



## Repeat Use of Emergency Contraceptive Pills: Patterns and Associated Risk Factors

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### KEYWORDS

Emergency contraceptive pills, repeat use, unintended pregnancy, contraception, Bangladesh.

### ABSTRACT:

**Background:** Emergency contraceptive pills (ECPs) are widely used to prevent unintended pregnancy after unprotected sexual intercourse or contraceptive failure. However, repeated use of ECPs may indicate inadequate use of regular contraceptive methods and gaps in reproductive health awareness.

**Objective:** This study aimed to assess the pattern of repeat use of emergency contraceptive pills and identify associated risk factors among women of reproductive age.

**Methods:** A cross-sectional study was conducted in the Department of Obstetrics and Gynaecology from January 2025 to December 2025 at Bangladesh Medical University (BMU) and selected private hospitals and selected private hospitals. Data were collected using a structured questionnaire covering socio-demographic characteristics, reproductive history, patterns of ECP use, sources of information, and associated factors. Descriptive statistics were used to summarize the data, and chi-square tests were applied to determine associations between selected variables and frequent ECP use ( $\geq 5$  times per year). A p-value of  $< 0.05$  was considered statistically significant.

**Results:** Among the respondents, 29.3% reported frequent use of ECPs ( $\geq 5$  times per year). The most common reason for ECP use was unprotected intercourse (46.3%), followed by condom breakage (18.7%) and missed regular contraceptive pills (18.0%). Most participants took ECP within 24 hours after intercourse (45.3%). Frequent use was significantly associated with marital status ( $p = 0.011$ ), educational level ( $p = 0.003$ ), monthly family income ( $p = 0.048$ ), and lack of regular contraceptive use ( $p < 0.001$ ). Age group and parity were not significantly associated. Irregular menstruation (35.3%) was the most commonly reported side effect.

**Conclusion:** Repeat use of emergency contraceptive pills is common among women of reproductive age and is influenced by socio-demographic and reproductive factors. Strengthening reproductive health education and promoting regular contraceptive methods are essential to reduce repeated reliance on emergency contraception.

## INTRODUCTION

Emergency contraceptive pills (ECP) are an essential component of reproductive health services, providing women with a post-coital method to prevent unintended pregnancies after unprotected intercourse or contraceptive failure [1,2]. Globally, the availability and use of ECP have increased over the past decades; however, repeated use of these pills has raised concerns

regarding patterns of utilization, knowledge, and associated risk factors [3-5]. Studies from the United Kingdom and African countries have highlighted that younger women are more likely to engage in repeated ECP use, often due to irregular use of regular contraception or inconsistent sexual health practices [3,4].

In South Asia, and particularly in Bangladesh, awareness and utilization of ECP remain limited despite its



availability. National surveys and clinic-based studies have reported low levels of knowledge about ECP among women of reproductive age, while socio-demographic factors such as education, income, and marital status influence both awareness and utilization patterns [6-8]. Factors such as parity, history of unintended pregnancy, and regular contraceptive use have also been associated with repeated ECP use [9,10].

Despite increasing use, data on the patterns and determinants of repeated ECP use in Bangladesh remain scarce. Previous studies have identified missed opportunities for counseling during antenatal visits or family welfare outreach programs, which contribute to misuse or inconsistent use of ECP [7]. Similarly, studies from neighboring countries such as India, Pakistan, and Nepal report that misconceptions, limited knowledge, and reliance on informal sources of information often drive repeated ECP use [11-14].

Understanding the socio-demographic and reproductive characteristics associated with frequent ECP use is crucial for developing targeted interventions that improve family planning practices and reduce unintended pregnancies. This study aimed to assess the patterns, frequency, and associated factors of repeated ECP use among women attending BMU and selected private hospitals in Bangladesh. The findings are expected to inform healthcare providers and policymakers about high-risk groups and guide strategies for improving access, counseling, and safe use of emergency contraception in the country.

## METHODOLOGY

### Study design and setting

This was a cross-sectional observational study conducted in the Department of Obstetrics and Gynaecology from January 2025 to December 2025 at Bangladesh Medical University (BMU) and selected private hospitals. The study aimed to assess the patterns, frequency, and factors associated with repeat use of emergency contraceptive pills (ECP) among women of reproductive age.

### Study population

The study included women aged 18 years and above who reported using ECP at least once in the past 12 months. Women with serious medical conditions or those unwilling to provide informed consent were excluded.

### Sample size

A total of 150 respondents were purposively selected based on previous literature on repeat ECP use and feasibility considerations. The sample size was considered adequate to detect significant associations between socio-demographic, reproductive, and behavioral factors and frequent ECP use.

### Data collection

Data were collected using a structured interviewer-administered questionnaire. The questionnaire included sections on:

- **Socio-demographic characteristics:** Age, marital status, education, occupation, and monthly family income.
- **Reproductive characteristics:** Parity, history of unintended pregnancy, and regular contraceptive use.
- **ECP usage patterns:** Number of ECP uses in the past 12 months, reason for use, and timing of intake.
- **Source and access of ECP:** Source of information and place of obtaining the pill.
- **Reported side effects:** Any physical symptoms following repeat use of ECP.

The questionnaire was pretested on a small sample of women ( $n = 15$ ) to ensure clarity, reliability, and relevance.

### Data analysis

Collected data were entered into Microsoft Excel and analyzed using SPSS version 26.0. Descriptive statistics were used to summarize frequencies and percentages for categorical variables. The association between frequent ECP use ( $\geq 5$  times/year) and selected socio-demographic, reproductive, and behavioral factors was assessed using Chi-square ( $\chi^2$ ) tests. Statistical significance was considered at  $p < 0.05$ .

### Ethical considerations

The study was approved by the Institutional Review Board (IRB) of BMU. Written informed consent was obtained from all participants after explaining the study objectives, procedures, and confidentiality measures.



Participation was voluntary, and respondents could withdraw at any time without any consequences.

## RESULTS

### Socio-demographic characteristics

A total of 150 respondents participated in the study. The majority of participants were aged 18–24 years (52; 34.7%), followed by 25–29 years (48; 32.0%), 30–34 years (30; 20.0%), and  $\geq 35$  years

(20; 13.3%). Most respondents were married (92; 61.3%), while 58 (38.7%) were unmarried.

Regarding educational status, 46 (30.7%) were graduates, 44 (29.3%) had completed higher

secondary education, 32 (21.3%) had secondary education, 15 (10.0%) had below secondary education, and 13 (8.7%) were postgraduates. The majority of respondents were housewives (56; 37.3%), followed by service holders (44; 29.3%), students (34; 22.7%), businesswomen (10; 6.7%), and others (6; 4.0%). Monthly family income was predominantly in the range of 20,000–40,000 BDT (50; 33.3%), followed by 40,001–60,000 BDT (42; 28.0%), >60,000 BDT (34; 22.7%), and <20,000 BDT (24; 16.0%) (Table 1).

**Table 1. Socio-demographic characteristics of the respondents (n = 150)**

Variable	Frequency (n)	Percentage (%)
<b>Age group (years)</b>		
18–24	52	34.7
25–29	48	32.0
30–34	30	20.0
$\geq 35$	20	13.3
<b>Marital status</b>		
Married	92	61.3
Unmarried	58	38.7
<b>Education level</b>		
Below Secondary	15	10.0
Secondary	32	21.3

Higher secondary	44	29.3
Graduate	46	30.7
Postgraduate	13	8.7
<b>Occupation</b>		
Student	34	22.7
Housewife	56	37.3
Service holder	44	29.3
Business	10	6.7
Others	6	4.0
<b>Monthly family income (BDT)</b>		
<20,000	24	16.0
20,000–40,000	50	33.3
40,001–60,000	42	28.0
>60,000	34	22.7

### Reproductive characteristics

Regarding parity, 58 (38.7%) respondents were nulliparous, 52 (34.7%) had one child, and 40 (26.6%) had two or more children. History of unintended pregnancy was reported by 46 (30.7%) respondents. More than half of the participants (88; 58.7%) reported regular use of contraceptives, while 62 (41.3%) did not use any regular contraception (Table 2).

**Table 2. Reproductive characteristics of the respondents (n = 150)**

Variable	Frequency	Percentage
<b>Parity</b>		
Nulliparous	58	38.7
1 child	52	34.7
$\geq 2$ children	40	26.6
<b>History of unintended pregnancy</b>		
Yes	46	30.7



No	104	69.3
Regular contraceptive use		
Yes	88	58.7
No	62	41.3

### Pattern of emergency contraceptive pill (ECP) use

The number of ECP uses in the past 12 months varied, with 54 (36.0%) using it 3–4 times, 46 (30.7%) using it twice, 32 (21.3%) using it 5–6 times, and 18 (12.0%) using it  $\geq 7$  times. The most common reason for ECP use was unprotected intercourse (71; 46.3%), followed by condom breakage or slippage (28; 18.7%), missed regular contraceptive pill (27; 18.0%), and absence of regular contraception (24; 16.0%). Most respondents (68; 45.3%) took ECP within 24 hours of

intercourse, 57 (38.0%) within 24–48 hours, and 25 (16.7%) within 48–72 hours (Table 3).

**Table 3. Pattern of emergency contraceptive pill use (n = 150)**

Pattern of use	Frequency	Percentage
<b>Number of ECP uses in last 12 months</b>		
2 times	46	30.7
3–4 times	54	36.0
5–6 times	32	21.3
$\geq 7$ times	18	12.0
<b>Reason for using ECP</b>		
Unprotected intercourse	71	46.3
Condom breakage/slippage	28	18.7
Missed regular contraceptive pill	27	18.0
No regular contraception	24	16.0
<b>Time of taking ECP after intercourse</b>		
Within 24 hours	68	45.3

24–48 hours	57	38.0
48–72 hours	25	16.7

### Source of information and access to ECP

Friends or peers were the primary source of information for ECP use among 43 (28.7%)

respondents, followed by pharmacists (38; 25.3%), internet/social media (36; 24.0%),

doctors/health workers (23; 15.3%), and others (10; 6.7%). Most participants obtained ECP from

pharmacies (96; 64.0%), followed by private hospitals or clinics (34; 22.7%), government facilities

(12; 8.0%), and online purchase (8; 5.3%) (Table 4).

**Table 4. Source of information and access to emergency contraceptive pills (n = 150)**

Variable	Frequency	Percentage
<b>Source of information</b>		
Friends/peers	43	28.7
Pharmacist	38	25.3
Internet/social media	36	24.0
Doctor/health worker	23	15.3
Others	10	6.7
<b>Place of obtaining ECP</b>		
Pharmacy	96	64.0
Private hospital/clinic	34	22.7
Government facility	12	8.0
Online purchase	8	5.3

### Factors associated with frequent ECP use

Among the participants, 44 (29.3%) reported frequent use of ECP ( $\geq 5$  times/year). Frequent use was more common among unmarried women (24; 41.4%) compared to married women (20; 21.7%) ( $\chi^2 = 6.41$ ,  $p = 0.011$ ). Educational status was significantly associated with frequent use: 9 (60.0%) of respondents with below secondary education reported frequent ECP use, whereas



only 1 (7.7%) postgraduate respondent reported similar use ( $\chi^2 = 16.21, p = 0.003$ ). Monthly family income and regular contraceptive use were also significantly associated with frequent ECP use. Frequent use was higher among participants with monthly family income <20,000 BDT (12; 50.0%) compared to those with >60,000 BDT (6; 17.6%) ( $\chi^2 = 7.92, p = 0.048$ ). Respondents not using regular contraception were more likely to use ECP frequently (28; 45.2%) compared to regular users (16; 18.2%) ( $\chi^2 = 12.67, p < 0.001$ ). Age group ( $\chi^2 = 4.73, p = 0.193$ ) and parity ( $\chi^2$

$= 4.87, p = 0.087$ ) were not significantly associated with frequent ECP use (Table 5).

**Table 5. Association between selected factors and frequent ECP use ( $\geq 5$  times/year) (n =150)**

Variable	Frequent use ( $\geq 5$ times/year) (%)	Less frequent use (<5 times/year) (%)	Total n	$\chi^2$	p value
<b>Age group (years)</b>					
18–24	20 (38.5)	32 (61.5)	52		
25–29	14 (29.2)	34 (70.8)	48		
30–34	6 (20.0)	24 (80.0)	30		
$\geq 35$	4 (20.0)	16 (80.0)	20	<b>4.73</b>	<b>0.193</b>
<b>Marital status</b>					
Married	20 (21.7)	72 (78.3)	92		
Unmarried	24 (41.4)	34 (58.6)	58	<b>6.41</b>	<b>0.011</b>
<b>Education level</b>					
Below Secondary	9 (60.0)	6 (40.0)	15		
Secondary	14 (43.8)	18 (56.2)	32		
Higher Secondary	12 (27.3)	32 (72.7)	44		
Graduate	8 (17.4)	38 (82.6)	46		
Postgraduate	1 (7.7)	12 (92.3)	13	<b>16.2</b>	<b>0.003</b>

<b>Monthly family income (BDT)</b>					<b>1</b>
<20,000	12 (50.0)	12 (50.0)	24		
20,000–40,000	16 (32.0)	34 (68.0)	50		
40,001–60,000	10 (23.8)	32 (76.2)	42		
>60,000	6 (17.6)	28 (82.4)	34	<b>7.92</b>	<b>0.048</b>
<b>Parity</b>					
Nulliparous	22 (37.9)	36 (62.1)	58		
1 child	14 (26.9)	38 (73.1)	52		
$\geq 2$ children	8 (20.0)	32 (80.0)	40	<b>4.87</b>	<b>0.087</b>
<b>Regular contraceptive use</b>					
Yes	16 (18.2)	72 (81.8)	88		
No	28 (45.2)	34 (54.8)	62	<b>12.67</b>	<b>&lt;0.001</b>

**Reported side effects after repeat ECP use**

Among the respondents, 53 (35.3%) reported irregular menstruation as a side effect of ECP use. Other side effects included nausea or vomiting (32; 21.3%), headache (25; 16.7%), and breast tenderness (14; 9.3%). Notably, 26 (17.3%) respondents reported no side effects following repeat

use (Table 6).

**Table 6. Reported side effects after repeat ECP use (n = 150)**

Side effect	Frequency	Percentage
Irregular menstruation	53	35.3
Nausea/vomiting	32	21.3



Headache	25	16.7
Breast tenderness	14	9.3
No side effects	26	17.3

## DISCUSSION

This study assessed the pattern of repeat use of emergency contraceptive pills (ECPs) and associated factors among women of reproductive age. The findings indicate that a large proportion of respondents were young women aged 18–29 years, which is consistent with previous studies showing that younger women are more likely to seek emergency contraception due to higher sexual activity and greater exposure to reproductive health information [15,16]. However, age was not significantly associated with frequent ECP use in the present study, suggesting that repeat use may depend more on behavioral and socioeconomic factors than age alone.

Marital status showed a significant association with frequent ECP use, with unmarried women reporting higher repeat use compared to married women. This finding is consistent with previous research indicating that unmarried women are more likely to rely on emergency contraception following unprotected intercourse or inconsistent contraceptive use [17,18]. Educational status

was also significantly associated with repeat use, where women with lower educational levels reported more frequent use of ECPs than those with higher education. Similar findings have been reported in other studies, which suggest that limited knowledge about regular contraceptive methods may increase reliance on emergency contraception [15,19].

Monthly family income was another factor associated with frequent ECP use, with women from lower-income households reporting higher repeat use. Economic limitations may influence access to regular contraceptive services and encourage reliance on easily accessible emergency contraceptive pills [17]. In addition, women who did not use regular contraception were significantly more likely to use ECPs repeatedly, which supports findings from earlier studies showing that inconsistent or absent use of regular contraceptives increases dependence on emergency methods [20,21].

Regarding the pattern of use, many respondents reported using ECPs multiple times within the previous year, indicating that repeat use is relatively common. Similar trends have been reported in studies from different countries where repeated use of emergency contraception was observed among women seeking pregnancy prevention after unprotected intercourse [22–24]. Unprotected intercourse was the most common reason for ECP use in the present study, followed by condom breakage and missed oral contraceptive pills, which aligns with previous literature identifying contraceptive failure and inconsistent use as major reasons for emergency contraception [18].

Most participants reported taking ECP within 24 hours after intercourse, which is encouraging because earlier use increases contraceptive effectiveness. Previous studies have also emphasized the importance of timely administration for optimal efficacy [25]. Friends and peers were the main source of information regarding ECPs, followed by pharmacists and internet or social media platforms. This suggests that informal communication channels and easily accessible pharmacy services play a significant role in the dissemination and accessibility of emergency contraception [23,25].

Finally, several respondents reported side effects such as irregular menstruation, nausea, and headache, which are commonly reported adverse effects associated with hormonal emergency contraception [26]. However, a proportion of women reported no side effects, indicating that ECPs are generally well tolerated.

Overall, the findings highlight that repeat use of ECPs is influenced by factors such as marital status, education, income, and lack of regular contraceptive use. Strengthening reproductive health education and promoting regular contraceptive methods may help reduce reliance on repeated emergency contraception and improve family planning practices.

## CONCLUSION

This study found that repeat use of emergency contraceptive pills (ECPs) is relatively common among women of reproductive age, with nearly one-third reporting frequent use. Unprotected intercourse and contraceptive failure were the major reasons for ECP use. Frequent use was significantly associated with unmarried status, lower educational level, lower family income, and



non-use of regular contraception. Pharmacies and peers were the main sources of information and access to ECPs. Strengthening reproductive health education and promoting regular contraceptive methods are essential to reduce repeated reliance on emergency contraception.

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