

Correlates of Emergency Contraception Awareness among College Students of Kathmandu, Nepal

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Abstract

In Nepal, where emergency contraception (EC) could play an important role in reducing unintended pregnancies and unsafe abortion, very little is known about it. Main objectives of the study are to investigate awareness level and explore the influencing factors of awareness about EC among college students. A self-administered questionnaire was filled by the 1137 students. Association between awareness about EC and the explanatory variables were first assessed in bivariate analysis then further explored using binary logistic regression. The study found that only two-thirds of the college students (68%) were aware about EC. The study further revealed that sex of the students, permanent place of residence and reproductive health education in school/college are significant predictors for having awareness about EC. There is a need to educate college students about EC which can help to reduce unintended pregnancies, many of which result in unsafe abortion and take a large toll on women's health.

1. Introduction

Emergency contraception (EC) is the contraception administered after unprotected intercourse. EC is the only method couples can use to prevent pregnancy after they have had unprotected sexual intercourse or a contraceptive failure or if women remember too late that they have forgotten to take their birth control pills or women may have been forced to have sex against their will. EC is sometimes referred to as 'morning-after' or 'post-coital' contraception. EC is intended for occasional or emergency use only and not as a regular contraception.

Formerly, emergency contraceptive pills (ECPs) were thought to be effective only within 72 hours, but recent studies have confirmed that they are effective for up to 120 hours (International consortium for EC, 2004; Schwarz et.al, 2007). These methods include special doses of ordinary birth control pills as well as insertion of an intrauterine device (IUD). Intra Uterine Device (IUD) also can be used as EC up to 120 hours after sex. They offer women an important second chance to prevent pregnancy when a regular method fails, no method was used, or sex was forced. Research over the past 30 years has shown that these methods are safe and effective. Depending on the method used, EC can reduce

women's risk of becoming pregnant from a single act of intercourse by between 75 and 99 percent (Consortium for EC, 2000).

Each year about 210 million women around the world become pregnant (PRCH and AGI, 2003). Among them, about 75 million pregnancies (36%) are unplanned and/or unwanted (WHO, 2004). Most of these unintended pregnancies are not carried to full term, but aborted often in unhygienic condition leading to serious consequences. It is estimated that worldwide about 46 million pregnancies (22% of total pregnancies and 61% of unintended pregnancies) are aborted. It is also estimated that among the total pregnancies each year in South and South East Asia, about one-third are unintended. In Nepal, the data suggest that more than a third (35%) of all pregnancy (Ministry of Health (Nepal), New ERA, and ORC Macro, 2002) and 41 percent of the last pregnancy among currently pregnant women (Adhikari. et al, 2006) are unintended. Studies conducted in USA reported that the higher rates of unintended pregnancy occur in college-age women, with 60% of pregnancies among 20-24 year olds being intended. The percentage of unintended pregnancy is even higher among 18-19 year old women (79%) (Finer and Henshaw, 2001)

Unplanned/unwanted pregnancy is one of the leading causes of maternal mortality and morbidity in south Asia. It is assumed that most women with unwanted/unplanned pregnancies do not continue the pregnancy to the full-term and try to terminate it, often by traditional and harmful methods leading to serious health consequences. The reason for such huge numbers of unintended pregnancies in South Asia includes low contraceptive use, method failure and high unmet need for contraceptives. Each year worldwide, more than 20 million women experience ill health as a result of pregnancy (WHO/SERO 2001). Many of these pregnant women experience permanent disabilities and/or death due to pregnancy and delivery related complications. According to WHO estimate about 529000 women die annually from pregnancy related cause worldwide (WHO/UNICEF/UNFPA, 2004). Ninety percent of these deaths occur in less developed countries (WHO, 2004). It is estimated that between 8 and 30 million pregnancies each

year result from contraceptive failure either due to inconsistent or incorrect use of failure of the method itself (Segal et al. 1990).

The rate of premarital sex has been reported 39 percent among college male and 12 percent among college young females. The average age for first sexual intercourse in college students in Nepal is 18.5 years for boys and 18.0 years for girls. A considerable proportion of boys (10%) and girls (22%) reported that first sexual intercourse was happened without their willingness (Adhikari. 2008a). These students are at the greatest risk of unintended pregnancy. Study also that a large proportion of college students who were studying in Kathmandu (43 percent of male and 55 percent of female) did not use condom at first premarital sex (Adhikari, 2008b).

Studies out side of Nepal reported that basic knowledge of EC was 60% to 90% of the women (Harper and Ellertson, 1999; McDonald and Amir, 1999; Van Royen et.al, 2000). There is general tendency throughout the investigations toward a higher knowledge about EC among young, well educated women and among women already using normal contraceptives of any kind (Persley et.all, 2002).One study conducted in USA in college setting showed that almost all (94%) knew about EC (Vahratian et al 2008).

Research on the awareness of the EC among college students may help to inform policy makers and education planners in Nepal. Unfortunately, no research has been conducted in this area among the students in the country. The aim of our study is to investigate awareness level and influencing factors of awareness about EC among college students with the view to identifying a plausible strategy for reducing unintended pregnancies and unsafe abortion. We hope this study will provide baseline data to assist policy makers and education planners in developing appropriate evidence based strategies and curriculum in school/college to prevent unintended pregnancy and unsafe abortion.

2 Data source and analytical approach

The institutional review board of University of Grant Commission (UGC), Nepal approved this study. The data used in this paper comes from a cross-sectional survey on

'Attitude and behavior towards pre-marital sex among college students of Kathmandu, Nepal' carried out in 2006.

Two-staged random sampling technique was applied in order to sample the college students. The first stage of sampling included random selection of 12 colleges in Kathmandu. In order to select these 12 colleges, a list of all the private and public colleges who were affiliated to Tribhuvan University and located in Kathmandu valley was obtained from the office of the Vice Chancellor in Kathmandu. This list included colleges which provide intermediate (commonly known as Grade 11 & 12), undergraduate and graduate degrees. In the second stage, two classes were selected randomly from each sampled college. These classes were not differentiated by subject. The number of students in one class ranged from 40 to 60 students. Since all the colleges were co-educational, all male and female students present on the day of the interview in the sampled classes were requested to participate in the study. Female and male students were interviewed separately in different classrooms. A total of 1137 college students (573 boys and 564 girls) in Kathmandu valley were interviewed.

Verbal informed consent was obtained from the participants before they were enrolled in the study. Consent form was written in the local language stating the study's objectives, nature of participant's involvement, risk and benefits, and confidentiality of the data. Students were requested to read the consent form carefully. They were given clear options on voluntary participation. It was also made clear that they could refuse to answer any questions and terminate the interview when they desired. None of the approached students refused to participate in the study. Confidentiality of information was ensured by removing personal identifiers from the completed questionnaires. The names of sampled colleges are not made public and thus not possible for anyone outside the research team to trace reported incidents of sexual behavior to respondents. Respondents are protected against any possible adverse repercussions of participating in the study.

All completed surveys were entered into a database immediately after being manually coded and validated. Data entry and validity checks were performed for all the questionnaires by using computer software dBase IV. The cleaned and validated data was transferred into the SPSS for further processing and analysis.

Both bivariate and multivariate techniques were applied to identify the factors associated with the likelihood of having awareness about emergency contraception. Chi-square test was used to test an association. The variables that were significant at the bivariate analysis were reexamined in the multivariate analysis (Binary logistic regression) in order to identify the significant predictors after controlling other variables. During the process of analysis, multicollinearity among the variables was assessed and the least important variables were removed from logistic model.

3. Results

A large majority of the respondents (85%) were in the youth category (15-24 years). A large majority of the men (88%) were unmarried and 91 percent of sample students were from outside of Kathmandu valley. Students covered in this study were from 67 districts out of 75 districts of the country which means many (59%) lived either with friends or alone in Kathmandu. More than half of the men were currently pursuing their undergraduate degree. Awareness of HIV/AIDS was universal among the male college students and knowledge of at least one mode of transmission of HIV/AIDS was also universal. A large majority of the students (91%) had received education related to reproductive health in the school/college (Table not shown). Overall, only about two-thirds of the college students (68%) had heard about EC (Figure 1).

[\(Figure 1 is about Here\)](#)

Table 2 shows clear association between awareness about EC and other background variables such as sex and age of the students, level of education, marital status, permanent place of residence, types of current accommodation, and received RH

education in school/college. For example, male students were more aware (72%) about EC than female (64%) students. Similarly, a higher proportion of younger students aged 15-19 (73%) than the older students (66%) were aware about EC. As unexpected, higher percentage of respondents who have undergraduate level of education (74%) had heard of EC than those who had graduate or post graduate (66%) education. Regarding marital status, unmarried students were more aware about EC than married students. Similarly, awareness level was significantly higher among those who were from outside Kathmandu valley, who lived with either alone or with friend and who had received reproductive health education in school/college. For instance, more than two-thirds students (70%) who were from outside Kathmandu valley while less than three-fifths (57%) who lived in Kathmandu valley were aware about EC. Likewise, those students who were living with their family member were less aware (66%) about EC than those who were living either alone or with friends (72%). A far higher proportion of the respondents who had received RH education in school/college (72%) had heard about EC than those who did not receive RH education (24%).

[\(Table 1 is about here\)](#)

These observed associations in bivariate analysis were reassessed by logistic regression to identify adjusted association with the probability of having awareness about EC. The results are presented in Table 2. As it is seen in the table, variables such as sex of the students, permanent place of residence (district) and RH education are significant predictors for having awareness about EC after controlling other variables. Boys are 1.5 times more likely to be aware about EC compared to girls. Similarly, students who lived in Kathmandu valley were 41 percent (OR=0.59, 95% CI=0.41-0.86) less likely to have awareness about EC than students from outside Kathmandu valley. Likewise, those students who received RH education in school/college were almost 9 times more likely to be aware about EC compared with those who did not receive RH education in school/college.

[\(Table 2 is about here\)](#)

4. Discussion

This study is the first of its type to look at emergency contraception among college students in Nepal. The awareness of EC among students of Tribhuvan University is 66% which is higher than the level found among university students in Kenya (39%) (Muia et.al, 1999), Ghana (Baiden et al, 2002) in Cameroon (63%) (Kongnyuy et. al, 2007). On the other hand, it was very low than among university students in the USA (94%) (Vahratian et al 2008) and Jamaica (84%) (Harper and Ellerton, 1995).

Although emergency contraception is not recommended as a routine family planning method, it is a very useful method after unprotected sexual intercourse to reduce the chance of unplanned or unwanted pregnancies. Emergency contraception is most useful when there is failure of barrier methods such as slippage and breakage of condoms, or when sexual intercourse was unpremeditated. EC is an effective means of preventing unwanted pregnancies, but unfortunately majority of the college-going students are unaware of it. Analysis shows that male students were more likely to be aware of emergency contraception than female students. It could be due to more male are living with their friends. The other reason could be male are more open to talk with friends or seniors about issues of sex and sexuality than female. Similarly, those respondents whose permanent place of residence is outside of Kathmandu were more likely to be aware about EC than those whose permanent residence is Kathmandu valley. It is also found that almost all of the students whose permanent place of residence is Kathmandu are living with their family. These students have limited number of friends compared to those who are from outside. The other reason could be students still feel hesitation to talk about family planning methods or sex related issues with their family members. The other reason might be because the students who with friends are better informed by their peer groups. Although the school curriculum does not include EC, those students who have received RH education in school/college were more likely to aware about EC than others. This may be because teachers of RH usually teach about risky sexual behaviour including the prevention of unwanted or unplanned pregnancies. Similarly these teachers usually teach the students about the emerging issues in reproductive health.

Health education initiatives should target students as they are more likely to be sexually active at a young age and are less well informed about emergency contraception. There is a need to educate students about EC which can help reduce unintended pregnancies, many of which result in unsafe abortion and take a large toll on women's health. Education about EC at college levels could benefit even out-of-college youth, because their friend often are students.

Acknowledgement

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Figure and Tables

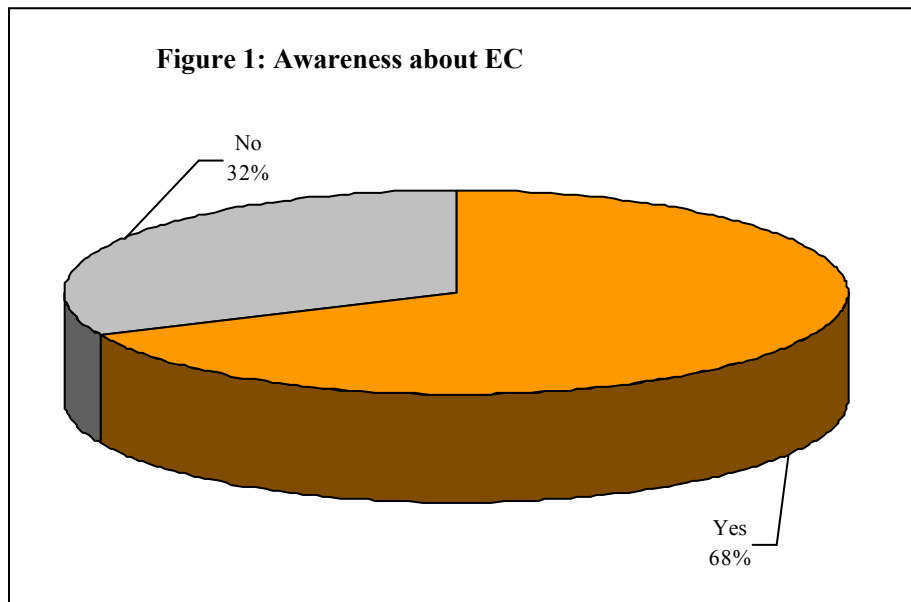


Table 1. Awareness about emergency contraception by background characteristics

	Yes	No	Number	χ^2 (p value)
Sex				
Female	64.2	35.8	564	P<0.01
Male	72.3	27.7	573	
Age group				
15-19	72.5	27.5	418	P<0.05
20 and above	65.8	34.2	719	
Marital Status				
Married	61.8	38.2	165	P<0.05
Unmarried	69.3	30.7	972	
Level of education				
Intermediate	74.3	25.7	272	P<0.05
Bachelor	66.3	33.7	629	
Master degree	66.5	33.5	236	
Permanent place of residence				
Outside Kathmandu valley	70.1	29.9	973	P<0.01
Kathmandu valley	57.3	42.7	164	
Type of current accommodation				
With family members	65.9	34.1	665	P<0.05
Without family members	71.6	28.4	472	
Mass media exposure				
Low exposure	67.7	32.3	802	ns
High exposure (all-Radio,TV & News paper)	69.6	30.4	335	
Received RH education in school/college				
No	23.7	76.3	93	P<0.001
Yes	72.2	27.8	1044	
All	68.2	31.8	1137	

Note: ns= not significant

Table 2. Odd Ratio and 95% CI for having awareness about Emergency Contraception among college students

	OR	95% CI
Sex of the respondents		
Female (Ref.)	1.00	
Male	1.50**	1.12-2.01
Age group		
15-19 (Ref.)	1.00	
20 and above	0.83	0.58-1.19
Level of education		
Intermediate (Ref.)	1.00	
Bachelor	0.85	0.57-1.26
Master degree	0.89	0.53-1.47
Marital Status		
Married (Ref.)	1.00	
Unmarried	1.19	0.82-1.72
District		
Outside valley (Ref.)	1.00	
KTM valley	0.59**	0.41-.86
Type of current accommodation		
With family members (Ref.)	1.00	
Without family members	0.96	0.71-1.31
Received RH education in school		
No (Ref.)	1.00	
Yes	8.92***	5.38-14.78
-2 Log likelihood	1309.4	
Cox & Snell R Square	.094	

*Note** Significant at $p < 0.01$, *** $p < 0.001$, ref= Reference category*