

Intention to use long acting contraceptive methods and associated factors among women currently using short acting contraceptive methods in Gondar city, northwest Ethiopia: using the theory of planned behavior.

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Research note

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Abstract

Objective Despite its effectiveness, the intention and utilization of long acting contraceptive methods is very low in many developing countries and the use of long acting contraceptive methods has not kept in pace with that of short-acting methods such as, oral contraceptives and injectables.

Result The magnitude of intention to use long acting contraceptive methods was 39.8%. Intention to use long acting contraceptive methods was higher for women whose husbands were farmers when compared to women whose husbands were government employees ($\beta = 0.49$, 95% CI: 0.41, 0.72). Number of children wanted ($\beta = -0.19$, 95%CI: -0.28, -0.1), attitude ($\beta = 0.34$, CI: 0.23, 0.46), subjective norm ($\beta = 0.19$, 95%CI: 0.12, 0.27) and perceived behavioral control ($\beta = 0.18$, 95%CI: 0.06, 0.3) were factors significantly associated with intention to use long acting contraceptive methods. Intention to use long acting contraceptive methods was low. Interventions that focus on women's attitude towards long acting contraceptive methods and support group, peer education, social mobilization and persuasive communication could promote intention to use long acting contraceptive methods.

Introduction

Family planning can prevent at least 25 percent of all maternal deaths by allowing women to delay motherhood, prevent unintended pregnancies, and avoid unsafe abortions. It also protects women from sexually transmitted infections, including HIV/AIDS[1].

In many sub-Saharan African countries, long acting contraceptive methods practice have lowest rates and is sometimes missing component of national family planning programs [2]. For example, in Kenya, the contraceptive prevalence rate (CPR) increased from 17% in 1984 to 19% in 2003. Despite its increase, a decreasing proportion (from 31–2%) of Intra Uterine Device (IUD) use in the national method mix had been documented. Also in Guatemala even if contraceptive prevalence rate increased ,decreasing proportion of IUD use in the method mix had been reported [3].

In Ethiopia, the contraceptive prevalence rate at national level has quadrupled from 6% in 2000 to 27% in 2011. But as most sub-Saharan African countries like Malawi and Rwanda, diversifying the method mix is still a big challenge. Injectables predominate, accounting for 76% of modern method use [4], where as long acting contraceptive methods (LACMs) contribute only 4.2%. Implant 3.4%, intrauterine device (IUD) 0.3%. Unmet need for family planning is 25% and 22% for Ethiopia and Amhara Regional State, respectively [1].

Over long term, LARC methods are 20 times more effective than short term contraceptives [5].If only one of five sub-Saharan African women now using pills or injectables were to switch to an implant, more than 1.8 million unintended pregnancies would be averted in 5 years, resulting in almost 600,000 fewer abortions and 10,000 fewer maternal deaths[6].

Currently, the Ministry of Health (MoH) has been giving due attention for expansion of LACMs. To achieve this goal, MoH has practiced the task shift, which enabled the Health Extension Workers to provide Implant at community level and the scale-up of Intrauterine Contraceptive Devices was initiated in more than 100 district hospitals and permanent contraceptive method at selected health centers and hospitals [7]. However, the contraceptive prevalence rate is still highly dependent on short-term family planning methods with low utilization of LACMs and unmet need for family planning is still high for spacing births (16%) and limiting (9%) [1].

Since intention is the best predictor of behavior (utilization of LACMs), this study assessed the intention to use long acting contraceptive methods and identify factors affecting it among short acting contraceptive users using the theory of planned behavior. Results from this study will help in developing evidence based LACMS health promotion programs.

Methods

Study design and period

Institution based cross sectional study was conducted from March to April, 2017.

Sample size and Sampling procedure

Sample size was determined by single population proportion formula using EPI INFO stat calc program with the assumption of population size 154,767, 95% level of confidence, 4% of marginal error, and taking proportion of intention to use long acting contraceptives, Implants 71.3%, IUCD 24.0% [23]. Considering 5 % non-response rate, the final sample size became 519. The study participants were selected by using systematic random sampling technique and the sampling interval was 2.

Data collection instruments and procedures

Data were collected using a pre-tested, structured questionnaire having two parts. In the first section information about socio-demographic, economic and reproductive history was collected. In the second section, the theoretical constructs were measured. The number of questions for each construct varied between three and ten. Forty-four items of Theory of Planned Behavior (TPB) constructs were assessed on a 5- point Likert scale and they were scored into respective constructs for analysis. Since most women are not familiar with the phrase, long acting contraceptive methods, it was defined in the questioner as long acting contraceptive methods are methods that are used for three and above three years, IUCD and implant. The questionnaire was initially prepared in English and translated in to Amharic (the official language fluently spoken by all participants) and again translated back to English to check for any inconsistencies or distortions in the meaning of words and concepts. The reliability of the tool was checked using Cronbach's alpha reliability test with a score of 0.82 (95% CI 0.801-0.837).

Operational definitions:

Intention: Intent to use IUCD or implant within one year.

Attitude: The women's overall evaluation of the benefits and risk of long acting contraceptives.

Subjective norm: Women own assessment of the social pressure to use or not to use long acting contraceptive and her motivation to comply.

Short term contraceptives: Pills and depo provera injection that are taken on a daily basis and every three months.

Results

Demographic, socioeconomic characteristics information of the Participants

A total of 519 women of short-acting contraceptive users participated in this study with 99.2% response rate. The respondents' age ranged from 15 - 48 years with the mean age of 26.77 (SD±6.1) years. One hundred sixty-two (31.5%) participants were in the age category of 25 - 29. From the study participants 453 (88%) were married. Majority of the women 468 (90.9%) were Orthodox Christians and 478 (92.8%) women were Amhara by ethnicity.

Concerning educational status, 167 (32.4%) of the respondents were unable to read and write at all and 124(27.4%) of their husbands were unable to read and write. Regarding occupation of the respondents 250 (48.5%) were housewives. The median monthly income of the respondents was \$74 (Table 1).

Table 1: socio demographic and economic characteristics of short acting contraceptive user women in Gondar city, Northwest Ethiopia, April 2017.

Characteristic		Freq.	Percent
Age category	15-19	83	16.1
	20-24	113	21.9
	25-29	162	31.5
	30 – 34	110	21.4
	35 – 49	47	9.1
Marital status	Married	453	88.0
	Single	62	12.0
Religion	Orthodox	468	90.9
	Muslim	35	6.8
	Protestant	12	2.3
Ethnicity	Amhara	478	92.8
	Tigray	19	3.7
	Others	18	3.5
Residence	Rural	122	23.7
	Urban	393	76.3
Education	can't read and write	167	32.4
	1-4th grade	45	8.7
	5- 8th grade	95	18.4
	9 - 12th grade	135	26.2
	12+	73	14.2
Occupation	House wife	250	48.5
	Government employee	41	8.0
	Self employed	96	18.6
	Daily laborer	52	10.1
	Farmer	14	2.7
	Student	59	11.5
	Other	3	.6

Husband's education	can't read and write	124	27.4
	1-4th grade	41	9.1
	5- 8th grade	72	15.9
	9 - 12th grade	82	18.1
	12+	134	29.6
	Total	453	100
Husband's Occupation	Government employee	93	20.5
	Self employed	168	37.1
	Daily laborer	73	16.1
	Farmer	99	21.9
	Student	19	4.2
	Other	1	0.2
	Total	453	100
Income Category	< 750 Birr	49	9.5
	750 – 1500	105	20.4
	1500 – 2250	137	26.6
	2250 – 3000	100	22.3
	> 3000	58	11.3
	I don't know	66	12.8

Intention to use long acting contraceptive methods

Intention to use LACMs was 39.8%. One hundred sixty-five (32.1 %) of the women agreed they would make an effort to use LACMs and 12.2% were not sure if they would make an effort to use LACMs.

Attitude wise, about 213 (41.4%) participants believed that using LACMs is unpleasant. About 174 (33.8%) of the participants opposed that using LACMs would help them work effectively. Nearly 181(39.7%) of the participants replied that using LACMs wouldn't not help them to have satisfying relationship with their husbands. About 213 (41.4%) of the women agreed using LACMs would subject them to different problems.

With regard to subjective norm, about 214 (41.6%) of the women answered that most people who are important to them think that they should not use LACMs. Two hundred twenty-three (43.3%) of the respondents disagreed that most people whose opinions they valued would approve of their using LACMs.

Concerning perceived behavioral control, about 262 (50.9%) of the respondents replied that it is difficult for them to use LACMs and 132 (29.7%) of them answered that it is easy for them to use it. Two hundred ninety-four (57.1%) of the women were confident that if they wanted to, they could use LACMs within one year. Nearly 360(69.9%) of the women answered that it is possible to use LACMs (Table 2).

Table 2. Intention to use long acting contraceptive methods among short acting contraceptive user women in Gondar city, northwest Ethiopia, March 19 to April 19, 2017.

Variables		Count	N %
Subjective Norm			
Most people who are important to me think that I should use LACMs			
	Very Unlikely	113	21.9
	Unlikely	214	41.6
	Uncertain	97	18.8
	Likely	80	15.5
	Very likely	11	2.1
Attitude towards LACM			
To use LACMs is			
	Very Harmful	26	5.0
	Harmful	195	37.9
	Not sure	103	20.0
	Beneficiary	176	34.2
	Very Beneficiary	15	2.9
To use LACMs is			
	Extremely worthless	5	1.0
	Worthless	73	14.2
	Not sure	85	16.5
	Valuable	331	64.3
	Extremely valuable	21	4.1
To use LACMs is			
	Extremely unpleasant	46	8.9
	Unpleasant	213	41.4
	Not sure	144	28.0
	Pleasant	104	20.2
	Extremely pleasant	8	1.6
Perceived Behavioral Control			
For me to use LACMs is			
	Extremely difficult	40	7.8
	Difficult	262	50.9

	Not sure	60	11.7
	Easy	137	26.6
	Extremely Easy	16	3.1
I am confident that if I wanted to I could use LACMs in 1 yr	Definitely false	16	3.1
	False	85	16.5
	Not sure	92	17.9
	True	294	57.1
	Definitely True	28	5.4
<hr/>			
To use LACMs is	Extremely impossible	14	2.7
	Possible	73	14.2
	Not sure	48	9.3
	Possible	360	69.9
	Extremely Possible	20	3.9
<hr/>			
Normative Belief			
<hr/>			
Health professionals think I better use LACMs	Very Unlikely	8	1.6
	Unlikely	24	4.7
	Uncertain	63	12.2
	Likely	243	47.2
	Very likely	177	34.4
<hr/>			
My parents think that I should use LACMs	Very Unlikely	99	19.2
	Unlikely	137	26.6
	Uncertain	191	37.1
	Likely	77	15.0
	Very likely	11	2.1
<hr/>			
My close friends think that I should use LACMs	Very Unlikely	68	13.2
	Unlikely	190	36.9
	Uncertain	143	27.8
	Likely	107	20.8

	Very likely	7	1.4
My relatives think I should use LACMs	Very Unlikely	60	11.7
	Unlikely	171	33.2
	Uncertain	209	40.6
	Likely	70	13.6
	Very likely	5	1.0
My husband thinks I should use LACMs	Very Unlikely	138	30.3
	Unlikely	165	36.2
	Uncertain	54	11.8
	Likely	76	16.7
	Very likely	23	5.0

Factors affecting intention to use long acting contraceptive methods

The score on intention to use LACMs increased by 0.34 for every unit increase in score of attitudes ($\beta=0.34$, CI: 0.23, 0.46). For every unit increase in the score of subjective norms, the score of intention to use LACMs increased by 0.19 ($\beta=0.19$, 95%CI: 0.12, 0.27). For every unit increase in the score of perceived behavioral control the score of intention to use LACMs increased by 0.18 ($\beta=0.18$, 95%CI: 0.06, 0.3).

For women whose husbands were farmers, the score of intention to use LACMs increased by 0.43 when compared to women whose husbands were government employees ($\beta=0.49$, 95% CI: 0.41, 0.72). For every unit increase in number of children wanted in the future, the score of intention to use LACMs decreased by 0.19 ($\beta=-0.19$, 95%CI: -0.28, -0.1) (Table 3).

Table 3: Factors associated with intention to use LACMs among short acting contraceptive user women in Gondar city, North West Ethiopia, March 19 to April 19, 2017.

Variables	β	95% CI
Constant	-2.31	(-3.03, -1.6)
Occupation		
House wife	0	
Government employee	-.061	(-0.42, 0.30)
Self-employed	.109	(-0.15, 0.37)
Laborers	-.033	(-0.37, 0.30)
Farmers	-.255	(-0.74, 0.23)
Student	.477	(-0.04, 0.99)
Others	-.050	(-1.2, 1.11)
Husband occupation		
Government employee	0	
Self-employed	.102	(-0.15, 0.35)
Laborer	.098	(-0.22, 0.41)
Farmer	.430**	(0.14, 0.72)
Student	-.042	(-1.0, 0.93)
No of children wanted	-.186*	(-0.28, -0.1)
Attitude	.343*	(0.23, 0.46)
Subjective norm	.194*	(0.12, 0.27)
Perceived behavioral control	.183**	(0.06, 0.30)

** p value<0.005, *p value<0.0001, R²=40.1%

0=reference category

Discussion

The overall magnitude of intention to use LACMs within one year was 39.8% (95%CI: 35.7, 44.3). This result was in line with the study done in Wolaita which was 38%[20]. But it was slightly lower than the study done in Adigrat which was 48.6%[8]. The difference could be due to disparities in the study settings and myths and misconceptions on long acting contraceptive methods.

In this study attitude, subjective norm, and PBC were statistically significant factors of intention to use long acting contraceptive methods. These results support Ajzen's theoretical assumptions[23]. The more women have positive attitude, believe that people around them would approve of their actions and believe that they have a high degree of control over using IUCD and implant, the greater will be their intention to use LACMS.

Attitude plays the most important role in predicting women's intention to use LACMs. For each unit increase in score of attitudes, score of intention to use LACMs increased by 0.34. Also the study in Wolaita, Ethiopia documented that those women who had positive attitude had higher intention to use LACMs than women who had negative attitude[20]. Most of the women thought using these methods would subject them to different problem and they thought it wouldn't allow them to effectively carryout their daily activities hence in fear of the perceived side effects they didn't intend to use LACMs.

Subjective norm ($B = 0.19$, 95%CI: 0.12, 0.27) denotes that women felt significantly the social pressure from others. According to the interviews there was high pressure exerted mainly by spouses, relatives, and friends which didn't favor intention to use long acting contraceptive methods. Even if 81.1% of the respondents perceived health professionals want them to use LACMs, they didn't think relatives (44.9%), husbands (66.5%) and close friends (50.1%) would want them to use LACMs. This might be the reason why regardless of health professionals' effort women failed to intend to use LACMs.

A unit increase in score of perceived behavioral control decreased the score of intention by 0.18. Three hundred twenty-two (62.5%) of the respondents agreed that if they wanted to use, they could use LACMs. This means that if they wanted to use LACMs, there was no barrier that could stop them from using LACMs. But 302(58.7%) of the women agreed using LACMs was difficult for them. This might be due to fear of pain during insertion of implant or IUCD.

Number of children wanted was also significant ($\beta = -0.19$, 95%CI: -0.28, -0.1). As number of children wanted increase by a unit, the score of intention to use LACMs decreased by 0.19. This finding was supported by the study done in Adigrat[8]. If they had a plan to conceive soon, they preferred short acting contraceptive methods. It might also be due to fear of side effects and the misconceptions that LACMs could harm the womb and cause infertility after the use of LACMs.

Conclusion

Intention to use LACMs was low. Attitude, subjective norm, perceived behavioral control, number of children wanted in the future, and husbands' occupations were factors significantly associated with intention to use LACMs. Therefore, Programs aimed at increasing LACMs utilization need to address these identified factors of LACMS against users of short acting contraceptive methods.

Limitation Of The Study

Social desirability bias was the limitation of the study because respondents perceived intending to use LACMs is expected of them. Therefore, there is some potential for reporting bias which may have occurred because of the respondents' interpretation of the questions or desire to report their emotions in a certain way or simply because of inaccuracies of responses.

Abbreviations

BI	Behavioral Intention
CPR	Contraceptive Prevalence Rate
EDHS	Ethiopian Demographic Health Survey
FP	Family Planning
HC	Health Center
IUD	Intra Uterine Device
LAPMs	Long Acting and Permanent Contraceptive Methods
LACMs	Long Acting Contraceptive Methods
MoH	Ministry of Health
PBC	Perceived Behavioral Control
RH	Reproductive Health
SPSS	Statistical Package for Social Sciences
SSA	Sub- Saharan Africa
TPB	Theory of Planned Behavior
WHO	World Health Organization

Declarations

Ethical Approval and consent to participate

Ethical clearance was obtained from Ethical review committee of Institute of public health, University of Gondar. All methods were performed in accordance with the relevant guidelines and regulations. Permission to conduct the research was obtained from Gondar city administration. Written Informed consent was obtained from respondents who were selected to participate in the study after explaining the purpose of the study and consent was obtained from the parents of minor study participants (15 years old).

Consent for Publication

Not applicable

Availability of data and material

All data and material related to this article will be made available upon request

Competing Interests

The authors have declared that no competing interests exist.

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Author contributions

RB conceived and designed the idea, analyzed the data. RB and AN wrote and critically reviewed the manuscript. All authors read and approved the final draft of manuscript.

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Endnotes

^a Keble is the smallest administrative unit of the Federal Democratic Republic of Ethiopia.

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