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Research Article

Barriers to Modern Contraceptive Use among Women Seeking Abortion Care Service in Public Hospitals in Addis Ababa, Ethiopia: A Case Control Study

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Abstract

Background: Globally, about 80 million pregnancies end in stillbirth or induced abortion each year. Due to high unmet need for family planning and its subsequent effects, many women in Ethiopia are experiencing the challenges of abortion and unwanted child birth. As a result, the Federal Ministry of Health of Ethiopia has designed the distribution of contraceptives in all health facilities including drugstores and the provision of safe abortion services in medical setup for those who demand the service based on the legal background of the country. However, despite these provisions, the problem of unintended pregnancy and abortion remained unsolved.

Objective: To identify barriers to modern contraceptive use among women seeking abortion services inAddis Ababa.

Method: A hospital based case control study was conducted in Addis Ababa at four selected hospitals.The case group (190 women) consisted of patients who came for seeking abortion service and the control group (380 women) who are contraceptive clients at the same hospital. A pre-tested, semi-structured questionnaire was administered to each individual to collect information on identification data, socio-demographic profile, and different barriers to contraceptive use. Odds ratio and their 95% confidence intervals were estimated using binary logistic regression, with contraceptive use as an outcome in the multivariate regression analysis. In addition in depth interviews were conducted with the service provider using in depth interview guide.

Results: A total of 570 women were interviewed. Among the socio demographic variables, contraceptive nonuse was higher among illiterate and those with primary education level. After adjustment for potential confounders, being married (AOR = 3.35; 95% CI: 1.18, 6.74), hearing about side effect from other rather than experiencing or seeing it (AOR = 2.75; 95% CI: 1.56, 4.92) knowing contraceptives can be utilized from health centers (AOR = 1.65; 95% CI: 1.24, 3.15; P, 0.02) increase use of contraceptive method. In contrary switching contraceptive methods before will reduce use contraceptive methods (AOR = 0.61; 95% CI: 0.45, 0.89; P, 0.001).

Keywords: *Contraceptive Use; Abortion Care Service; Public Hospitals; Addis Ababa; Family Planning*

Background

Family planning has been on the reproductive health agenda since the 1960s and today many effective and safe birth control methods are available, yet the level of unmet need for contraception remains high [1]. Increasing the level of contraceptive use among women of

child bearing age is an important component of many national population and developmental programs in sub-Saharan Africa; however the coverage of these methods are still low despite the efforts of many governmental and nongovernmental agencies (NGOs) [1].

Each year, WHO reported that, throughout the world, approximately 210 million women become pregnant and over 135 million of them deliver live born infants. The remaining 80 million pregnancies end in stillbirth, spontaneous or induced abortion. It was estimated that in 2008 approximately 44 million pregnancies were voluntarily terminated: 24 million safely and 20 million unsafely and result in the death of an estimated 47000 girls and women [2].

The proportion of women who are personally opposed to contraception or face opposition from their partners suggests that misinformation and cultural barriers must be addressed. According to the Guttmacher Institute, "Such barriers include women's low level of decision making power within families, differences in fertility preferences between partners, and the stigma attached to unmarried women's sexual activity and use of contraceptive services". Many women (and their partners) are more afraid of the potential side effects of birth control than they are of having an unintended pregnancy.

While some women believe myths they have heard about side effects, such as increased risk of cancer or diminished future fertility, many have had real experience with mild to severe side effects [6,7].

"Due to high unmet need for family planning and its subsequent effect, many women in Ethiopia are experiencing the challenges of abortion and unwanted child birth". As a result, the Federal Ministry of Health of Ethiopia has allowed the distribution of contraceptives in drug stores and the provision of safe abortion services in medical setup for those who demand the service under certain conditions such as rape, incest, sexual violence, etc. [4,5].

Lack of access to modern contraception is an issue for countless women and couples in Ethiopia and around the world. But, what about when physical and financial barriers to access aren't the problem? What about personal, educational, and cultural barriers? Studies show that these types of obstacles may be equally responsible for the high prevalence of unintended pregnancies we see today, more than 50 years after the introduction of the birth control pill [3].

Materials and Methods

Study area and study period

The study was conducted in Addis Ababa in selected public hospitals from April 1 to April 27, 2015 and a total of 4 hospitals were included in the study.

Study design

Hospital based, case control study design.

Population

Source population

All women, age > 15 who came to health facilities (hospitals) in Addis Ababa.

Study population

Cases all women who came for abortion care service to the selected hospitals during the data collection period.

Controls all women who came for contraceptive use to the selected hospitals during the data collection period.

Sample size and sampling technique

Sampling size determination

The sample size was calculated using Epi Info version 3.6 software using the following parameter: according to Gilda Sedgh and Rubina Hussain, ´Reasons for Contraceptive Nonuse among Women Having Unmet Need for Contraception in Developing Countries` the main reason for women not using contraceptive is fear of side effect, which account for 21% and whereas the main reason stated by contraceptive user for switching contraceptive method is again fear side effect which account for 32% [8].

So p1 = 0.21 and p2 = 0.32 was taken with 95% CI, and power 80%.

The formula to calculate the required sample size is

$$\frac{Z\alpha/2\sqrt{((1+1/r)p(1-p)) + z\beta\sqrt{(p1(1-p1)+p2(1-p2))}}}{(p1-p2)2}$$

$$P = \frac{p1 + rp2}{r+1} \quad r = \frac{n2}{n1} \quad n2 = n1r$$

$n1$ = Sample size in the case, $n2$ = Sample size in the control

$p1$ = Proportion of exposure in cases, $p2$ = Proportion of exposure in the controls

$p1 - p2$ = Effect size, p = Average proportion

σ = Level of significance, 1 - β = Desire power = 80%

r = Ratio of cases to controls, $n2/n1 = 2$

$Z\beta$ = Coefficient at level of significant = 1.96, $Z\alpha/2$ = coefficient at level of power = 0.84.

The sample size determined is to be 190 cases and 380 controls.

Sampling technique

From the total of 51 hospitals, 13 public hospitals were selected, from those public hospitals, four hospitals namely Yekatit 12 Hospital, Gandhi memorial hospital, Zewditu Memorial Hospital and Saint Paul Hospital are selected as a study sites using lottery method. Zewditu Memorial Hospitals and GMH gives abortion service for around 200 and 150 cases per month respectively, whereas SPH and Yekatit 12 Hospitals provide such service for around 120 and 100 clients per month respectively. So, sample size will be select proportionally from the four hospital and a four care giver from each hospital will be selected for in depth interview.

Data collection technique and instruments

Questionnaire

A pre-tested, semi-structured questionnaire was administered to each individual to collect information on identification data, socio-demographic profile and reason for contraceptive use and non-use. 4.5.2 in-depth interview.

In depth interview guide was conducted among abortion care givers at the four hospitals. All data collections were done through face to face interview.

Variables

Dependent variable

- Contraceptive use.

Independent variable

- Women related factors: Age, educational status age, knowledge, fear of side effect income
- Partner related factors: Partner pressure, fear of lack of sexual desire
- Service related factors: Accessibility, affordability, competent and friendly provider
- Social related factors: Culture, belief, stigma.

Operational definition

- Contraceptive user are women who are currently using, or whose sexual partner is currently using, at least one method of contraception, regardless of methods used [2].
- Unintended pregnancy is a pregnancy that is mistimed, unplanned or unwanted at the time of conception [3].
- Modern contraceptive methods are very effective methods that are used to prevent pregnancy. Example condoms (both male and female), IUCD, implant, pills, injectable, oral contraceptive pills, emergency contraceptive pills [2].
- Abortion terminating of pregnancy before 28 weeks of gestational age by the removal or forcing out of a fetus or embryo from the womb before it is able to survive on its own [3].
- Safe abortion care Women who are visiting the health institutions for termination of pregnancy in the heath care unit due to any reason, and handled by skilled health professional in an elective manner are considered having safe abortion [3].
- Unsafe abortion as a procedure for terminating an unintended pregnancy out of health facility fulfilling the requirement either by persons lacking the necessary skills (untrained or unqualified) or in an environment lacking the minimal medical standards, or both. The conditions under which the procedure is performed are unhygienic and inappropriate tools or materials are often used [3].
- Emergency contraception a birth control measure that, if taken after sexual intercourse, prevent pregnancy [2].
- Cases: Patient who came for safe abortion service (non-contraceptive clients) to the selected hospital.
- Controls: Clients who came for contraceptive service to the selected hospitals.
- Availability: Is presence of all modern contraceptive methods in health centers or with the contraceptive providers.
- Accessibility: To use all the available contraceptive method according to their choice.

Result

Contraceptive use was slightly lower among 20 - 24 as compared to age group 30 - 34 and it was statistically significant (COR = 0.86; 95% CI = 0.82, 0.95). Married women (COR = 2.36, 95% CI; 1.25, 4.35) were two times more likely to use contraceptive single women. Women who are merchants (COR = 2.57, 95% CI; 1.55, 4.66) and students (COR = 1.19, 95% CI; 1.10, 3.01) are more likely to use contraceptive than governmental and non-governmental employees. But educational status, religion and income were not associated with contraceptive use.

Variables	Abortion patients (190) No (%)	Contraceptive clients (270) No (%)	OR	95%CI
Age				
15 - 19	18 (9.5%)	43 (11.3%)	0.96*	0.21-1.97
20 - 24	76 (40.2%)	203 (53.4%)	0.86*	0.82-0.95
25 - 30	86 (45.2%)	111 (29.2%)	1.78	0.82-3.33
30 - 34	10 (5.1%)	23 (6.1%)	1.00	
Religion				
Orthodox	123 (64.7%)	260 (68.5%)	0.89	0.29-2.11
Protestant	22 (11.5%)	35 (9.2%)	1.18	0.27-3.39
Muslim	45 (23.8%)	85 (22.3%)	1.00	
Marital Status				
Married	60 (31.5%)	62 (16.3%)	2.36*	1.25-4.35
Single	130 (68.5%)	318 (83.7%)	1.00	
Occupation				
Merchant	26 (13.8%)	29 (7.6%)	2.57*	1.55-4.66
Unemployed	41 (21.4%)	45 (11.9%)	2.61	0.95-4.85
Student	100 (52.6%)	240 (63.2%)	1.19*	1.10-3.01
Govt and NGO	23 (12.2%)	66 (17.3%)	1.00	
Educational Status				
Illiterate	20 (10.2%)	16 (4.2%)	2.79	0.81-5.22
Primary	22 (11.9%)	17 (4.5%)	2.88	0.76-5.23
Secondary	45 (23.8%)	117 (30.8%)	0.85	0.20-1.70
Tertiary	103 (54.1%)	230 (60.5%)	1.00	
Monthly Income				
≤ 500 Birr	130 (68.3%)	204 (53.6%)	1.86	0.64-3.29
> 500 Birr	60 (31.7%)	176 (46.4%)	1.00	

Women who heard about contraceptive method from health center are 1.67 times more likely to use contraceptive method than women who heard it from friends (COR = 1.67, 95% CI; 1.20, 3.70).

Contraceptive use is slightly higher among women who knows ECP (COR = 1.25, 95% CI; 1.10, 3.32) than who knows IUD. And women who used ECP as a contraceptive method before are 1.85 time more likely to use contraceptive method (COR = 1.85, 95% CI; 1.20, 4.33).

The odds of contraceptive use among women who used contraceptive method only for less than three months is 2.25 times more than who used contraceptive method more than a year (COR = 2.25, 95% CI; 1.85, 4.35). Those who used condoms before as a contraceptive method are 3 times more likely to use contraceptive methods again but was not found to be statically significant (COR = 3.18, 95% CI; 0.26, 6.47). Although knowledge about use of contraceptive methods are not associated with contraceptive use.

Variable	Abortion patient	Contraceptive clients	COR	95%CI
How did you get the information				
Mass media	100	250	0.66	0.24-2.10
Health center	25	25	1.67*	1.20-3.70
School	5	5	1.67	0.17-3.50
Friends	60	100	1.00	
Types of contraceptive method do you know				
Condoms	185	375	1.72	0.33-5.10
ECP	118	320	1.25*	1.10-3.32
OCP	167	365	1.60	0.82-4.10
Injectable	120	304	1.37	0.92-2.51
Implant	105	283	1.29	0.91-3.32
IUD	95	332	1.00	
What is the use of contraceptives				
Prevent pregnancy	175	380	1.02	0.85-3.33
Protection from STIs	95	225	1.00	
What type of contraceptive method did you used				
Condoms	110	334	3.18	0.26-6.47
ECP	10	52	1.85*	1.20-4.33
OCP	80	255	3.43	0.85-6.33
Injectable	42	114	3.5	0.62-6.82
Others (Implant and IUD)	3	29	1.00	
For how long did you used				
< 3 months	20	44	2.25*	1.85-4.35
3 - 6 months	32	60	2.65	0.80-4.10
6 - 12 months	45	90	2.48	0.75-5.61
> 12 months	35	174	1.00	

Women who heard about the permanent side effects of contraceptives (COR = 3.87, 95% CI; 1.25, 7.28) are more likely to use contraceptive than who experienced it. Switching contraceptive method is slightly decrease contraceptive use (COR = 0.78, 95% CI; 0.66, 0.92). And women who stated that the core factor for contraceptive use is knowledge are slightly higher to use contraceptive than their counter parts (COR = 1.27, 95% CI; 1.05, 3.05).

Women who declared that contraceptive use decrease sexual pleasure are 5 times more likely to use contraceptive methods than their counter part but it was not found to be statically significant (COR = 05.16, 95% CI; 0.27, 8.50). But thought about contraceptives permanent side effect, money hinder contraceptive use, pleased with available contraceptive were not associated with contraceptive use.

Variables	Abortion patients	Contraceptive clients	COR	95%CI
Do contraceptives decrease sexual pleasure				
Yes	98	65	5.16	0.27-8.50
No	92	315	1.00	
Do contraceptives have permanent side/negative effect				
Yes	168	100	11.3	0.63-23.1
No	22	280	1.00	
From where you got the information				
Heard	135	53	3.87*	1.25-7.28
Saw	10	12	1.26	0.77-3.15
Experienced	23	35	1.00	
Does money hindered contraceptive use				
Yes	183	365	1.07	0.36-2.87
No	7	15	1.00	
Pleased with the available contraceptives				
Yes	76	350	0.08	0.03-1.23
No	114	40	1.00	
Have you ever switched contraceptive methods before				
Yes	25	85	0.78*	0.66-0.92
No	107	283	1.00	
Core factor to get contraceptive method				
Knowledge	177	369	1.27*	1.05-3.08
Partner pressure	3	3	0.80	0.30-1.50
Accessibility and affordability	10	8	1.00	

Women who discuss contraceptive use with their partner are less likely to use contraceptives than their counter parts (COR = 0.11, 95% CI; 0.02, 0.84). Women who think contraceptive use decrease sexual pleasure are more likely to use contraceptive but found to be statically not significant (COR = 2.97, 95% CI; 0.81, 5.52). And approval of contraceptive method by partner was not found to be associated with contraceptive use.

Variables	Abortion patients	Contraceptive clients	COR	95%CI
Discuss contraceptive methods with partner				
Yes	35	255	0.11*	0.02-0.84
No	155	125	1.00	
Does your partner approve contraceptive method use				
Yes	12	201	0.14	0.08-1.23
No	23	54	1.00	
Do your partner thinks contraceptive use decrease sexual pleasure				
Yes	20	79	2.97	0.81-5.52
No	15	176	1.00	

Contraceptive use was slightly higher among women who stated that contraceptive can be found in health center than who said shops (COR = 1.33, 95% CI; 1.10, 2.35). And women who are less than 30mins of the service providers are 1.4s more likely to use contraceptive than their counter parts (COR = 1.45, 95% CI; 1.06, 2.42). Women who said the hours of FP are not suitable are 5 times less to use contraceptives than their counter part but it was not found to be statically significant (COR = 0.18, 95% CI; 0.10, 1.33). But availability of the service, competency and friendliness of the provider, previous access of FP service were not associated with contraceptive.

Variables	Abortion patients	Contraceptive clients	COR	95%CI
Places where contraceptive can be found				
Pharmacies	125	40	1.50	0.50-2.85
Health centers	162	351	1.33*	1.10-2.35
Shops	18	52	1.00	
Are these services always available				
Yes	150	370	0.10	0.50-1.22
No	40	10	1.00	
How far are the service provides				
< 30 mins	122	210	1.45*	1.06-2.42
> 30 mins	68	170	1.00	
Have you accessed FP service				
Yes	85	358	0.05	0.03-1.58
No	105	2	1.00	
Did you find FP service helpful and approachable				
Yes	11	351	0.04	0.02-1.11
No	5	7	1.00	
Does the hours of FP service are not suitable				
Yes	8	302	0.18	0.10-1.33
No	8	15.7	1.00	
Do you think service providers competent and friendly				
Yes	5	295	0.09	0.03-1.52
No	11	63	1.00	

Women who mentioned religion act as a barrier are slightly lower to use contraceptive methods than their counter parts (OR = 0.87, 95%CI = 0.72-0.98). The odds of contraceptive use is 6 times higher among woman who stated that cultural aspects hinders contraceptive use than their counterparts although it was not statically significant (COR = 6.08, 95% CI; 0.96, 11.23). Societal stigmatization and discrimination were not associated with contraceptive use.

Variables	Abortion patients	Contraceptive clients	COR	95%CI
Do cultural aspects hinder contraceptive use				
Yes	3	1	6.08	0.96-11.23
No	187	379	1.00	
Contraceptive users stigmatized by the society				
Yes	132	254	1.13	0.53-3.01
No	58	126	1.00	
Religion act as a barrier to use contraceptive				
Yes	11	25	0.87*	0.72-0.98
No	179	355	1.00	

Multivariate analysis: Factors independently associated contraceptive use

To identify independent predictors of contraceptive use, a multivariate logistic regression model was fitted with the variable having a p-value, 0.05 in the bivariate analysis. So, some variables remained independent predictors for the occurrence of TB after controlling for the other factors. From these factors, being married is increase contraceptive use compared to single women (AOR = 3.35; 95% CI: 1.18, 6.74). Women who switched contraceptive methods before were less likely to use contraceptive methods (AOR = 0.61; 95% CI: 0.45, 0.89; P, 0.001). Source of information, heard, about side effect (AOR = 2.75; 95% CI: 1.56, 4.92) are 2.75 times more likely to use contraceptives than experienced or saw it on others. Study subjects who stated contraceptives can be found from health centers are 1.65 times more to use contraceptive method (AOR = 1.65; 95% CI: 1.24, 3.15; P, 0.02).

Variables	COR (95%CI)	P-value	AOR (95%CI)	P-value
Switched contraceptive method before				
Yes	0.78 (0.66,0.92)	< 0.0001	0.61 (0.45-0.89)	0.001
No	1		1	
Places where contraceptive can be found				
Health center	1.33 (1.10-2.35)	0.02	1.65 (1.24-3.15)	0.02
Other (shop, pharmacies)	1		1	
From where you got the information about side effect				
Heard	3.87 (1.25,7.28)	0.011	2.75 (1.56-4.92)	< 0.001
Other (saw, experience)	1		1	
Marital status				
Married	2.36 (1.25-4.35)	0.006	3.35 (1.18-6.74)	< 0.0001
Unmarried	1		1	

Qualitative part

The majority of in-depth interview participants have reported that girlfriends and sometimes partners are mostly accompany those women who came to hospitals seeking abortion care service. On related note some women come only by themselves. And most women stated that unplanned sex and partner pressure are the core factors for unwanted pregnancy. The main reason why most abortion patient did not use contraceptives as stated by the health professionals are fear of side effects, stigma, fear it reduce sexual pleasure, partner pressure. Some also noted lack of adequate knowledge and unplanned sex are their reasons. And after the abortion procedure almost all choose contraceptive methods, injectable are mostly selected by the patients.

As declared by most of the in-depth interview participants, 90% of the patients did not have full or adequate knowledge about contraceptive and mostly this happen because they get the information from their friends not from health centers or hospitals. The price of contraceptives are affordable even its free service.

Abortion patients have the following negative perception in mind, some contraceptive like of IUD and Implant can cause infertility, and injectable causes period irregularity and more than three fourth the patients also think that those negative effect are real can also occur to them. Most of the reason cited by the patients according to the health professionals is side effects. On related note timing of contraceptive use are also another core factor to switch contraceptive. The possible reason to stop contraceptive use are side effect, negligence and plan to get pregnant.

Discussion

Most contraceptive methods, if used correctly and every time, they are 98% effective to reduce unwanted pregnancy. The impact is greater (closer to > 99%) when women use long time acting contraceptive methods like of IUCD and Implant. Nowadays contraceptives are available in health centers, hospitals and private clinics without any fee [3].

This case-control study has identified several determinant factors for the contraceptive use among women who came for abortion care service and FP in Addis Ababa. Age, occupation, types of contraceptive method use and know, duration of previous contraceptive used were factors for contraceptive use in this setting. Women who have heard about side effects from other sources, discuss contraceptive methods with partner, mention religion act as barrier were also associated with contraceptive use.

Studies demonstrated that previous usage of ECP is associated with increased contraceptive use. But in this study previous usage of ECP showed some degree of association with contraceptive use in bivariate analysis, but it did not have an independent effect on the occurrence contraceptive use in multivariate analysis when adjusted for other variables. This could be due to that if they are sure that they will not get pregnant using ECP after unprotected sex they will care less to use contraceptives during or before sexual intercourse.

Other independent predictors of contraceptive use were switching contraceptive use, woman who switched contraceptive method have high risk to stop using contraceptive than their counterparts and knowledge from where to get contraceptive method. It is consistent with study done in India. This suggests that most woman switch contraceptive because of side effects they will stop using contraceptive method if they face another side effect than.

In a case-control study in Sweden the most common used contraceptive is OCs by both groups, whereas in this study condom is most frequently used by both groups. Most of the abortion patients here are afraid to utilize contraceptive from the health center due to stigma and shame, this may lead them to use condom which is easily found everywhere. Woman in abortion group tended to have a poor economic situation, the opposite is true here, most cases tended to have high economic situation. This is maybe related to the mean age group, most of the controls are students while the cases are merchant and governmental or nongovernmental by occupation [9].

Conclusion

Women related, partner related and social and service related factors were found to be important factors of contraceptive use.

In the in depth interview the participants pointed out that women and partner related factors are core reason to get contraceptives.

Almost 69% of the cases used contraceptives before.

According to the in-depth interview result fear of side effect is the core reason to withdraw contraceptive use.

Almost half of the cases and 80% of the controls correctly identify long acting contraceptive methods as a way to prevent pregnancy while > 97% of them correctly identify condoms as a way to prevent pregnancy.

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