



Original Research Article

Knowledge, attitude, and practice of emergency contraceptives among reproductive-aged women

Siddaruda M Biradar^{1*}, Aruna Mallangouda Biradar², Basavaraj V V²

¹BLDEA's SSM College of Pharmacy and Research Centre, Vijayapura, Karnataka, India

²Shri B.M. Patil Medical College Hospital & Research Centre, Vijayapura, Karnataka, India

Abstract

Background: When used responsibly, emergency contraception is a safe and affordable method of preventing unwanted pregnancies. Emergency contraception refers to contraceptive methods for prevention of pregnancy following unprotected sexual intercourse. It can also play an important role in reducing maternal and perinatal mortality and morbidity. This is particularly important in our nation because unsafe abortions and population control are major concerns. The general public needs to be appropriately informed about contraception and have a good attitude towards it in order for it to be effective. Hence the present study was undertaken with the aim and objectives to assess the knowledge and practice of emergency contraceptives among reproductive age groups of women.

Materials and Methods: The study was conducted among 103 women aged between 18–45 years at gynecology and OBG department of Shri B M Patil Medical College Hospital and Research Center, Vijayapura. The sociodemographic parameters were measured and they were asked about their contraceptive knowledge, attitude and practice of EC and results were assessed.

Results: Complete knowledge, attitude and practice of EC were very low and level of knowledge is very poor (58.3%), moderate level (35%) and Good is only 6.8%. There is a significant ($p < 0.05$) relation between literate and illiterate and other sociodemographic characters were non-significant ($p > 0.05$). The relationship between sociodemographic and attitude and level of knowledge and practice were also non-significant ($p > 0.05$). The possible side effects of EC are not known by 88.3% participants and rest is known little bit (11.7%). Only two factors affecting (nuclear family and marital status) significantly ($p < 0.05$) about knowledge of EC. The level of knowledge and practice of EC does not have relation ($p > 0.05$).

Conclusion: Thus, in order to lower maternal and perinatal mortality or morbidity, it is imperative that women receive the necessary education to enable them to make informed decisions, have a positive outlook, and follow the best practices of EC.

Keywords: Emergency contraceptives; Knowledge; Attitude; Practice; Reproductive women.

Received: 08-06-2024; **Accepted:** 27-08-2024; **Available Online:** 13-08-2025

This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprint@ipinnovative.com

1. Introduction

In our nation, the population surge has long been a serious issue. Undoubtedly, this highlights the inadequate nature of family planning methods, resulting in an increasing count of undesired births. An estimated 15.6 million abortions are thought to have taken place in India.¹ Family planning is critical for the health of women and their families and it can accelerate a country's progress toward reducing poverty and achieving development goals. Because of its importance, universal access to reproductive health services including

family planning is identified as one of the targets of the United Nations Millennium Development Goals (MDGs).²

It has been anticipated that emergency contraception can prevent at least 75% of expected pregnancies resulting from unprotected sexual activity. Emergency contraception is a sort of family planning tactics which offer an efficient and secure means of post coital treatment.³ After unprotected sexual activity such as rape, condom breaking, not using contraception, or missing tablets, emergency contraception is advised. In the end, the prevalence of unintended births and abortions will decline with the use of emergency

*Corresponding author: Siddaruda M Biradar
Email: smbiradar@rediffmail.com

contraception.⁴ Adolescents and young women are at the greatest risk of unintended pregnancy because they are unlikely to see a family planning provider before or immediately after the sexual activity. Therefore, preventing unintended pregnancy among them is an important concern. Knowledge about emergency contraception is particularly important because of high rates of unwanted and teenage pregnancy.⁵ There are numerous applications and purposes for contraceptives, and data indicates that about one-third of women depend on them for benefits related to their health in addition to birth control. Not only are the ladies concerned about this, but so are their boyfriends. Regular contraceptive techniques are not 100% effective, regardless of their effectiveness. The use of EC is justified in certain circumstances, such as when barrier methods fail and results in coitus interrupts, slippage, condom breakage or misuse, and recurrently unused oral contraceptive tablets.⁶ The technique that can be utilised to avoid getting pregnant in the initial few days following a sexual encounter is known as emergency contraception. It has been around for more than 40 years and is additionally referred to as emergency birth control, emergency post-coital contraception, and post-coital contraception. The requirement for EC is further supported by the fact that certain women have gone to clinics and asked for it; these women appear to be aware of the window of time within which EC is to be used, as they did so within 72 hours after having unprotected sex. It has also been noted that women who employ barrier methods are the ones who are more likely to need and use EC.⁶

Regardless of their marital status, adolescents should have access to family planning and appropriate information that will safeguard them from multiple risks. Understanding and having access to emergency contraception can set a precedent for reducing teenage pregnancy and abortion risks.⁷ Most of these unwanted or unplanned pregnancies result in abortions, frequently in unsafe circumstances with grave repercussions, rather than being brought to term. Abortion and unwanted pregnancy are both of the main public health issues in our nation and around the world. EC are crucial in managing these issues during unprotected sexual activity. However, a large number of females are exposed to various health and health-related dangers as a result of insufficient understanding. The results of this study may help with planning to decrease unintended pregnancies, unsafe abortions and the complications they cause, and enhance sexual and reproductive health.⁸

2. Materials and Methods

The study was conducted for a period of six months at gynecology and OBG department of Shri B M Patil Medical College Hospital and Research Center, Vijayapura. The selected 103 women aged between 18-45 years were interviewed. Sociodemographic factors including age, place

of residence, level of education, employment, marital status, number of children, history of abortions, etc. were included in the questionnaire. They were asked regarding the methods and kinds of contraception they employed. In addition to testing their understanding of emergency contraception, this chance was taken to counsel those women who were unaware about EC. By enquiring if they would use EC again and suggest it to other ladies, attitudes regarding it were evaluated. Twenty questions in all, with responses accurately documented in an Excel spreadsheet, were posed. The data was then statistically analysed using SPSS software. The significance of the relationship between awareness of EC and educational attainment and employment status was examined using the test known as the Chi-square.

2.1. Statistical analysis

In statistical analysis, a computer software package was used to generate the tables and the results. Using an Excel sheet, the information gathered was transformed to percentages before getting statistically analysed using SPSS software. The association between sociodemographic characteristics and level of knowledge and attitude was assessed and expressed as a p value using the Chi square test. A $p < 0.05$ was considered statistically significant, and a $p > 0.05$ was non-significant.

3. Results

In terms of sociodemographic characteristics, the distribution of participants according to age is as follows: Out of 103, below 20 age groups there are 2 (1.9%), and above 20 age groups there are 101 (98.1%). In According to educational status among the 103 participants, the number of high school participants is 42 (39.8%), and the number of illiterate participants is 8 (7.8%). In According to occupational status, among the 103 participants, the number of housewives is 89 (86.4%), and the number of government employees and private employees is 0 (0%). According to the type of family among the 103 participants, the number of joint families is 85 (82.5%) and the number of nuclear families is 18 (17.5%). According to place of residence, among the 103 participants, the number of rural participants is 64 (62.1%), and the number of urban participants is 39 (37.8%). According to marital status among the 103 participants, the number of married participants is 99 (96.1%), and the number of separated participants and widow participants is 0 (0%). According to the age of marriage, among the 103 participants in the above-20 age group, there are 87 (84.4%), and these are more in number, and in the in the below-20 age group, there are 16 (15.5%) and less in number. According to the number of children out of 103 participants, having one child is 46 (44.7%), and having none is 1 (0.97%) (**Table 1**).

Table 1: Distribution of participants according to their sociodemographic characteristics

S. No	Social demographic details	Frequency	Percentage (%)
1	Age		
	<20	2	1.9
	>20	101	98.1
2	Educational status		
	Illiterate	08	07.8
	Primary	17	16.5
	High school	42	39.8
	Higher secondary	23	23.3
	Graduation	13	12.6
3	Occupational status		
	Government employee	00	00
	Private employee	00	00
	Daily wage	10	09.7
	House wife	89	86.4
	Students	04	03.9
	Professional	00	00
4	Type of family		
	Nuclear family	18	17.5
	Joint family	85	82.5
5	Place of residence		
	Rural	64	62.1
	Urban	39	37.8
6	Marital status		
	Single	04	03.9
	Separate	00	00
	Married	99	96.1
	Widow	00	00
7	Age of married		
	<20	16	15.5
	>20	87	84.4
8	Number of children		
	One	46	44.7
	Two	30	29.1
	Three	19	18.4
	More	07	06.8
	None	01	0.97

Participants were divided according to how much they knew about emergency contraception, out of 103 participants who have heard about the EC to prevent frequency after unprotected sex, 32 (31.1%) heard about EC and 71 (68.9%) did not hear. Among 103 participants where did the participants heard about this EC by clinic is 6(5.8%) and none of the participants did not heard is 57(55.3%). Among 103 participants, the participants know where they can obtain EC pills in private clinic is 8(7.8%) and they don't know about obtaining EC pills 65(63.1%). Among 103 participants, how long after unprotected sex controls EC pills are taken within 12 hours is 5 (4.9%) and within 72 hours is 5 (4.9%), and the participants who don't know are 83 (80.6%). Among 103 participants the participants who used EC pill for regular contraceptives is 4(3.9%) and who don't know about used for regular contraceptives is 88(85.4%). Among the 103

participants, the number of participants who got information regarding the EC pill from teachers is less than 6 (5.8%), the majority of information got from health professionals is 15 (14.6%), and family members are 15 (14.6%). Among the 103 participants, the participants mainly got information about EC from radio (0%) and mainly from television is 15(14.6%). Among the 103 participants who had discussed with family, 6 (5.8%) and participants who had not discussed with family were 97 (94.2%). among 103 participants, the participants used EC only 1 time is 7 (6.8%) and the participants not used any EC is 85(82.5%). Among the 103 participants, the participants who do not know about EC need prescriptions are 41 (39.8%). Among the 103 participants, the number of participants who know the meaning of EC is 28 (27.2%), and the number of the number of participants who do not know the meaning of EC is 75 (72.8%).(Table 2)

Table 2: Participants were divided into groups based on their level of familiarity with emergency contraception

S. No	Knowledge about EC methods	Frequency	Percentages (%)
1	Do you know about the use of EC to prevent pregnancy during unprotected sex?		
	Yes	32	31.1
	No	71	68.9
2	Where did you heard about this		
	Clinic	06	5.8
	Hospital health care	13	12.6
	Friends/relatives /TV	18	17.5
	Newspaper/magazine	09	8.7
	None	57	55.3
3	Do you know where you can obtain EC pills		
	Government hospitals	10	9.7
	Private clinic	08	7.8
	Pharmacy/chemist shop	20	19.4
	Don't know	65	63.1
4	How long may EC tablets be taken after unprotected sex?		
	Within 12hr	05	4.9
	Within 72hr	05	4.9
	Immediately	10	9.7
	Don't know	83	80.6
5	Can this pills be used for regular contraceptive		
	Yes	04	3.9
	No	11	10.7
	Don't know	88	85.4
6	Information regarding EC pills from personal		
	Health professional	15	14.6
	Family members	15	14.6
	Neighbors	08	7.8
	Teachers	06	5.8
	None	59	57.3
7	Information regarding from mass media		
	Magazine	04	3.9
	Newspaper	06	5.8
	Television	15	14.6
	Radio	00	00
	None	78	75.7
8	Having discussion with the family		
	Yes	06	5.8
	No	97	94.2
9	How many times have you used about it		
	1 times	07	6.8
	2 times	11	10.7
	3 times		
	None	85	82.5
10	Does EC need a prescription		
	Yes	30	29.1
	No	41	39.8
	Don't known	32	31.1
11	Do you know the meaning of EC		
	Yes	28	27.2
	No	75	72.8

The distribution of 103 participants according to attitude towards using EC pills or being recommended to friends or relatives is 16 (15.5%), and not being recommended to friends or relatives is 87 (84.5%). Among the 103 participants, EC may result in suffering from STIs or AIDS, with the majority not knowing (67.0%) and none knowing (10.7%). Among the 103 participants, EC may result in a casual approach towards sex that is not known (46, 44.7%) or known (23, 22.3%). Among the 103 participants who do not know about EC, it may also affect their health: 7 (6.8%), and the participants who do not know are 66 (64.1%). Among the 103 participants, those who do not know about how EC may cause sterility are 7 (6.8%), and those who don't know are 88 (85.4%). Among the 103 participants, the participants who know that EC may force men to use women always use EC 4(3.9%) and the participants who don't know are 84 (81.8%).

Among the 103 participants, those who do not know EC may be illegal are 9 (8.7%), and those who don't know are 81 (78.6%). Among the 103 participants, those who do not know that EC causes abortion are 2 (1.9%), and participants who do not know are 69 (67.0%). Among the 103 participants, those who do not know that EC is effective in preventing unwanted pregnancy are 2 (1.9%), and the participants who don't know are 70 (68.0%). Among the 103 participants, those who are willing to use or recommend EC 11 are 19.7%, and those who don't know are 74 (71.8%). Among the 103 participants, those who don't know how long after unprotected sex the EC pill should be taken are 2 (1.9%), and those who don't know are 77 (74.8%). among 103 participants, the public not aware of the indication of EC is 4 (3.9%) and the public not aware is 89 (86.4%) (**Table 3**)

Table 3: Distribution of participants according to attitude towards emergency contraception

S. No.	Variables	Frequency	Percentage (%)
1	Do you believe you would ever use EC pills or suggest they be used by friends or family in an emergency?		
	Yes	16	15.5
	No	87	84.5
2	It could lead to an increase in the number of women who get AIDS or STIs.		
	Yes	26	25.2
	No	67	65.0
	None	10	9.7
3	EC may results in casual approaches toward sex		
	Yes	23	22.3
	No	46	44.7
	Don't know	34	33.0
4	EC may also affect health		
	Yes	30	29.1
	No	07	6.8
	Don't know	66	64.1
5	EC may cause sterility		
	Yes	08	7.8
	No	07	6.8
	Don't know	88	85.4
6	EC may force men to use women always use EC		
	Yes	04	3.9
	No	15	14.6
	Don't know	84	81.6
7	EC may be illegal		
	Yes	13	12.6
	No	09	8.7
	Don't know	81	78.6
8	EC causes abortion		
	Yes	32	31.1
	No	02	1.9
	Don't know	69	67.0

Table 3 Continued...

9	EC are effective on prevention of unwanted pregnancy		
	Yes	31	30.1
	No	02	1.9
	Don't know	70	68.0
10	Respondent willingness to use or recommended EC		
	Yes	11	10.7
	No	18	17.5
	Don't know	74	68
11	How long should one take an EC tablet after having unprotected sex?		
	Yes	24	23.3
	No	02	1.9
	Don't know	77	74.8
12	Is public is aware on indication of EC		
	Yes	10	9.7
	No	04	3.9
	Don't know	89	86.4

Practice of emergency contraception: among 103 participants, the majority of those who have used EC are 25 (24.3%), and minors who have not used EC are 7 (6.8%). Among the 103 participants, the majority of participants who used a type of EC (condom) were 14 (13.6%), and those who did not use a type of EC were 77 (74.8%). Among 103 participants the majority of using EC 1 times is 18(17.5%) and not used any time are 77(74.8%). among 103 participants the participants used it because condom broke/ slipped are 10(9.7%) and participants not used are 76(73.8%). Among 103 participants the participants experienced with EC pills caused bleeding are 4(3.9%) and not caused anything 91(88.3%). Among the 103 participants, those recommended about EC by friends or relatives were 12 (11.7%) and heard on the radio (8 (7.8%). Among the 103 participants, those not knowing about ECP are 52 (50.5%), and those not having time to use ECP are 0 (0%). Among the 103 participants, the participants who are not in need of EC and did not use it are 9 (8.8%), and the participants who don't know about the need for EC and did not use it are 50 (48.5%) (**Table 4**).

103 participants were split into groups based on their degree of familiarity with emergency contraception, those who have good knowledge of EC are 7 (6.8%), participants who have moderate knowledge of EC are 36 (35.0%), and participants who have poor knowledge of EC are 60 (58.3%) (**Table 5**).

The correlation between the participants' sociodemographic traits and degree of EC knowledge including the 103 participants with an age above 20 has poor knowledge of 2 (3.3%), moderate knowledge of 0 (0.0%), and good knowledge of 0 (0.0%). The below-20-year-old participants with poor knowledge are 58 (96.7%), moderate knowledge is 36 (100%), and good knowledge is 7 (100%). Among the 103 participants, the illiterate participants with

poor knowledge are 7 (11.7%), moderate knowledge is 1 (2.8%), and good knowledge is 0 (0.0%). The literate participants with poor knowledge are 53 (88.3%), moderate knowledge is 35 (97.2%), and good knowledge is 7 (100%). among 103 participants, the participants from rural areas with poor knowledge are 37 (61.7%), moderate knowledge is 23 (63.9%), and good knowledge is 4 (57.1%), and urban area participants with poor knowledge are 23 (38.3%), moderate knowledge is 13 (36.1%), and good knowledge is 3 (42.9%). Among the 103 participants, the employed participants with poor knowledge are 5 (8.3%), moderate knowledge is 5 (13.9%), and good knowledge is 0 (0.0%), and the unemployed participants with poor knowledge are 55 (91.7%), moderate knowledge is 31 (86.1%), and good knowledge is 7 (100%) (**Table 6**).

The participants' sociodemographic traits and attitude level are correlated with one another in a way that among the 103 participants, the above-20-year-old participants have a positive attitude about EC of 2 (100%) and a negative attitude of 0 (0%). The below-20-year-old participant who has a positive attitude about EC is 66 (65.3%), and the negative attitude is 35 (34.7%). Among the 103 participants, the illiterate participants with a positive attitude are 8 (100%), those with a negative attitude are 0 (0%), and the illiterate participants with a positive attitude are 60 (63.2%) and those with a negative attitude are 35 (36.8%). Among the 103 participants, the participants from rural areas have a positive attitude towards EC of 42 (65.6%) and a negative attitude towards EC of 22 (34.4%), while the participants from urban areas have a positive attitude towards EC of 26 (66.7%) and a negative attitude towards EC 13 (33.3%). Among the 103 participants, the employed participants with a positive attitude towards EC are 61 (65.6%) and those with a negative attitude towards EC are 32 (34.4%) (**Table 7**).

Table 4: Distribution of participants according to their practice towards emergency contraception

S. No.	Variables	Frequency	Percentage (%)
1.	Ever used EC		
	Yes	25	24.3
	No	71	68.9
	Don't know	07	6.8
2.	Type of EC ever used		
	Pill	07	6.8
	Condom	14	13.6
	IUDS	05	4.9
	Others	00	00
	None	77	74.8
3.	How many times have you used this in the last year		
	1 times	18	17.5
	2 times	06	5.8
	3 times	02	1.9
	More then 3	00	00
	None	77	74.8
4.	Why did you use it		
	Did not use contraceptive	17	16.5
	Condom broke /slipped	10	9.7
	None	76	73.8
5.	What side effect did you experienced with EC pills		
	Nausea/vomiting	08	7.1
	Bleeding	04	3.9
	None	91	88.3
6.	Who recommended you		
	Friends/relatives	12	11.7
	Partner	09	8.7
	Radio/television	08	7.8
	None	74	71.8
7.	Reason for not using ECP yet it necessitated		
	Not knowing about ECP	52	50.5
	Not excepting pregnancy	10	9.7
	Fear of sterility	13	12.6
	Not having time	00	00
	Don t have money	02	1.9
	None	26	25.2
8.	Is there time that necessitated use of EC and did not use		
	Yes	44	42.7
	No	09	8.7
	Don t know	50	48.5

Table 5: Participants were separated into categories based on how much they knew about EC options

Degree of knowledge with emergency contraception	Number	%
Poor level (<=5)	60	58.3
Moderate (6-8)	36	35.0
Good (9-11)	7	6.8

The scoring between 1-11.

Table 6: The connection between the participants' awareness of EC and their socioeconomic status

Social demographic details	Total no.	Level of knowledge							x2	p-value
			≤5 poor		6-8 moderate		9-11 good			
Age	N=103	%	N=60	%	N=36	%	N=7	%	1.462	0.481
<20	2	1.94	2	3.3%	0	0.0%	0	0.0%		
>20	101	98.6	58	96.7%	36	100.0%	7	100.0%		
Educational status										
Illiterate	8	7.7	7	11.7%	1	2.8%	0	0.0%	20.056	0.010*
Literate	95	92.2	53	88.3%	35	97.2%	7	100%		
Place of residence										
Rural	64	62.2	37	61.7%	23	63.9%	4	57.1%	0.127	0.939
Urban	39	37.8	23	38.3%	13	36.1%	3	42.9%		
Occupational status										
Employed	10	9.7	5	8.3%	5	13.9%	00	0.0%	58.030	0.000*
Unemployed	93	90.3	55	91.7%	31	86.1%	07	100%		

Note: If $P < 0.05$, it is statistically significant (*). If $P > 0.05$, it is statistically insignificant.

Table 7: Association between the participants' sociodemographic traits and attitude towards emergency contraception

Social demographic details	Total No		Attitude				x2	p-value
			Negative		Positive			
	N=103	%	N= 68	%	N=35	%		
Age								
<20	02	1.9	02	100.0%	00	0.0%	1.050	0.306
>20	101	98.1	66	65.3%	35	34.7%		
Educational status								
Illiterate	08	7.8	08	100.0%	00	0.0%	4.464	0.035*
Literate	95	92.2	60	63.2%	35	36.8%		
Place of residence								
Rural	64	62.2	42	65.6%	22	34.4%	0.012	0.914
Urban	39	37.8	26	66.7%	13	33.3%		
Occupational status								
Employed	10	9.7	07	70.0%	03	30.0%	0.078	0.780
Unemployed	93	90.3	61	65.6%	32	34.4%		

Note: If $P < 0.05$, it is statistically significant (*).

If $P > 0.05$, it is statistically insignificant.

The participation distribution based on their knowledge of the side effects of EC among the 103 participants, with participants having no knowledge of the side effects of EC, is 91 (88.3%). The participants' knowledge of the side effects of EC is 12 (11.7%) among yes; the participants suffering from nausea and vomiting are 8 (7.8%); and bleeding is 4 (3.9%).

Among the 103 participants who ever used EC, yes said 11 (10.7%), no said 18 (17.5%), and don't know said 74 (71.8%).

Factors affecting knowledge of EC. Among 103 participants, the participants above 20 years of age with knowledge of EC are 0 (0.0%), those without knowledge of EC are 2 (100%), and those below 20 years of age with knowledge of EC are 43 (42.6%), and those without

knowledge of EC are 58 (57.4%). Among 103 participants the illiterate participants with knowledge of EC is 1(12.5%) and without knowledge of EC is 7(87.5%) and the literate participants with knowledge of EC is 42(44.2%) and without knowledge 53(55.8%). Among the 103 participants, the employed participants with knowledge of EC are 5 (50%), and those without knowledge of EC are 5 (50%). The unemployed participants with knowledge of EC are 38 (40.9%), and those without knowledge are 55 (59.1%). Among the 103 participants, the participant from the nuclear family with knowledge is 12 (66.7%), the participant without knowledge is 6 (33.3%), the participant from the joint family with knowledge is 31 (36.5%), and the participant without knowledge is 54 (63.5%). Among the 103 participants, the participants from rural areas with knowledge are 27 (42.2%) and those without knowledge are 37 (57.8%), and the

participants from urban areas with knowledge are 16 (41.2%) and those without knowledge of EC are 23 (59%). Among the 103 participants, the singles with knowledge of EC are 4 (100%) and those without knowledge are 0 (0%), and the married participants with knowledge of EC are 39 (39.4%) and those without knowledge of EC are 60 (60.6%). Among 103 participants, the above-20 age of married participants with knowledge of EC is 6 (37.5%); without knowledge, it is 10 (62.5%); and the below-20 age of married participants with knowledge of EC is 37 (42.5%); without knowledge of EC, it is 50 (57.5%). Among 103 participants, the participant with 1-2 children with knowledge of EC is 35 (46.1%), the participant without knowledge of EC is 41 (53.9%), the participant with 3 or more children with knowledge of EC is 7 (26.9%), and the participant the participant without knowledge is 19 (73.1%), and the participant having no children with knowledge of EC is 1 (100%), and the participant without knowledge of EC is 0 (0.0%) (**Table 8**).

The association between knowledge and practice among the 103 participants, those who have good knowledge with practice are 13 (30.2%) and those who have good knowledge without practice are 30 (69.8%). and also participants who have poor knowledge with practice are 12 (20.0%) and poor knowledge without practice are 48 (80.0%) (**Figure 1**).

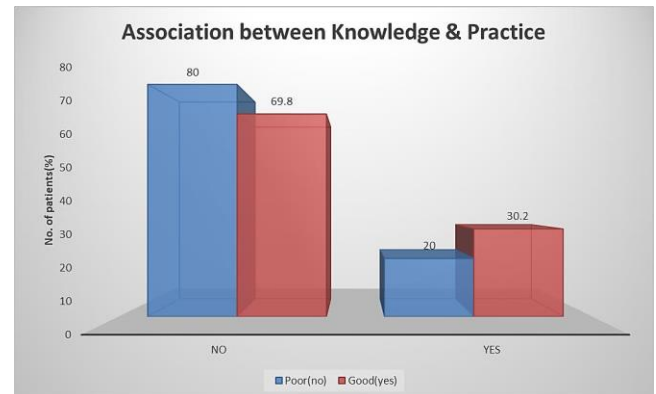


Figure 1: The relationship between knowledge and practice

Table 8: Factor affecting knowledge of EC

Variable	Knowledge		p-value	OR (95% CI)
	No	Yes		
Age			0.227	1.741(1.472-2.060)
<20	2(100%)	0(0%)		
>20	58(57.4%)	43(42.6%)		
Educational status			0.081	5.547(.657-46.868)
Illiterate	7(87.5%)	1(12.5%)		
literate	53(55.8%)	42(44.2%)		
Occupational status			0.578	0.691(.187-2.552)
Employed	5(50.0%)	5(50.0%)		
Unemployed	55(59.1%)	38(40.9%)		
Type of family			0.018*	0.287(.098-.841)
Nuclear family	6(33.3%)	12(66.7%)		
Joint family	54(63.5%)	31(36.5%)		
Place of residence			0.908	0.953(.425-2.139)
Rural	37(57.8%)	27(42.2%)		
Urban	23(59.0%)	16(41.0%)		
Marital status			0.016*	2.538(1.988-3.241)
Single	0(0.0%)	4(100.0%)		
Married	60(60.6%)	39(39.4%)		
Age of married			0.708	1.233(.411-3.697)
<20	10(62.5%)	6(37.5%)		
>20	50(57.5%)	37(42.5%)		
Number of children			0.115	-
One-Two	41(53.9%)	35(46.1%)		
Three-More	19(73.1%)	7(26.9%)		
None	0(0.0%)	1(100.0%)		

4. Discussion

Unwanted pregnancies add to the population's rapid increase, which hinders the economic and social progress that is sorely required. The number of people on the planet will rise if family planning initiatives are neither enhanced nor effective and if the present fertility rate stays the same. In order to curb the population growth, India was the first nation in the world to establish a nationwide family planning program as early as the first five-year plan, which ran from 1951 to 1956. Family planning is an attitude and style of thinking that people and couples voluntarily adopt based on their knowledge, nature, and responsible decision-making.⁸ The only circumstance in which emergency contraception is not contraindicated is pregnancy; otherwise, it is ineffective. Before providing emergency contraceptive tablets, neither a physical examination nor a medical history are needed. Since they are given far before the onset of organogenesis, they shouldn't cause any teratogenic effects.⁵ A descriptive current study was conducted among 103 participants among women in the women in the reproductive age group.

In the present study, 1.9% of the women belong to the less than 20 age group, 98.1% belong to the more than 20 age group, and 92.2% of them were found to be literate. A similar age profile was also reported in a study conducted by George S. et al., though the literacy rate among them was comparatively higher, i.e., 98.2%.⁹ In another study from Lei et al.,¹¹ reported as respect educational level the majority of the women was literate.⁵ However, in both studies, the literacy rate was highest compared to our study.

In the present study, a minimum number of women had knowledge about contraceptives, while 31.1% had good knowledge. Similar findings have been reported by Lakde et al., where 32.7% of the participants were found to be aware of contraceptives.² As compared to the Lakde et al. study, almost all the knowledge is similar.²

In the present study, 24.3% of women had used contraceptives in their lifetime. On further analysis, it was found that condoms (13.6%) were the most frequently used method of spacing the pregnancy, followed by contraceptive pills. Similar findings have been reported by George S. et al. in their study, 57.3% of women used contraceptives in their lifetimes.⁹ Similar finding have also been reported by Fekadu S et al. Their study shows that about 58.8% of the respondents practice EC.⁸ As compared to both studies, the less practice shown in our study.

The present study shows that 65.3% had a positive attitude towards the use of emergency contraceptives, and 34.7% had a negative attitude towards the use of emergency contraceptives. Similar findings have been reported by Fernandes et al. The study revealed that the majority of the participants—7%—had a positive attitude towards the use of emergency contraceptives, and 0.3% had a negative attitude towards the use of emergency contraceptives. As compared

to the above study, there is a lack of knowledge and awareness, which is associated with less usage of emergency contraceptives and also a negative attitude towards emergency contraceptives.⁴

The present study showed that more than three quarters of women had not heard about emergency contraception. 'Knowledge and access to emergency contraception' and indicated that a minority of the women had heard about emergency contraception. The present study showed that the main source of information was TV and newspapers, followed by health personnel (doctors, nurses, and pharmacists) and family members. The present study showed that more than half of the women mentioned that pills can be used as emergency contraception, which was lower than the study done by Tamire et al. about 'Knowledge, attitude, and practice of emergency contraceptives among female university students.'¹² This could be linked to the disparities in educational attainment between the female participants in the current study and the university students. Fewer women were conscious that CU-IUDs and contraceptive pills can both be used as emergency contraception. Although over 33% of the women were unaware of the prescribed ECP dosages, some were aware that Mohammed et al.¹³ recommended taking the pills 12 hours apart. These findings concurred with those of Chavuma et al.,¹⁴ and only a small percentage of the women were aware that emergency contraceptives can be effective for up to 72 hours.

In line with Abd Elrahim et al., the current study found that fewer women had sufficient knowledge about emergency contraception.³ In accordance to the survey, just a small percentage of the women knew a lot about emergency contraception. A highly statistically significant link ($P < 0.01$) between education and knowledge level was found in the present investigation. Furthermore, there was a statistically significant difference ($P > 0.939$) in the knowledge level according to residency, with over half of the women living in rural regions knowing more about emergency contraception than the non-rural women did. The results matched those of Abd Elrahim et al. Regarding occupation, a statistically significant difference ($P < 0.001$) was seen between the occupation and knowledge level, with less than half of employed women having a moderate level of comprehension on EC. Additionally, in line with AbdElrahim et al.,³ there was no statistically significant difference ($P > 0.481$) in the connection between age and knowledge level.

According to the results of the current study, the majority of women (65.3%) had a favourable attitude towards it; AbdElrahim et al. concurred. The majority of the women in this study had a good attitude towards EC, and there was a significant statistical difference ($p < 0.35$) between the women's attitude and level of education. Abd Elrahim et al. concurred on this outcome. The knowledge and attitude of women on EC were shown to be highly statistically significant ($p < 0.35$) in the present investigation.³

The respondents were split 88.3% having no idea about emergency contraception's adverse effects and at least 11.7 percent aware of them. Out of the 103 participants, around 3.9% reported bleeding as the most frequent adverse impact of emergency contraception, while 7.8% listed nausea as the least common side effect. This result is not consistent with the research that Mata Pradhan et al. In accordance with this study, 86.2% of respondents were aware of the negative effects of EC, whereas 13.8% were unaware of them. Three-quarters (30.2%) of the 332 respondents cited nausea as the least frequent side effect of EC, whereas nearly half (48.1%) indicated dizziness as the most frequent side effect.^{10,15} As per the study conducted, it reveals that the majority of women have poor knowledge of the side effects of EC.

5. Conclusion

In conclusion this study shows knowledge and utilization of EC method was low, the study finding showed that the knowledge of EC is low regardless of the increase level of awareness as respondents had inadequate information about EC. This study shows that information on EC is not provided adequately by health professionals and so depends on information from friends and media. Hence, there is a need to educate the community, in particular women of reproductive age about EC. Only twenty-four percent of the people who participated overall reported having used EC in the past, despite the current degree of awareness of its relatively low use. This may raise the chance of an unwanted pregnancy among women in the reproductive age range, which could lead to an induced abortion.

The study shows knowledge and utilization of EC method and attitude towards EC were low. Based on the data gathered, it has been determined that 58.3% of the participants had poor knowledge and 35% had moderate knowledge and 6.8% had good knowledge. The low utilization of emergency contraceptives was noticed among women, along with positive attitude towards emergency contraceptives was minimum among the women in this study. This state that women of reproductive age group are lacking detailed and correct knowledge regarding EC. Women must be urgently educated on the knowledge, attitudes, and practices of EC, with a focus on the various techniques and when to employ them. In India, emergency contraception needs to be made accessible to more people in order for women to use it more frequently. Therefore, it is imperative that health care professionals educate the public, especially women who are of reproductive age, about emergency contraception. They should also raise awareness of EC through the media in particular.

6. Source of Funding

None.

7. Conflict of Interest

None.

References

1. Panda S, Das R, Das A, Sharma N, Sharma A. A study to assess the knowledge and awareness among young doctors about emergency contraception. *J Fam Med Prim Care*. 2021;10(1):326–32.
2. Lakde RN, Parande MA, Wakankar PS. Knowledge of emergency contraception among women seeking abortion services at tertiary care hospital in Western Maharashtra. *Int J Med Sci Public Health*. 2018;7(7):507–13.
3. Abd Elrahim AH, Moustafa MF, El Fattah HA. Awareness and attitude of married women toward emergency contraception. *Alexandria Sci Nurs J*. 2016;4(7):83–94.
4. Fernandes P, D'Souza SRB, Karkada S. Knowledge and attitude of married women in the reproductive age group regarding emergency contraception in selected rural areas of Udupi district. *J Krishna Inst Med Sci Univ*. 2014;3(1):64–9.
5. Arora P, Bajpai RC, Srivastava R. Emergency contraception: a study to assess knowledge, attitude and practices among female college students in Delhi. *Natl J Community Med*. 2013;4(2):282–5.
6. Osei Tutu E, Aryeh-Adjei AA, Ampadu E. Awareness and usage of emergency contraceptives (EC) among university students: the case of Ghana. *J Gynecol Womens Health*. 2018;10(3):1–8.
7. Pradhan M, Pokharel B, Karki A. Knowledge and practice regarding emergency contraception among higher secondary students of selected government schools of Godawari Municipality. *Int J Health Sci Res*. 2020;10(9):95–102.
8. Fikadu Y. Knowledge attitude and utilization of emergency contraception among health science and medical students of Arba Minch University, 2015. *J Womens Health Care*. 2017;6(4):1–18.
9. George JS, Kumar H. Knowledge, attitude and practices of contraception among urban women in Mangaluru, Karnataka. *Int J Community Med Public Health*. 2019;6(5):2086–90.
10. Kose V, Joshi S. Knowledge of emergency contraception among married women of reproductive age in a rural-based teaching hospital of Nagpur, Maharashtra, India. *J South Asian Fed Obstet Gynaecol*. 2012;4(2):106–9.
11. Lei CY, Omar Z, Alias SN, Abd Rahim NA. Emergency contraceptive pill usage: how community pharmacists can communicate with young female adults. *Int J Acad Res Bus Soc Sci*. 2020;10(10):925–38.
12. Tamire W, Enqueselassie F. Knowledge, attitude, and practice on emergency contraceptives among female university students in Addis Ababa, Ethiopia. *Ethiop J Health Dev*. 2007;21(2):111–6.
13. Mohammed S, Abdulai A, Iddrisu OA. Pre-service knowledge, perception, and use of emergency contraception among future healthcare providers in northern Ghana. *Contracept Reprod Med*. 2019;4:1.
14. Chavuma NC, Chanda DO, Vwalika B. Emergency contraception among women with abortion at University Teaching Hospital in Lusaka, Zambia. *Med J Zambia*. 2010;37(4):240–5.
15. Garg R, Verma U, Agrawal P, Singh R, Rani R. Knowledge and attitude of emergency contraception among medical undergraduate students in northern India. *J South Asian Fed Obstet Gynaecol*. 2016;8(1):25–8.

Cite this article: Biradar SM, Biradar AM, V BV. Knowledge, attitude, and practice of emergency contraceptives among reproductive-aged women. *Indian J Obstet Gynecol Res*. 2025;12(3):443–453.