Examining the Knowledge and Associated Risk Factors of Emergency Contraception among Female Students in Gondar Poly Technique College, North West Ethiopia

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Abstract: Each year at a global level there are about 250 million pregnancies. Among them one-third of it are unintended and 20% of it induced abortion, from this 11% undergo unsafe abortions and this in turn a cause for 78,000 life deaths annually. In Ethiopia, addressing youth's pregnancy is an important public health issue because nearly 60% of the pregnancy is unwanted and most of these pregnancies end up with unsafe abortion. In cognizant with this, the benefit of emergency contraceptive to prevent pregnancy is not well articulated. Thus, the objective of this study is to examine the knowledge and associated risk factors of emergency contraceptive among female students in Gondar Poly Technique College. In this study cross-sectional study design was used. Both primary and secondary data were applied. Self-administered questionnaire was used to obtain primary data from 353 female students. Data were analyzed using descriptive statistics such as percentage and frequency of events whereas and inferential statistics: bivariate and multivariate analysis was utilized to see the association and identify the determinant of the knowledge of emergency contraceptive among female students. The descriptive statistics revealed 86.4% of the respondents had heard about emergency contraceptive, 89.2% ever had sex, 18.7% had history of pregnancy and most of the pregnancy was unintended and 86% had a history of induced abortion. Similarly, the result of multivariate analysis revealed age, level of study, residence, information about contraception, discussion of reproductive health issues with family and friend were significant predictors of the knowledge of emergency contraceptive. Hence, this study pointed out that awareness of emergency contraception is good, but their level of utilization and time frame for the first dose of after unprotected sex is poor. Thus, it needs further improvement, awakening of technique through information, education and communication materials. Moreover, the level of unintended pregnancy and induced abortion is skyrocketed; hence it needs a further mitigation and synergy of a pro-active sense of urgencies.

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1. Introduction

At the global level there are more young people at the turn of the 21st century. A quarter of the world's population was between the ages of 10-24 (IPAS, 2005). Young people's aged 15-24 years shared about 20% of sub-Saharan Africa's population and would therefore have a substantial impact on future population (PRB, 2005a). According to UN recent projection Ethiopia with 98.9 million total population and 2.41 % annual growth rate in 2016 it stand as a second populous country in Africa next to Nigeria, ranks 13th in the world (UN, 2016). With this increment, almost 2 million people are added to the existing population annually and it takes only 30 years to be double.

Unwanted pregnancy is one of the major reproductive health challenges confronted by youths and especially women in Ethiopia (FMOH, 2006). Early sexual debut and limited knowledge of sexual information and girl's limited control over their sexual lives contributed to high level of unwanted pregnancy. The main reason inculcated was their limited self-restraining behaviors over their sexuality (Dawit, 2010). Pre-marital sex is reported to be on the rise in all regions in Ethiopia (FMOH, 2006) and rape is reported to be common in Ethiopia and associated with various health problems including unwanted pregnancy and unsafe abortions (Adinew, 2013). Youngsters are under strong peer and social cohesion in engaging in pre-marital sex (Bekele, 2008). In Ethiopia the median age at 1st sexual intercourse for

women was 16.6 years (CSA, 2011) young people often have misleading information on sexuality and reproductive issues and lack of access to it.

Taboos regarding youth sexuality and punitive treatment had a great experience, which exclude young girls from school or college. And early child bearing also humiliating the victim, being ostracized by their parents if by default pregnant (Nyawade, 2005), this practice have a more severe experience in traditional society like Ethiopia, a double burden in the study area and its surroundings. Social taboos also hinder free discussions on reproductive health issues with family and friends; this again played a tan-ta-mount role for unintended pregnancy and trends of unsafe abortion. Studies revealed college represents a turning point for youth which culminating their dependence from parental supervision by creating an opportunity for new friends, exposure and experience romantic affiliated sexual relations, which can jeopardizing a double burden for unwanted pregnancy and unsafe abortion, ill performance and school drop outs (Nibabe, 2013). The level of knowledge on emergency contraceptive (EC) released by the Mini EDHS (2014) for women's age 15-49 reached 18.5% and 16.1% for currently married women. Religious and cultural beliefs can also play a pivotal role in the reluctance of using EC for young generation.

Fear and inability to discuss matters pertaining to sexual and reproductive health issues with youngsters is a great mistake committed by older generations (Zewidneh, 2013). Their economic dependency surrendering them results in sexual exploitation (Nyawade, 2005). The young women in Amhara region are at risk of consequences that arise due to early sexual onset. Gondar is a metropolitan, center for ancient conservative ecclesiastic and spiritual cannon and world heritage site. It is demonstrated as one of the lively busy business corridors, leisure and hub of both domestic and international tourists, this modality adversely biased the mental set of the girl by diverting their destiny to alleviate their poverties yoke. Urban poverty pushed many young women seeking alternative sources of income such as prostitution.

Gondar Poly Technique College, where this study is conducted, is the only vocational stream that can host not only the town's educational enrollment, but also rural surroundings in which the magnitude and problems of sexual related events remained unquestioned, so from its cradle, many youngsters may prevail to sensational erotic acts and harassment which may culminated them in dead ends of life and academic excellence, so the area is too crucial and very crude, seeking immediate action and intervention. The potential of emergency contraceptive to prevent unwanted pregnancies and its utilization is not well articulated (Adane, 2013). Due to its clandestine nature, health experts in Zonal departments, Family Guidance Association Ethiopia, Marrie Stopes in Gondar did not have initial studies either in coverage or prevalence of EC, hence the statuesque of never studied before and the area is a hot spot for young sexuality, it gears the researcher to explore the realities from the very grass root level as an ice breaking scheme. Thus, the main objective of this study is to assess the knowledge and associated factors of emergency contraceptive among female students in Gondar Poly Technique College, North West Ethiopia.

2. Methods and Materials

2.1. Description of the Study Area

The study was conducted among female students in Gondar Poly Technique College, Gondar. According to the data obtained from the college dean office there were a total of number of 3,826 students in two campuses of which 2,044 were female students from level 1 to 5 in the academic year of 2015/2016. There were 12 departments in the college and 46 professions (Technical specialization). The number of female students was much larger than male students and it was a convenient place to conduct such study.

2.2. Research Design

A cross sectional study design was conducted in Gondar Poly Technique College from March to April 2016. The study was employed quantitative research approach. The quantitative research was employed in order to collect and analyze data about the extent of knowledge and associated factors of EC among female students.

2.3. Study Population

The study populations of this study were all regular female students who registered in the college ranging from level 1 to 5.

2.4. Inclusion and exclusion Criteria

All regular female students who attended regular class during the study period were included in this study. However, night and prospecting graduate students were excluded from the study.

2.5. Data Source and Data Collection Techniques

On the basis of the objectives of the study, primary and secondary data were employed. The primary data were collected from individual student through a structured questionnaire prepared for the study. Information pertaining to the respondents' demographic, socio-economic, sexual and reproductive health issues was collected through structured questionnaires. Secondary data were extracted from published and unpublished documents: CSA, Gondar Poly Technique College reports and records, Gondar city administration reports, reports from Gondar health department, Family Guidance Association of Ethiopia and Marie Stopes Ethiopia

North West branches and research reports, proceedings and internet sources.

2.6. Sample Size

The required sample size was calculated by using single population proportion formula with the assumption that the prevalence is not known. Hence, the researcher used student with EC knowledge of 50% since there was no previous research conducted in the study area and used a margin error of 5%, level of significance 95% and 10% non-response rate. Based on this assumption the sample size was determined as follow:

n = minimum sample size required

d = marginal error

p = proportion of students who have knowledge of EC 50% (0.50) were assumed.

$Z\alpha/_2$ = critical value at 95% confidence interval= 1.96

$n= (z_{\alpha}/_2)^{2\ p\ (1-p)/d2}$ i.e. $= \frac{(1.96)2}{(0.05)2} =384$

Since the population size was less than 10,000 which was 2,044, correction formula was needed. nf $= \frac{no}{1+no/N}$= nf$= \frac{384}{1+384/N}$ = 323 by adding a 10% non-response rate, the total sample size become 355.

2.7. Sampling Technique

Stratified random sampling technique was used to get the required study subject. Stratification was done based on level and department of study. To determine the sample size of the study subjects in each department proportional to size was applied. The 1st student (study unit) in each field of study was selected by using simple random sampling technique.

2.8. Methods of Data Collection

Data was collected by using structured self-administrated questionnaire. It was prepared in English and then translated to Amharic (local language). The questionnaire was divided into four parts in order to assess socio-demographic characteristics, sexual history and knowledge of contraceptives as well as their knowledge of EC. The questionnaire was pre-tested for clarity and consistency on 15 female students in Gondar Teacher's Training College. Based on pilot survey the instrument was corrected. The data collection was administered by two clinical female nurses who have prior experience on reproductive health issues.

2.8. Variables of the Study

2.9. Dependent Variable

The dependent variables of this study was knowledge of EC, which is a dichotomous variable coded as 1 for ever knows about EC and 0 otherwise.

2.10. Independent Variables

Effort is exerted to identify the influence of different socio-demographic and economic characteristics, sexual history and knowledge of contraceptives and the dependent variable (knowledge of EC) of this study.

2.10. Data Analysis Techniques

After checking the completeness and accuracy of the collected data, then data was coded, entered and analyzed using statistical package for social sciences (SPSS) version 16 software. Descriptive statistics: tables, frequencies and percentage were used to describe the background characteristics. Bivariate analysis was used to see the association between dependent and independent variables. Multivariate analysis: binary logistic regression was used to identify the determinant factors of the knowledge of EC.

3. Results

3.1. Socio-demographic characteristics of respondents

Table 1 presents percent background characteristics of the study subject. Data was obtained from 353 students with 99% response rate. The result revealed majority (53.8%) were level I students and the mean age of students was 19.43 with standard deviation of $0.93_{\pm}$ years and age range from 16-28 years. The result also presented most (65.2%) of the participants were in the age categories of 15-19. Besides, the result showed that majority (91.2%) were single, 68.3% of the respondents their previous place of residence were urban, 90.1% followed Orthodox Christian and majority (78.8%) of the respondents were from Amhara ethnic group. As far as parents educational status of the respondents, the result revealed most (55%) of their fathers were accomplished primary education while most (67.7%) of their mothers were illiterate.

3.2. Sexual and Reproductive Health Characteristics of respondents

Table 2 presented the sexual and reproductive characteristics of the respondents. The result revealed out of the total respondents 34.8% and 41.9% discussed about reproductive health issues with their family and friends, respectively. Besides, about 89.2% of respondents ever had sexual intercourse and about 73.3% of the respondents had one sexual partner. In addition, 63.7% of the respondents utilized family planning and 18.7% of the respondents experienced pregnancy and among those who were pregnant 88% reported that their pregnancy was unplanned and 86% of them practiced induced abortion and most (49%) of those who undergo induced abortion in health institutions.

Table 1 Background characteristics of the respondents

Variables	Frequency (N=353)	Percent (%)
Age		
15-19	230	65.2
20-24	115	32.6
25-29	8	2.3
Previous place of residence		
Urban	241	68.3
Rural	112	31.7
Marital status		
Never married	322	91.2
Married	19	5.4
Divorced	12	3.4
Religion		
Orthodox	298	84.4
Muslim	46	13
Protestant	9	2.5
Ethnicity		
Amhara	278	78.8
Qemant	67	19
Tigre	7	2
Oromo	1	0.3
Level of study		
Level I	190	53.8
Level II	116	32.9
Level III and above	47	13.3
Fathers' educational status		
Illiterate	72	20.4
Primary	194	55
Secondary and above	84	23.8
Mothers' educational status		
Illiterate	239	67.7
Primary	83	23.5
Secondary and above	29	8.2

Source: Field Survey, 2016

Table 2: Sexual and Reproductive Health Characteristics of Respondents

Variables	Frequency (N=353)	Percent (%)
Discuss RH issue with their family		
Yes	123	34.8
No	230	65.2
Discuss RH issue with their friends		
Yes	148	41.9
No	205	58.1
Ever had sex		
Yes	315	89.2
No	38	10.76
Number of sexual partners		
One	231	73.3
Two	61	19.3
Three and above	23	7.3
FP Utilization		
Yes	225	63.7
No	128	36.3
Ever pregnant		
Yes	66	18.7
No	287	81.3
Planned pregnancy		
Yes	8	12
No	58	88
Induced abortion		
Yes	57	86
No	9	14
Place of abortion		
Health institution	28	49
Traditional healer	21	37
Self-infliction	8	14

Source: Field Survey, 2016

Table 3 presented percent distribution of respondents according to their knowledge of EC. The result demonstrated that 86.4% of the study participants were ever heard about EC. The major sources of information were health care providers (43.5%) followed by mass media (23.6%) and friends (22.9%), respectively. Among those respondents who had ever heard about EC 45.2% and 25.9% mentioned that combined pill and injectables were the major methods of EC. As well 59% of the respondents correctly identify three days (72 hours) EC as a time limit to use EC. Regarding the efficacy of EC 34%, 22.4% and 20.1% respondents reported that EC was less effective, equally effective and more effective, respectively. On the other hand 37.7% and 27% of the respondents reported the correct time to use EC mostly after unprotected sexual intercourse and breakage of condom, respectively. In addition, 55% of the respondents reported that EC obtained from pharmacies followed by health institutions (43.2%). Moreover, 63.9% of respondents who aware EC were in the age group 15-19 years and most (67.5%) of them lived in urban areas.

Table 3 Knowledge of EC among female students

Variables	Frequency	Percent (%)
Ever heard about EC (n= 353)		
Yes	305	86.4
No	48	13.6
Source of information (Yes for event)		
Health worker/provider	132	43.5
Friends	68	22.9
Mass media	72	23.6
Teachers	40	13.1
Family	22	7.2
Methods (types) of EC		
Combined pill	138	45.2
Injectables	79	25.9
IUCD	49	16.1
Progestin only pill	26	8.5
Estrogen only pill	13	4.3
EC used as a regular modern contraceptive		
Yes	74	24.3
No	231	75.7
Place to obtain EC		
Pharmacy	170	55
Health institutions	116	38
Friends	12	3.9
Others	7	2
Indication to use EC		
After unprotected sex	115	37.7
After condom breakage/slippage	82	27
As a regular contraceptive	26	8.5
After unwanted pregnancy occurs	26	8.5
I don't know	56	18.3
Time frame to use ECPs		
Within 3 days (72 hours)	180	59
From 3-5 days	30	9.8
After a week	7	2.3
I don't know	88	28.9
Efficacy of EC with regular contraceptives		
Equally effective	79	25.9
Less effective	120	39.3
More effective	78	25.6
Don't know	28	9.2
Residence		
Urban	206	67.5
Rural	99	32.5
Age of students		
15-19	195	63.9
20-24	102	33.5
25-29	8	2.6

Source: Field Survey, 2016

3.3. Bivariate analysis of the relationship between knowledge of EC and independent variables

Cross tabulation was used to see the association between dependent and independent variables. Table 4

presents the association between the different predictor variables and knowledge of EC. The result revealed that those respondents in which their fathers' alive were more aware of EC than their counter parts. The difference was statistically significant at (χ^2 = 7.298, P< 0.01). Also those respondents who have much information on contraceptive have more awareness on EC than their counterparts and the difference was statistically significant at (χ^2= 12.069, P< 0.01). Study participants who discussed reproductive health issue with their friends were higher proportion (42%) and knew EC more than their counterparts and remained statistically significant at (χ^2 =5.027, P< 0.05). Those respondents who experienced pregnancy knew more about EC than their counterparts and the difference was statistically significant at (χ^2= 3.925, p< 0.05). Since abortion was common in the study participants and those who practiced induced abortion had knowledge of EC than their counterparts and the difference was statistically significant at (χ^2= 6.094, p< 0.05). What is more, those respondents who plan for future use of contraceptive are much in proportion (73.8%) than their counterparts and the difference was statistically significant at (χ^2= 4.024, p< 0.05).

Table 4: Association between knowledge of ECPs and predictor variables

Predictor Variables	Knowledge of EC		χ^2	Sign.
	No N (%)	Yes N (%)		
Age				
15-19	35 (15.2%)	195 (84.8%)		
20-24	13 (11.3%)	102 (88.7%)	2.287	0.319
25-29	0	8 (100%)		
Residence				
Urban	35 (14.5%)	206 (85.5%)	0.553	0.457
Rural	13 (11.6%)	99 (88.4%)		
Marital Status				
Not married	45 (14%)	277 (86%)		0.789
Married	2 (10.5%)	17 (89.5%)	0.457	
Divorced	1 (8.3%)	11 (91.7%)		
Religion				
Orthodox	40 (13.4%)	258 (86.6%)		
Muslim	7 (15.2%)	39 (84.8%)		0.924
Protestant	1 (11.1%)	8 (88.9%)	0.021	
Ethnicity				
Amhara	40 (14.4)	238 (85.6)		
Tigre	1 (14.3)	6 (85.7)	0.874	0.078
Qemant	7 (10.4)	60 (89.6)		
Level of study				
Level I	33 (17.4)	157 (82.6)	5.095	0.554
Level II	10 (8.6)	106 (91.4)		
Level III and above	5 (10.6)	42 (89.4)		0.331
Father's education				
Illiterate	12 (16.7)	60 (83.3)		
Primary	26 (13.4)	168 (86.6)	1.182	0.992
Secondary and above	9 (10.7)	75 (89.3)		
Mother's Education				
Illiterate	33 (13.8)	206 (86.2)		
Primary	11 (13.3)	72 (86.7)	0.016	
Secondary and above	4 (13.8)	25 (86.2)		
Occupation				
Government	1 (14.3)	6 (85.7)		0.713
Merchant	2 (22.2)	7 (77.8)		
House wife	7 (15.2)	39 (84.8)	0.747	0.080
Student	38 (13.1)	253 (86.9)		0.080
Income				
Below 500 birr	10 (15.6)	54 (84.4)		
500- 1000	11 (10.9)	90 (89.1)		
1001-1500	13 (16.2)	67 (83.8)	1.370	

				0.757
1500 and above	14 (13)	94 (87)		
Initial sex	315 (89.2)	38 (10.8)	3.688	
Sexual friends				
One	32 (13.4)	207 (86.6)		
Two	8 (13.1)	53 (86.9)	0.557	
Three and above	3 (8.8)	31 (91.2)		
Information level contraception	52 (14.7%)	301 (85.3%)	12.069	0.001**
Use of family planning	128 (36.4)	224 (63.6)	1.310	0.252
Discuss RH with friends	205 (58.1%)	148(41.9%)	5.027	0.025*
Status of pregnancy	287 (81.3%)	66 (18.7%)	3.925	0.048*
Induced abortion	264 (82.2%)	57 (17.8%)	6.094	0.014*
Plan for future use of FP	85 (26.2%)	240 (73.8%)	4.024	0.045*

Source: Field Survey, 2016
*, ** and *** significant at 10%, 5% and 1%

Table 5: Determinants of the knowledge of EC among female students

Variables	**B**	**S. E**	**Wald**	**P- Value**	**EXP (B)**
Age					
15-19 [RC]					
20-24	19.650	1.491	0.000	0.008**	1.075
25-29	19.555	1.491	0.000	0.999	2.517
Residence					
Urban	0.519	0.433	1.435	0.005**	2.822
Rural [RC]					
Marital status					
Not married [RC]					
Married	0.370	1.236	0.090	0.002**	0.752
Divorced	0.923	1.475	0.392	0.009**	2.280
Level of study					
Level I [RC]					
Level II	0.717	0.662	1.174	0.001**	1.221
Level III and above	0.154	0.685	0.050	0.000***	2.768
Father's level of education			1.897	0.028*	
Illiterate [RC]					
Primary	0.170	0.683	0.062	0.020*	1.221
Secondary and above	0.433	0.562	0.595	0.037*	1.559
Information on contraception					
Yes	1.307	0.448	8.515	0.0015*	2.936
No [RC]					
Discuss RH issue with Family					
Yes	1.031	0.518	3.967	0.019*	2.120
No [RC]					
Discuss RH issue with friend					
No [RC]					
Yes	0.072	0.448	0.026	0.040*	1.271
Abortion					
Yes	-2.255	1.131	3.973	0.046*	0.105
No [RC]					
Father alive					
Yes	2.463	1.050	5.503	0.019*	8.737
No [RC]					

Source: Field Survey, 2016
*, ** and *** significant at 10%, 5%, 1% and
RC= Reference category

3.4. Determinants of Knowledge Emergency Contraceptive

The observed associations in bivariate analysis were supported and checked by multivariate analysis in order to control for confounding effect. Binary logistic regression was fitted to see the determinant of the knowledge of EC since the dependent variable is dichotomous. The results were presented in Table 5. Accordingly, level of study, father's educational status, age, and information on contraceptives and discussion about RH issue with family were significant determinant of the knowledge of EC.

The result indicates that those respondents in the age category 20-24 years were more likely to have the knowledge of EC in both adjusted and unadjusted odds ratio than the reference category (AOR= 1.075) and those aged 25-29 were not significant. Respondents who were married were 75% more likely to have the knowledge of EC than never married at (AOR= 0.752), where $p < 0.01$. Because married women frequently visiting health centers and providers, in return for exposure of family planning related educations.

As far as level of study, respondents who were in level II and level III are more likely to know EC than their juniors (AOR= 1.221) and (AOR= 2.768), where $p< 0.001$, respectively. And regarding respondents father's educational status, those who were attain secondary and above education were 1.5 times more likely to have the knowledge of EC than their counterparts (AOR= 1.559), where $p< 0.05$.

Information about contraception is one of the predictor of EC. The result revealed students who had the information about contraception were three times more likely to have the knowledge of EC compared to the reference category (AOR= 2.936), where $p< 0.05$. Similarly, respondents who discussed reproductive health issue with their family were twice more likely to have the knowledge of EC than their counterparts (AOR= 2.120), where $p< 0.05$. Again respondents who discuss RH issue with their friends were more likely to have the knowledge of EC than their counterparts (AOR= 1.217), where $p< 0.05$. Those respondents who resided in urban areas were nearly three times more likely to have the knowledge of EC than rural ones (AOR= 2.822), where $p< 0.01$. And this finding again consistent with hypothesis 4 that respondents who have urban background are more likely to aware of EC.

4. Discussions

4.1. Knowledge of Emergency Contraceptive

Many young people encounter with sexual activity before they know how to manage pregnancy and about EC as a result they faced the risk of unwanted pregnancy, abortion and complicated life conditions. This study tried to show the prevalence and associated factors of the knowledge of EC among female students in Gondar Poly Technique College.

The finding of the descriptive statistics revealed that 89.2% of respondents had a history of sexual intercourse or ever had sex. It was exceeding the studies done in Gondar Private College students, Hawassa post-secondary school, Dessie Colleges, Addis Ababa and Unity University, Haromaya and Debre Markos universities which were 45.1%, 38.4%, 36.6%, 24.4%, 19.5%, and 18%, respectively (Desalegn, 2012; Bekele, 2008; Nibabe, 2013; Wegene, 2007; Desta, 2011; Dessie A, 2009). The discrepancy might be due to time gap of the research and promotion of reproductive health issues to a better way. Besides, the finding also demonstrated that most (91.2%) of the respondents were not married and came from urban area, so in return they can be exposed to different risky behaviors like chewing Chat, alcohol drinking, exposure for leisure and pleasure, pornographic films and others which can initiate them to involve in sexual activity.

Among those respondents who had ever sex majority (85.3%) of them started sex between the ages of 15-19. From this 26.9%, 21.8%, 20.7% and 9.9% started first sex by age 16, 18, 17 and 15, respectively. With regard to the age category settings the finding of present study was similar with the previous studies done in Haromaya and Debre Markos universities and Gondar private colleges (Desta, 2011; Tessema, 2015; Desalegn, 2012). The possible explanation could be the increased in age at marriage and decreased the age of menarche from the ancient trend by compromising the gap and widening a window of early sexual intercourse.

In addition, the main sources of information of EC in the study population were health care workers (38.8%), friends (18.4%) followed by mass media (17.6%) which was similar with a research conducted in Debre Markos and Lagos universities; Gondar and Ambo Colleges (Tessema, 2015; Nworah, 2010; Desalegn, 2012; Jimma, 2014). But this finding was inconsistent with studies conducted in Arba Minch, a Nigerian tertiary Institute and Desssie Colleges where their major source of information were friends (Zewdu, 2015; Adetunji, 2013; Nibabe, 2013), whereas for Addis Ababa, Jimma, Haromaya and Indian Universities mass media and friends were the major sources of information which is inconsistent (Fatuma, 2012; Tajure, 2010; Desta, 2011; N.Hooja, 2012). So, the finding justified that even though most studies showed that friends and family as major source, which is a cause for low knowledge and misinformation, distortion and falsehoods, while the study population relatively breaches this scenario.

Among those who heard about EC 39.7% claimed that combined pill, 7.4% progestin only pill, 3.7% estrogen only pill, and 13.9% respondents claimed injectable as EC. Consequently there was a fragmented knowledge on the different types of EC. Here even though the summation was asymptotic to the sample it needs more clarification, so it is lower than knowledge levels of India (73%), Addis Ababa and Unity Universities (82.8%) (Anjali, N, 2005 and Wegene, 2007). About 13.9% of students were mentioned that IUD as EC. It was also similar finding with India (14.9%), lower than Addis Ababa and Unity universities (34.1%) and Gondar private college (30.4%) but greater than Ghana (12.8%), Nigeria (5.3%), Namibia (nill), Debre Markos (4.2%) universities (Desalegn, 2012; Yigzaw, 2008; Victor, 2009, Magesa, 2014; Tessema, 2015).

When we see about the time to use EC 32.6% of students were said that after unprotected sex, 23.5% used after breakage of condom and the rest 14.4% used when their pregnancy was unwanted. The finding reveals lower than Gondar private college (46.5%) because of their inclusion of health science students, but greater than Addis Ababa and Unity universities (10%). The justification behind is due to time variation between these studies and students can develop their knowledge through time (Desalegn, 2012, Wegene, 2007). In terms of reasons why they used EC, it varied according to psycho-social sets and behaviors of the youth, in the study population lack of using regular contraceptives (17.8%) and condom breakage (8.2%) took the first stand, which was lower than the research finding in Addis Ababa, condom broken (41.7%) (Etalemahu, 2007) and quite similar research finding with Dire Dawa (16.9%) (Meskerem, 2014).

In addition, the finding revealed that pharmacy was chosen as the main place to obtain EC followed by health institution. This finding was consistent with the research done in Turkish, AAU and Gondar colleges (Mustafa, 2007; Wegene, 2007 and Desalegn, 2012). About 51% of respondents were identifying the correct time frame (within 3 days) to use EC after unprotected sexual intercourse. The efficacy of EC is quite dependent on how soon after unprotected intercourse treatment is administered. If women are benefited from EC, they need to have prior knowledge and prior access to the method. The finding of the present study was lower than the findings of Bahir-Dar and Gondar (70.1%) and Debre Markos (61.5%) universities (Belaynew, 2012; Tessema, 2015). But, quite similar with the finding of Ambo college (52.9%) (Jimma, 2014) and greater than studies done in Namibia, Nigeria, Addis Ababa, Arba Minch, Jimma, Hawassa universities and Dessie college which were 7.8%, 12%, 26.2%, 27%, 30%, 31.6% and 32.1%, respectively (Magesa, 2014; Parker, 2005; Wegene, 2007; Zewdu, 2015; Tajure, 2010; Bekele, 2008 and Nibabe, 2013). Also 7.1% of students were correctly identifying the time frame to use IUD within 5 days, which was lower than a study conducted in Gondar (13.8%) due to the reason that the study populations were departed from health science streams (Desalegn, 2012). Here in both EC (ECP and IUCD) cases the knowledge of correct timing for EC was very low in which higher proportion of respondents didn't know the correct time limit for first dose of EC. The knowledge of how EC prevents pregnancy is lacking.

From the total respondents 34% and 45.6% reported that EC protect from STIs and taking EC sooner after unprotected sex was not more effective than late taking. The justification was that a significant portion of respondents had misinformation regarding these issues. A study done in South Africa and Thailand revealed that more than 90% and 60% respondents, respectively (Emilie, 2009; Didsaya, 2010) argued that EC doesn't protect from STIs and it was a great finding as compared to the present study. This may be due to lack of basic information, education and communication (IEC) materials which being able to sensitize, refresh and update students to get more information about ECs than Bangkok and South Africa.

4.2. Determinant of the Knowledge of Emergency Contraceptive

Respondents in the age category 20-24 were more likely to have the knowledge of EC than those aged 15- 19 years (AOR = 1.075). Studies done in Adama, Addis Ababa and Unity, Debre Markos, Dessie, Kenya and Nigeria universities had identified similar results (Tilahun, 2010; Wegene, 2007; Tessema, 2015; Nibabe, 2013; Bwire, 2014; Kolawole, 2012). This may be due to the possibility that younger girls may have less information about the availability and indication of EC and the difference in educational level, life exposure and experience to enrich them accordingly. Besides, respondents who were married were 75% more likely to know EC than never married ones (AOR= 0.752). This result is consistent with studies done in Adama, Debre Markos, Dessie, and Kenya Universities (Ibid). Furthermore, students who were level III and above were two times more likely to have the knowledge of EC than level I students (AOR= 2.768). Studies which were done in Addis Ababa and Unity universities, Haromaya, Gondar, Arba Minch, Kenya, and a multi country analysis in Asia, Latin America, Caribbean and African nations revealed similar finding (Wegene, 2007; Desta, 2011; Desalegn, 2012; Zewdu, 2015; Bwire, 2014, T.Palermo, 2014).

Respondents whose father's educational status were secondary and above were 1.5 times more likely to have the knowledge of EC compared to illiterate

ones (AOR = 1.559). This could be due to discussions on RH issue in the household is the possible explanation for this difference. Additionally, respondents who resided in urban areas were three times more likely to have the knowledge of EC than their counterparts (AOR= 2.822). Again in Ethiopia it was indicated that only 19% of all women and 41% of unmarried women had knowledge about EC and this was more confined to urban centers. Similar findings were registered in Cameroon, North India, Lesotho, Haromaya, Debre Markos universities (Eugene, 2007; Nisha, 2012; L.Akintade, 2011; Desta, 2011; Tessema, 2015). Furthermore, those respondents who discussed RH issue with their family and friends were two times more likely to have the knowledge of EC than those who did not discussed RH issues (AOR= 2.120). This is due to the fact that when students are discussing and sharing their ideas and experience with others their knowledge about EC will improve and curb harmful consequences of life destiny like unwanted pregnancy and abortion. This finding was in conformity with studies done in Gondar private colleges, Uganda, Kenya, Namibia and Arba Minch universities (Desalegn, 2012; Mamboleo, 2012; Nyawade, 2005; Magesa, 2014; Worku, 2011).

5. Conclusions and Recommendations

The finding of this study is boldly remarked that awareness of EC is good, but utilization of EC and the time frame of initial use after unprotected sex are poor. So it needs further improvement and awakening of technical and vocational education training students with possible information, education and communication materials. Again the level of unintended pregnancy seems to be unprecedented and shocking alarms to emancipate to curb the adverse impact by devising short to long term plans (where the unintended pregnancy is 88%, induced abortion 86%, from this 50% were unsafe). Socio-cultural barriers are still deep rooted in the mental set of the study population, so it needs a corroborative action to win the ill-impacts of staggering blocks in the aforementioned scenarios and creating conducive environment for the safe use of ECPs and advocating a healthy, planned and enlighten citizens. Moreover certain variables were co-equally significant for knowledge of EC: age, level of study, information about contraceptives, residence, discussion of reproductive health issues with families and friends while marital status and father's education were the most important determinant factors affecting the knowledge of EC. Thus, based on the findings of this study, it is recommended that: addressing the sexual and reproductive health needs of this segmented population through initiation and strengthen clubs, establish a guidance and counseling office on reproductive health issues in the college as a venue of disseminating information, sharing of experience and promoting preventive behavior. Last of all; integrate reproductive health education with special emphasis on family planning and sexual and reproductive health to the educational curriculum is paramount in order to promote the significance of EC.

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