

Effect of Emergency Contraceptive Pill Use on Condom Utilization Among University Students in Nekemte Town, Western Ethiopia: A Cross-Sectional Study

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Abstract

Background: Emergency contraceptive pill (ECP) is a type of hormonal contraceptives which prevents unplanned pregnancy, but not sexually transmitted infections (STIs). Besides, its impact on condom utilization is not known among female university students in Nekemte town. Thus, this study was aimed to assess the awareness and attitude of university students on the use of ECP and its impact on condom utilization.

Methods: An institution-based cross-sectional study was conducted on 400 female students in three private universities in Nekemte town from February 1 to 29, 2016. A simple random sampling, after proportional size allocation to respective study settings, was used to select student participants. Among the 400 randomly selected participants, 381 have completed and returned the questionnaire with 95.25% response rate. Data were collected by using self-administered questionnaire and entered into EpiData 3.1, and analyzed by using SPSS version 20. Bivariate and multivariate analysis were performed to determine the effects of ECP use on condom utilization with statistical significance set at P-value < 0.05.

Results: Nearly half (48.8%) of the students indicated that they had sexual intercourse before and heard of ECP. Moreover, 30% of the respondents reported that they used ECP. Majority (61.7%) showed willingness to use ECP. Furthermore, students who used ECP were 3 times less likely to use condoms when compared to those who never used ECP (AOR = 0.322, 95% CI 0.164, 0.632). Alternatively, students who believed ECP does not prevent STIs were 2 times more likely to use condoms when compared to those who believed ECP does prevent STIs (AOR= 2.217 95% CI 1.070, 4.593).

Conclusions: our findings identified that most students lack knowledge of ECP while having positive attitude on its use. On the other hand, ECP use imposes negative impact on condom utilization so that female students could be exposed to risky STIs.

Background

Emergency contraceptive pill (ECP) is a type of hormonal contraceptive which prevents pregnancy after unprotected sexual intercourse [1, 2]. The pill includes combined emergency contraceptive pills containing estrogen and progestin, and a progestin only pill, which contains only progesterone. It can prevent up to 99% of an unwanted pregnancy if it is used within 72 hours of unprotected sexual intercourse [3]. Unintended pregnancy is a global issue which gets a major public health focuses [4]. ECP plays a key role in decreasing the prevalence of unintended pregnancy and improving the wellbeing of women [5, 6]. Different studies reports demonstrated that ECP has a lion share in reducing maternal and infant mortality, and incidence of unwanted pregnancy [4, 5, 7].

According to the United Nations Population Division reports of 2012, 49% of women in the reproductive age group use modern contraceptive methods [7]. The report also showed that ECP is the third most commonly used hormonal contraceptive at global level and the first most commonly used hormonal contraceptive in sub-Saharan Africa [7, 8]. This is due to its availability on the over the counter (OTC)

from drug retailers, which also results in its overutilization and use as regular contraceptive among young females. However, ECP does not prevent sexually transmitted infections (STIs) including HIV/AIDS [6, 7]. United Nation's AIDS report showed that the HIV/AIDS epidemic has reached at crisis in a number of sub-Saharan countries, where women account for a large number among the infected [7, 9]. According to the 2011 Ethiopian Demographic Health Survey, HIV prevalence has been declining in the country (estimated at 1.9% in women and 1.0% in men). The survey also showed that prevalence of HIV/AIDS is being escalated with increase in the number of lifetime sexual partners [10].

Consistent condom use is critical to prevent STIs including HIV/AIDS. But, condom use may decline as relationships and contraceptive needs change [11]. According to the UNAIDS report, the level of condom use among married or cohabiting couples remain very low, regardless of the extent of the HIV/AIDS epidemic [7]. Low level of knowledge about the transmission and prevention of HIV/AIDS among youth was also a predictor of the reduction of condom use. Nonetheless, many studies have shown that youth do not consistently use condoms [7, 8, 12], which is the best protection method against STIs. Hence, females who use the ECP to prevent pregnancy should also use condoms to protect against STIs. In fact, one study has reported that females who use ECP do not necessarily consider using condoms for preventing STIs [8].

Since none of the contraceptive method is the best alone, it is better to use the combination of contraceptive methods for dual protection against STIs and unintended pregnancy. This dual protection includes the use of condom with ECP and other hormonal contraceptives; and intrauterine contraceptive device (IUCD). Condoms can effectively prevent both STIs and pregnancy if used consistently. But, they are associated with relatively higher pregnancy rates than other contraceptives for most users [13]. A study showed that OTC access to ECP led to an increase in STI rate as a result of an increased willingness to engage in risky sexual behaviors [14].

Even though different modern contraceptives are available in Ethiopia, the problem of unintended pregnancy and STIs still exists, which could be due to gap in knowledge and negative attitudes towards contraception [8]. As none of contraceptive method is 100% effective, ECP should be backed up with condoms. In one of the studies conducted among 368 female college students in Ethiopia, 84.2% had ever heard of ECP, 75% had ever used EC and 32.3% had a positive attitude towards it [15]. In another study among 660 university students 6.4% had history of STIs and 67% had heard about emergency contraceptives pill and 59.2% had positive attitude towards use of ECP [8]. ECP is widely available in Ethiopian major cities and towns where often misused as regular contraceptive pills. Considering the importance of ECP in preventing unintended pregnancy and condoms for dual protection, this study aimed to assess the knowledge, attitude and practice of ECP and to elucidate the relationship between ECP use and condom utilization among female students in private universities found in Nekemte town, Western Ethiopia.

Methods

Study settings and period

This study was conducted among female students pursuing their education in three private universities found in Nekemte town: Rift Valley University (RVU), New Generation University (NGU) and Dandi Boru University (DBU) from February 1 to 29, 2016. The town is located at 320 km West of Addis Ababa, the capital of Ethiopia. The universities were teaching students in regular, evening and weekend modalities. Most of their students come from surrounding zones of the town.

Study design

An institution-based cross sectional study was conducted among female students pursuing their education in three private universities found in Nekemte town.

Study population

The respondents were only selected from the regularly enrolled under-graduate female students in three private universities and most of them were young or less than 30 years of age. We excluded female students who were above 30 years of age or who were post-graduate students.

Sample size and sampling procedure

A single proportion formula was used to calculate the sample size. In this case, we took 47% of the prevalence of ECP utilization among young females in Ethiopia [16]. Finally, we determined a minimum target sample size of approximately 400 that would yield acceptable 95% confidence intervals (CI) after taking 5% compensation for non-response rate.

Four hundred (400) female students were allocated to the three universities proportional to the size of female students they had. Accordingly, 207 students from RVU, 120 students from NGU and 73 students from DBU were randomly selected and included. A simple random sampling technique was employed to select samples by using the list of female students as a sampling frame in each university.

Data collection and management

By reviewing different literatures and similar surveys, we developed structured questionnaire in English on the socio-demographic characteristics, sexual and reproductive health characters, knowledge of contraceptive methods, attitude and use of ECP, and condoms. We translated the English version of questionnaire to Afaan Oromo, a language which is spoken by most of the students. The translated questionnaire was cross-checked by an independent language professional and it was pretested on 16 female students, but not included in the final study. The pretested questionnaire was used solely for triangulation of the study questionnaire and information form; it was not employed for the study. To get high quality of data, we provided a focused training to data collectors for half of a day. We also carried out on site supervision to check the completeness, clarity and accuracy of information.

Data processing and analysis

Initially, data were coded and entered into Epi Data version 3.1, and then exported for analysis to Statistical Package for Social Sciences (SPSS for windows version 20.0) software. Descriptive statistics was computed to analyze the socio-demographic, sexual and reproductive health behavior, knowledge and level of ECP and condoms use among the student participants. Bivariate and multivariate analysis techniques were applied to determine the effects of ECP use on condom utilization. A cut off point for significance was set at p-value less than 0.05.

Results

Socio-demographic characteristics of the respondents

A total of 381 students completed the questionnaires making a response rate of 95.25%. Approximately half (48.5%) of the students were within 20–24 age group. The mean (\pm SD) age of the students was 20.49 ± 2.506 . Nearly ninety percent (87.9%) of the students were Oromo in ethnicity, 59.1% of them were studying in the faculty of business and economics and more than half (57%) were followers of the protestant religion. Almost two third (65.9%) of the students were unmarried and more than half (55.9%) of them were urban dwellers (Table 1).

Table 1
Socio-demographic characteristics of female private university students in Nekemte town,
2016

Variables	Responses	Frequency(N = 381)	Percentages
Age(in years)	15–19	153	40.2
	20–24	185	48.5
	≥25	43	11.3
Faculty of study	Business and Economics	225	59.1
	Health Sciences	98	25.7
	Other*	58	15.2
Year of study	Year- 1	138	36.2
	Year-2	149	39.1
	Year-3 & above	94	24.7
Ethnicity	Oromo	335	87.9
	Amhara	41	10.8
	Gurage	5	1.3
Religion	Protestant	217	57.0
	Orthodox	91	23.9
	Muslim	58	15.2
	Other	15	3.9
Marital status	Married	122	32.0
	Unmarried	251	65.9
	Divorced	5	1.3
	Widowed	3	0.8
Current residence	With family	218	57.2
	Separate from family	163	42.8
Residence of origin	From urban	213	55.9
	From rural	168	44.1
*Animal sciences and information technology faculty			

Sexual and reproductive health characteristics of the respondents

The results revealed that almost half (48.8%) of the students have had sexual intercourse. Out of these students, more than three fourth (81.7%) had their first sexual experience before or at the age of 20 years and 72 (38.7%) had their first sexual intercourse with a casual friend. The mean (\pm SD) age of first sexual intercourse was 17.02(\pm 1.53). Among those who had sex, the majority (61.3%) had sexual intercourses with two or more partners whereas 36 (9.4%) of the study participants reported history of STIs. Also, it was reported that desires to have sex 73 (39.2%) was the most common of reasons to have sexual intercourse (Table 2).

Table 2
Sexual and reproductive health characteristics of female private university students in Nekemte town, 2016

Variables	Responses	Frequency (n = 186)	Percentage
Ever had sexual intercourse (n = 381)	Yes	186	48.8
	No	195	51.2
Age of first sexual intercourse (in years)	≤ 17	108	58
	18–20	44	23.7
	≥21	34	18.3
Number of sexual intercourse ever had	One	72	38.7
	Two	66	35.5
	Three	37	19.9
	≥4	11	5.9
With whom ever had intercourse	With boy friend	52	27.9
	Causal friend	72	38.7
	Husband	58	31.2
	Other	4	2.2
Reasons for having intercourse	Fall in love	43	23.1
	Desire to have sex	73	39.2
	Married	56	30.1
	Raped	9	4.9
	Peer pressure	5	2.7
History of STIs (n = 381)	Yes	36	9.4
	No	345	90.6

Knowledge of ECP and condoms among female students

The study showed that almost half 186(48.8%) of the students heard about ECP. Among those who heard about ECP, 105 (56.5%) knew the right time for taking ECP and 94 (24.7%) believed that ECP prevents STIs. A total of two hundred ten (55.1%) of the students heard about condom while 98 (46.7%) of them believed that condom could prevent STIs (Table 3).

Table 3
Knowledge of emergency contraceptive pill and condoms among female private university students in Nekemte town, 2016

Knowledge of contraceptive	Responses	Frequency (n = 381)	Percentage
Heard about condoms	Yes	210	55.1
	No	171	44.9
Heard of ECP	Yes	186	48.8
	No	195	51.2
Proper time to take ECP (n = 186)	Within 72hrs	105	56.5
	Within five days	12	6.4
	I do not know	69	37.1
ECP can prevent STIs	Yes	94	24.7
	No	190	49.9
	I do not know	97	25.5
Condom can prevent STIs (n = 210)	Yes	98	46.7
	No	77	36.7
	I do not know	35	16.7

Attitude and utilization of ECP among respondents

One hundred fifteen (30.2%) students had used ECP prior to this study. On the other hand, majority (61.7%) of the respondents reported willingness to use ECP whenever they need it. Among those who denied willingness to use ECP, their most mentioned reasons were religious prohibition (35.4%) and fear of rumors (28%) among others. Two hundred twenty eight (59.8%) of the respondents revealed that they will recommend ECP use to others (Table 4).

Table 4

Attitude and utilization of ECP among female private university students in Nekemte town, 2016

Variables	Responses	Frequency (n = 381)	Percentage
Willingness to use	Yes	235	61.7
	No	146	38.3
Reasons for not using (n = 82)	Fear of rumors	23	28
	Religious prohibition	29	35.4
	Prefer to give birth	12	14.6
	Other	18	21.9
Recommend ECP to other	Yes	228	59.8
	No	143	37.5
Ever used ECP	Yes	115	30.2
	No	266	69.8
STIs are a problem of youth's to day	Yes	231	60.6
	No	150	39.4

Association of ECP with condom use from binary logistic regression

Table 5 describes factors associated with condom use. Female students, who used ECP when compared to those who did not use, were 3 times less likely to use condoms (AOR = 0.322, 95% CI 0.164, 0.632). On the other hand, female students who believed that ECP does not prevent STIs were 2 times more likely to use condoms when compared to those who believed ECP does prevent STIs (AOR = 2.217 95% CI 1.070, 4.593) (Table 5).

Table 5
Factors associated with use of condoms among female private university students in Nekemte town, 2016

Variables		Condom use		COR at 95% CI	AOR at 95% CI	P-value
		Yes	No			
Age	< 20	73	155	1.205(0.769–1.888)	0.965(0.554–1.681)	0.900
	≥ 20	43	110	1	1	
Current residency	With family	53	110	1.185(0.764–1.840)	1.027(0.567–1.863)	0.929
	Separate from family	63	155	1	1	
Residency of origin	From urban	55	113	1.213(0.782–1.880)	1.378(0.762–2.493)	0.388
	From rural	61	152	1	1	
Ever used ECP	Yes	65	51	0.182(0.113–0.294)	0.322(0.164–0.632)	0.001*
	No	51	215	1	1	
Know ECP	Yes	78	108	0.335(0.212–0.530)	1.290(0.696–2.389)	0.418
	No	38	157	1	1	
ECP prevents STI	Yes	60	34	0.166(0.088–0.314)	0.485(0.225–1.044)	0.064
	No	75	22	1.346(0.737–2.459)	2.217(1.070–4.593)	
	I do not	34	156	1	1	
Condom prevents STI	Yes	98	117	0.115(0.034–0.389)	0.171(0.045–0.646)	0.090
	No	18	116	0.604(0.167–2.180)	0.313(0.076–1.285)	
	I do not	3	32	1	1	
STI youths' problem	Yes	101	130	0.143(0.079–0.259)	0.249(0.127–0.488)	0.060
	No	15	135	1	1	

COR: crude odds ratio; AOR: Adjusted odds ratio; *Significant at 0.05

Discussion

The aim of the present study was to assess the knowledge, attitude and practice of ECP and to elucidate the associations of ECP use with condom utilization among female students pursuing their education in private universities.

The finding of the present study indicates that almost half of the students (48.8%) had heard about ECP prior to this study. This figure is lower than the reports of studies conducted in the Northwest Ethiopia 67.1% [8], Mizan-Tepi University 67.8% [17], Jima technical college 80.1% [5] and Addis Ababa University 84.2% [15]. However, it is higher than the findings reported from studies conducted in Addis Ababa 43.5% [18] and Jima 41.9% [19]. These discrepancies might be associated with socio-cultural differences, availability and accessibility of sources of information and level of urbanization within towns where studies were conducted. However, the finding is consistent with reports of a study conducted in South Africa, which was 49.8% [3].

The finding also revealed that more than half of the students know correct time of taking ECP after unprotected sexual intercourse. This figure is higher than the findings reported in studies from Addis Ababa, Jima and South west part of Ethiopia [5, 18, 19]. Also, we found that the respondents had positive attitudes toward ECP use as the majority (61.7%) showed willingness to and about 59.8% pledged to recommend to friends. Similar findings were reported by Wassie et al., [8] and Naidoo et al., [1].

The present study indicated that almost half (48.8%) of the students have had sexual intercourse before. This figure is higher than reports of similar studies conducted in Addis Ababa 19.5% [18], Northwest part of Ethiopia 16.5% [8] and Ghana 38% [20]. This may be associated with the extent of convincing the respondents to disclose the sensitive issues. However, the result is consistent with findings of studies conducted in Kenya and South Africa, which reported 47.7% and 53.2% among university students respectively [3, 21]. Among those who ever had sex, the majority (61.3%) had sexual intercourse with ≥ 2 partners. This finding is higher than Ethiopian demographic health survey report [22] and study conducted in the Northwest part of Ethiopia [8]. This discrepancy may be due to the residence of students as they were living with large communities in the present study.

The study indicated that one hundred fifteen respondents had used ECP before giving 30.2% overall prevalence of ECP use among young female students. This figure is higher than that of a study by Meskerem et al. [23] which reported 9.7% in Dire Dawa. But, higher than the study conducted by Ahmed et al. [15] in Addis Ababa University which was 75%. This discrepancy might be due to difference in the socioeconomic characteristics of study populations and the extent of town modernization and availability of ECP in the towns.

Moreover, our findings suggested that ECP utilization has negative impact on condom use. This supports the previous findings which showed consistent ECP users do not necessarily consider using condoms for STIs prevention [7, 11, 24]. On the other hand, the respondents who believed that ECP does not prevent STIs were 2 times more likely to use condoms than those who believed ECP can prevent STIs. In fact, one

fourth of the students believed that ECP can prevent STI. This misbelief on ECP use lead to commit unprotected sexual intercourses. In this case, the students do not consistently take the necessary precautions to protect STIs; instead they focus primarily on preventing pregnancy [8, 25, 26]. To contain escalating STIs including HIV/AIDS and unwanted pregnancy, dual protections (condoms with other contraceptives) should be used [5, 8, 14, 27].

Limitations

This study is not free of limitations. First, it was conducted only in three private universities found in Nekemte town, Western Ethiopia. Thus the findings cannot be generalized to ECP users in the country. Second, the study might not be free of bias during data collection as it involves a sensitive issue (sexual intercourse). A cross-sectional design was also limited in evaluating cause-effect relationships. Nonetheless, this study is the first of its kind to look at effect of ECP on condom use among female students in Western Ethiopia.

Conclusions

We conclude, based on the study findings, that young female students in private universities in Nekemte town have moderate knowledge and positive attitudes on ECP use. While ECP is commonly practiced contraceptive method among students, our findings suggest that ECP use has imposed negative impact on condom utilization. Further prospective studies should be conducted in order to devise policy and strategies to promote dual contraception use among young female students which in turn can diminish prevalence of STIs.

Abbreviations

ECP: Emergency Contraceptive Pill

STI: Sexually Transmitted Infection

OTC: Over the counter

IUCD: Intra-uterine Contraceptive Device

RVU: Rift Valley University

NGU: New Generation University

DBU: Dandi Boru University

Declarations

Availability of data and materials

Additional materials will be available from the corresponding author on any reasonable request.

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Contributions

ESG, ATK and HGB worked on study conception and design, and led data collection tasks. ESG and ATK performed data analysis and interpretation. The first draft of the manuscript was prepared by ESG; all authors significantly contributed to, and read and approved the final manuscript.

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Ethics approval and consent to participate

Ethical clearance was obtained from Research and Ethics Committee of College of Health Sciences, Wollega University. A letter of permission was written from research and technology transfer vice president of Wollega University to the respective private colleges. Permission was requested and obtained from respective college deans prior to commencing data collection. During data collection, a written consent was sought from each participant after explaining the purpose of the study and their right to withdraw from participating. Participants were assured of confidentiality on the information they provided through avoiding personal identifiers from the questionnaire.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

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