



Knowledge, attitude and practise of emergency contraception among women of reproductive age group attending teaching hospital of Uttarakhand

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Abstract

Background: Emergency contraception (EC) is a method of contraception that is used to prevent pregnancy after an act of unprotected sexual intercourse. EC is intended for occasional or emergency use only and not as a regular means of contraception. Unintended pregnancy poses a major challenge to the reproductive health of young adults in developed countries.

Objective:

1. Assess the knowledge, attitude and practice and acceptance of emergency contraceptive pills among women of child bearing age.
2. Identify barriers to the use of emergency contraceptive pills among females of reproductive age group.

Methods: A cross-sectional study was conducted among women of reproductive age group attending the obstetric and gynaecological OPD by using anonymous pretested structured questionnaire and respondents were asked all types of questions which could help us to assess their knowledge attitude practice and acceptability of emergency contraception.

Results: Out of 350 females surveyed 89.71 % of females have knowledge of emergency contraceptive methods, however only 18.57% women were using it. Main source of information was mass media in 49.36 % of cases. 75.79 % were aware of correct timing of its usage, 81.52% of women uses it after unprotected intercourse and 53.50 % women recommends it to other women and 52.3% women experience some kind of menstrual disturbance after using it and large number 89.23 % women found it to be effective in preventing unwanted pregnancy. Although it has been provided as over the counter drug its usage among females is less due to hesitation in demanding and worry of having side effects after its consumptions.

Conclusions: Formal education is the key to solve the problem of less usage of emergency contraceptives and needs to be publicized by professional associations, women's health groups, grass root level workers and NGOs to spread awareness and use of emergency contraception to avoid unintended pregnancy.

Keywords: NGOs, emergency, EC, women

Introduction

India is the second most populous country in the world and adds more people to its population every year than any other country, in fact the individual population of some of its states is equal to the total population of many countries. India was the first country in the world to adopt an official population policy and launch official family planning programme way back in 1952 which remains the mainstay of family planning efforts with the prime objective of reducing birth rate ^[1].

India is one of the few nations in the world that registered a drop in contraceptive use (any method), from 56.3% in 2005-06 to 53.5% in 2015-16, shows data from the National Family Health Survey ^[2]

Proper use of family planning methods is the single most important intervention to reduce burden of unwanted, unplanned pregnancies, unsafe abortions, promotes healthy living among young women and in turn reduce population growth ^[3].

Unintended pregnancy is a global concern and can be prevented by access to contraceptive methods including emergency contraceptives which serves as a backup in case regular contraception fails ^[4, 5].

Emergency contraceptive pills were introduced as a

prescription drug by the GoI in 2003 under National Family Welfare Program, as one of the tools to fight against unintended pregnancy, however it was not able to decrease unsafe and illegal abortions substantially and later was converted to over the counter drug in 2005 ^[6]

EC is found to be effective if used as soon as possible after unprotected sexual intercourse, and reduce the risk of unintended pregnancy by 75 % to 99 % especially within 72 hours of unprotected sexual intercourse ^[7, 8, 9].

ECs are cost-effective, medically safe, and highly effective to be used for the prevention of unplanned pregnancy and subsequently avoid unsafe abortion and other consequences ^[10]

Though, WHO recommended EC as safe, convenient and effective method of contraception, but it is not widely accepted and utilised by the women in reproductive age group in various parts of India. Even after making EC an over the counter preparation, studies show that awareness and use of ECP's is still low. National Demographic and Health Survey data show that less than 1 % of married women have ever used ECP's and less than one third of unmarried women know about ECP's ^[11].

Hence, this study was conducted among women of reproductive age group to assess the knowledge, attitude and

practice of usage of emergency contraception in a teaching hospital of Uttarakhand.

Aims and Objective

1. Assess the knowledge, attitude and practice and acceptance of emergency contraceptive pills among women of child bearing age.
2. Identify barriers to the use of emergency contraceptive pills among females of reproductive age group.

Methods

A cross-sectional study was conducted among women of reproductive age group attending the obstetric and gynaecological OPD including the patients and their female attendants over a period of 3 months i.e from August to October 2019. Data was collected using anonymous pretested structured questionnaire. Informed consent was taken prior to the study, women were explained about the

study and in case of illiterate subjects nursing staff gave the guidance to fill the questionnaire. The questionnaire covered the following demographic points like age, address, religion, education, total family income, socioeconomic status, no of living children, no of abortions and its reason, menstrual history. Also, information regarding kind of contraceptive method available and use by them at any point of time and their preference was assessed. The respondents were asked all types of questions which could help us to assess their knowledge attitude practice and acceptability of emergency contraception.

Results

In a period of 3 months, 389 females were given questionnaires but only 350 females gave consent to be included in the study and filled their forms. The response rate was 89.97 %.

Table 1: Socio- Demographic Characteristics

Variable	Number	Percentage (%)
Age		
<20	102	29.14
20 – 30	189	54
>30	59	16.85
Parity		
< 2	113	32.28
3 -4	155	44.28
>4	82	23.42
Socio Economic Status		
Lower	196	56
Middle	133	38
Higher	21	6
Education		
Illiterate	78	22.28
Primary	234	66.85
Graduate and Above	38	10.85
Religion		
Hindu	97	27.71
Muslim	196	56
Other	57	16.28
Monthly Income of Family		
< 5000	47	13.42
5000- 15000	167	47.71
15000-25000	124	35.42
>25000	12	3.42

As shown in Table 1, 54 % women were in the age group of 20 – 30 years, 44.28 % had two to three children, 56 % were of low socioeconomic status, mostly i.e. 56 % women were

Muslim and education was till primary level in 66.85 % women only 22.28 % were illiterate. The monthly income of family was in range of Rs 5000- 15000 in 47.71% women.

Table 2: Knowledge & Type of Contraception Ever Used

Knowledge of Various Methods	Number	Percentage (%)
Aware of Multiple Contraceptive Methods	286	81.71
Barrier contraceptive	337	96.28
OCP	275	78.57
IUCD	216	61.71
Injection / implant	124	35.42
Natural	196	56
Sterilisation	308	88
Emergency contraception	314	89.71
Type of Contraceptive Used		
Multiple contraceptive methods	172	49.14
Barrier contraceptive	289	82.57

OCP	62	17.71
IUCD	58	16.57
Injection / implant	11	3.14
Natural	48	13.71
Sterilisation	172	49.14
Emergency contraception	65	18.57

Table 2 Shows that 81.71 % women had knowledge of multiple contraceptive methods. 314 out of 350 i.e.89.71% women had knowledge of emergency contraception pills but out of them only 65 i.e. 18.57 % women had used EC Pills.

Table 3: Sexual Practises and Number of Unwanted Pregnancies and Abortion

Unplanned Sexual Intercourse	Number	Percentage (%)
Always	65	18.57
Mostly	186	53.14
Rarely	99	28.28
Unwanted Pregnancy		
Yes	168	48
No	182	52
Induced Abortion		
Yes	147	42
No	21	6
Reasons for Abortion		
Unplanned	36	10.28
Family completed	104	29.71
Economic problems	7	2

Table 3 Shows that 53.14 % women were mostly practising Unprotected sexual intercourse, 18.57 % always and 28.28 % rarely had UPSI. 48% women had unwanted pregnancy, 42 % had induced abortion for the same mainly because their family was completed and had unplanned pregnancy.

Table 4: Knowledge of Women Regarding Emergency Contraception

Know About EC	Number	Percentage (%)
Yes	314	89.71
No	36	10.28
If yes, since when		
Before marriage	290	92.35
After marriage	24	7.64
Source of information		
Through formal education	9	2.86
T.V./ Radio	155	49.36
Health personnel	58	18.47
Chemist	24	7.64
Friends/relatives/husband	68	21.65
When to use EC		
Just before sex	28	8.91
Within 72 hours	238	75.79
After 72 hours	36	11.46
No idea	12	3.82
What can be used as EC		
Oral contraceptive pills	68	21.65
IUCD	0	0
I Pill/ Unwanted 72	204	64.96
No idea	42	13.37
Is EC safe?		
Yes	256	81.52
No	21	6.68
No idea	37	11.78
Places where get EC		
Health facilities	31	9.87
Chemist shop	216	68.78
Private doctor	23	7.32
Social worker	15	4.77
No idea	29	9.23
Can you get EC without prescription		
Yes	249	79.29

No	29	9.23
No idea	36	11.46
Dose of EC		
1 tablet	23	7.32
2 tablets	79	25.15
No idea	212	67.51
Interval between doses		
12 hours	15	4.77
24 hours	93	29.61
No idea	206	65.60
Side effects of EC		
Nausea/vomiting	34	10.82
Irregular cycles	87	27.70
No idea	193	61.46
Usage of EC as per women's perception		
UPSI	187	59.55
Missed period	201	64.01
After missing oral contraceptive pills	39	12.42
After rupture of condom	156	49.68
Most of the above	51	16.24
Don't know	79	25.15
Whether EC Leads to Abortion		
Yes	201	64.01
No	34	10.82
Don't know	79	25.15
Is EC Harmful During Breast Feeding		
Yes	87	27.70
No	23	7.32
Don't know	204	64.96
Can EC Be A Regular Family Planning Method		
Yes	123	39.17
No	89	28.34
Don't know	102	32.48
No. Of Times EC Can Be Used in A Cycle		
1	89	28.34
2	34	10.82
3/>3	0	0
Don't know	191	60.82

Table 4 Shows the knowledge of EC among women. 314 out of 350 i.e. 89.71 % women knew about EC Pills. Out of them mostly i.e. 92.35 % had knowledge before marriage mostly (49.36 %) through T.V./ Radio. 64.96 % knew about I pill as mode of emergency contraception, 81.52 % believed it to be safe and 68.78 % knew that it can be procured from a chemist. 79.29 % thought that it can be bought without prescription, 75.79 % knew that it should be taken within 72 hours, 65.60 % had no idea about interval

between doses. Mostly they had no idea about dose of EC and their side effects. 64.01 % women had the wrong perception that it can be used after missed period and it causes abortion. 59.55 % knew that it can be taken after UPSI. 60.82 % women did not know how many times EC can be used in a cycle, 32.48 % had no idea whether it can be used as a regular family planning method and 64.96 % had no idea about its effect on breast feeding.

Table 5: Attitude Towards Emergency Contraception

Variable	Number	Percentage (%)
If you had UPSI, will you use EC		
Yes	256	81.52
No	58	18.47
If yes, you will get it from		
Health facilities	49	19.14
Chemist shop	207	80.85
Will you recommend it to others		
Yes	168	53.50
No	93	29.61
Neutral	53	16.87
Will you use it again		
Yes	87	27.70
No	156	49.68
Neutral	71	22.61
Should EC be available freely		
Yes	67	21.33

No	58	18.47
Neutral	189	60.19
Should it be available freely to girls > 18 years old		
Yes	12	3.82
No	192	61.14
Neutral	110	35.03
Do you think use of EC will promote promiscuity, STI, HIV/AIDS		
Yes	188	59.87
No	56	17.83
Neutral	70	22.29
Is EC effective?		
Yes	117	37.26
No	49	15.60
Neutral	148	47.13
Can EC be used regularly to avoid pregnancy		
Yes	18	5.73
No	193	61.46
Neutral	103	32.80
Can EC cause damage to fetus if pregnancy occurs		
Yes	65	20.70
No	178	56.68
Neutral	71	22.61
Do EC have side effects		
Yes	94	29.93
No	220	70.06
Should EC be used in government orientation programmes		
Yes	19	6.05
No	193	61.46
Neutral	102	32.48

Table 5 Assesses the attitude of women towards Emergency contraception. 81.52 % women said yes regarding usage of EC pills after UPSI but only 27.7 % wanted it to use again. On asked whether EC should be available freely 21.33 % said yes but majority, 61.14 % did not want girls less than 18 years to have free access to these pills as it may lead to promiscuity and sexually transmitted infections. 37.26 %

thought EC to be effective, 61.46 % said no when asked whether it can be used as a regular method of family planning. Only 29.93 % women worried about its side effects and 20.70 % women thought that it can lead to birth defects in fetus if not successful and pregnancy occurs. 61.46 % did not want EC to be used in government orientation programmes and 32.48 % were neutral about it.

Table 6: Experience of Subjects Who Practised EC

Variables	Number (65)	Percentage (%)
EC used in form of		
I Pill/ Unwanted 72	65	100
IUCD	0	0
OCP	0	0
Who recommended EC		
Health professional	8	12.30
Husband	11	16.92
Friends /relatives	7	10.76
Chemist	18	27.69
On my own	21	32.30
Reasons for using EC		
Not using any regular contraception	24	36.92
Condom torn / slipped	16	24.61
Missed pills	5	7.69
Failure of withdrawal method	11	16.92
Don't remember	9	13.84
Side effects experienced		
Nausea / vomiting	13	20
Pain in abdomen	6	9.23
Menstrual disturbances	34	52.30
No side effects	8	12.30
Don't remember	4	6.15
Any menstrual problem after using EC		
Yes	34	52.30
No	17	26.15
Don't remember	14	21.53
Pattern of menses after using EC		

Heavy menses	23	35.38
Intermenstrual spotting	5	7.69
Delayed menses	6	9.23
Was gynaecologist consulted		
Yes	6	9.23
No	59	90.76
Frequency of EC use in a year		
One time	49	75.38
Two times	6	9.23
3 or > 3 times	10	15.38
Frequency of use in same cycle		
Once	57	87.69
More than one time	8	12.30
Was it effective in preventing unwanted pregnancy		
Yes	58	89.23
No	7	10.76
Was it taken at specified time and dosage		
Yes	56	86.15
No	9	13.84
Did you recommend it to others		
Yes	18	27.69
No	47	72.30

Table 6 Analyses the experience of subjects who practised emergency contraception in the study group. Out of 314 women who had knowledge of EC, only 65 practised it. All the women used I Pill/ Unwanted 72 as the mode of EC. In 27.69 % cases the chemist recommended them, 36.92 % were using it because they were not using any regular mode of contraception. The side effects experienced were mainly menstrual disturbance in 52.30 %, nausea vomiting in 20 %

and 12.30 % had no side effects. The menstrual disturbance was mostly heavy menses in 35.38 % women. 90.76 % women did not consult a gynaecologist before or after taking pills. 75.38 % women used it only once in a year and mostly, 87.69 % used only once in same cycle. 89.23 % women found it to be effective in preventing unwanted pregnancy and 86.15 % took it at specified time and dosage. Only 27.69 % recommended it to others.

Table 7: Barriers to the use of EC

Reasons for Not Taking EC	Number (249)	Percentage (%)
Less knowledge at that time	36	14.45
Worry about side effects	54	21.68
Got too late to take EC	29	11.64
Not allowed due to medical reasons	9	3.61
Worry about future health consequences	37	14.85
Feeling of shyness and embarrassment about discussion related to EC	84	33.73

Table 6 Discusses the barriers observed in the usage of EC. Even after knowledge of EC in 89.71 % women only 65 practised it. The major reason in 33.73 % women being a feeling of shyness and embarrassment about discussion related to EC. Other barriers were fear of side effects in 21.68 % women, worry about future health consequences in 14.85 % women and 11.64 % women did not take as got too late to take EC.

Discussion

The study assessed the knowledge, attitudes and practices of the females of reproductive age group attending the obstetric and gynaecological OPD including the patients and their female attendants.

As observed in this study 89.71 % of the participants had ever heard of EC which is consistent with the findings of study done by Gupta *et al* and Relwani *et al* who reported awareness of EC among females to be 96.6 % and 92.7 % respectively. (12,13) However another study by Nasir observed that only 41.9 % of the respondents ever heard or knew about ECPs.(14) in this study 92.35 % women had knowledge of EC before marriage which was similar in study by Gupta *et al* where 95% had knowledge before marriage.(12) In the present study 79.29 % thought that EC

can be bought without prescription, 75.79 % knew that it should be taken within 72 hours and 65.60 % had no idea about interval between doses. Similarly in another study by Gupta *et al* 94.83 % thought that it can be procured without prescription and 81.03 % knew that it should be taken within 72 hours [12]. In this study mostly they had no idea about dose of EC and their side effects which is similar to a study by Singh V *et al* where 58.3 % had no idea of side effects and 52.3 % had no idea of its dosage [15].

In this study only 18.57 % women had used EC Pills, which was similar to findings of 19.3% by Singh *et al* in her study who observed that despite of the knowledge of emergency contraception less women were actually practicing it [15]. Another author observed that only 6.8 % women were using it which was found to be very less [14].

It is observed that 75.79 % of female knows the correct timing of its usage, similar to this Singh *et al* and Ahmed *et al* found that 74.4% and 64.4 % of females knew that it should be taken within 72 hours [15, 16].

It was observed that very few 4.77% women knows correct interval between two doses however contrary to this in another study done by Desta *et al* found it to be 21.4 % [17]. In this study 81.52% women found it to be safe which was similar to 90% by another author Gupta *et al* who rated EC

as safe contrary to the findings, Singh *et al* found that only 8.9 % women found it to be safe [12, 13].

In this study a large number of cases 64.01 % of women use emergency contraceptive pills after missed period, in another study done in Ethiopia 53.9% women were not aware of its use [17], however study by Singh observed that in 45.2 % cases it was used after rupture of condom [15].

In this study 81.52 % of women will use it after unprotected sexual intercourse similar findings of 73.5 % and 71.2% were noticed in study by Gupta and Nasir respectively [12, 14]. 53.5 % women says that they will recommend it to others however study by Mir mentioned that 30 % women would not consider using or prescribing them to a friend, even in case of need [10].

Source of information in 49.36 % and 2.86 % women were multimedia and formal education respectively, similarly study by Ahmed observed that it was 75.5 % by multimedia and in 29.3 % by formal education which is very necessary [16] in contrast to this Lakkawar noticed that 71.9% of women were informed by clinicians in his study [18].

In this study all women were using I pills/Unwanted 72 for emergency contraception similar finding were observed by Singh *et al.* in her study [15]. In another study Tilahun found out that 43.7 % of women were using emergency contraceptive pills, 5.2 % were using IUCD and 71.8 % were using various incorrect methods [19].

In the present study 52.3 % women experienced menstrual disturbances however Nayak *et al* observed no side effects among emergency contraceptive users. In another study 50% women observed nausea or vomiting [20, 21].

In this study feeling of shyness and embarrassment (33.73%), worry about side effects (21.68%) were the main barriers for its usage. In another study worries about medical side effects and health aspects were expressed as a major hindrance to its use in 73.3%, however religious belief 13.3% were perceived as a barrier [22].

Conclusion

This study shows that even after knowledge and awareness of ECP's in general population its usage rate is very low even in educated and working women who have full accessibility of these drugs. Knowledge regarding proper time of intake, indications and side effects is low. There is increased need to make sexually active females aware of proper dose, timings and indications of EC. Also, the healthcare personnel too need to imbibe proper knowledge regarding usage of ECP's and teach the public at their level about advantages of using EC.

There should be promotion of emergency contraceptives to enhance their use and making them easily accessible in hospital, pharmacies and student clinic. Moreover, health education program should be set up to the college students to avail accurate information about emergency contraception. These measures would increase knowledge, attitude as well as practise of emergency contraception as a whole in the sexually active female population thereby leading to a reduction in unintended pregnancies and abortions and their future complications.

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References

1. Saxena S, Oakeshott P, Hilton S. Contraceptive use among South Asian women attending general practices in Southwest London. *Br J Gen Pract.* 2002; 52:392-4.
2. NFHS IV. India National Family Health Survey (NFHS-4), International Institute for Population Sciences, 2015.
3. Ade A, Revati S, Kulkarni A. Contraceptive practices and awareness of emergency contraception among Muslim women of urban slum of Raichur, Karnataka. *Int J Reprod Contracept Obstet Gynecol.* 2014; 3:70-4.
4. Barker G, Ricardo C, Nascimento, Organization WH: Engaging men and boys in changing gender-based inequity in health: Evidence from programme interventions, 2007.
5. Tamire W, Enqueselassie F. "Knowledge, attitude, and practice on emergency contraceptives among female university students in Addis Ababa, Ethiopia," *Ethiopian Journal of Health Development.* 2007; 21(2):111-116.
6. Ministry of Health and Family Welfare (MOHFW). District Household Survey (Phase I), 2008. Available from: <http://mohfw.nic.in/breakfile2.html>.
7. Szarewski A, Guillebaud J: Contraception: A users guid. 3 editions. New York: Edited by Oxford University press, 2002.
8. Hoque M, Ghuman S, "Knowledge, practices, and attitudes of emergency contraception among female university students in KwaZulu-Natal, SouthAfrica," *PLoS ONE*, 2012, 7(9).
9. Lenjisa J, Gulila Legese. "Knowledge, attitude and practice of emergency contraceptives among ambo university female students, West Showa, Ethiopia," *Research Journal of Pharmaceutical Sciences.* 2013; 2(11):1-5.
10. Mir Azeem Sultan, Raees M. Emergency contraceptive pills: Exploring the knowledge and attitudes of community health workers in a developing Muslim country. *North American Journal of Medical Sciences.* 2010; 2:359-364.
11. International Institute for Population Sciences (IIPS). District- level household survey and facility survey (DLHS-3), 2007-2008. Mumbai IIPS, 2010.
12. Gupta Singh P, *et al.* Emergency contraception: knowledge, attitude and practices among recently married females in a rural area of North India. *International Journal of Research in Medical Sciences.* 2017; 5(10):4450-4454.
13. Relwani N, Saoji A, Kasturwar NB, Nayse J, Junaid M, Dhattrak P, *et al.* Emergency contraception: exploring the knowledge, attitude and practices of engineering college girls in Nagpur district of central India. *Nat J Comm Med.* 2012; 3(1):14-9.
14. Nasir T. Knowledge, Attitude and Practice of Emergency Contraception among Graduating Female Students of Jimma University, Southwest Ethiopia. *Ethiop J Health Sci.* 2010; 20(2):91-97.
15. Singh V, Thakur P, *et al.* Knowledge attitude and practice (KAP) of emergency contraceptive pills among women of reproductive age group attending AIIMS OPD Raipur. *International Journal of Advances in Medicine.*
16. Ahmed, Kontie M Moussa2, Karen O Petterson2 and

- Benedict O Asamoah. Assessing knowledge, attitude, and practice of emergency contraception: a cross-sectional study among Ethiopian undergraduate female students. *BMC Public Health*, 2012, 12:110.
17. Desta Abraha, Guesh Welu. Knowledge of and Utilization of Emergency Contraceptive and Its Associated Factors among Women Seeking Induced Abortion in Public Hospitals, Eastern Tigray, Ethiopia, 2017: A Cross-Sectional Study. *BioMed Research International*, 2019. Article ID 7209274
 18. Lakkawar NJ, Shally Magon, Padma Alaganandam. Assessment of attitude towards use of emergency contraceptives among antenatal women. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*. 2014; 3(4):1067-1072.
 19. Tilahun D, Tsion Assefa. Knowledge, Attitude and Practice of Emergency Contraceptives Among Adama University Female Students. *Ethiop J Health Sci*. Vol. 20, No. 3 November, 2010, 195-202
 20. Nayak, Panda M, Padhy S, Mishra K. Awareness regarding emergency contraception among married women attending urban health centre, Berhampur, Odisha, India. *International Journal of Research in Medical Sciences*. 2020; 8(2):524-528.
 21. Mishra, Saxena P. Over-the-Counter Sale of Emergency Contraception: A Survey of Pharmacists in Delhi. *Sexual Medicine* published by Wiley Periodicals, Inc. on behalf of International Society for Sexual Medicine. 2013; 1:16-20
 22. Syed Irfan Karim¹, Farhana Irfan² Emergency contraception: Awareness, attitudes and barriers of Saudi Arabian Women. *Pak J Med Sci*. 2015; 31(6):1500-05.