

## Research Article

# Knowledge and Practice on Emergency Contraceptive Pills Among Non-Health Bachelor Level Female Students in Kathmandu

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### Abstract:

**Introduction:** Emergency contraception (ECPs) is hormonal contraception that is used within 72 to 120 hours after unprotected and unsafe sexual intercourse for the prevention of unintended pregnancies. It is important to prevent unwanted pregnancy and there by induced abortion. This study aimed to evaluate the knowledge and practice on ECPs among non-health bachelor level female students in Kathmandu.

**Methodology:** This was a descriptive cross-sectional study of 388 female respondents at non-health bachelor colleges in Kathmandu, Nepal. Simple random sampling technique was used. Pre-tested self-administered questionnaire were used for data collection.

**Result:** The study analyzed the knowledge levels of the study participants, finding that 55.15% had adequate knowledge, while 44.84% had inadequate knowledge. 21.64% practiced ECPs. The study also found a significant association ( $p$  value= 0.04) between knowledge level and ECPs practice.

**Conclusion:** The study found that most respondents had adequate knowledge and a significant prevalence of ECP use in Kathmandu district. It is suggested that ECPs not intended to be used as regular form of contraception and should only be used in emergency situation. Frequent use can lead to irregular menstrual cycle and hormonal imbalances.

**Keywords:** family planning, emergency contraception, unintended pregnancy, non-health bachelor students.

### Introduction

Emergency contraception is hormonal contraception that is used within 72 to 120 hours after unprotected and unsafe sexual intercourse for the prevention of unintended pregnancies. ECPs has the potential to greatly reduce the number of unintended pregnancies.<sup>1</sup> In Nepal, 24% of married women of reproductive age have an unmet need for family planning, and 35.8% of women have knowledge of emergency contraceptives (NDHS 2016). According to the survey of knowledge, attitudes, and practice of emergency contraception among university students in Cameroon, the general level of awareness of emergency contraceptive pills was 63.0% (418/664), and forty-nine students (7.4%) had used emergency contraceptive pills themselves or had a partner who had used them.<sup>2</sup> According to the study conducted at Arba Minch University in 2015 (Ethiopia), it was found that 95.9% of the university's female students had heard about emergency contraceptives, and 58.8% of the respondents had ever practiced emergency contraceptives.<sup>3</sup> According to the survey on KAP on emergency contraception in Nagpur District, Central, 139 (92.7%) had heard of emergency contraception and 8 (5.7%) had previously used ECPs. In the study on married women in the field practicing area of RMCH, Bareilly, nearly a quarter of females had knowledge about EC, and 5.0% of respondents had ever

used an emergency contraception method.<sup>4</sup> According to the study conducted on female health workers at a tertiary care hospital in Karachi, 123 (65.8%) participants had heard about ECPs.<sup>5</sup> According to the study among youths in Parbat District, awareness of EC among respondents was found to be only 47%, and attitudes were found favorable, i.e., 85.10%. The practice of EC was found to be 8.34%.<sup>6</sup>

In the study conducted at Maiya Devi Kanya College, Chitwan, Nepal, 51.2% of the participants had poor levels of knowledge on emergency contraceptive devices. And after educational intervention, 73.2% of the participants had a good level of knowledge.<sup>7</sup> According to the study on Banepa Municipality of Kavre District, Nepal, among 131 respondents, 118 (90.1%) had ever heard about ECPs, and among the sexually involved respondents, 65.1% used ECPs.<sup>8</sup> A study in Lalitpur among adolescent students showed that 61.5% had adequate knowledge on ECP, and the result shows the association between knowledge and attitude, but no significant association between demographic variables with knowledge and attitude was found.<sup>9</sup>

According to the study on "Knowledge and Use of Emergency Contraceptive Pills among Bachelor's Level Female Students of Kathmandu Valley", it was found that 91.4% of the respondents

had ever heard about emergency contraceptives. About 4.6% of the undergraduate female students used ECP.<sup>10</sup> Family planning and reproductive health are priority programs in Nepal. Youth are at high risk for unintended pregnancy due to inconsistent contraceptive use and method failure. Emergency contraceptives are a cost-effective measure to prevent unintended pregnancies and abortions. Understanding the knowledge gap among bachelor's-level students on ECP is essential for planning educational intervention. The study aimed to assess the knowledge and ECP prevalence among bachelor-level females in Kathmandu.

**Materials and Methods**

This was a descriptive cross-sectional study design to collect data from bachelor-level colleges in Kathmandu district, Nepal, from March 2021 to August 2021. The sample size was 388 which was calculated using the formula  $z^2pq/d^2$ , considering the prevalence rate of knowledge of emergency contraceptive pills as 35.8%

(NDHS 2016), with a 95% confidence interval and a 10% non-response rate. Pre-tested self-administered questionnaire were used to collect the data. Data was screened and corrected before analysis using Excel and SPSS for data coding, decoding, and analysis. Descriptive statistics and chi-square tests were used.

**Results**

Out of 388 participants, Majority of female (80.4%) were from the age group 18–22. The majority of the respondents (54.12%) were Brahmin or Chhetri, followed by Janajati (34.79%), Madhesi (4.12%), and others (6.95%). Hinduism was practiced by more than four-fifths of respondents (82.47%). Most of the respondents (89.69%) were from nuclear families. The majority of the respondents (89.69%) were unmarried, followed by married (10.25%), while 0.25% were separated. Almost three-quarters of respondents (72.68%) lived with family, followed by living with relatives (11.85%), living alone or in a hostel (7.47%), and living with friends in a rental (7.9%) (Table 1).

**Table 1: Socio-Demographic Variables**

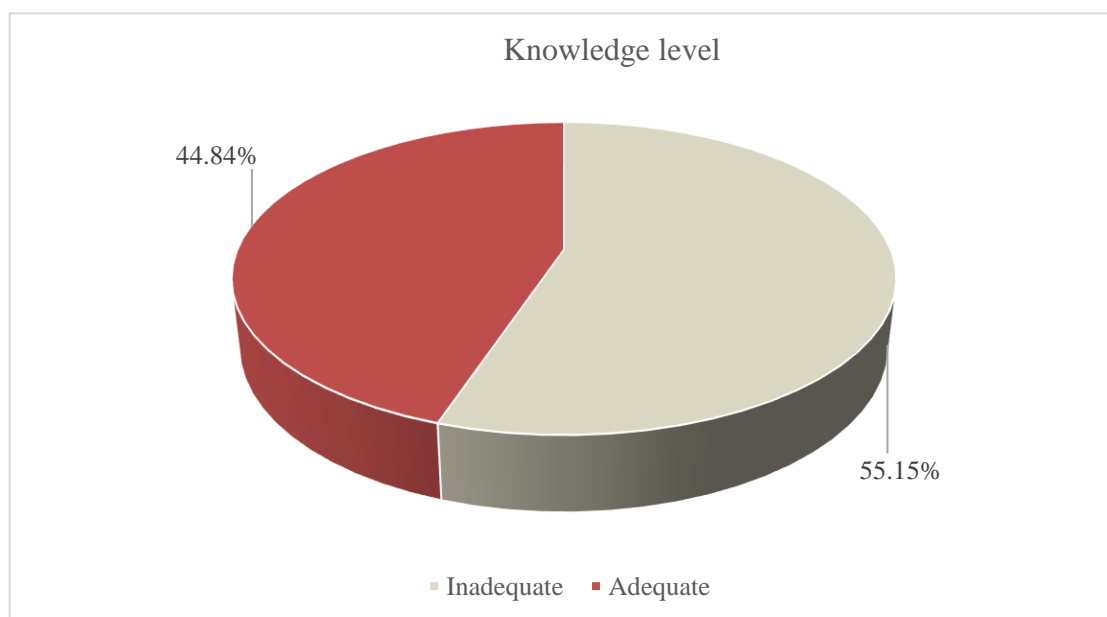
Variables	Frequency(n=388)	Percentage (%)
<b>Heard about ECP</b>		
Yes	388	100
<b>Source of information*</b>		
Friends	178	45.99
Family	32	8.26
Health staffs	38	9.81
Radio/TV	80	20.67
Social media	104	26.87
Internet	118	30.49
Curriculum	126	32.55
<b>Knowledge on Dose of ECP</b>		
Yes	216	55.67
No	172	44.32
<b>Knowledge on side effects of ECP</b>		
Yes	213	54.89
No	175	45.10
<b>Easy Availability of ECP</b>		
Yes	236	60.82
No	35	9.02
Don't Know	117	30.15
<b>Doctor's prescription to buy</b>		
Yes	199	51.28
No	189	48.71
<b>Can be used as FP</b>		
Yes	69	17.8
No	176	45.4
Don't know	143	36.9
<b>Protection from STI</b>		
Yes	42	10.8
No	244	62.9
Don't know	102	26.3

All of the respondents had heard of ECP. The majority of respondents obtained information about emergency contraception from friends (45.99%), while the least (8.26%) learned about it from family. More than half of respondents were aware of the ECP dose (55.67%) and side effects (54.89%). Almost two-thirds of respondents (60.82%) agreed that ECP was easily accessible, while half (51.28%) said it could only be purchased with a doctor's prescription. However, slightly below half of the respondents (45.4%) said ECP cannot be used for family planning, and nearly two-thirds (62.9%) said ECP does not protect against STIs (Table 2).

**Table 1: Knowledge on Emergency Contraceptive Pills**

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More than half of the students who participated (55.15%) had adequate knowledge, while slightly less than half (44.84%) had inadequate knowledge on ECP. (Figure 1).



**Figure 1: Level of knowledge**

Among 388 participants, more than one fifth (21.64%) had practiced the use of ECP (Figure 2).

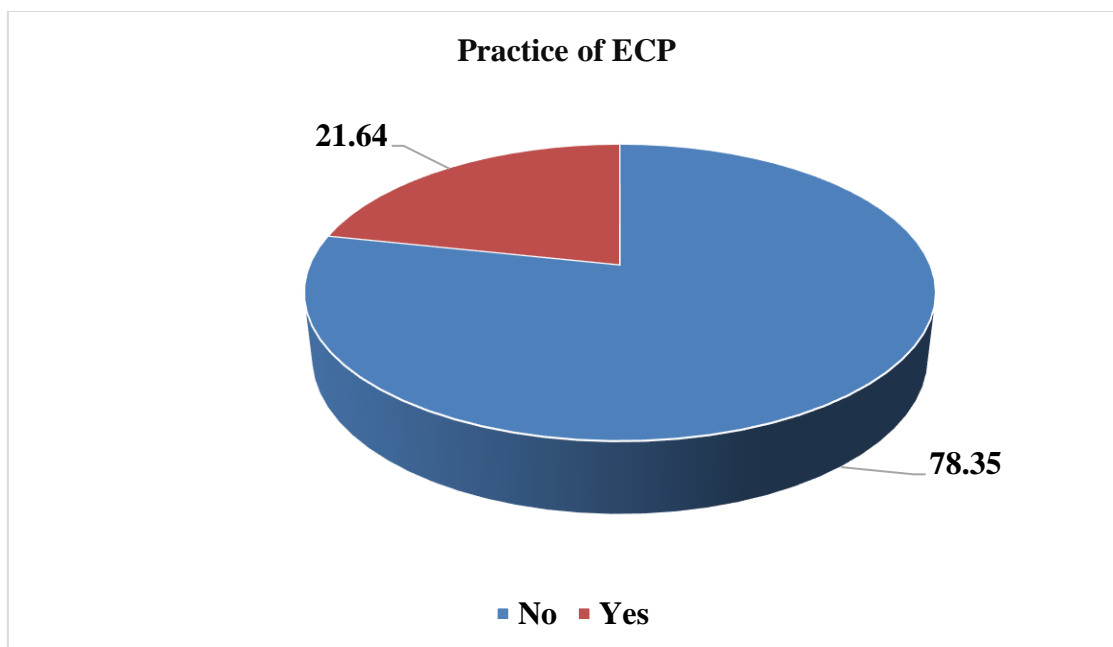


Figure 2: Practice of emergency contraceptive pills

Among 84 ECP users, the majority (92.8%) used ECP because they had unprotected sex, the fewest (2.38%) used ECP as a regular method of family planning, and nearly two-thirds (60.71%) used Econ as a method of ECP to prevent unwanted pregnancy. More than half of the ECP users (59.52%) faced difficulties during the purchase of ECP. The majority of the users (91.66%) didn't use a doctor's prescription to get ECPs. More than four-fifths of ECP users (82.14%) experienced complications as a result of their use. ECP was found to be effective by all respondents, but only slightly more than one-fifth (23.8%) continued to use it. (Table 3).

Table 2: Practice of ECPs

Variables	Frequency(n=84)	Percentage (%)
<b>Reason to use</b>		
Had unprotected sex	78	92.8
Breakage of condom	3	3.57
Regular method of family planning	2	2.38
Others (mention)	1	1.19
<b>ECP used</b>		
I pill	20	23.8
E con	51	60.71
Ok	1	1.19
Other	12	14.28
<b>Difficulties faced while buying?</b>		
Yes	50	59.52
No	34	40.47
<b>Got easily</b>		
Yes	50	59.52
No	34	40.47
<b>Used doctor's prescription</b>		
Yes	7	8.33
No	77	91.66
<b>Felt complications</b>		
Yes	69	82.14
No	15	17.85
<b>Is ECP effective?</b>		
Yes	84	100
<b>Continuing ECP</b>		
No	64	76.19
Yes	20	23.8

As the p-value is less than 0.05, it shows there is a relationship between knowledge level and age of respondents (p-value <0.001), knowledge level and type of family (p-value = 0.019), knowledge level and living arrangements (p-value <0.001), knowledge level and source of income (p-value = 0.040) (Table 4).

**Table 3: Association among Knowledge and Independent Variables**

<b>Variables</b>	<b>Adequate knowledge n (%)</b>	<b>Inadequate knowledge n (%)</b>	<b>Chi square value</b>	<b>P-value</b>
<b>Age group**</b>				
18-23	125(40.1)	187(59.9)	13.192	<0.001
23-28	48(63.2)	28(36.8)		
<b>Ethnicity*</b>				
Brahmin/Chhetri/Thakuri	99(47.1)	111(52.9)	7.71	0.102
Janajati	54(45.8)	64(54.2)		
Tharu	9(52.9)	8(47.1)		
Madhesi	5(31.2)	11(68.8)		
Others (Dalit, Muslim)	6(22.2)	21(77.8)		
<b>Religion</b>				
Hindu	151(47.2)	169(52.8)	5.426	0.066
Buddhist	20(33.9)	39(66.1)		
Others (Christian, Muslim)	2(22.2)	7(77.8)		
<b>Family size*</b>				
2-7	157(45.1)	191(54.9)	0.380	0.538
7-11	16(40.0)	24(60.0)		
<b>Family structure**</b>				
Joint	26(32.9)	53(67.1)	5.47	0.019
Nuclear	147(47.6)	162(52.4)		
<b>Marital status*</b>				
Married	20(51.3)	19(48.7)	2.06	0.356
Unmarried	152(43.7)	196(56.3)		
Separated	1(100)	0		
<b>Living arrangements**</b>				
Living with family	120(42.6)	162(57.4)	29.32	<0.001
Living with relatives	10(21.7)	36(78.3)		
Living on rent alone/hostel	23(79.3)	6(20.7)		
Living on rent with friends	20(64.5)	11(35.5)		
<b>Occupation*</b>				
Student	157(45.2)	190(54.8)	0.574	0.449
Other (Part time, Full time)	16(39.0)	25(61.0)		
<b>Source of income**</b>				
Agriculture	12(33.3)	24(66.7)	11.65	0.040
Government services	21(32.8)	43(67.7)		
Labor	2(20.0)	8(80.0)		
Business	89(49.2)	92(50.8)		
Foreign job	16(44.4)	20(55.6)		
Others	33(54.1)	28(45.9)		

Chi-square test revealed a significant relationship between practice and respondents' age and living arrangements (P-value <0.001). (Table 5).

**Table 4: Association between Practice and Independent Variables**

Variables	Practice n (%)	No practice n (%)	Chi square value	P-value
<b>Age group**</b>				
18-23	50(16.0)	262(84.0)	29.70	<0.001
23-28	34(44.7)	42(55.3)		
<b>Ethnicity*</b>			9.30	0.054
Brahmin/Chhetri/Thakuri	42(20)	168(80.0)		
Janajati	34(28.8)	84(71.2)		
Tharu	3(17.6)	14(82.4)		
Madhesi	4(25.0)	12(75.0)		
Others (Dalit, Muslim)	1(3.7)	26(96.3)		
<b>Religion*</b>			0.182	0.913
Hindu	68(21.2)	252(78.8)		
Buddhist	14(23.7)	45(76.3)		
Others (Christian, Muslim)	2(22.2)	7(77.8)		
<b>Family size*</b>			0.295	0.587
2-7	74(21.3)	274(78.7)		
7-11	10(25.0)	30(75.0)		
<b>Family structure*</b>			1.57	0.209
Joint	13(16.5)	66(83.5)		
Nuclear	71(23.0)	238(77.0)		
<b>Marital status*</b>			5.85	0.054
Married	12(30.8)	27(69.2)		
Unmarried	71(20.4)	277(79.6)		
Separated	1(100)	0		
<b>Living arrangements**</b>				
Living with family	63(22.3)	219(77.7)	26.79	<0.001
Living with relatives	2(4.3)	44(95.7)		
Living on rent alone/hostel	3(10.3)	26(89.7)		
Living on rent with friends	16(51.6)	15(48)		
<b>Occupation*</b>			0.125	0.725
Student	76(21.9)	271(78.1)		
Other (Part time, Full time)	9(19.5)	33(80.5)		
<b>Source of income*</b>			9.51	0.090
Agriculture	3(8.3)	33(91.7)		
Government services	15(23.4)	49(76.6)		
Labor	2(20.0)	8(80.0)		
Business	45(24.9)	136(75.1)		
Foreign job	3(8.3)	33(91.7)		
Others	16(26.2)	45(73.8)		

There is a significant association (p-value=0.04) between practice and the level of knowledge of the respondents (Table 6).

**Table 5: Association between Knowledge Level and Practice of ECP**

Variables	Knowledge level		Chi-square value	P-value
Practice	20(23.80)	64(76.19)	43.33	0.04
No practice	195 (64.14)	109(35.85)		

## Discussion

A study analyzing the knowledge level of emergency contraceptives (ECP) among 388 female respondents found that 55.15% had adequate knowledge, while 44.84% had inadequate knowledge. In the study done among higher-level students, only 28.9% had adequate knowledge, while 71% had inadequate

knowledge.<sup>11</sup> According to the research held at Lalitpur among adolescent students, 211 (61.5%) had adequate knowledge of ECP, while 125 (36.5%) had inadequate knowledge of ECP. <sup>9</sup>. 37.5% of students were found to have adequate knowledge in the study of India. <sup>12</sup>; the difference might be due to the age and educational level of students. Among the sample population, the majority of the sample (45.99%) received information about

emergency contraceptives from friends. Three-fourth of respondent (75%) identified ECP as a device used after sexual intercourse. 62.9% believed ECP doesn't provide protection from STIs, and 46.4% believed it's 50%-75% effective.

Among the sample population, only 21.64% had used ECP, which is similar to the study conducted among female undergraduates in non-residential institutions in Nigeria, which has a prevalence of 21.7%, which is high as compared to the study conducted in Kathmandu, which shows a 4.6% prevalence of ECP<sup>10</sup>, and less than the study done in Lekhnath Municipality, Banepa, where 28.1% had used ECP<sup>4</sup>, whereas a study carried out at Durgabai Deshmukh Hospital, Hyderabad, shows that 14.6% of the population had practiced EC. This difference could be due to participants, as the study was conducted only among non-health bachelor's level female students. In a study conducted among university students in Ghana, 36% of sexually active respondents used ECP, which is higher than our findings. In a study in Kathmandu, 92.85% of the sample population practiced ECP due to unprotected sex, with 75% citing "unprotected sex" as the reason whereas the study in Banepa, two-thirds reported unprotected sexual intercourse.<sup>8, 13</sup>. Such a scenario could be improved through knowledge and awareness among the users, proper counseling, and increased availability of suitable contraceptive methods.

Our study shows that about 85.71% of respondents purchased ECP from a pharmacy; similar to the study conducted in Banepa, Lekhnath Municipality<sup>8</sup>, which seems to be the easiest place to buy, focusing on privacy and confidentiality. The type of ECP used by the sample population was E-con, which was used by 60.71%, 23.8% used I-pills, and only 1% consumed OK as ECP, whereas I-pills were used by 50% and E-con by 45% in the study conducted through the nested study on Pokhara and Kathmandu. This may be due to its high popularity, as shown in advertisements widely distributed on Indian and Nepali channels.

Among the sample population, 59.52% said they had faced difficulties while buying ECP, and most of the students felt difficulties due to their shyness, in which majority of the respondents (91.66%) said that they didn't need a doctor's prescription to buy ECP. About two-thirds of respondents (66.66%) used ECP within 24 hours of unsafe sexual intercourse, and 40% in India used it between 12 and 24 hours, compared to 56.3% using it within 72 hours in the study conducted in Kathmandu<sup>10</sup>. Among the sample population 45.23% purchased ECP by themselves. 82.14% said they had complications. The type of complications faced after consumption of ECP by the sample population was, 66.17% of them have faced irregular menstruation. On the effectiveness of ECP, all 84 members of the sample population found it effective for them.

The Chi-square test indicates a significant association between dependent and independent variables such as knowledge level, age, family type, living arrangements, and income source, with a p-value below 0.05. The study analyzed the relationship between practice and age and living arrangements of respondents in Kathmandu. It found a significant association between practice and age and living arrangements of the

respondent with p-value = 0.000. However, the study done in Kathmandu shows that socio-demographic factors, such as age group and marital status, also had an association with ECP practice with p-value 0.001.<sup>10</sup>

The study also aimed to analyze the association between practice and knowledge level in the sample population. Results showed a p-value of <0.05, indicating a relationship between practice and respondents' knowledge levels. The study, conducted in India, also showed a strong association between users and their knowledge levels<sup>14</sup>. The random sample of females was used, providing a basis for comparison and highlighting stress issues among adults.

## Conclusion

This study was conducted to assess the prevalence of use of ECP among bachelor-level females in a larger population in different places and to reduce frequent use of such practices from the root by raising awareness regarding the issue. Also, factors associated with use and effect were explored. The study highlights the need to motivate women for effective and appropriate use of emergency contraception when required and arrest the trend towards unwanted pregnancy.

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## Conflicts of Interest

All authors declare that there is no conflict of interest regarding the publication of this paper.

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## Authors' contributions

Sinju Khatiwada drafted a proposal, collected data, analyzed it, and wrote a report. Amisha Bhattarai assisted on data analysis and manuscript writing, and Amrit Bist reviewed the manuscript.

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