Original article

Knowledge, practice, and impact of family planning among pregnant women at Woreda 23 Health Center

Wassihun Melaku Belay

Abstract: A cross-sectional study to assess the knowledge, practice, and impact of family planning among pregnant women attending ante-natal care services at Woreda 23 Health Center in Addis Ababa was conducted. To collect data from the study subjects, a structured questionnaire was developed and administered to 369 pregnant women who were selected systematically during December 1998 and July 1999. Results of the study indicated a very high degree of knowledge of contraception among respondents. Among eleven contraceptive methods named, injectables ranked as second most frequently used following pills. The proportion of unintended pregnancies admitted among the interviewees was 30.1% (111). The likelihood of getting unintended pregnancies was observed to be higher among women who had been using contraceptive methods (OR=1.78 with 95% CI 1.13, 2.79) than those who had not. Of all unintended pregnancies, 39.6% (44) and 18.9% (21) were reported to have occurred in association with using contraceptive methods and in relation to poor quality of family planning services, respectively. This study has indicated the need for intervention to improve the quality of family planning services in the study area. Needed interventions may include distribution of learning materials on available methods, expansion of services through CBDs, training opportunities for health workers, and conducting studies to explore innovative approaches. [*Ethiop. J. Health Dev.* 2000;14(2):207-214]

Introduction

"Family planning can be broadly defined as controlling births, bringing about wanted births, regulating the interval between births, ensuring that births occur at the best time in relation to the age of the mothers (preventing or reducing the number of pregnancies for women under 20 and over 35 years of age) and determining the number of children in the family" (1). Each of these objectives could be chosen by the clients themselves, as long as they are very well informed about all the available methods, and decide on controlling their fertility. Although clients need for contraceptives use differ, all of them, however, boil down to fertility control, the core of family planning around which all the above mentioned objectives revolve.

Zone Two Health Department, P.O. Box 12790, Addis Ababa, Ethiopia

The outcomes of fertility control (such as postponement of pregnancy, spacing, and avoiding of pregnancy) are measured, in the society at large, using indicators that take users as units of measurements. The number of new acceptors, the number of continuous users, and contraceptive prevalence rate are among the most common of these measurements (2). Whereas these indicators measure the success of family planning programs from the perspectives of fertility control, and since most studies focus on users and potential users, in this study attention has been paid to pregnant women who conceive consciously after they meet one of their needs for contraceptives. Thus, pregnant women, as outcomes of family planning, could serve as a study population to measure and assess indirectly the quality of family planning services/programs. It is when the needs of clients are considered that, as Carlos Huezo and Soledad Diaz pointed out, providers and programs change their behavior

and goals respectively, so that quality of care is attained (3). Improvements in quality of services then will result in larger and more committed clientele of satisfied contraceptive users and, over time, translate into higher contraceptive prevalence and, ultimately, reduction in fertility (4). In communities where practices of family planning are deeply rooted, patterns of pregnancies observed in the majority of family planning users should be pregnancies conceived as a result of clients' decisions. In realty, however, this is not the case at all. No matter how such patterns of pregnancies are diluted in the general population, in Addis Ababa, for example, where contraceptive prevalence rate is 41.6% (4), the composition of women conceiving fall to be either, those who have intended to have so or the other way round. Both groups, however, could serve as study subjects to assess the knowledge, practices and impacts of family planning programs and/or services of a particular health institution.

Woreda 23 Health Center is one of the health institutions in Zone Two of Addis Ababa where maternal health services have been rendered since 1988, the year it was established. In all working hours of the week, it is common to observe the health center overwhelmed by clients for these services.

This study was conducted at Wereda 23 Health Center to assess whether pregnant women who visit the health center have actually benefited and/or experienced undesirable impacts as they sought family planning services.

This study, therefore, attempts to provide information on the knowledge, practices and impacts of family planning programs among pregnant women attending ante-natal care services.

Attempts were also made to explore such impacts of family planning as patterns of ante-natal care practices and the proportion of unintended pregnancies that occurred in association with contraceptives used.

Methods

This study was carried out in Woreda 23 Health Center in Addis Ababa during the period of December 1998 and July 1999. Woreda 23 Health Center is located in Zone Two and had a catchment population of 271, 661 at the time. The total number of pregnant women expected from this population was estimated to be 4,897. Of this number, a target of 3720 were planned as new clients. In the action plan of the health center, however, the planned total number of pregnant women to be provided with ANC services for 1998/99 was 11,160. This was because it was expected to have 7,440 repeat visits in addition to the new clients.

The design of the study was a cross-sectional one and subjects were selected with a systematic random sampling method. Subjects were recruited into the study during two periods. The first group of patients were included in December 1998 and the second in July 1999. The rationale for such a selection scheme was to increase the chance of selecting enough sample that encompasses subjects in different trimesters of their pregnancy.

One subject was randomly selected out of every three attendants, using the daily registry as a sampling frame, until the pre-determined sample size of 369 women were interviewed based on the determined (based on the method adopted by Fredrick Kuder (5).

A structured questionnaire was administered in Amharic to assess pregnant women's knowledge, practice and impact of family planning. Two enumerators and one supervisor conducted the interview.

The instrument used to collect the data was a pre-tested questionnaire in Amharic, the official as well as the local language.

The interviews, were conducted during the mornings of each working day. Informed consent was obtained from the respondents by giving brief explanation about the purpose of

the interview just before they entered for examination.

Before entering the data, the questionnaire was checked for completeness and consistencies by the supervisor. The data were then processed using EPI-INFO (Version 5) statistical software. Both descriptive and analytic methods were used for analysis and presentation of data.

Results

A total of 369 pregnant women participated in the study. Socio-demographic characteristics of the respondents as indicated in Table 1, showed that 79.9% of the respondents have attended at least elementary school. The mean age of the interviewed women was 26.2 years (with a range of 15 to 39 years) and the median age was 27 years.

Table 1: **Distribution of pregnant women by socio-demographic characteristics, Wereda 23 Health Center, Addis Ababa, July 1999.**

Characteristics	number (n=369)	%
Age distribution		
15-19	34	9.2
20-24	135	36.6
25-29	127	34.4
30-34	52	14.1
35-39	17	4.6
Not stated	4	1.1
Marital status		
Single	6	1.6
Married	341	92.4
Not stated	22	6.0
Educational level		
Illiterates	75	20.4
Primary education	82	22.2
Junior secondary educ.	47	12.7
Senior Second and above	165	44.7
Residence by woreda		
Woreda 23	182	49.3
Woreda 24	165	44.7
Other woredas	22	6.0

As indicated in Table 2, 95.7% of the respondents had heard about family planning. To assess the overall knowledge of contraception, they were further asked to name contraceptive methods they knew. Accordingly, the five most known methods to the respondents were pills (in 34.2% cases), injectables (in 27.2% cases), IUCD (in 11.9% cases), condoms (in 9.9% cases), Norplant (in 9.1% cases), and the rhythm method (in 4.2% cases). The range of contraceptive methods known by each education group varied from eleven by women with junior secondary level education to seven by illiterate women. Women with elementary level education knew nine types of methods while women with senior secondary level education knew ten types of methods.

Among the sources of information for family planning, friends, health institutions, and mass media were found to be the three major sources accounting for 31.9%, 30.4%, and 10.3%, respectively.

Regarding the use of contraceptive methods, about 50.1% of respondents reported that they had been using contraceptives, until their current pregnancy. As indicated in Table 3, of the 369 pregnant women interviewed about their ante-natal care practices, 123(33.4 %) reported, that they attended health facilities for ante-natal care services and follow- ups of all pregnancies they had. When this proportion was analyzed by educational status, women with high school education constituted the highest proportion (16.8%) while illiterate women were the lowest (4. 6%). Further analysis of patterns of ante-natal care practices in each educational group showed that the proportion of women who had visited health facilities for all pregnancies they had to be 37.5% for women with high school education, 44.4% for women with junior secondary education and 30.5% and 22.9% among women with elementary education and illiterates respectively.

The proportion of unintended pregnancies among ANC attendants was found to be 111 30.1% (Table 3). This proportion was higher 67 (36.2%) among women who had been users of family planning methods compared to those who were non-users 44 (23.9%) as shown in Table 4.

Table 2: **Knowledge and sources of information for family planning among pregnant women, by educational group, Woreda 23 Health Center, Addis Ababa, July 1999.**

Variables	Education of Women					
	High school and above	Junior secondary	Elementary	Illiterates	Total	%
Ever heard about family planning						
Yes	162	45	80	66	353	95.7
No	3	2	2	9	16	4.3
Actual sources of information about FP						
Friends	34	17	30	27	108	31.9
Health Inst.	41	15	25	22	103	30.4
Family	19	1	9	4	33	9.7
Media	17	7	9	2	35	10.3
School	27	3	3	0	33	9.7
No confirmed source	3	4	7	13	27	8.0
Proportion of FP users prior to the current pregnancy						
Yes	99	21	39	26	185	50.1
No	66	26	44	48	184	49.9
Known contraceptive methods (>1 answer possible) n=369						
Pills	150	35	61	49	295	34.2
Injectables	122	23	51	39	235	27.2
Loop	59	14	21	9	103	11.9
Condom	57	14	11	4	86	9.9
Period (calendar M).	33	1	1	1	36	4.2
Norplant	54	7	11	7	79	9.1
Foam tablets	8	1	2	2	13	1.5
Diaphragm	0	1	1	-	2	0.2
Breast feeding	1	1	-	2	4	0.5
Withdrawal	3	2	-	-	5	0.6
Tubal Ligation	3	1	1	-	5	0.6

Those women with unintended pregnancies were further asked to give reasons for their pregnancies. Accordingly, among the 111 un intended pregnancies, 20 (18%) were due to ill-practices of taking pils, while 22 (19.8%) were associated with the use of natural methods (rhythm/calender and lactation).

The proportion of unintended pregnancies attributed to factors related to contraception practices and non-access to well acquainted choices constituted 37.8% and 18.9%, respectively. This indirectly reflects negatively on the quality of service. Further analysis of the 111 unintended pregnancies among each educational group revealed that the highest percentage of unintended pregnancies (40.5%) was among women of high school education. In contrast, an increasing proportion of unintended pregnancies was observed as women's level of education decreased. Therefore, 13 (11.7%) of the unintended pregnancies were among women with junior secondary, 24 (21.6%) were among women with elementary education, and 29 (26.1%) were among illiterates.

The likelihood of getting unintended pregnancy was observed more in women who had been using contraceptive methods prior to their current pregnancy (OR=1.78 with 95% CI: 1.13, 2.79) than women who had not been using at all. Further analysis of the unintended pregnancies by educational categories showed that the occurrence rate was highest in illiterate women (OR=3.40 with 95% CI: 1.25, 9.14) followed by women with elementary schooling (OR = 3.27 with 95% CI: 1.19, 8.84) and in women with junior secondary education (OR=1.47 with 95% 0.41, 5.23). The lowest incidence was reported among women with

Table 3: **Patterns of ANC practices, and proportion of unintended pregnancies in association with contraceptive methods used and other factors among pregnant women by educational status, Woreda 23 Health Center, Addis Ababa, July 1999.**

Variables	Women's Education					
	High school & above	Junior secondary	Elementary	Illiterates	Total	%
Ante-natal care practices for						
All pregnancies*	62	19	25	17	123	33.4
Some pregnancies**	30	8	21	29	88	23.9
Current pregnancies***	73	20	36	29	155	42.7
Total	165(44.7%)	47(12.8%)	82(22.2%)	75(20.3%)	369	
Proportion of unintended pregnancies						
Unintended	45	13	24	29	111	30.1
Intended	120	34	59	45	258	69.9
Unintended pregnancies attributable to ineffective use of contraception:						
Modern methods (1)						
Pills	9	1	6	4	20	18
Injectables	-	-	1	1	2	1.8
Natural methods (2)						
Lactation	3	1	2	2	8	7.2
Coitus Interrupts	1	-	-	-	1	0.9
Rhythm/Calendar	12	-	1	-	13	11.7
Cum. total (1) + (2)	25	2	10	7	44	39.6
No informed choices	9	1	5	6	21	18.9
Lack of knowledge of FP	7	6	6	14	33	29.7
Socio cultural factors	4	4	3	2	13	11.7

* describes the proportion of women who visited health facilities for all pregnancies they had.
** describe the proportion of women who visited health facilities for more than one pregnancy but not for all pregnancies they had.
*** describe the proportion of women who visited the health center for their first pregnancy they came at the time of the study.

high school education' (OR=1.25 with 95% CI: 0.62, 2.72) as can be been in Table 4 below.

Discussion

A very high proportion of the subjects in the present study had formal education. This may because the study was done in Addis Ababa and it may also be because of the fact that the more educated are more likely to be clients of ante-natal care services. Similar patterns were also observed in earlier studies (4,6). This situation should be seen as a fertile ground for dissemination of information through print mass media and other modern teaching methods.

The extent of knowledge about contraceptives among ante-natal care attendants was also found to be very high (95.7%) compared to a study in 1993 where this proportion was only 61.9% (6). The present proportion was also slightly higher than the findings of the Fertility Survey in Urban Addis Ababa where it was between 91-98.6% (5).

Friends were reported as being the most important source of information about family planning services contrary to the findings of earlier studies (7,8). However, sources like the mass media and health education at health institutions were also found to be important. It would, therefore, be wise to include peer education/training as one of the strategies to disseminate information and knowledge about family planning programs.

Analysis of the overall knowledge of contraception in this study revealed that oral contraceptive pills were found to be the most popular method of contraception followed by injectables. While the finding about pills is consistent with other studies (2, 4, 7, 9), injectables ranked as the second method in this

Table 4: **Observed risk of unintended pregnancy among pregnant women who had been users and non-users of FP, Woreda 23 H. Center, Addis Ababa, July 1999.**

Whole study popn/Educational group	Users (U+) Non users (U-)	Unintended pregnancy Yes	No	OR 95% CI
The whole study	U^+	67	119	
population	NU^-	44	139	1.78 (1.13 - 2.79)
Illiterates	U^+	15	11	
	NU^-	14	35	3.40 (1.25 - 9.14)
Elementary	U^+	16	22	
	NU^-	8	36	3.27 (1.19 - 8.84)
Junior S.S	U^+	7	15	
	NU^-	6	19	1.47 (0.41 - 5.23)
High school	U^+	29	71	
	NU^-	16	49	1.25 (0.62 - 2.72)

study taking the place of IUD which had ranked as second in some earlier studies (2, 4), third and fourth in other earlier studies (4), and (6), respectively. Common complaints of users using IUD, that could be reasons for switching off the method, include, among other things, bleeding between periods and irregularity of menstrual cycles, fear of piercing and displacement of the device into other organs, etc. The shift of users to injectables might have occurred as a result of increased availability and its advantages: no daily pills; it is rather private, and because it does allow some flexibility in (return) visits.

The level of knowledge about condoms serving as methods of contraception was low among the present study subjects compared to findings of earlier studies (4, 6). This is surprising because condoms are highly advertised very well for the prevention of HIV, other STDs as well as for unwanted pregnancies. The difference in the types of contraceptive methods known between illiterate women and those with formal education was found to be very small. This indicates that knowledge of family planning has diffused very well among communities in Addis Ababa irrespective of educational differences.

On the other hand, relatively higher differential was observed in the utilization of antenatal care services between illiterate women and those with formal education. Women with better educational level seemed to have better opportunities in getting and understanding information with regard to the benefits of ante-natal care services. On the other hand, women with lower educational level and illiterates seemed to be at a disadvantaged position to have access to such information and, therefore, seemed to have benefited less.

A major finding of this study is the occurrence of unintended pregnancies in Addis Ababa where the availability of family planning services are much better than in the rest of the country. While in the latter context, the reasons for unwanted pregnancies are either unavailability of family planning services within reach and/or the lack of awareness of the population about these services (11), it is surprising to observe the occurrence of unintended pregnancies that are mainly associated with contraceptive practices. Some of the reported reasons for such occurrences include forgetting, missing regular time for taking pills and discontinuation of taking pills when a partner/husband is off. With regard to natural methods such practices as inconsistent use of rhythm/calender and lactational methods coupled with lacking self control, carefulness, knowledge, and practices of using other (available) methods in combination, were the major practical factors presented. This is an indirect indication for the failure of family planning programs to design strategies that

would enable clients to properly use contraceptive methods. Such a finding is also in agreement with earlier studies (6, 9, 10). In addition, such occurrences of unintended pregnancies in relation to contraceptive practices reflect partly, as Bruce said, the public's expanded knowledge of contraceptives has not been parallelled by their knowledge of safe and effective use (3).

This situation, therefore, calls for serious attention to investigate further the quality of family planning services/programs to minimize the occurrence of such unintended pregnancies in association with contraceptives used among users.

The other interesting finding of this study that could also indirectly indicate the level of quality of family planning services was the proportion of unintended pregnancies that resulted because of the lack of informed choices. The major reasons given for unintended pregnancies by the respondents could have been mitigated had users been provided with proper information on available methods and their side effects. This finding is in agreement with earlier studies that indicated the low level of sympathy and poor counselling given to clients (6, 10, 12, 13). In Addis Ababa, where availability of a wider array of methods is not a problem, such a finding that indicates the lack of the fundamental elements of quality of services (lack of informed choice), entails to intervene and evaluate family planning services.

This study has also shown unintended pregnancies associated with natural methods (in particular with the calendar method) as being higher among women with high school education than others. This could be, perhaps, because women in this educational group have only patchy knowledge about the techniques of the rhythm method. This, however, indicates the need for women to be informed of other available methods which could be used in combination to increase their effectiveness.

Strengthening of the Community-Based Distribution (CBD) strategies in Addis Ababa would also enable to reach low socio-economic status women whose knowledge of family planning programs might also be relatively poor.

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