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RESEARCH ARTICLE

Emergency contraception: Knowledge among service providers (nursing staff) in a private medical college

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ABSTRACT

Background: India has traversed a long and arduous path since launching the first ever Family Planning Programme in the world in 1952. The program has further evolved from a targeted approach to a target free approach. Initially main thrust of program was on sterilization, but now the stress is to bring about awareness of contraception and make informed choices. Emergency contraception (EC) has been included in armamentarium. This study was conducted among the nursing staff working in a Private Medical College. **Aim and Objective:** The main objective of the study was to check the correct knowledge of EC among service providers (Nursing staff). **Materials and Methods:** Questionnaire based, cross-sectional, prospective study carried out and analyzed by descriptive stats and Chi-square test. **Results:** All (100%) of the study subjects were aware of the existence of EC, though the knowledge was inaccurate and incomplete. Knowledge among males was poor (83.3%), 10 of total 12 had score of <8/11. Good knowledge was observed in only 11.2% of subjects. Only 6 (4.2%) out of 142 subjects were aware of Cu-T as a method of EC. **Conclusion:** Knowledge about EC was poor even among service providers, they had many misconceptions regarding timing of its intake, side effects, and it's over the counter availability. More awareness programs and training of the trainers programs can clear their misconceptions and can encourage them to use and promote EC to their clients.

KEY WORDS: Awareness; Knowledge; Emergency Contraception; Program; Nursing Staff; Over the Counter

INTRODUCTION

Unintended pregnancies are the primary cause of induced abortion and are linked to numerous maternal and child health problems. India, the second most populous country of the world, harbors 17.5% of the world's population (121 crore) in only 2.4% of the global land mass according to 2011 census. Coincidentally, it also houses almost 17.3% of the world's protected couples and 20% of world's eligible couples with unmet need.[1] Reaching 48 million additional users is not a target but a benchmark of progress toward commitment-A commitment to enable users to choose and plan their healthy reproductive life.[2]

Dr. Paul Van Look from WHO said, "*Emergency contraception refers to a particular type of contraception that is used as an emergency procedure to prevent pregnancy following unprotected, possibly fertile intercourse.*"

Emergency contraception (EC) Pills introduced under the Family Welfare Programme in 2003 and later declared as over the counter (OTC) drug in 2005 for the adults over the age of 18 years and is available OTC without any age restriction. Levonorgestrel is available as OTC. EC refers

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to back-up methods for contraceptive emergencies which women can use within first few days after unprotected intercourse to prevent an unwanted pregnancy.[3] ECP can be used within 72 h of unprotected coitus and IUCD within 5 days. Effectiveness of pills is 75–95% if used within 72 h and of IUCD is 99% with a failure rate of 1%.[4] Indications for EC are unprotected intercourse, breakage, or slippage of condom, sexual assault.[5]

"Every pregnancy should be wanted, unwanted pregnancies directly relate to the risk of death," as per the WHO.

Adolescent and young women are at the greatest risk of unintended pregnancy. This is one of the serious social and public health-problem in India. Despite its demonstrated efficacy, EC is underutilized in our country due to lack of awareness. EC is intended for occasional or emergency use only and not as a regular contraception.[6] Research suggests that men should be included in reproductive health decision making to help enhance positive health outcomes for their partners. Men affect the use of contraception and what method is used.[7] Knowledge and practice on EC are particularly important because of high rates of unwanted and teenage pregnancy.[8] Introduction of EC in the recent past can help them avoid such unintended pregnancies.[9] Globally, 20 million illegal abortions take place every year and out of this 97% occur in the developing countries.[10]

Rationale behind this study was to explore the knowledge about EC in nurses as nurses are the pillars of any community based health service and there was no such study conducted in our state till date.

Aims and Objectives

The aim of the study was to explore the knowledge and awareness of EC among nursing staff of a medical college as nurses are the pillars of any community based health service.

MATERIALS AND METHODS

This cross-sectional, prospective study was done among 142 nursing staff of a private medical college and hospital in Himachal Pradesh in October 2017 after approval from Institutional Ethical Committee (IEC/17/66) after taking informed verbal consent.

A pre-designed and self-administered questionnaire in English was devised to collect data. The demographic details such as age, gender, religion, and marital status were noted. Furthermore, noted was source of information regarding awareness of EC and method of EC. An 11-item questionnaire was used to know the knowledge and awareness of EC, based on literature review. There are very few studies about awareness in healthcare workers and none in Himachal Pradesh. Score of one was given for each correct answer and of 0 for incorrect and I don't know type responses. Based on total score achieved, knowledge level was categorized into poor (≤4 points), average (5–7), and good (8–11).

Inclusion criterion was solely on the voluntary participation basis and staff present on duty in wards and OPD's on the day of filling the proforma. All staff members who did not give consent were excluded from the study. To reduce bias pro forma was distributed to all the available staff in Lecture theater at duty change over time of 2 pm between morning and evening duty. Moreover, on one bench only one person was made to sit to avoid discussions. All the pro forma were anonymous without mentioning the name and the same was collected after 15 min.

Statistical Analysis

Information collected from participants was captured in Microsoft word and excel and analyzed by descriptive analysis and Chi-square test. $P < 0.05$ was considered significant. *P*-value was calculated using Medcalc's online calculator.

RESULTS

Table 1 shows the socio-demographic details of study subjects. Among 142 total subjects 12 were males (8.4%) and 130 were females (91.6%). Out of total 12 males, only four (33.3%) were married and rest eight (66.7%) were unmarried. Among females 12 (9.2%) were married and 118

Table 1: Demographic distribution

Variables	Males (12)				Females (130)			
	Unmarried		Married		Unmarried		Married	
Number of participants (142)	***n***	**%**	***n***	**%**	***n***	**%**	***n***	**%**
	8	**66.4**	**4**	**33.3**	**118**	**90.8**	**12**	**9.2**
Religion								
Hindu	6	50	4	33.3	113	79.5	6	4.6
Muslim	-	-	-	-	2	1.5	2	1.5
Sikh	2	16.7	-	-	2	1.5	2	1.5
Christian	-	-	-	-	1	0.7	2	1.5

(90.8%) were unmarried. Out of 142 subjects, 129 (90.9%) were Hindu, 2.8% (4) Muslims, 4.2% Sikhs and rest were Christians.

Table 2 shows majority of females had knowledge about EC from mainly two sources, media (40%) and study material (37%). Rest had heard from family/friends (28%) or doctor/pharmacist (31%). Many have information from multiple sources. Male subjects had knowledge about EC from media and study material mainly.

Knowledge about method of EC was evaluated. All men and female subjects in this study had information about emergency pills as a method of EC. Only 1 (8.3%) male and only 5 (3.8%) females knew about Cu-T as a method of EC.

Table 3 shows distribution of study subjects according to questionnaire response (1) All the respondents were aware of the existence of EC in the form of tablet. (2) 86.62% of the study population was aware of the correct timing of use of ECP, i.e., within 72 h of unprotected coitus. (3) Only 16.9% of the subjects knew that it can be used any number of times in a single cycle. (4) 79.58% of staff was aware that it's not 100% effective in preventing pregnancy. (5) 78.87% of them knew that it is not protective against STD's. (6) Half of them (54.93%) were aware its OTC availability. (7) 15.5% of the study subjects told that 16-year-old female can get EC it from OTC irrespective of the age. (8) 39.2% people in study group knew that EC has no serious side effects. (9) It can be taken as back-up therapy in case the lady forgets the routine pill, the fact was known to only 18.31% of them. (10) 76.76% aware of single dose of morning after pill.

The knowledge toward EC is important component to be studied in community.

Table 4 demonstrates that knowledge among male participants was poor (58.33%) as compared to female staff (22.31%), though mean score of knowledge was 3.3 in both the groups and median was four in poor knowledge group. In most of the female participants (67.70%), knowledge was average (5–7) and 25% of male staff had average knowledge score. Mean and median in both the groups were six. None had score of 11. Mean in males was eight and in females it was 8.07, median in both was eight.

DISCUSSION

WHO has defined Family Planning as "A way of thinking and living that is adopted voluntarily, on the basis of knowledge, attitudes, and responsible decisions by individuals and couples, to promote the health and welfare of family groups and thus contribute effectively to the social development of a country."[11] In current study of total 142 subjects, 91.6% were females. Eighty-nine percent of total 142 were unmarried. In our study, 4.2% of the subjects were aware of Cu-T as an alternative method of EC as present study was conducted on health workers.

Major source of information about EC was media and study material (45.1% and 42.3%) followed by medical staff and least likely source of information was family or friends. Appropriate and timely use of EC can avert almost 80% of the anticipated pregnancies, thus unsafe abortions and maternal morbidity as well as morbidity.

Although in current study awareness about existence of EC is 100%, knowledge regarding the correct timing and usage was 86.6% only. All the respondents were aware of the existence of EC in the form of tablet.

Only 16.9% of the subjects knew that it can be used any number of times in a single cycle, though not intended for repeated use.

In the literature that is 2000 years old finds evidence of various herbs for morning after including a no of ineffective folklore and unscientific methods. About 79.58% of staff was aware that it is not 100% effective in preventing pregnancy. In our study,

Table 2: EC awareness and source of information

Parameters	Males (*n*=12)				Females (*n*=130)			
	Unmarried (*n*=8)		Married (*n*=4)		Unmarried (*n*=118)		Married (*n*=12)	
	n	%	*n*	%	*n*	%	*n*	%
Method known of contracept								
Pills	8	66.4	4	33.3	118	90.8	12	9.2
Cu-T*	0	0	1	8.3	64	49.2	6	4.6
Both	0	0	1	8.3	0	0	5	3.9
Source of information								
Family and friends	0	0	3	25	20	15.4	12	9.2
Media	4	33.3	3	25	45	34.6	12	9.2
Health personal	0	0	0	0	32	24.6	12	9.2
Study material	4	33.3	3	25	48	36.9	5	3.9

*These subjects knew about Cu-T as method of contraception, but only 6 (one male and five females) of 142 were aware that Cu-T can be used as method of EC

Table 3: Distribution according to the questionnaire response

Question	Response	Male (*n*=12)	Female (*n*=130)	Percentage of correct response
1. Heard of EC	Yes*	12	130	100
	No	0	0	
2. When can it be taken after intercourse	12 h	1	2	86.62
	24 h	0	8	
	48 h	0	5	
	72 h*	11	112	
	Unknown	0	3	
3. How many times can it be taken in single cycle	Once	2	73	16.9
	Twice	6	23	
	>2*	2	22	
	Not known	2	12	
4. Efficacy of EC-Is it 100%?	Yes	0	20	79.58
	No*	12	101	
	Not known	0	9	
5. Is it protective against STD's?	Yes	0	16	78.87
	No*	12	100	
	Not known	0	14	
6. From where can a 16-year-old girl get ECP?	Doctor	3	56	54.93
	Pharmacist	0	5	
	Any of the *two	9	69	
7. Can a doctor prescribe a 16-year-old girl ECP without her parents' consent?	Yes*	2	20	15.5
	No	10	94	
	Don't know	0	16	
8. Does ECP has serious S/E	Yes	6	64	39.2
	No*	6	52	
	Don't know	0	14	
9. Can ECP be given in a women already on OCP's	Yes*	1	25	18.31
	No	9	97	
	Don't know	2	8	
10 How many tabs are to be taken after unprotected coitus	Single*	9	100	76.76
	Two	2	14	
	Multiple	0	7	
	No idea	1	9	

*Correct response is marked with star and shown in table in percentage out of total 142 subjects in the table

Table 4: Distribution of participants according to knowledge of EC

Knowledge score	Frequency and percentage			Mean	Median	*P*-value
	Male *n*=12	Female *n*=130	Total *n*=142			
Poor (0–4)	7 (58.33)	29 (22.31)	36	3.3	4	<0.001
Average (5–7)	3 (25)	88 (67.70)	91	6	6	<0.0001
Good (8–11)	2 (16.7)	13 (10)*	15	8	8	<0.0003

P<0.05 is considered significant and <0.005 highly significant and *P*-value was found to be highly significant in current study. *Only one female staff had score of 9.

78.87% of them knew that it is not protective against STD's. Half of them (54.93%) were aware its OTC availability. Only 15.5% of the study subjects told that 16-year-old female can get EC after prescription from a doctor, though its availability is made OTC since 2013 irrespective of the age.

In study group, 39.2% people knew that EC has no serious side effects. It can be taken as back-up therapy in case the lady forgets the routine pill, the fact was known to only 18.31% of them.

Approximately 77% aware of single dose of morning after pill as most commonly advertised pill is I-pill.

In India, 25% of the pregnancies are unwanted. Eight percent of maternal deaths are due to abortion related complications. In India, the knowledge on EC is inadequate not only among the potential users and the community but also among the service providers, who can play a key role in EC awareness. Most of the studies highlight incomplete knowledge about EC among health-care providers.[12]

Knowledge was poor among male participants (58.33%) as compared to female staff. Although males may be interested in accessing it, EC continues to be predominantly viewed as a female thing. In most of the female participants (67.70%), knowledge was average and 25% of male staff had average knowledge score. None had score of 11. Highest score achieved by a candidate been nine who was female. *P*-value was found to be highly significant when scores were compared.

Preponderance of 75% in female paramedics was seen by Dr. Mondal *et al*. in Kolkata in a study done on medical and paramedical staff.[12] In a study done at Tabriz in 2012, 80% were married because of the more carrier orientation in non-Islamic countries[13] and in another study done in India on nursing students; unmarried subjects were 93.4%, an observation similar to our study.[14] Most of the study subjects were Hindus similar to study done by Renjhen *et al*. in 2019 at Delhi on 640 women attending hospital opd and all of the females who were aware of EC were versus with I-pill only as method of EC.[15] Relwani *et al*. in a study done on engineering college girls at Nagpur found audio-visual media (65.5%) as the major source of information.[6] Knowledge regarding the correct timing and usage was higher than that reported by Dogra and Wankhede in Pune,[16] similar awareness (100%) was reported by Jogdand and Yerpude, but correct timing of use within 72 h was known to 57.86% of students in Jogdand and Yerpude study and 52.14% were not sure if ECs protect from STD's.[14] In Tripathi *et al*. study done in 2003 in North India; the question of efficacy was not answered reliably by health-care providers,[17] in a training conducted at MCGM to service providers by Kulkarni *et al*. in 2016 awareness of non-protective effect of EC against STD's was high (97.1%) in medical officers.[18] Awareness of OTC status was 45.71% in Jogdand and Yerpude study and 61.43% nursing students thought it to be safe for its users in Gujarat Adani Institute of Medical Sciences at Bhuj.[14] The provider's knowledge was poor in 3.6%, average in 61.4%, and good in 35% only in study done at Tabriz.[13] Knowledge was good in 30% as said by Rahaman *et al*. in research done in 2010 in India.[19] Findings were similar to current study. In a study done by Lakde *et al*. at Maharashtra in women seeking abortion services, good knowledge about EC was observed in 5.8% only,[20] as this study was done in non-health professionals. Knowledge was inadequate in adolescent study participants in 2016 (47% in males and 49% in females) in Anand and Sukhlecha study at Jamnagar.[21]

The current study was done in health-care providers that is the strength of our study, but nurses of a private medical college are just tip of iceberg of community health services, that is weakness of our study as community health services are provided by ASHA workers, Aganwadi staff, ANM's, etc.

CONCLUSION

Population explosion not just exhausts resources, but unwanted births are disadvantaged in terms of maternal and child health outcomes. However, the most challenging aspect in reaching full potential of this approach is that both health-care personnel and potential users are quite ignorant of it. To introduce the method effectively, awareness and training of providers are important. It is therefore, imperative that training of the trainers should be organized to update their knowledge. Training plays a crucial role in dispelling myths and misconceptions on EC. This is very important as unless, we equip these health workers with correct knowledge, wrong messages can percolate down in the community which can affect utilization of EC.

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