597 (60.6)	113 (52.8)	0.037
1	250 (20.8)	196 (19.9)	54 (25.2)	0.081
2	144 (12.0)	116 (11.8)	28 (13.1)	0.591
3	39 (3.3)	29 (2.9)	10 (4.7)	0.196
4	29 (2.4)	24 (2.4)	5 (2.3)	0.933
5 – 10	28 (2.3)	24 (2.4)	4 (1.9)	0.620
Number of living children				0.497
Mean (± SD)	0.7 (1.2)	0.7 (1.2)	0.8 (1.1)	0.5320
0	723 (60.3)	605 (61.4)	118 (55.1)	0.092
1	246 (20.5)	194 (19.7)	52 (24.3)	0.129
2	142 (11.8)	112 (11.4)	30 (14.0)	0.275
3	35 (2.9)	29 (2.9)	6 (2.8)	0.914
4	28 (2.3)	24 (2.4)	4 (1.9)	0.620
5 – 6	26 (2.2)	22 (2.2)	4 (1.9)	0.742
Number of previous abortions				0.822
Mean (± SD)	0.4 (0.7)	0.4 (0.7)	0.4 (0.7)	0.843
0	837 (69.8)	690 (70.0)	147 (68.7)	0.710
1	292 (24.3)	237 (24.0)	55 (25.7)	0.607
2 – 5	71 (5.9)	59 (6.0)	12 (5.6)	0.833

* From χ^2 or t-test

As seen in Table 2, there were no significant differences in gravidity, parity, number of living children, and number of previous abortion between clients presenting for safe termination or treatment of incomplete abortion.

Contraceptive History

Over half the clients (57%) included in this study had ever used a contraceptive method. Significantly more safe termination clients received a contraceptive method post-abortion than treatment of incomplete abortion clients (58% vs. 50%; p=0.022). The last contraceptive method used amongst clients is presented in Table 3. The most common previous method of contraception was oral contraceptive pills (25%), followed by injectables (18%) and condoms (9%).

When comparing safe termination and treatment of incomplete abortion clients, several differences emerge. Significantly more women attending the health facilities for treatment of incomplete abortion used injectables as their last method of contraception (24% vs. 16%; p<0.001), while significantly more women who came for safe termination used condoms as their last method (11% vs. 1%; p<0.001).

Table 3: Contraceptive history

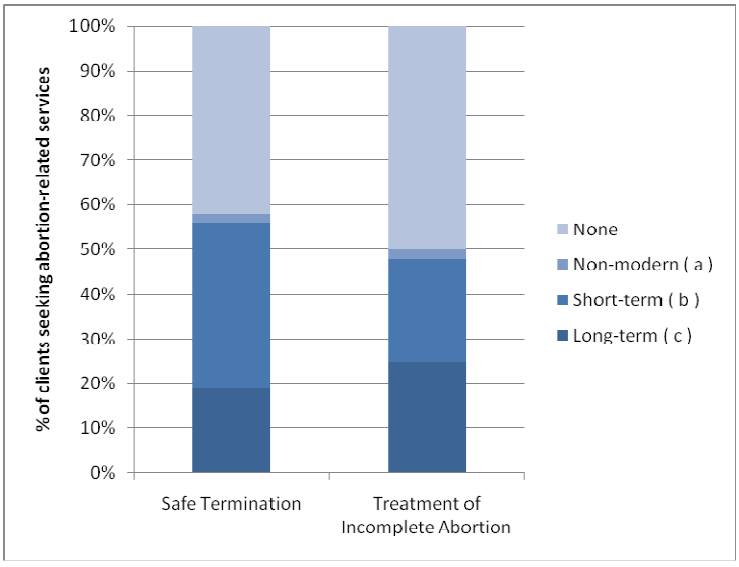
	Total	Safe termination	Treatment of incomplete abortion	p-value*
Last contraceptive method used				<0.001
None	521 (43.4)	415 (42.1)	106 (49.5)	0.047
Pills	303 (25.3)	255 (25.9)	48 (22.4)	0.967
Injectable	212 (17.7)	161 (16.3)	51 (23.8)	<0.001
Condom	108 (9.0)	107 (10.9)	1 (0.5)	<0.001
Implant	7 (0.6)	5 (0.5)	2 (0.9)	0.358
Intrauterine device	26 (2.2)	25 (2.5)	1 (0.5)	0.087
Emergency	4 (0.3)	3 (0.3)	1 (0.5)	0.619
Non-modern [a]	15 (1.3)	12 (1.2)	3 (1.4)	0.535
Other	4 (0.3)	3 (0.3)	1 (0.5)	0.619

* From χ^2 or t-test

[a] Calendar or other traditional methods

We analyzed the last contraceptive method used by grouping them into short- or long-term methods. Short-term methods include pills and condoms; long-term methods include injectables, implants, and intrauterine devices (IUDs). Non-modern methods include calendar or traditional methods. Grouping contraceptive methods reveals trends in the last contraceptive method used by type of abortion service provided. As seen in Figure 3, women coming for safe termination services are more likely to have used a short-term method as their last method of family planning (37% vs. 23%; p<0.001). In contrast, significantly more women coming for treatment of incomplete abortion used a long-term method as their last contraceptive method (25% vs. 19%; p=0.05). There were no significant differences in use of non-modern methods or non-use of contraception between the safe termination and treatment of incomplete abortion clients.

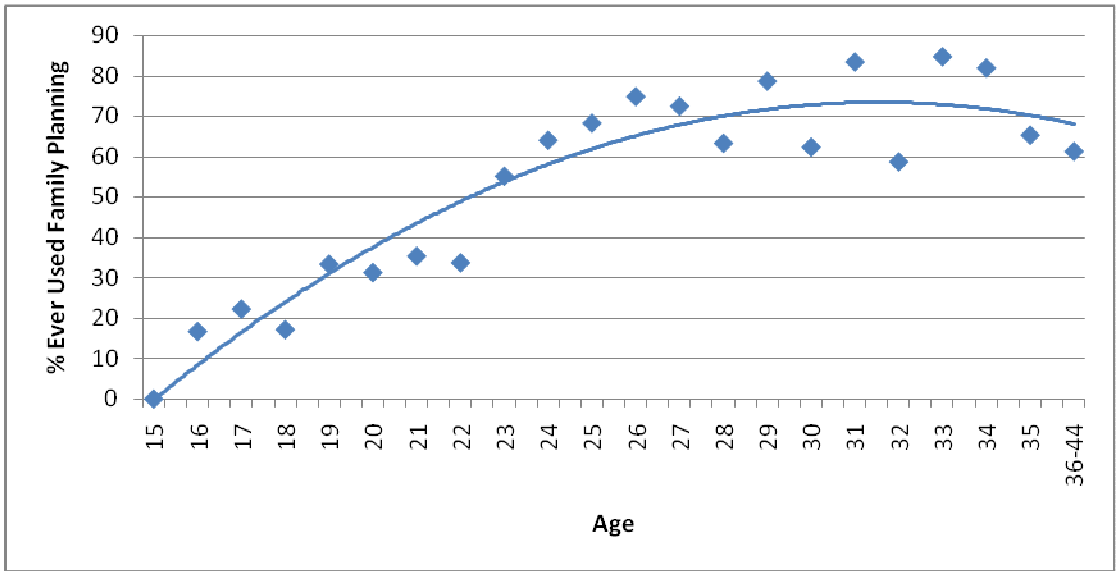
Figure 1: Last contraceptive method type used by safe termination and treatment of incomplete abortion clients



(a) Calendar or other traditional methods
(b) Pills and condoms
(c) Injectable, implant, intrauterine device

Analyzing ever use of family planning by age reveals an upward trend by age, as seen in Figure 4. Few clients under 20 years of age had ever used contraceptives, and neither of the two 15-year-olds had ever used family planning. As age increases ever-use of family planning also increases. Women are increasing likely to have ever used family planning as age increases from the early twenties to later twenties: 46% of those aged 20 to 24 had ever used family planning versus 71% of those aged 25 to 29. This upward trend of ever use of family planning tapers after the late twenties, and after age 30 remains fairly constant (66%).

Figure 2: Ever use of family planning by age



Services Provided

Of the 1,200 women included in this study, 222 women (19%) received services at the public facilities while the vast majority of women (n=978; 82%) received abortion-related services at a private facility (Table 4). In general, women presented in their first trimester, with the average uterine size the equivalent of 8.8 weeks. Of women who received treatment of incomplete abortion, most reported having a spontaneous abortion (85%), and the remaining clients were equally likely to have had a missed abortion (7%) or have "interfered" (i.e. self-induced abortion) with their pregnancy (8%). Most clients (78%) received a contraceptive method post-abortion, with pills (32%), condoms (18%), and injectables (12%) being the most common methods.

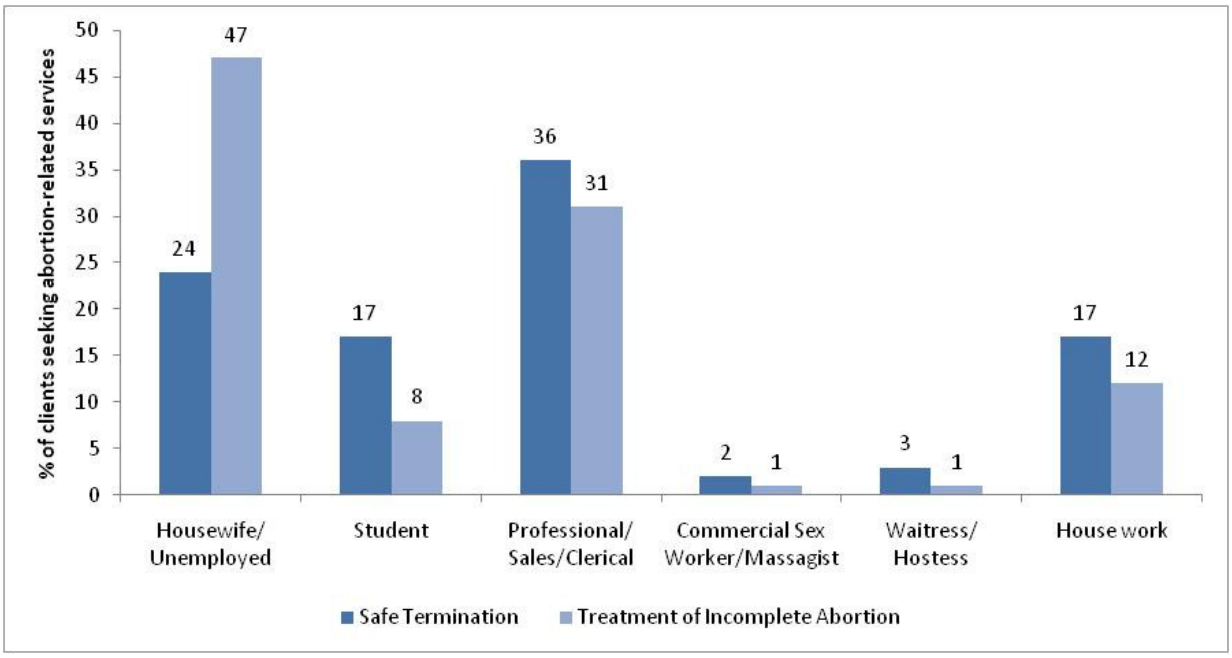
Table 4: Services provided

	Total	Safe termination	Treatment of incomplete abortion	p-value*
Health Facility Type				<0.001
Public	222 (18.5)	32 (3.3)	190 (88.8)	
Private	978 (81.5)	954 (96.7)	24 (11.2)	
Uterine size/Gestational age				<0.001
Mean (± SD)	8.8 (3.2)	8.0 (2.3)	12.1 (4.5)	<0.001
≤ 9	817 (68.1)	763 (77.4)	54 (25.2)	<0.001
10 – 12	281 (23.4)	188 (19.1)	93 (43.5)	<0.001
13 – 27	102 (8.5)	35 (3.6)	67 (31.3)	<0.001
Treatment of incomplete abortion for:				
Spontaneous abortion		n/a	182 (85.1)	
Missed abortion		n/a	15 (7.0)	
Interfered (incomplete abortion)		n/a	17 (7.9)	
Post-abortion Contraception				<0.001
Yes	932 (77.7)	818 (83.0)	114 (53.3)	
No	268 (22.3)	168 (17.0)	100 (46.7)	
Type of contraceptives provided				<0.001
Pills	389 (32.4)	344 (34.9)	45 (21.0)	0.602
Injectable	147 (12.3)	88 (8.9)	59 (27.6)	<0.001
Condom	219 (18.3)	216 (21.9)	3 (1.4)	<0.001
Implant	74 (6.2)	73 (7.4)	1 (0.5)	0.003
Intrauterine device	70 (5.8)	67 (6.8)	3 (1.4)	0.002
Other	33 (2.8)	30 (3.0)	3 (1.4)	0.184

* From χ^2 or t-test

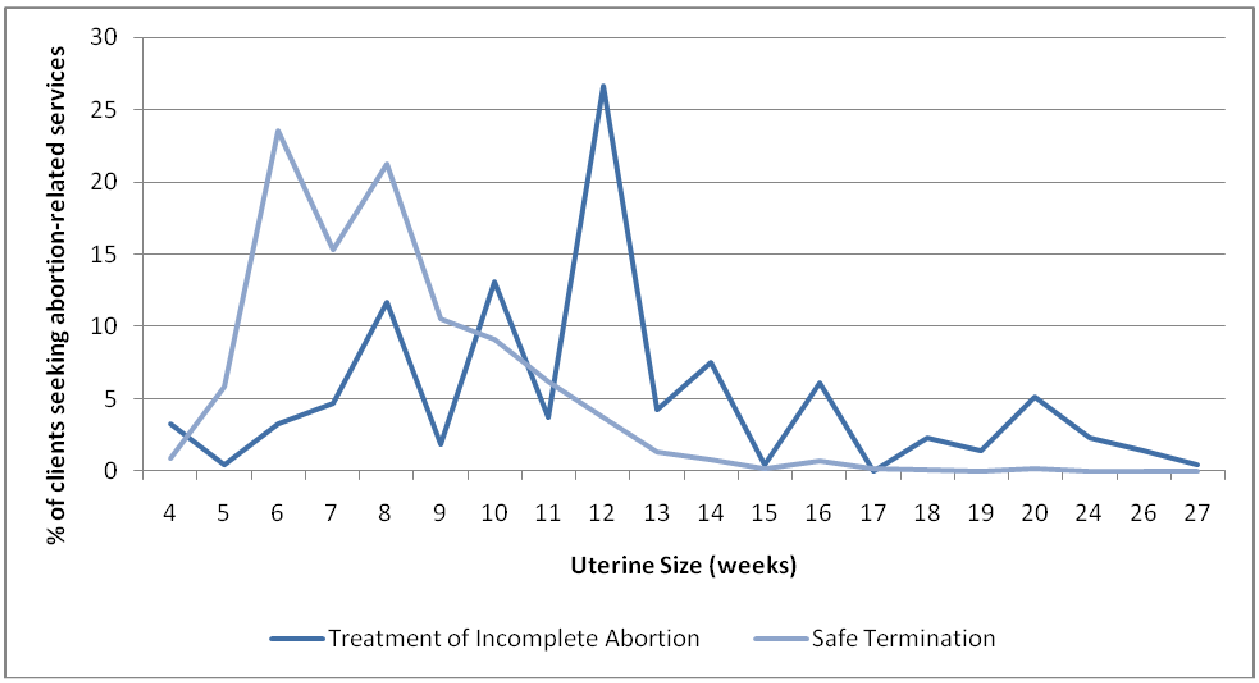
Figure 5 disaggregates the occupation of the client by the type of facility she attended (public or private). This reveals that most employed women and students went to private facilities regardless of type of occupation. However, housewives or unemployed women were more than twice as likely to present at public facilities (52%) than private facilities (22%).

Figure 3: Occupation by type of health facility



The vast majority of women coming for abortion-related services presented at the health facility in their first trimester (92%). However, women who came for treatment of incomplete abortion had a higher mean uterine size of 12.1 weeks compared to women presenting for safe termination (8.8 weeks). As seen in Figure 6, trends in uterine size at the time of the abortion differed by safe termination and treatment of incomplete abortion. Clients attending the health facility for safe termination were more likely to come earlier in their pregnancy, between six and nine weeks gestation (71%), whereas most women coming for treatment of incomplete abortion came between nine and 14 weeks gestation (67%). Of those clients who interfered with their pregnancies and came to the health facilities for treatment of incomplete abortion most did so during the first trimester (88%).

Figure 4: Uterine size/gestational age before procedure by safe termination and treatment of incomplete abortion



Post-abortion Contraception

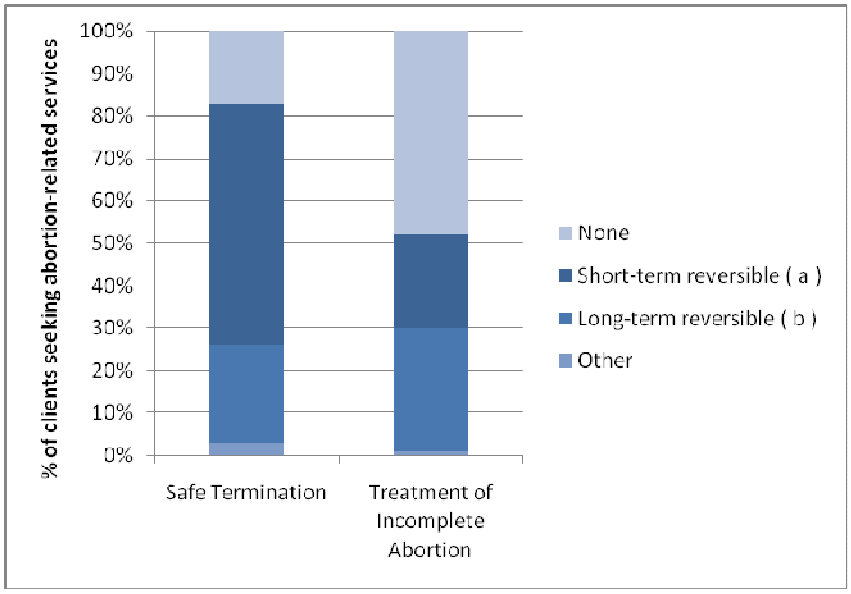
Almost a quarter of women who received safe termination services did not leave with a method of post-abortion contraception (22%). There was no difference in mean age between women who did and did choose a contraceptive method post-abortion (25.1and 25.1 respectively; p=0.905). Women who did not receive a contraceptive method post-abortion were significantly less educated (35% had no education or primary education compared to 22% of women who left with a contraceptive method; p<0.001) and more likely to be unemployed than women who received a contraceptive method post-abortion (38% vs. 24% respectively, p<0.001). A large proportion of women who did not receive post-abortion contraception had never used family planning, and these women were more than twice as likely to have never used a contraceptive method than women who received a method of contraception post-abortion (76% vs. 34% respectively, p<0.001).

More women who received safe termination services were provided a contraceptive method post-abortion than clients who received treatment for an incomplete abortion (83% vs. 53%; p<0.001). As was seen in the last contraceptive method used, safe termination clients were more likely to choose condoms than treatment of incomplete abortion clients (22% vs. 1%; p<0.001) and a larger proportion of treatment of incomplete abortion clients chose injectables (28% vs. 9%; p<0.001). Of note, a larger proportion of safe termination clients chose implants (7% vs. 1%) or IUDs (7% vs. 1%) than did treatment of incomplete abortion clients. This differs from what was noted regarding the last method of family

planning used. However, the proportion of users of implants and IUDs was not significantly different between safe termination and treatment of incomplete abortion clients.

Figure 7 groups contraceptive method provided post-abortion by short- versus long-term. These groupings mirror what was seen in the last contraceptive method used before the abortion. Women coming for safe termination were more than twice as likely to choose a short-term method as women coming for treatment of incomplete abortion (57% vs. 22%; p<0.001), while women attending the clinics for treatment of incomplete abortion were more likely to choose a long-term method post-abortion (29% vs. 23%; p=0.051). Of note, those seeking treatment of incomplete abortion services were more than 2.5 times as likely not to be provided a contraceptive method post-abortion (48% vs. 17%; p<0.001).

Figure 5: Post-abortion contraceptive method provided by safe termination and treatment of incomplete abortion



(a) Calendar or other traditional methods
(b) Pills and condoms

Of those provided a method of family planning post-abortion, 28% chose the same method they reported using prior to the abortion-related services. While a greater proportion of treatment of incomplete abortion clients chose the same contraceptive method they were using prior to the abortion than safe termination clients (35% vs. 28%), the difference was not significant. Continued non-use of family planning was more common among treatment of incomplete abortion clients (62% vs. 37%; p<0.001).

Almost a third of women who had never used contraception did not receive a method of contraception post-abortion (31%). Continued use of the same method of contraception was most common among previous users of the pill (55%), condoms (41%), and injectables (25%). There were significant

differences between continued use of the same contraceptive method between safe termination and treatment of incomplete abortion clients. Continued use of the pill was more common among safe termination clients (66% vs. 43%; p=0.005), while continued use of injectables was more common among treatment of incomplete abortion clients (58% vs. 13%; p<0.001).

Table 5: Continued use of same contraceptive method

		Post-abortion contraceptive method provided								
		Pills	Injectable	Condom	Implant	IUD	Other	None	Not decided	Total
Last contraceptive method	**Pills**	165 (54.5)	35 (11.6)	46 (15.2)	4 (1.3)	13 (4.3)	10 (3.3)	26 (8.6)	4 (1.3)	303 (100)
	Injectable	36 (17.0)	53 (25.0)	21 (9.9)	36 (17.0)	36 (17.0)	5 (2.4)	19 (9.0)	6 (2.8)	212 (100)
	Condom	42 (38.9)	11 (10.2)	44 (40.7)	5 (4.6)	3 (2.8)	0 (0)	3 (2.78)	0 (0)	108 (100)
	Implant	0 (0)	0 (0)	3 (42.9)	0 (0)	2 (28.6)	0 (0)	2 (28.6)	0 (0)	7 (100)
	IUD	0 (0)	4 (15.4)	2 (7.7)	14 (53.9)	3 (11.5)	1 (3.9)	0 (0)	2 (7.7)	26 (100)
	Emergency contraception	1 (25.0)	1 (25.0)	2 (50.0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	4 (100)
	Calendar method	2 (13.3)	3 (20.0)	6 (40.0)	1 (6.7)	1 (6.7)	0 (0)	1 (6.7)	1 (6.7)	15 (100)
	Other	0 (0)	0 (0)	0 (0)	2 (50.0)	1 (25.0)	0 (0)	0 (0)	1 (25.0)	4 (100)
	None	143 (27.5)	40 (7.7)	95 (18.2)	12 (2.3)	11 (2.1)	17 (3.3)	162 (31.1)	41 (7.9)	521 (100)
	Total	389 (32.4)	147 (12.3)	219 (18.3)	74 (6.2)	70 (5.8)	33 (2.8)	213 (17.8)	55 (4.6)	1,200 (100)

p<0.001

Qualitative Findings

Key-informant interviews were conducted with five health care providers who provide abortion-related services at the study clinics. Participants' responses were thematically analyzed for each of the 15 questions and the results are presented below.

Magnitude of abortion and its complications

When asked the public health significance of abortion in Ethiopia, all informants reported the demand for abortion is high and they have not observed a decline in those seeking abortion-related services. The four providers from private clinics said the majority of their time was spent providing abortion-related services, with three providers specifying that they devote approximately 70% of their time to providing abortion-related services. Conversely, a provider from a public facility stated her caseload was closer to 30%. Whereas the private providers interviewed reported that women presenting with complications from unsafe termination at their facilities were rare, treatment of incomplete abortion was reported as common in the public facilities.

> *"Abortion related mortality and morbidity is not decreasing. Those who come here are already manipulated somewhere. They don't tell us where they have had the induction. Some of them come with complications such as perforation, sepsis, etc. They come after visiting both private clinics and other informal providers. In the private clinics complication can occur due to poor techniques. Abortion related complications stand the second (next to PID [pelvic inflammatory disease]) for the gynecologic morbidity in our hospital. About 25 to 30 percent of gynecologic cases are abortion related. It can be boldly said that post-abortion care takes the lion's share of the time we spend in the gynecology unit".*
>
> Provider from Public Facility

> *"I have been [working in] this clinic for the last 10 years and my observation is that the demand is on the rise. We help a lot of rape and incest victims. Most of the women who report that they are raped are the housemaids. The rapist is usually the employer or family members. Those who report incest say that the sexual assault was by the father, brother or a close relative."*
>
> Provider from Private Facility

According to three of the providers interviewed, the magnitude of unsafe complicated abortion has declined significantly. Most of the cases of unsafe termination get their final treatment at the public facilities while the private facilities mainly provide safe termination.

Abortion-related service seekers

When asked to describe the characteristics of women presenting for abortion-related services at their facilities, responses included women across all age groups. However, the perception among four of five providers interviewed was that students in their early twenties dominated the client pool. Virtually all providers acknowledged that married women are also common.

A respondent from a private facility provided the following order based on the client flow she sees: "Students, housewives, and commercial sex workers. The commonest age group is 20 to 25 years." An informant from a public facility said common service seekers are:"Students aged about 16 years old, those with low socio-economic status, women/girls on the street, sometimes married women," adding, "the educated ones are rare."

When asked what the most common gestational age was of women seeking abortion-related services, the most common response was in the first trimester, between eight and 10 weeks. The exception was a public sector provider who stated that, "the second trimester dominates" and postulated that, "it may be because they come after developing complications."

According to the informants, women with higher education, living in cities, and with higher socio-economic status come earlier whereas those with lesser education, from outskirts of Addis Ababa, and those with lower economic status come at a greater uterine size. Generally, women who come from abroad, especially from the Middle East, housemaids, and the poor come later.

One informant from a private facility summarized:

> *"Almost all are between eight to 12 weeks [gestation]. Later ones are occasional. Students tend to come at [an] earlier gestational age, while the employed, married or divorced, older women and those coming from outside Addis come at a later age."*

One other informant added:

> *"'Bole[1] girls usually come no later than six weeks. I have even encountered those who say 'I know everything, just give me the tablet.' But those from the outskirts may come as late as 12 weeks because some think their menses was irregular and some say, 'I stayed this long saving money.'"*

Family planning use and repeat abortions

Respondents indicated that older and married women more commonly report ever using family planning and family planning use among younger women is very low and inconsistent. Respondents

[1] Bole is an affluent residential area

cited lack of awareness, negligence and dependence on abortion as reasons for non-use of family planning.

A public facility provider said, "Many of them know the availability of family planning but they don't know where to find it. Some of them say, 'I became pregnant while using family planning.' Women coming [to the clinic] with vaginal bleeding usually deny sexual contact the first time."

Those reporting non-use are usually teenagers and students. Most of the employed and married report ever use, though one respondent identified a problem of not using methods properly.

> *"Most of them give history of use of condoms, but they are not regular users."*
>
> Provider from Private Facility

> *"One day, I came across a girl who used one cycle of pills for 10 months, taking a single tablet whenever she has sex."*
>
> Provider from Private Facility

This same provider also noted:

> *"The young do not even know that they are pregnant and some of them come with intact hymen."*

One barrier to family planning is stigma, as described by one provider:

> *"Students do not use family planning because they fear the stigma."*
>
> Provider from Public Facility

> *"Housemaids do not want contraceptives because they don't know it and even don't expect to get pregnant. How do they expect to be raped? And others are cheated by their sexual partners and so become negligent. Many others are so dependent on the abortion service they get and say '…the clinic is there, so what is the problem if we have sex?"*
>
> Provider from Private Facility

One private provider noted the reliance on abortion for fertility control, resulting in many clients presenting for a repeat abortion: "'Masfenter' is the code/term that is being used by them to mean 'to forcefully throw away,' and therefore they usually have unprotected sex and did the 'Masfenter' easily." For this reason he said, "there were some who had abortion as recurrently as 13 times. It is very common for a client to abort 3 or 4 times."

This opinion was also shared by other respondents and they said that there is a tendency of neglecting contraceptive use and choosing to have abortions over using other contraceptive methods.

> *"We usually advise clients with repeated abortion. But they say 'I don't want it' or 'I don't like it' or 'It upsets me'. There are also those who report contraceptive failures. They say, 'I got pregnant while using it.' Mostly pills fail; injectables rarely do. Regarding condoms, they say 'It was torn.' Failures are usually because they are not using it properly. Majority of them use it (take the pill) just before they have sex."*
>
> Provider from Private Facility

A provider from a different private facility said, "Repeat abortion is common and I am not sure that family planning program is working. I know a woman who reported seven abortions."

Post-abortion family planning services

Although the providers said that their facilities provide family planning services, most of them, especially the private providers, reported that the services are not strong. They have limited contraceptive options and irregular supplies. All of the private clinics buy their contraceptive supplies from DKT.

"After we give abortion services, we just advise them to use a contraceptive. But we don't have an organized and regular service. We have a more organized postpartum family planning than for post-abortion care. We don't consider them as our regular clients." The public facilities are in a better position with regard to post-abortion family planning. However, providers raised issues that should be addressed to ensure that every woman gets family planning counseling and services.

> *"After each procedure, we always inform them to use family planning. During the daytime, we link them to our family planning clinic. During duty times (night or holidays), we just inform them and advise them to come on working days. We don't follow them after that. No contraceptive methods in the post-abortion care room".*
>
> Provider from Public Facility

Abortion services provided

All providers from the facilities surveyed reported the use of MVA was most common to evacuate the uterus. Two providers from private facilities reported that they also use medication abortion to induce abortion—though only for pregnancies of eight weeks or less.

One private provider shared, "We almost always use MVA. There is also medication abortion which we use in case of pregnancy less than two months. Most women prefer it rather than being manipulated, [but] the problem is [its] high cost."

A public provider also cited the high cost of medication abortion as a barrier to its use: "A combination of mifepristone and misoprostol is used [for medication abortion] but that it is not [used] common[ly] because the drug is expensive and most women do not afford it."

The respondents were not willing to disclose the amount they charge for services.

Perspectives on medication abortion

All five providers interviewed said that increased availability of medication abortion in Ethiopia would have beneficial effects on women's health and the health system.

> *"[Medication abortion] is more advantageous for women if it is made available because it is more comfortable to them with no complication."*
>
> Provider from Private Facility

> *"Availability of medication abortion helps in many ways: less uterine injury, less contamination, saves time for the client and provider."*
>
> Provider from Private Facility

> *"It will decrease the burden of care and abortion-related complications very much. Consumption of resources will definitely decrease."*
>
> Provider from Public Facility

Discussion

This facility-based study represents the population of women who presented at the selected public and private health facilities in Addis Ababa, Ethiopia during the study period. Results reveal valuable information about the socio-demographic, reproductive and contraceptive history, and service-seeking behavior of women requesting abortion-related services. Given the revision of the restrictive penal code on abortion and improved access to safe abortion services in the country, the results of this study will inform decision makers and program planners on comprehensive abortion care services that adequately address women's needs.

In general, this study found that the majority of women who visit health facilities for abortion-related care are young, single, educated up to secondary or above, and employed. Studies conducted in Ethiopia and other countries have shown that younger women are more likely to seek abortion services than older women (Melkamu Y 2003; Oye-Adeniran, Adewole et al. 2004 Dec).

However, significant differences emerged when safe termination clients were compared to treatment of incomplete abortion clients. Safe termination clients in our sample were younger, educated, and were students or employed in clerical or professional positions. Students and those who work in

housekeeping or hospitality (e.g. maid, waitress, hostess, etc.) are at greater risk of an unwanted pregnancy by having greater exposure to either unanticipated (e.g. rape of a housemaid by an employer) or frequent (e.g. commercial sex worker) sexual activity. Providers also noted that these women are exposed to unanticipated, unwanted, and/or frequent sexual activity, yet the contraceptive use among these populations is low.

In contrast, women seeking treatment of incomplete abortion during the study period tended to be older, married, less educated, and were almost twice as likely to be unemployed or housewives. Provider interviews indicated that these women are perhaps less aware of the availability of safe abortion services and more likely to have "interfered" with their pregnancies. On average women sought treatment of incomplete abortion services four weeks later in gestational age than those who sought safe termination services. Therefore, it is imperative that information on family planning and the availability of safe abortion services be targeted to these groups to reduce the number of unwanted pregnancies, unsafe abortions and repeat abortions.

In examining the reproductive history of clients, we found that the mean number of pregnancies was higher than the mean number of live births, indicating the role of abortion in women's efforts to control their fertility. Almost a third of clients reported one or more previous abortions, a similar finding to that of a study conducted in health facilities in Addis Ababa in 2001 (Melkamu, Enquselassie et al. 2003). This was corroborated in provider interviews, where several mentioned the reliance on abortion in lieu of an effective contraceptive method. Providers cited a lack of awareness and incorrect use of short-term methods as reasons for repeat abortion. This was seen in the service delivery data, where approximately a third of safe termination clients used a short-term method such as pills and condoms as their last contraceptive method. Short-term methods have higher user-failure rates than long-term methods, a reality that highlights the need for correct information and the provision of a proper method mix to clients.

Proper information and access to contraceptive methods is paramount and needed for all women to prevent unwanted pregnancies as well as to prevent repeat abortion. As seen in these data and corroborated by provider interviews, repeat abortion is common amongst women in Addis Ababa; additionally, fertility and abortion trends point to women using abortion as a method of family planning to delay, space or limit childbearing.

History of family planning use was fairly high (57%) but the methods used were limited to the short-term contraceptive methods. As evidenced by the qualitative findings, use of contraceptives was irregular and many women, especially younger women, lack adequate knowledge with regard to properly using contraceptives. The study by Melkamu et al reported ever use of contraceptives to be 53.4% among abortion service seekers.

The positive correlation between age and ever-use of contraceptives is logical given that older women have had longer reproductive lives and thereby more opportunity to have ever used family planning.

However, the fact that young women make up the majority of clients seeking safe termination demonstrates the unmet need for family planning among this population.

Most women seek both safe termination and treatment of incomplete abortion services during their first trimester; 68% come before or at uterine size equivalent to nine weeks of gestation, which is the recommended cutoff for using medication abortion in Ethiopia (Federal Ministry of Health June 2006). Women from Addis Ababa, those with more education, and those who utilize private facilities tend to visit the health facilities early, demonstrating accessibility of services to those from higher socio-economic status. The qualitative findings also support this finding. The providers said women of lower economic status such as housemaids and those from outside Addis Ababa tend to come late.

Generally, provider respondents said they depend on use of MVA to administer treatment of incomplete abortion and safe termination services. However, it is clear that providers believe the introduction of medication abortion would be beneficial in this context, citing that it is a less invasive procedure preferred by providers and clients. The five providers interviewed all posited the potential benefits of greater availability of medication abortion to both women and Ethiopia's health system. However, the issue of high cost of the medication regimen was mentioned by several providers as a barrier to its use.

Contraceptive uptake post-abortion was an encouraging 78%. This is much higher than what has been reported from public facilities in 2001(Melkamu, Enquselassie et al. 2003). However, over half of the clients (60%) left with a short-term method, which could be due to a lack of method mix at the facilities as indicated by the provider informants. Safe termination clients were more likely to choose short-term methods. Given that short-term methods such as pills and condoms require correct and consistent use to be effective and that women lack contraceptive knowledge according to the provider informants, the correlation of method failure and repeat abortion is understandable. Women in Addis Ababa desire to control their fertility, but are not armed with the correct knowledge to protect against an unwanted pregnancy.

In addition, a high proportion of clients chose the same method post-abortion as they were using before the abortion. Of note, over half of previous pill users chose to continue using pills as their contraceptive method. This method has potential for user-failure, especially if the client is not well informed on how to use the method correctly, which can set the stage for repeat abortion. In addition, almost a third of women who had never used contraception did not receive a method of contraception post-abortion. Quality post-abortion counseling is imperative to properly inform women of their reproductive choices and prevent unwanted pregnancy and repeat abortion. Providers need to counsel on correct use and alternative effective methods to appropriately fit each client's lifestyle and contraceptive needs.

Providers also expressed that while they wish to offer women their contraceptive method of choice at the time of service, facilities often lack regular supplies and/or a variety of methods. Thus, not only do facilities need a better supply of contraceptive methods, more information and education is needed to ensure that, once provided a method, women will use it consistently and correctly to prevent unwanted pregnancy.

Conclusions and Recommendations

Conclusions

The demand for abortion-related care is high both in public and private facilities and providers spend significant amounts of time providing these services. The public facilities primarily deal with PAC, including treatment of complications of unsafe abortion, while the private facilities provide more safe abortion services.

In conclusion, in order to enable women in Addis Ababa to achieve their fertility aspirations, policymakers in Ethiopia should focus their efforts on reaching single, poor and young women while rejuvenating family planning efforts to increase knowledge about proper contraceptive use. Given that the fertility aspirations of women in urban areas are changing very rapidly, young women are in need of effective contraceptive options and information to control their fertility. Existing family planning and abortion services should pay special attention to these women that are the drivers of fertility decline.

Recommendations

Efforts at prevention of unwanted pregnancy and unsafe abortion should target younger women. Emphasis should be placed on young and unmarried women as well as those of lower economic status. Accurate information on family planning, access to a variety of effective contraceptive methods, and availability of safe abortion services are of paramount importance to reduce the burden of unwanted pregnancy, unsafe abortion and repeat abortion in Ethiopia.

Medication abortion should be introduced to health facilities as an additional abortion procedure option. Medication abortion has the potential to reduce the amount of time and medical resources invested in providing abortion-related care. It also provides women an additional safe option for treatment of incomplete abortion and termination of pregnancy.

Post-abortion family planning should be strengthened both in the public and private health institutions. All post-abortion clients should receive counseling and contraceptive methods before they leave health facilities. Women should be able to access these services during duty hours (night time and holidays). Contraceptive method options available to the clients should be expanded in order for them to choose their preferred methods.

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