

# **Provision of Emergency Contraceptive Services through Paraprofessionals in India**

## **Indian Council of Medical Research (ICMR)**

Shiv Kumar  
Chander Shekhar  
N.K.Gupta  
Malabika Roy

## **Frontiers in Reproductive Health (FRONTIERS), Population Council**

M.E. Khan  
Mary Philip Sebastian

## **Human Reproduction Research Centers (HRRCs), ICMR**

Rukma Idnani (Meerut, Uttar Pradesh)  
Ardash Bhargava (Jaipur, Rajasthan)  
Vinita Salvi (Thane, Maharashtra)

**November 2007**

This study was funded jointly by the Indian Council of Medical Research and through the generous support of the American people through the United States Agency for International Development (USAID) under Cooperative Agreement Number HRN-A-00-98-00012-00. The opinions are the responsibility of the FRONTIERS Program and do not necessarily reflect the views of USAID or the United States Government.



## EXECUTIVE SUMMARY

Unprotected sex resulting from improper use of regular contraceptives, failure of barrier methods, or sexual violence often leads to an unwanted pregnancy. Emergency contraceptive pills (ECP) give woman another chance to prevent such a pregnancy. The Government of India introduced ECP as part of the National Family Planning Program in 2002. However, the method was available only with a physician's prescription, which limited access in many settings. In 2004, with funding for technical assistance provided by USAID, the Indian Council of Medical Research (ICMR) funded and collaborated with the Frontiers in Reproductive Health Program (FRONTIERS) of the Population Council on a two-year study to assess the usefulness and effectiveness of using paraprofessionals in educating and providing ECP services to potential users.

The study used a post-test only study design that compared two different delivery models. In Model I, the *status quo* for ECP services, only medical physicians received training and provided ECP services. In Model II, both physicians and professionals (auxiliary nurse midwives and lady health visitors) were trained in provision of ECP services.

The study was carried out in one district in each of three states of India: Meerut (Uttar Pradesh), Jaipur (Rajasthan), and Thane (Maharashtra). In each district, six Community Health Centre (CHC) areas were selected at random. These CHC areas were then randomly allocated to the two delivery models and one control group. Participating physicians and paraprofessionals were trained on ECP counseling and provision. After training, all trainees received brochures and posters for raising community awareness on ECP, and a pocket flipbook for use as an aid during ECP counseling.

Key findings were as follows:

- Before training, knowledge of ECP was very low, both among physicians and particularly among paraprofessionals. Training increased knowledge dramatically. After training, knowledge of ECP was similar among physicians and paraprofessionals.
- A six-month follow-up of women who had received ECP revealed that the quality of counseling about ECP (i.e. the provision of the essential information that ECP is a backup method, is less effective than any modern method if used regularly, and does not induce abortion), as well as use of counseling aids and provision of the ECP brochure, was better among paraprofessionals than among physicians.
- At interviews nine months after training, a high proportion (82-100% by site) of trained physicians and paraprofessionals retained correct knowledge of ECP use. By contrast, in the control area knowledge of ECP was significantly lower, both for physicians (47%) and paraprofessionals (21%).
- The average time elapsed between unprotected sex and ECP use was significantly less in areas receiving Model II than those with Model I (the centers served by physicians only).
- Six to nine months following their use of ECP, about two-thirds of women (66% in Model I centers and 67% in Model II centers) could correctly answer all four critical questions on ECP use (i.e. number of pills to take, number of doses to take, interval between doses, and

maximum time limit for taking ECP after unprotected intercourse). Multivariate analysis revealed that retention of correct knowledge was twice as high among women who were counseled by paraprofessionals compared to those seen by physicians.

- ECP played a bridging role in increasing women's use of contraceptive methods in both areas. The proportion of women practicing family planning after using ECP for the first time increased from 67 percent to 78 percent.

Based on these findings and advocacy efforts, the Indian Ministry of Health and Family Welfare (MOHFW) introduced ECP as an over-the-counter medication beginning in September 2005, thus making it possible for paraprofessionals in the National Family Planning Program to provide ECP services.

The study demonstrated that paraprofessionals could easily be trained to provide ECP services and that the quality of their services is slightly better than the quality of the same services provided by physicians. This suggests that paraprofessionals should be encouraged to provide ECP services. This will make ECP widely accessible to women who need it. Guidelines and funding for the scale-up of ECP services should incorporate the use of paraprofessionals as well as physicians as a best practice in public health.

# TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	i
ABBREVIATIONS .....	v
ACKNOWLEDGEMENTS .....	vi
BACKGROUND .....	1
METHODOLOGY .....	2
Objectives .....	2
Research Questions.....	3
Study Partners .....	3
Study Design.....	3
IMPLEMENTATION.....	4
Preparatory Phase.....	4
Intervention Phase.....	5
Impact Evaluation .....	7
KEY FINDINGS.....	7
Formative Research .....	8
Pre- and Post-Training Test Results .....	11
Retention of ECP Knowledge nine months after training .....	13
Availability of ECP at the facility at the end of the study .....	13
Increased access increases use of ECP .....	13
Results from follow-up surveys of ECP clients.....	14
DISSEMINATION AND UTILIZATION .....	18
SUMMARY AND CONCLUSION .....	19
REFERENCES .....	20
APPENDIX A: PRE AND POST TEST QUESTIONNAIRE .....	21
APPENDIX B: ARTICLE IN NRHM NEWSLETTER.....	23

## **LIST OF TABLES, FIGURES AND BOXES**

Table 1: Study coverage and number of providers trained .....	3
Table 2: Percentage of physicians (Phys) and paraprofessionals (Paraprofs) who correctly answered all four critical questions on correct use of ECP .....	12
Table 3. Socio-demographic characteristics of women and husbands who received ECP from the two intervention areas (percentages).....	14
Table 4. Contraceptive use status of ECP users followed up six months later.....	15
Table 5. Incidence of unprotected sex after the first use of ECP.....	15
Table 6. Quality of counseling by physicians and paraprofessionals (percentages).....	16
Table 7. Factors affecting women's knowledge of ECP.....	17
Box 1: Steps for implementing ECP program .....	5
Box 2: Contents of the training .....	6

## **ABBREVIATIONS**

ANE	Asia and the Near East
ASHA	Accredited Social Health Activist
ANM	Auxiliary Nurse and Midwife
BCC	Behavior Change Communication
CAs	Cooperating Agencies
CHC	Community Health Centre
DHS	Demographic Health Survey
DMO	District Medical Officer
ECP	Emergency Contraceptive Pills
FGD	Focus Group Discussion
FP	Family Planning
GOI	Government of India
HRRC	Human Reproduction Research Centre
ICMR	Indian Council of Medical Research
ICEC	International Consortium for Emergency Contraception
IEC	Information and Education Campaign
LHV	Lady Health Visitor
MHW	Male Health Worker
MOHFW	Ministry of Health and Family Welfare
NFWP	National Family Welfare Program
NGO	Non Governmental Organization
OCP	Oral Contraceptive Pills
OTC	Over the Counter
PHC	Primary Health Centre
PHN	Population, Health and Nutrition
RCH	Reproductive and Child Health
RH	Reproductive Health
STIs	Sexually Transmitted Infections
UPS	Unprotected Sex
USAID	United States Agency for International Development

## **ACKNOWLEDGEMENTS**

This was a collaborative study undertaken by the Indian Council of Medical Research (ICMR), through its Human Reproduction Research Centers (HRRCs), with technical assistance from the FRONTIERS Program of the Population Council. We are thankful to ICMR for funding the study and United States Agency for International Development (USAID) for providing resources to provide the technical assistance. The Principals of the Medical Colleges in the three states where the study was carried out encouraged the scientific effort and made sure that the research protocol was followed explicitly. Special mention needs to be made of the many physicians and paraprofessionals who attended the training and participated in the research through the provision of services. The hard work of HRRC staff who collaborated on the project, as well as other HRRC staff members, contributed to the success of the study, and we acknowledge their valuable contributions.

## BACKGROUND

Despite the wide availability of a number of contraceptive methods, unplanned and unwanted pregnancies continue to be a cause of concern. It is estimated that among the total pregnancies each year in South and South-East Asia, about one-third are unplanned or unintended. For example, about 30 percent of pregnancies in Bangladesh, 21 percent in India, and 35 percent in Nepal are unplanned (Hossain *et al.* 2005). Situations such as non-use of contraceptive methods, contraceptive failure, dependence on traditional methods, rape and coerced sex may result in an unwanted pregnancy. Contraceptive failures constitute a substantial fraction of unintended pregnancies, and in a few countries such pregnancies even exceed those caused by non-use (Blanc *et al.* 2002). Analysis of DHS data by Blanc *et al.* (2002) showed that in most developing countries, the rate of unwanted pregnancy could be reduced by half if births resulting from contraceptive failure and method discontinuation alone were eliminated. According to unofficial sources (Abortion Assessment Project, CEHAT), annually around 6.7 million abortions take place in India, most of which are performed by untrained persons under unhygienic conditions. As a result, many of these abortions result in serious health consequences, including death; it is estimated that 15 percent of maternal deaths in India are due to abortion-related complications.

Not knowing about modern methods or about emergency contraception, women often use local, ineffective, sometimes harmful remedies to prevent pregnancy. Studies in Bangladesh and Nepal have demonstrated that many women use ineffective methods that can lead to morbidity and mortality (Khan, Hossain & Rahman 2004; Tamang 2005). In India's overloaded public health care system, valuable health resources can be channeled to other services if the burden of emergency care resulting from harmful practices were eliminated (Paxman *et al.* 1993).

Emergency Contraceptive Pills (ECP) is a hormone-based method that, if taken correctly, gives women a last chance to prevent pregnancy following unprotected sexual intercourse. ECP contains the same hormones found in oral contraceptive pills but in higher doses. If ECP is initiated within 72 hours of unprotected intercourse, it is 85 percent effectiveness rate in preventing pregnancy. Though less effective than regular family planning methods, ECP is invaluable for reducing unwanted pregnancy and, potentially, the incidence of abortions to end an unwanted pregnancy. According to a study in China, introduction of ECP could reduce abortions by 50 percent in a year (UNDP/UNFPA/WHO/World Bank 2001). Recent guidance suggests that this regimen may even be effective for up to 120 hours after unprotected sex (Trussell 2008).

The Government of India introduced ECP as a prescription drug in the national family planning program in 2002. It was available in two-dose oral regime of 0.75 mg Levonorgestrel each; the first dose to be taken within 72 hours of unprotected sexual intercourse, and the second 12 hours after the first dose. A multi-country study by WHO demonstrated that both the pills could be taken as a single dose (Hertzen *et al.* 2002) and officially this has been accepted. In India now it is being produced and marketed as a single pill regime. For the emergency contraceptive pill to be effective in preventing pregnancy following unprotected intercourse, it is essential that women be aware of ECP, and that they have easy access to the pill within the narrow 72-hour window suggested by the current guidelines.



At the time of this study, ECP was a prescription drug and was available only at the primary and community health centre levels (PHC/CHC), effectively limiting access to only a small proportion of health facilities. The accessibility of ECP to potential users remained limited, even after three years of introduction of ECP in the family welfare program—both because of the distance between villages and PHC/CHCs and because of the social barriers posed by providers who are mainly male. Women, particularly young women, are unlikely to discuss their sexual encounters or to request ECP from male physicians. Additional factors limiting access to ECP included the providers' lack of knowledge about ECP and the absence of educational outreach to women and the community at large about this simple technology. Most physicians were not aware of ECP or knew little about the correct use of the method. Some were not even aware of its inclusion in the family welfare program. Thus, it is not surprising that at the start of the project, use of ECP was virtually nonexistent.

It was clear that unless ECP is made an over-the-counter drug, allowing paraprofessionals such as auxiliary nurse midwives (ANMs), lady health workers (LHWs), or male health workers (MHWs) to stock and dispense services to potential users, access to ECP will remain elusive. The key problem in increasing access was the medical barrier: the limitation of service provision to trained physicians. An additional factor was the lack of effort by the National Family Welfare Program (NFWP) to train a range of potential providers (physicians and paraprofessionals) in the provision of ECP services and to educate potential users about ECP use. The present project was undertaken to address these hurdles by facilitating changes in the policies regarding ECP (i.e., approving it as an over-the-counter drug) and making it widely accessible through paraprofessionals.

## **METHODOLOGY**

### **Objectives**

The objective was to increase access to, quality, and use of ECP services to help women avoid unwanted pregnancy resulting from unprotected sex. The specific objectives of the study were to:

1. Understand the current practices used by women for preventing unwanted pregnancy after unprotected sex.
2. Assess the acceptability of ECP if it is made easily available.
3. Assess the training requirements of paraprofessional staff for providing ECP services and document operational details.
4. Compare the quality and safety of ECP services provided by physicians with that provided by paraprofessional staff.

## Research Questions

The study sought to answer the following research questions:

1. Can paraprofessionals (ANMs, LHVs, and MHWs) be trained in provision of ECP, and can they deliver the services efficiently?
2. Will the quality and safety of ECP services provided by physicians and paraprofessionals differ in any way?
3. Does the inclusion of paraprofessionals in ECP provision make ECP more accessible and enhance its use?

## Study Partners

The study was carried out in collaboration with Indian Council of Medical Research (ICMR), its three Human Reproduction Research Centers (HRRCs) located in the Medical Colleges in Uttar Pradesh, Rajasthan, and Maharashtra and the Population Council's FRONTIERS Program. ICMR supported all study costs; the HRRCs implemented the project; and FRONTIERS provided technical assistance with financial support from USAID.

## Study Design

The study used a post-test only study design that compared two different delivery models. In one intervention area, only medical physicians were trained and provided ECP services (Model I). In the second intervention area, both physicians and paraprofessionals (ANMs and LHVs) were trained in ECP and provided ECP services (Model II). The rest of the PHCs in the district remained as control areas. Model I represented the existing practice, while Model II was to be introduced if the study findings bore out the hypothesis that paraprofessionals could be trained to provide ECP services as efficiently as physicians.

The study took place in one district each in three states--Meerut in Uttar Pradesh, Jaipur in Rajasthan, and Thane in Maharashtra--where the Medical College and its HRRCs were located. Each district included in the study covered a population of about 180,000. In each district, six CHC areas were selected at random, and then randomly allocated to the two delivery models and one control group after matching them with respect to population and demographic characteristics. A total of 123 physicians and 312 paraprofessionals were trained in the provision of ECP services in the two intervention areas (see Table 1).

**Table 1: Study coverage and number of providers trained**

Intervention models	CHCs covered	Population covered	Eligible couples (17%)	Potential clients for EC use (*26% of eligible couples)	No. of physicians trained	No. of ANMs/ LHVs trained
Intervention-I	2	2 -300,000	34,000 -51,000	8,840-13,260	61	Nil
Intervention-II	2	2 -300,000	34,000 - 51,000	8,840-13,260	62	312
Control	2	2 -300,000	34,000 -51,000	8,840-13,260	Nil	Nil

\*16% having unmet need for contraception plus 10% users of condom, OCP and other traditional methods. In India, population coverage is often described in lakhs, a term meaning 100,000. In this case, the population covered is estimated to be 2-3 lakhs in each area.

## **IMPLEMENTATION**

The study was carried out in three phases: preparatory, intervention, and evaluation and dissemination. The intervention phase, including follow-up of ECP users, lasted nine months.

### **Preparatory Phase**

During this phase, formative research was conducted to assess practices for preventing unwanted pregnancy after unprotected sex and to understand the local context to facilitate development of training and information, education, and communication (IEC) materials.

#### ***Formative research***

Six focus group discussions (FGDs) were held with women of reproductive age and two FGDs with ANMs/LHVs. Discussion topics included the following:

- (a) Current practices used to prevent pregnancy after unprotected intercourse
- (b) Perceived need and support for ECP
- (c) Attitudes about the pill and its cost
- (d) Preferred distribution channels for ECP

FGD interviews were conducted in the local language using pre-tested guidelines. Each group was made up of eight to 10 married women of reproductive age, selected on the basis of their willingness to participate in the FGD, irrespective of their interest in or knowledge of ECP. Informed consent was requested of every participant prior to the start-up of the FGDs.

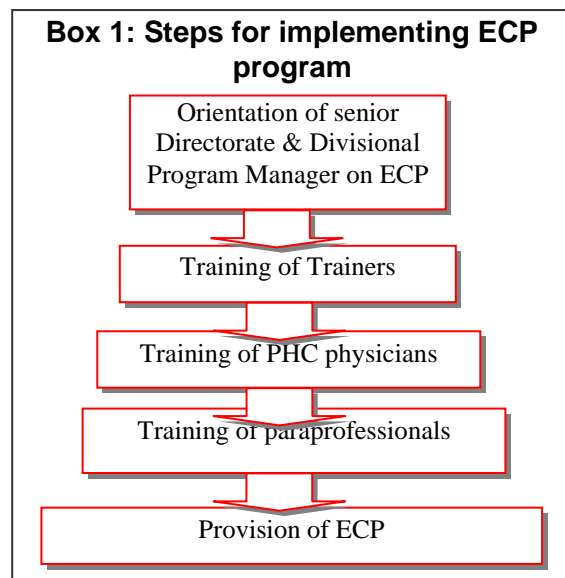
The FGD started by asking some simple questions on village problems in general and those of women in particular. Discussion then moved on to the incidence, frequency, and reasons for unprotected intercourse, home remedies used to prevent pregnancy, and their effectiveness and side effects. The discussion also included the prevalence and use of contraception, as well as myths related to family planning, reasons for discontinuation, decision-making on contraceptive use, and what is done in case of method failure. Thereafter the topic of emergency contraception was introduced. Participants were shown an ECP pack and informed about its availability and correct administration, stressing that ECP should be used only as a back-up or emergency method, not as a regular contraceptive method, and that ECP would not cause abortion or disrupt an established pregnancy. Following this discussion, participants were asked about how ECP would be received in the community, who would use it, who might misuse it, what most women could likely afford to pay, and where they would like to procure it. The moderator summarized the points from the discussion periodically to stimulate further discussion and to clarify the information presented. With the permission of the participants, the entire proceeding was tape-recorded. The taped interviews were transcribed and translated within a day or two of each FGD.

#### ***Preparatory work for training of providers***

The structure and content of the ECP training in this study was based on findings from operations research conducted by the FRONTIERS Program on introducing and scaling up ECP provision through paraprofessionals and community health workers in Bangladesh (Khan *et al.* 2004). The training curriculum, teaching tools, and IEC materials from the Bangladesh study

were adapted and translated into local languages (Hindi and Marathi) for the training of paraprofessionals; physicians were trained using English-language materials.

A three-tier cascade training program was planned and implemented in all three districts (see Box 1). Physician-trained research officers from the HRRCs were trained as Master Trainers by FRONTIERS. With technical assistance from ICMR and FRONTIERS staff, they organized the training of the supervising physicians of participating PHCs. The PHC physicians in turn trained the paraprofessional staff (ANMs, LHVs, and MHWs) at the PHCs. Staff from HRRC and FRONTIERS attended these trainings as observers and provided back-up support when required. The same set of transparencies was used for all training sessions to ensure uniform training.



### ***IEC materials***

To create awareness of ECP and a clear understanding of its use, educational materials including posters, brochures, and flipbooks were developed. The flipbook, designed for easy portability, served as a teaching aid for educating women and men about ECP. The ECP brochure and manual developed for Bangladesh was reviewed and adapted for the Indian context. Posters on ECP were developed and printed participating HRRCs with culturally acceptable pictures. All educational materials were initially developed in English and then translated into local languages. All IEC materials were tested for their appropriateness and effectiveness in the local context.



by

### **Intervention Phase**

Implementation of the interventions included:

- Training physicians and paraprofessionals in the study areas
- Providing IEC materials and counseling aids
- Disseminating information on ECP through posters and educational outreach by health care providers in the intervention areas.

Posters were displayed at strategic locations such as PHCs, sub-centre, nutrition (*anganwadi*) centers, and local government (*panchayat*) office buildings. All PHC or sub-centre clients

received brochures on ECP. Many women who saw the poster approached the providers to learn more about it. Each trained provider received a flipbook as a counseling aid and about 200 brochures for distribution among clients. The HRRC staff replenished the supplies as required.

The Ministry of Health and Family Welfare (MOHFW) provided ECP free of charge for the study. Soon after the initiation of the study, ECP was available in all PHCs and sub-centers in the study areas.

### *Sensitization workshop*

An orientation workshop on ECP was held in Jaipur in September 2004, before the training activities began at the study sites. The 20 attendees included staff from the three HRRCs, and government representatives, including the medical officer and reproductive and child health officer from each of the three states.

Before the orientation, senior state officials were not aware that ECP had been introduced in the national family planning program and was available for distribution at PHCs free of charge.

Participants split into three groups, each including a representative from the participating HRRCs, to discuss the training of PHC staff, development and logistics for IEC, and the implementation schedule. Input from the group discussions were incorporated into the final implementation plan.



Dr. Digamber Singh, Health Minister, Government of Rajasthan at the inaugural session of the training program (2<sup>nd</sup> from right)

### *Training of physicians and paraprofessionals*

District-level training was organized by HRRC with technical assistance from FRONTIERS and ICMR. Physicians' training took place in academic or government institutions, while training for paraprofessionals was held in easily accessible local venues such as CHCs or the *gram panchayati samiti* (village governing body) hall.

The 123 participating physicians received a half-day training, while the 312 paraprofessionals received a day-long training session. The training was comprehensive, covering such topics as the composition of ECP, when to take the dose, and what points to emphasize during counseling clients (see Box 2). Before the provision of ECP services began, seven trained physicians from Rajasthan and five from Maharashtra were transferred. HRRC staff provided ECP training to the physicians who replaced them.

#### **Box 2: Contents of the training**

- What is Emergency Contraception?
- What are Emergency Contraceptive Pills (ECP)?
- Who should receive ECP services?
- Information on ECP (mode of action, 72-hour window, pills in each dose, interval between doses, number of doses, effectiveness)
- Side effects and their management
- How to counsel potential ECP users
- How to return to regular family planning methods after ECP use
- What to do in case of ECP failure

## **Impact Evaluation**

The impact evaluation covered both the effect of the training and the quality of ECP services provided in the two intervention models in comparison to the experience in the control area.

### ***Evaluation of training***

Pre- and post-training tests were conducted to evaluate the effect of the ECP training. Before starting training, physicians and paraprofessionals were given a brief multiple-choice questionnaire covering all aspects of ECP, including its composition, dosage, effectiveness, side effects, and management. The same test was repeated immediately following training and again nine months following training, to assess retention of knowledge. At the end of the study, the same questionnaire was used to assess providers' knowledge of ECP in the control areas.

### ***Evaluation of service provision***

Two types of data were used to assess the impact of ECP provision:

1. Service statistics on the number of women who received ECP services from PHC physicians and ANMs during the project period.
2. Findings from the follow-up survey of ECP acceptors to assess the quality of the services provided, using the following indicators:
  - Information provided to clients on the correct use of ECP, including the message that ECP is a backup support and not a regular family planning method
  - Number of women who used ECP correctly
  - Retention of knowledge of ECP among users six months following the first use
  - Current contraceptive use status.

The intervention design specified that a minimum of 50 women who received ECP under each of the two models would receive two follow-up visits. The first visit, conducted one month after receiving ECP services, would assess whether women used the method correctly, succeeded in preventing pregnancy, and experienced any side-effects. During the second visit, six months after the use of ECP, the women were asked about repeat use of ECP, use of regular family planning method after using ECP, whether they conceived during the study period, and the outcome of that pregnancy.

## **KEY FINDINGS**

This section outlines the findings from the formative research, changes in providers' knowledge and retention of knowledge, provision of ECP by physicians and paraprofessionals, and the follow-up of ECP users one and six months after use of ECP.

## Formative Research

The principal themes that emerged from FGDs show that women have little control over their sexual activity and that the need and potential acceptability of ECP was high.

### *Lack of control on sexuality and reproductive rights*

Women expressed lack of control over their ability to prevent unprotected intercourse. Statements by FGD participants illustrate their limited ability to prevent unprotected intercourse, even when it leads to unwanted pregnancy.

*“If pregnancy occurs then the woman has to bear the child. It is the woman who always suffers.”*

*“If a woman has missed taking pills for three days or condom is not available at home, her husband never agrees when woman asks to avoid sex on that day and the husband always insist to have sex.”*

*“When a woman refuses sex, all men do not beat women but mostly they force her for sex.”*

*“Some men, particularly educated men, agree to a wife’s request not to have sex if she is unprotected.”*

Most women felt that they could ask the husband to use a condom, but the husband might or might not agree to do so. Women reported that unwanted pregnancies occurred frequently, and said that they felt great anxiety following unprotected intercourse because of their fear of pregnancy, and often they had no option but to continue with the pregnancy. A woman expressing these views described unwanted pregnancies as additional burdens that they must bear without respite from daily chores.

*“Yes. Many times it is against their will that they have to bear this burden (unwanted pregnancy) also. They are generally weak and suffer from stress. They neglect their diet... The hard household work continues till the end of pregnancy.”*

Some women who wanted to use contraception said that they encountered strong resistance from their husbands or families, especially newly married women or young women with one child or still childless.

*“In my case I was ready [to use a family planning method], but I was straight away told NO.”*

*“Several women use contraceptives secretly due to opposition from mother-in-law.”*

*“Once I adopted IUD secretly. I do not know how my husband came to know. He started suspecting me. I got it removed after ten days.”*

*“Son is a must and women can’t easily adopt family planning unless they have at least one son. Recently a woman gave birth to fifth daughter. The woman was in big trouble and wept a lot and asked permission for sterilization but her family members totally disagreed with this.”*

Some women noted that family planning was fruitless when the husband is drunk and forced sex is not uncommon.

### ***Lack of contraceptive knowledge and myths related to some methods***

Some women said that they did not use contraceptives because of religious beliefs, fear of side effects or, in some cases, because of myths about certain methods, particularly the IUD.

*“Copper-T is not safe. One of my neighbors was using copper-T and she died because it went to her throat.”*

*“It is believed that copper T gets inside husband during intercourse and husband-wife get fixed to each other.”*

*“IUD causes obesity and pain in abdomen.”*

*“No man wants male sterilization. They believe it makes them weak and cannot do heavy work or ride cycle. Women generally want to undergo sterilization. Otherwise mother-in-law will say that she [daughter-in-law] wants to kill her son.”*

*“Mala D [a brand of oral contraceptive pills provided by MOHFW] causes weakness. Look at that woman sitting there. She got swelling just because of pills. Now all women reject pills.”*

### ***Current practices to avoid pregnancy after unprotected intercourse***

Women use many traditional methods and herbal remedies in the hope of protecting themselves from unwanted pregnancies after unprotected intercourse. The most common home remedies, mentioned in all three states, were standing up immediately after intercourse, jumping up and down, or urinating immediately after sex. Additional remedies included a solution with ground roasted eggshells, powdered ginger, hot foods, and a variety of herbs.

Some women mentioned drinking water boiled with carrot seeds and turmeric powder to avoid pregnancy, while others said that this method would bring on a missed menstrual period. Women who had no access to contraceptives also cited a variety of home remedies that they used in the belief that these would prevent pregnancy.

### ***Knowledge of ECP***

In general, women had little or no knowledge of ECP, how to use it, or where to obtain it. However, they exhibited a keen interest in the method and asked many questions; even women who had not participated in the discussion previously began to ask about the method and where



to get it. Most women thought ECP would offer an invaluable opportunity to avoid unwanted pregnancy after unprotected intercourse.

To gauge subtle moral concerns related to ECP use, the informants were asked to describe situations when ECP could be misused. A few expressed concern about use of ECP as a regular contraceptive, or by those engaging in premarital or extramarital sex. However most did not believe that the availability of ECP would promote irresponsible behavior:

*“Those who were indulging in immoral behaviors will continue. Because of ECP bad behaviors are not going to increase. Those who have such inclinations only will misuse it. --- such women are presently secretly going for abortion but now they would use ECP which is anyway safer than abortion.”*

### ***Preferred ECP delivery model***

FGD participants said that their female clients would likely prefer to receive ECPs from women, rather than from male physicians:

*“More women will like to receive it from sisters [ANMs at a sub-centre].”*

*“Some will go, some won't if it is to be obtained from doctor at PHC. They will prefer taking it from nurse [ANM].”*

*“Men can receive from PHC doctors. Women will not be comfortable.”*

Some discussants felt that the provider's gender was less important than maintaining secrecy from the mother-in-law. Thus it would be preferable to go to the closer sub-centre and return quickly without arousing suspicion; but as PHCs are far from their villages, their visit could not be kept secret.

### ***Acceptable pricing***

Most FGD participants expressed a willingness to pay for ECP as a valuable protection against pregnancy. The majority preferred a price between Rs. 8-15, but the remarks below show that the range of acceptable prices varied:

*“If we don't want a child and if this could prevent pregnancy we can spend even Rs.50.”*

*“It is effective, harmless and provides protection against pregnancy, so the woman will buy it even if it is for Rs. 200.”*

*“If we don't want a child and if this could prevent pregnancy we can spend even Rs.50.”*

However, while most preferred and agreed to pay between Rs. 8-15, there were women who felt that paying Rs 2-5 will be easier for many and at least one woman asked,

*“At most its price should be Rs 3. But why could it not be supplied free like OCP?”*

### ***Paraprofessionals' views***

FGDs with paraprofessionals on the introduction of ECP revealed both positive and negative views. Most ANMs felt that easy availability of ECP would benefit women and could help some of them avoid unwanted pregnancy. However, many paraprofessionals felt that personal circumstances, or the need for the husband's permission, and the narrow window of 72 hours would influence ECP's acceptability.

*"Nowadays many husbands are supportive. When they are short of contraceptive supply, they tell us that their wife wants to meet us. But not all men are like this. Sometimes husband may be willing, but mothers-in-law will not allow them to use any method."*

ANMs also mentioned the possibility of reducing unwanted pregnancy through ECP use:

*"Many worried women rush to us only when menses is delayed. At that time they are ready to adopt any FP method. Going through tensions after a missed period, sometimes prompts the women to accept sterilization."*

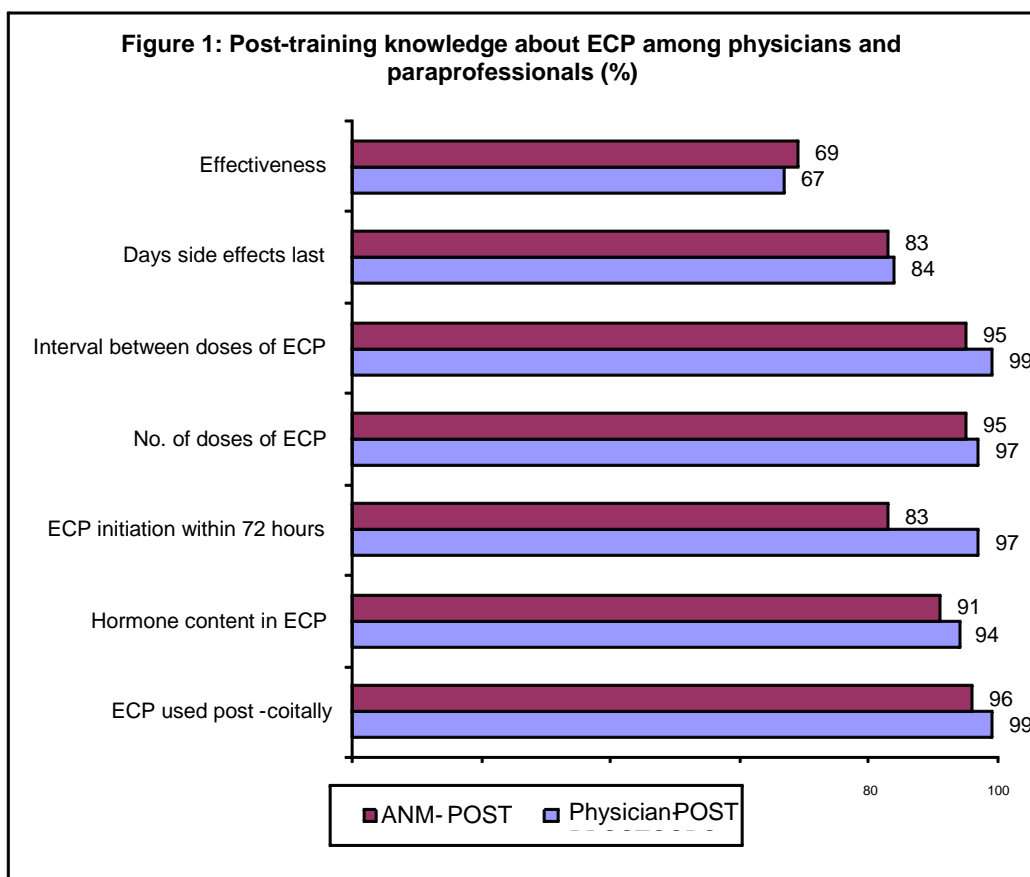
Another ANM felt that ECP use might reduce their volume of family planning customers. Many ANMs were opposed to charging for ECP, believing that this practice would make potential clients suspicious.

*"Women know that all FP methods come free. If government will keep a charge for ECP, women will suspect us. They will not believe us if we say that it is not free. So government should distribute ECP free of cost."*

### **Pre- and Post-Training Test Results**

Training took place as planned in all three study sites. Participants' knowledge was assessed before and after the training, and again nine months following training, using the same 13-item checklist (see Appendix A). Before training, knowledge of both physicians and paraprofessionals about ECP was quite low. For instance, less than two-thirds of physicians (60%) and less than one-fourth of paraprofessionals (24%) knew of the 72-hour window for initiating ECP following unprotected intercourse.

Providers' poor knowledge about ECP is not surprising given the absence of efforts to train physicians or inform the public about ECP. Even though the MOHFW had approved ECP in 2001, many states had not removed ECP supplies from central warehouses to distribute it to the districts; and in the absence of an IEC campaign, there was little demand for the method. A comparison of the knowledge of physicians and paraprofessionals about ECP after training showed significant improvements in knowledge about ECP in both groups (see Figure 1).



The analysis thus shows that paraprofessionals can be trained to provide ECP services and after training, both physicians and paraprofessionals will have comparable levels of knowledge about ECP and its correct use. Table 2 shows that a large proportion of physicians and nearly all paraprofessionals were unable to describe the four critical aspects of ECP use (72-hour interval for starting ECP after unprotected sex, number of pills in each dose, number of doses, and interval between doses) before the training. Following the training, the knowledge of physicians and paraprofessionals had increased substantially. In Uttar Pradesh and Rajasthan, the proportion of physicians and paraprofessionals who could cite the four critical elements of ECP did not differ significantly, but in Maharashtra significant differences remained. Researchers communicated this disparity to the HRRCs, and subsequently special attention was given to improving the paraprofessionals' knowledge during monitoring visits.

**Table 2: Percentage of physicians (Phys) and paraprofessionals (Paraprofs) who correctly answered all four critical questions on correct use of ECP**

	Uttar Pradesh		Rajasthan		Maharashtra		All	
	Phys (n=39)	Paraprofs (n=54)	Phys (n=40)	Paraprofs (n=125)	Phys (n=44)	Paraprofs (n=102)	Physicians (n=123)	Paraprofs (n=312)
Before	32	2	13	3	25	18	23	7
After	92	80	93	86	98	67**	94	74

\*\*p<0.001

## **Retention of ECP Knowledge nine months after training**

Researchers assessed the retention of providers' knowledge about ECP nine months after training by using the same checklist of questions used in the pre- and post-training test. They also administered the test in the control area, to assess the diffusion of information from other IEC initiatives about ECP. The knowledge of physicians and paraprofessionals in both intervention areas remained high in both intervention areas, but in the control area, only a small proportion of providers knew the four critical elements of ECP, and the majority of providers outside the project areas were unaware of ECP.

## **Availability of ECP at the facility at the end of the study**

Service statistics collected in the Model I, Model II and control areas showed that at the study's end, nearly all (94%) of providers in the experimental area knew that ECP was available at their PHC, compared to about one-fourth (28%) of providers in the control areas. No physicians, and only 6 percent of the 115 ANM/LHVs interviewed in the control area, had provided ECP services. One of the paraprofessionals said that though ECP was available at the PHC, but no one knew how to use it. She said that she had begun distributing the pills after reading the information in the leaflet provided.

## **Increased access increases use of ECP**

Service statistics on the distribution of ECP show that uptake of ECP was quite slow in both experimental areas. The number of ECP services provided to women reporting unprotected sex was much higher (766) in the Model II area than in the Model I area (407), where only physicians provided the services. Also, women initiated the first dose of DCP sooner (with a mean of 37.3 hours, SD 19.2) under Model II than Model I (mean initiation at 40.6 hours, SD =18.2). The difference in means was statistically significant ( $t = 2.13, p < .05$ ). Where clients were served only by ANMs, the corresponding mean was reduced to 33.3 hours. This confirms our hypothesis that providing ECP services through paraprofessionals will increase access to and use of ECP, and will bring about the earlier initiation than ECP provided by physicians alone.

The higher use of ECP in Model II took place even though ANMs are generally not available at the sub-centers, but move from village to village providing such services as immunization, antenatal check-ups, and home visits. This makes it difficult for women to contact ANMs within 72 hours of unprotected sex to get the ECP supply. During the study period, ECP was initially provided only "on demand," that is when women approach the provider after unprotected intercourse. To overcome this limiting factor in accessing ECP supply, ECP could be provided prophylactically, that is supplied to women in advance for administration immediately after unprotected sex. As observed in Bangladesh, providing a prophylactic supply of ECP increased its use significantly (Khan *et al.* 2004).

## Results from follow-up surveys of ECP clients

The profile of ECP users is provided in Table 3. Most ECP users fell within the 18-29 years age group. About a quarter of these women were illiterate and more than half had some schooling. There was no significant difference in the socio-demographic characteristics of users in the two intervention areas. However, the proportion of family planning users at the time of unprotected sex was significantly higher in the Model I area than the Model II area (72% vs. 61% respectively). The difference was statistically significant ( $z = 14.5$ ,  $p < .001$ ), and remains significant for the use of modern methods (65% versus 59%,  $z = 12.9$ ,  $p < .001$ ).

**Table 3: Socio-demographic characteristics of women and husbands who received ECP from the two intervention areas (percentages)**

Selected characteristics	Delivery Model I (n=409)	Delivery Model II (n=766)
<b>Age (years)</b>		
Mean	27.9	26.9
SD	5.6	4.4
<b>Years of Schooling (women) %</b>		
No schooling, illiterate	25.0	21.3
No schooling but literate	18.3	14.5
Other schooling	56.7	64.2
<b>Years of Schooling (husband) %</b>		
No schooling, illiterate	10.7	4.4
No schooling but literate	12.2	13.3
Other schooling	77.1	82.3
<b>Occupation (women) %</b>		
Housewife	72.4	72.2
Others	27.6	27.8
<b>Contraceptive Method Use %</b>		
No method used	28.2	39.1
Using any method	71.8	60.9
Using any modern method	65.0	59.2

(Source: Registration form at the time of ECP receipt)

### *Results from the one-month and six-month follow-up surveys*

Of the 1,175 women who received ECP, 932 were followed up one month after receiving ECP. The first follow-up survey these women revealed three reported pregnancies, suggesting a failure rate of 0.32 percent. This corresponds with findings from other studies that show a small failure rate when ECP is administered within 72 hours following unprotected intercourse.

In the second follow-up survey, however, only 316 of the 932 women followed up were actually contacted at their home. The study design called for follow-up of 50 women from each CHC area six months after ECP use. This did not occur because women were not available on the day of the visit and the duration of the study could not be extended to complete the follow-up. Comparison of the background characteristic of the women who were interviewed in the first follow-up and those interviewed in the second follow up survey showed no difference (not shown here). Of the 316 ECP accepters contacted for the six-month follow-up, 101 were from the area covered under Model I (only physicians), while the other 215 were from areas served both by physicians and paraprofessionals (Model II). Nine pregnancies were reported by women in this

group—seven occurred in the Model I area and two in the Model II area. This corroborates the earlier finding that women under Model I had delayed initiation of ECP after unprotected intercourse, which increases the risk of pregnancy.

***Post-ECP contraceptive use***

Interviews during follow-up surveys showed that the proportion of women in both groups who were not using family planning decreased from 33 percent at the time of registration in the study to 21 percent at the six-month follow-up (see Table 4). The increase of about 10 percent in contraceptive use was statistically significant in both the groups ( $z=1.9$ ,  $p<0.05$  and  $z=2.8$ ,  $p<0.01$ ). This suggests that ECP use plays a bridging role in encouraging women to adopt contraception.

**Table 4. ontraceptive use status of ECP users followed up six months later**

Selected characteristics	Delivery Model I (n=101)		Delivery Model II (n=215)	
	Registration	6 Month Follow-up	Registration	6 Month Follow-up
No method used	32.7	20.7*	32.6	21.0**
Using any method	67.3	79.3*	67.4	79.0**
Using any modern method	61.0	65.4	62.8	70.2

\*( $z=1.9$ ,  $p=0.05$ ), \*\*( $z=2.8$ ,  $p=0.005$ )

After their first use of ECP, 98 women (31%) reported one or more instances of unprotected sex in the last 6 months (see Table 5). The most common reasons for the unprotected sex were burst condoms (40%), three days of missed pills (30%), and non-use of contraception (17%). Among these 98 cases, 31 (32 percent) did nothing after unprotected intercourse to prevent pregnancy, while the rest used ECP. The most common reasons for not using ECP were lapse of the 72-hour window (30%), the husband’s reassurance that they would not conceive (27%), and belief that the unprotected sex had occurred during the safe period (22%). A further 15 percent cited fear of side effects, while 6 percent gave no reason.

**Table 5. Incidence of unprotected sex after the first use of ECP**

Unprotected Sex after first ECP	Model I (n=101)	Model II (n=179)
Yes	42.6	30.7*
No	57.4	69.3

\* $z=1.97$ ,  $p<0.05$

### *Quality of counseling by physicians and paraprofessionals*

Table 6 gives details on the ECP services provided by physicians and paraprofessionals and use of counseling aids during educational sessions. A similar proportion of physicians and paraprofessionals (between 35 and 40%) informed their clients that ECP would not cause an abortion and should not be used as a family planning method. However, significantly fewer physicians than paraprofessionals (76% versus 86%) used counseling aids, and clients of physicians were significantly less likely to receive brochures than those of paraprofessionals (76% versus 86%). Of those who received the brochure, 67 percent read it themselves and 26 percent had it read to them by others.

**Table 6: Quality of counseling by physicians and paraprofessionals (percentages)**

	<b>Physicians (n=122) %</b>	<b>Paraprofessionals (n=143) %</b>	<b>z value</b>
Was told: ECP will not cause abortion	36.9	40.6	0.66
ECP is not a regular family planning method	35.0	40.6	1.00
If ECP is used like FP, it is less effective than IUD, OCP, injection or condom in preventing pregnancy	32.0	35.3	0.50
After taking ECP, if menstruation is delayed for more than a week of the expected date check for pregnancy	91.0	97.0	2.02*
Used counseling aid	76.0	86.0	2.06*
Received brochures	76.2	86.0	2.06*

\*  $p \leq 0.05$ , \*\* Respondents in both groups did not necessarily answer all the questions.

These data are important because studies show that counseling is more effective when information is imparted with the help of counseling aids and reinforced by providing IEC materials such as pamphlets. A similar proportion of women who received ECP from physicians or paraprofessionals (66% and 67%, respectively) could correctly answer all four critical questions on correct ECP use.

A logistical regression analysis was conducted to understand what contributes to retention of knowledge about ECP and its correct use. The results are presented in Table 7.

**Table 7: Factors affecting women’s knowledge of ECP**

Variable	Unadjusted Odds ratio	Adjusted Odds ratio
Age		
Age 40 years or more (ref)		
30-39 years	5.63***	2.09
Less than 30 years	6.71***	2.97**
Education		
Illiterate(ref)		
Literate or class 1-5	1.16	0.97
More than class 5	1.27	0.70
Type of area		
Model I (ref)		
Model II	0.64	0.32**
Source of knowing about ECP		
Physicians (ref)		
Paraprofessionals	1.24	2.47**
Not used counseling aid (ref)		
Used counseling aid	9.57***	7.33***

\*\* p≤0 .01 \*\*\* p≤0.001

The adjusted odds ratio of answering all four questions on ECP use correctly was higher among the following groups:

- Younger women (3 times higher than women aged 30 and above)
- Women who learned about the method from paraprofessionals (2.5 times higher than physicians)
- Women with whom the counseling aid was used to explain ECP (almost 7 times higher than when counseling aid was not used).

A combination of factors—the reduced social distance between paraprofessionals and clients, the preference of some clients for female providers, and paraprofessionals’ more frequent use of counseling aids—may have made paraprofessionals more effective than physicians in providing ECP counseling and services. Service statistics also showed that paraprofessionals provided more ECP services to their clients than physicians.



## DISSEMINATION AND UTILIZATION

The study was designed recognizing the need for policy changes to allow provision of ECP services through paraprofessionals rather than restricting its provision on prescription by



Presentation of study findings at the dissemination meeting

physician. This required making ECP an over-the-counter drug. However, because the Drug Controller and the medical community of India were not sure that paraprofessionals could provide quality ECP services, ECP use was nearly nonexistent even four years after its inclusion in the national family welfare program. The present study provided evidence that the quality of services provided by paraprofessionals was as good as that provided by physicians. It also demonstrated that accessibility and use of ECP could be increased significantly if both physicians and paraprofessionals provided ECP services.

The dissemination strategy was planned from the outset of the project, beginning with sensitization workshops undertaken before the various activities, sharing FRONTIERS experiences of introducing ECP through paraprofessionals and community health workers, and discussions with senior government officials. Project principals provided these officials with literature on ECP from WHO, ICEC, Population Council, and other organizations and cited worldwide experiences from countries where ECP was approved as an OTC drug. It also kept them current on project developments to help create a favorable environment for review of the MOHFW policy on ECP. Various dissemination and advocacy activities were performed, including the following:

- Distribution of findings from the tests on providers' knowledge of ECP
- Distribution of updates on the project and documents on lessons learned during the Bangladesh experience to government and community stakeholders
- Presentation of the project findings, together with those of two other ECP studies, at a national conference organized by FRONTIERS
- Distribution of the ECP training manual developed in Bangladesh, which was revised and expanded during the India study and released by USAID senior staff.

The cumulative impact of these activities, complemented by efforts of other stakeholders, was that the MOHFW changed its policy and the Drug Controller of India approved ECP as an over-the-counter drug on August 30, 2005. This change in policy has made it possible to stock ECP at sub-centers, the lowest level of public health facility in rural areas, and its provision by paraprofessionals.

To disseminate information on ECP among health providers, MOHFW asked FRONTIERS to write an article for publication in its National Rural Health Mission's newsletter, a bimonthly newsletter printed in English, Hindi, Urdu, Oriya, and Assamese. The newsletter, distributed to public-sector providers at the level of ANMs, reaches about 300,000 individuals and provides information on government initiatives in health and family welfare and new technical developments. The article was published in the January 2007 issue of the newsletter (see Appendix B).



Release of ECP Training Manual

The USAID Mission in India has offered the Government of Uttaranchal funding for training all state health workers (around 2,600) on ECP. FRONTIERS will provide technical support in implementing the training with funding provided by USAID's Asia/Near East Bureau. These efforts will likely increase awareness about ECP in the community and will increase the availability of ECP services to all who need it.

## SUMMARY AND CONCLUSION

This study showed that paraprofessionals can be trained to provide ECP and retain their knowledge nine months after the orientation. A half-day training model to train physicians, and one-day training for paraprofessionals that included the use of counseling tools and skills, were sufficient to enable to provide ECP correctly. ECP services provided by paraprofessionals were comparable in quality to those provided by physicians, and paraprofessionals' compliance in using teaching aids during counseling was higher than that of physicians. The study findings suggest that allowing paraprofessionals to provide ECP will increase its availability and likely increase its use.

The government has made ECP available through ANMs at the sub-centre level, but had not conducted an ECP awareness campaign in the community or trained health workers to provide ECP services. Thus the use of ECP has remained negligible in India. However, recently the MOHFW decided to train all workers on ECP as part of the Reproductive and Child Health II program. While this represents a good beginning, the challenge will be to monitor the implementation of the ECP program to ensure that women, particularly difficult-to-reach groups such as youth, university students, rape victims, the urban poor, and other disadvantaged groups, actually get access to these services.

Another challenge is to ensure that women return to a regular family planning method after using ECP. The finding that more women were practicing family planning after using ECP is encouraging and provides some evidence on the bridging role of ECP, but this role needs more systematic study and a clearer understanding by program managers and providers. Finally, because of their responsibilities, ANMs may not be always available at sub-centers when women need ECP supply. To overcome this problem, ECP could be provided prophylactically, rather than on demand as is the present practice. Alternatively, the community-based distribution approach could be tested.

## REFERENCES

- Blanc, A.K., S.L. Curtis, and T.N. Croft. 2002. "Monitoring contraceptive continuation: Links to fertility outcomes and quality of care," *Studies in Family Planning*, vol. 33 (2) pp. 127-140.
- Hertzen, H. et al. 2002. "Low dose mifepristone and two regimens of levonorgestrel for emergency contraception: a WHO multi-centre randomized trial," *Lancet*, 360: 1803-10.
- International Institute for Population Sciences (IIPS) & ORC Macro. 2000. *National Family Health Survey (NFHS-2), 1998-99; India*. Mumbai: IIPS.
- Khan, M.E., S.M.I. Hossain, and M. Rahman. 2004. "Introduction of emergency contraception in Bangladesh: Using operations research for policy decisions," *FRONTIERS Final Report*. Washington, DC: Population Council.
- Paxman, J.M., A. Rizo, L. Brown, and J. Benson. 1993. "The clandestine epidemic: The practice of unsafe abortion in Latin America," *Studies in Family Planning*, vol. 24 (4), pp 205-226.
- Hossain, S.M.I., M.E. Khan, M. Rahman, and M.P. Sebastian. 2005. *Emergency Contraceptive Pills- A Training Manual*. New Delhi: Population Council.
- Sebastian, Mary P., Shiv Kumar, M.E. Khan, Chander Shekhar, and N.K.Gupta. 2005. "Studying the Utilization of Emergency Contraceptive Services through Paraprofessionals in India," Research Update 5. New Delhi: Population Council/ FRONTIERS.
- Strauss, Anselm, and Juliet Corbin. 1994. "Grounded theory methodology: An overview," in Denzin & Lincoln (eds.). *Handbook of Qualitative Research*, pp. 273-285. London: Sage.
- Tamang et al. 2005. "Emergency contraception: Chemists and paramedics' knowledge about ECP in Nepal. *Policy Brief on Emergency Contraception*. Nepal: CREHPA.
- Trussell, James. 2008. The Emergency Contraception Website. Office of Population Research, Princeton University and the Association of Reproductive Health Professionals. <http://ec.princeton.edu/questions/index.html>. Princeton, New Jersey.
- UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction. 2001. "Use of Emergency Contraception Pills could halve the induced abortion rate in Shanghai, China." *Social Science Research Policy Briefs*. Series 2. No.1.

## APPENDIX A: PRE AND POST TEST QUESTIONNAIRE

### Emergency Contraceptive Pill (ECP)

#### Pre-test Questionnaire

Organization: \_\_\_\_\_

Designation: \_\_\_\_\_

Specialty: \_\_\_\_\_

1. Which of the following statements describe the purpose of emergency contraceptive pills (ECP) as a contraceptive method? (*check one that apply*)
  - ECP is used before unprotected intercourse\* to avoid unwanted pregnancy
  - ECP is used after unprotected intercourse\* to avoid unwanted pregnancy
  
2. When you will say unprotected intercourses that have happened require ECP? (*check all that apply*)
  - one combined oral contraceptive pills were missed in a given cycle
  - three combined oral contraceptive pills were missed in a given cycle
  - one progestin-only oral contraceptive pills were missed in a given cycle
  - when missed injection due date (also extended 14 days) and had unprotected intercourse
  - a contraceptive method failed during use (e.g. the condom leaked or slipped)
  - unprotected intercourse occurred as the result of rape
  - intercourse without any method
  
3. What amount of hormone the combined oral contraceptive pill must contain (Yuzpe regimen) to be effective as emergency contraceptive pill: (*check all that apply*)
  - at least 0.1 mg of ethinyl estradiol and 0.5 mg of levonorgestrel
  - at least 0.2 mg of ethinyl estradiol and 0.5 mg of levonorgestrel
  - at least 100 microgram of ethinyl estradiol and 500 microgram of levonorgestrel
  - at least 200 microgram of ethinyl estradiol and 1000 microgram of levonorgestrel
  - Do not Know
  
4. What amount of hormone the progestin-only pill regimen must contain to be effective as emergency contraceptive pill: (*check all that apply*)

<input type="checkbox"/> at least 0.5 mg of levonorgestrel	<input type="checkbox"/> at least 1.5 mg of levonorgestrel
<input type="checkbox"/> at least 0.75 mg of levonorgestrel	<input type="checkbox"/> at least 1 mg of levonorgestrel
<input type="checkbox"/> Do not Know	
  
5. In what way emergency contraceptive pills work: (*check all that apply*)

<input type="checkbox"/> It prevents ovulation	<input type="checkbox"/> It prevents fertilization
<input type="checkbox"/> It kills spermatozoa	<input type="checkbox"/> It aborts a fertilized ovum
<input type="checkbox"/> It delay ovulation	<input type="checkbox"/> It makes uterine cavity unsuitable for ovum
<input type="checkbox"/> It prevents implantation	<input type="checkbox"/> Do not Know

**\*Unprotected intercourse means intercourse without any contraceptive methods or methods used incorrectly or thought that method used may not work perfectly.**

6. ECP must be initiated within \_\_\_\_\_hours: (check one that apply)
- within 24 hours after unprotected sex       within 72 hours after unprotected sex  
 within 48 hours after unprotected sex       within 96 hours after unprotected sex
7. How many doses ECP should be taken: (check one that apply)
- one       two       do not know  
 three       four
8. What is the interval between doses of ECP: (check one that apply)
- 6 hours       24 hours       do not know  
 12 hours       48 hours
9. Below is a list of statements regarding emergency contraceptive pills. Please indicate whether each statement is true or false by circling the correct answer.
- T     F    ECP can be used at any time during the menstrual cycle  
 T     F    ECP is an abortifacient  
 T     F    ECP can be used as regular family planning method  
 T     F    ECP can not be used by breast feeding mother
10. Emergency contraceptive pills have varying effectiveness in preventing unwanted pregnancy from 75 to 85 percent depending on the hormonal preparation used. Please indicate which are true.
- combined pill ECP is 75% effective       combined pill ECP is 85% effective  
 progestin-only ECP is 75% effective       rogestin-only ECP is 85% effective
11. Which ECP has fewer side effects? (check one that apply)
- progestin-only ECP       do not know  
 combined pills ECP
12. Which of the following side effects are associated with ECP: (check all that apply)
- breast tenderness       headache       weakness  
 nausea and vomiting       spotting       heavy bleeding  
 insomnia       fatigue       dizziness  
 cramping and bleeding       do not know
13. Most of these side effects last for? (check one that apply)
- one day       two day  
 three day       more than three day  
 do not know

**Answer Key to the pre- and post test questionnaire**

**Below are the correct answers**

- Question 1: 2,      Question 2: 2, 3, 4, 5, 6, 7  
 Question 3: 1, 3,      Question 4: 3,  
 Question 5: 1, 2, 5, 6, 7      Question 6: 2,  
 Question 7: 2,      Question 8: 3,  
 Question 9: a=T, b=F, c=F, d=F      Question 10: 1, 4  
 Question 11: 1,      Question 12: 1, 2, 4, 5, 8, 9, 10  
 Question 13: 1,

## APPENDIX B: ARTICLE IN NRHM NEWSLETTER

# Timely Use of Emergency Contraception Prevents Millions of Unwanted Pregnancies: A Method Everyone Should Know

Dr. M.E.Khan & Dr. Mary Philip Sebastian  
FRONTIERS Program  
Population Council

### Background

Despite the wide availability of a number of contraceptive methods, unplanned and unwanted pregnancies persist. In India, 21 percent pregnancies are unplanned and 6.5 million induced abortions are carried out every year. Situations such as unprotected sex, improper use of regular contraceptives, failure of barrier methods, sexual violence and miscalculation of fertile period often leads to an unwanted pregnancy. In all such situations, emergency contraception will give women a last chance to prevent unwanted pregnancy. Reduction of unwanted pregnancies would protect a large number of women from undergoing the trauma of induced abortions, as well as reduce morbidities and deaths from abortions and pregnancy related complications. Emergency Contraceptive Pills (ECP) are hormonal pills that prevent pregnancy following an unprotected sexual intercourse, if taken within 72 hours. The hormone used in ECP is the same as used in Oral Contraceptive Pills (OCP) but in higher doses.

This write up is written in simple language to explain what are emergency contraceptive pills, when and how it should be used, its effectiveness and limitations. It is hoped that the article will be of particular use for ANMs, pharmacists, and village doctors who carry the major burden of educating community about family planning use and help women in achieving their desired family size.

### How is ECP used?

ECP comes in a pack of two pills. The first pill should be taken as soon as possible but certainly before 72 hours of unprotected intercourse. The second pill should be taken 12 hours after the first pill. For example, if the first pill is taken at 8 o'clock in the morning, the second pill should be taken at night 8pm. The earlier the first dose of ECP is taken after unprotected intercourse, the more effective it is in protecting unwanted pregnancy. One ECP packet can protect only one episode of unprotected intercourse.

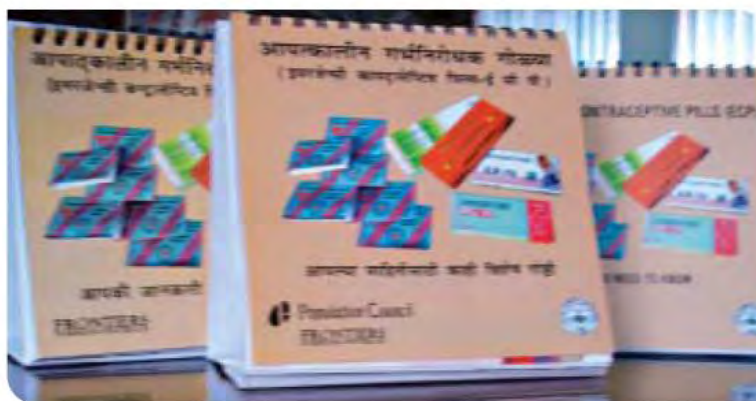
ECPs are safe for all women. Even breastfeeding mothers and those women who have been advised not to use OCPs as a regular family planning method can use ECPs. This is because although a higher amount of hormone is present in ECP, it remains in the body only for a short while.

### From where could ECP be obtained ?

Under the family welfare program, it is freely available from PHCs and ANMs at sub-centres under the name E-pills. In the market, ECP is also available under brand names such as Ecee2, Norlevo, E.P.72 and Pill 72.

### ECP does not cause any major side effect

Like oral contraceptive pills, ECP could also cause some minor side effects to some women. It includes breast tenderness, headache, nausea, vomiting, spotting, fatigue, and dizziness. These discomforts will not last for more than 24 hours and usually do not necessitate taking medication. If the woman vomits within 1 hour of taking any of the emergency contraceptive pills, that dose has to be repeated after taking proper anti-emetics. Most effective anti emetic is meclizine hydrochloride (Pregnidoxin).





**Points to remember and emphasize during counselling**

- ECP is for emergency use only. It is not a regular family planning method.
- If ECP is used frequently for preventing pregnancy, it is less effective than Pills/ Injection/ Condom/ IUD.
- ECP must be taken within 72 hours of unprotected intercourse. The earlier the better.
- The interval between the two doses should be 12 hours.
- After taking ECPs, if menstruation delays for more than one week of the expected date, go for pregnancy test.
- ECP is not an abortion pill. It cannot dislodge implanted foetus from the uterus.

contraceptive method. It is only 85 percent effective in preventing pregnancy. Hence, it

**ECP is not a regular Family Planning Method**

It is important to recognize that ECP is NOT a regular family planning method. If used frequently for preventing pregnancy, it is less effective than Pills/IUD/Condom. Hence ECP should be used only as back up support to prevent pregnancy if unprotected sex has already occurred. Even when ECP is used only occasionally as back-up support, out of 100 women who will use it, 15 women will become pregnant.

Women should be told that ECP does not bring on menses immediately. Most women will have their menstruation on time or slightly early or 2-3 days late than the expected date. If period is delayed for more than one week of the expected date of menstruation, women should go for pregnancy test.

**ECP cannot induce abortion**

It is equally important to know that ECP is NOT an abortifacient. ECP cannot cause abortion. If a woman is pregnant or egg has been fertilised, use of ECP neither causes abortion nor will it harm the foetus or cause any birth defects. ECP should not be used for inducing abortion; it will not work.

**Initiating or resuming regular contraception after ECP**

As mentioned earlier, ECP is not a regular

**Figure 1: Contraceptive Options after Emergency Contraceptive Treatment**

