

# Efficiency of educational tool on emergency contraception developed for Anganwadi workers

P S Shelke<sup>1</sup>, S S Pol<sup>2\*</sup>, S M Hamjade<sup>3</sup>, R M Chaturvedi<sup>4</sup>, B B Adsul<sup>5</sup>

<sup>1,2,3,4,5</sup>Department of Community Medicine, LTMMC and GH, Sion, Mumbai, Maharashtra, INDIA.

Email: [sspol2004@gmail.com](mailto:sspol2004@gmail.com)

## Abstract

**Introduction:** Maternal mortality reduction can be achieved by preventing large number of unwanted pregnancies and abortion related deaths. Emergency contraceptive pills (ECPs) have been proved as effective methods to prevent pregnancies. Aims: The present study was planned to assess the knowledge related to ECPs in Anganwadi workers of an urban Integrated Child Development Service (ICDS). Training on the ECPs was also conducted. Settings and **Design:** Urban ICDS, Cross-sectional interventional study. **Methods and Material:** Anganwadi workers of urban ICDS were interviewed for assessment of the knowledge regarding EC pills with the help of pre-tested questionnaire. **Statistical analysis Used:** Rates and Proportions, Mc Nemar test, Chi-square test and Wilcoxon signed rank test as Tests of significance **Results:** The study found poor knowledge among Anganwadi worker's about EC pills. **Conclusions:** Training in local language resulted in significant improvement in Anganwadi worker's knowledge of about EC pills and also change in attitude towards ECPs was observed.

**Keywords:** Emergency contraceptive pills, Anganwadi workers, Training, Knowledge and attitude.

## \*Address for Correspondence:

Dr. S S Pol, Department of Community Medicine, LTMMC and GH, Sion, Mumbai, Maharashtra, INDIA.

Email: [sspol2004@gmail.com](mailto:sspol2004@gmail.com)

Received Date: 28/09/2014 Accepted Date: 08/10/2014

## Access this article online

Quick Response Code:



Website:

[www.statperson.com](http://www.statperson.com)

DOI: 20 August  
2014

## INTRODUCTION

It is well established that many unintended pregnancies occur as a result of unprotected intercourse, inadequate contraceptive measures or failure of a contraceptive method. Annually estimated 15 to 20 thousand of the 11 million abortions in India are related with maternal deaths and preventable morbidity.<sup>1</sup> The NFHS 3 report stated 8 to 9 % of maternal deaths related to unsafe abortions.<sup>2</sup> Effective method of post-coital or EC can prevent many of these pregnancies (75–89%) as well as the health related and social consequences associated with them. Emergency contraception (EC) refers to all methods of

contraception that are used after intercourse and before implantation. Several methods of emergency contraception are safe and effective, including combined hormonal contraceptives taken in a dose higher than is used for regular contraception (Yuzpe Method) and insertion of a copper IUD. Another hormonal emergency contraceptive method, the levonorgestrel-only regimen, has been widely tested, with excellent results. After introduction of ECPs, Family Welfare Programme in India in 2003 showed that their uptake has been limited due to lack of awareness among users as well as providers. The Family Planning division, MOH and FW of India has prepared and circulated the manual on 'Guidelines for Emergency Contraception' to equip all service provider with appropriate knowledge for ensuring quality provision of ECPs. This will further improve the reproductive health of women by preventing incidence of septic/unskilled abortions for unwanted/unplanned pregnancies. Govt. of India approved the dedicated regimen of EC (E pill) in 2001 and later introduced the same in the National Family Welfare Programme in 2003. It was declared as over the counter (OTC) product in September 2005.<sup>1</sup> Provision of information about 'health

services and health related products’ to community is considered to be a primary job of the end level workers like Community health workers, Anganwadi workers etc. Thus, it is essential that they have adequate and accurate information about ECPs. The need to train end level community workers was reported in a study by Kulkarni R N in Mumbai.<sup>3</sup> V. Kishore *et al* emphasized the need of correct knowledge and positive attitude in health staff for efficient dispensing of EC pills (ECP).<sup>4</sup>

## AIM

To examine the knowledge and attitude related to Emergency Contraception (EC) in Anganwadi Workers (AWWs) and assess the impact of educational tool established with special emphasis on EC pills.

## OBJECTIVES

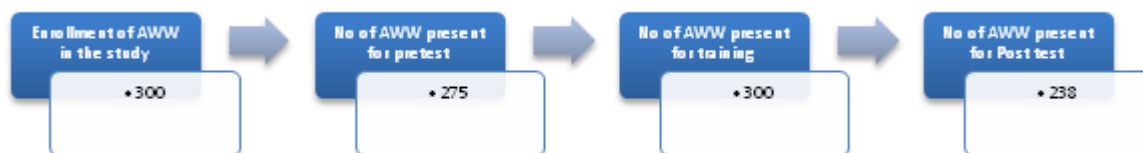
1. To study the baseline knowledge of ECP e.g. the availability, content, dose, indications

2. To examine their attitude towards use of EC e.g. rise in promiscuity of women
3. To develop an interventional educational tool and evaluate its efficacy.

## SUBJECTS AND METHODS

### Study setting and study population

Integrated Child Development Service (ICDS) reaches out to the population through its network of Anganwadis with the help of end level workers i.e. Anganwadi workers to provide MCH care at Dharavi, one of largest slum of in South East Asia (SEA). It caters about 3-lac population out of total of 5-lac. Therefore the study was planned to cover all Anganwadi workers belonging to this ICDS. **A total of 300 AWWs were enrolled for the study** Pretesting of AWWs knowledge related to ECPs was done prior of training sessions. **275 of them were present for the pretest.**



### Study tools

Primary data was collected from AWWs after obtaining verbal consent. It was a semi structured and pretested questionnaire, in local language to obtain socio-demographic background of the study group and their knowledge (availability, content, dose, and indications etc. for ECPs) and attitude towards EC pills. A total of 30 questions were asked to AWW for testing their knowledge and attitude regarding ECPs. A scoring system was used for analysis and each correct answer was allotted one unit score. Score ‘below 10’ indicates ‘poor knowledge’. Score ‘between 11 to 20’ is ‘fair knowledge’. Score ‘above 20’ is definitely a ‘good knowledge’. Lacunae in knowledge along with desired attitude were identified with the help of baseline data.

### Intervention

After primary data collection, anganwadi workers were divided into 5 batches each containing 50-60 workers for training purpose. A need based one-day educational intervention with the help of specially designed **educational tool** in local language ‘Marathi’ was organised during the period from 17 January to 21 January 2011. Nearly all AWW attended the training. The impact of training was assessed using a post-test after the session. In all, 238 out of 275 AWW responded for the post-test.

### Study Analysis

The data was collected, compiled and analysed with SPSS 15 version. Appropriate frequency and Percentages were calculated for different variables. **Chi square test, McNemar test and Wilcoxon Signed Rank test** were applied as test of significance wherever appropriate.

## RESULTS

### Phase I (Pre-training)

A total of 275 AWWs belonging to ICDS of Dharavi had participated in the study. Details related to age, education, marital status etc. are shown in table no 1. Age of AWW ranged between 21 to 70 yrs. Mean age was 38.41 yrs. Most of them (81.8 %) were married and 10.9 % were unmarried. Others were either widow or divorcee. Almost 72% AWWs had attained education up to Secondary. Very few of them have attained Graduation. Majority of AWWs was belonging to Hindu religion followed by Muslims and Christian. Around half of AWW (51.5%) had less than 5 years of experience of working in Anganwadi. Around 40 % of them had experience of work for more than 15 years. The duration of experience ranged between 2 months to almost 25 years. On analysis, association between knowledge of ECPs and years of experience was not significant. (Table1) The baseline data (before training) revealed 72.4 % of AWW had poor knowledge about ECPs (score in the range of 0 to 10). Nearly one fourth of them had good knowledge, but none

of them could score above 20, mean score being 7. Minimum score was zero and maximum was 19. (Table 2) Around 46% AWWs knew where ECPs would be available and around 44.4 % AWWs were aware about the fact that EC pills prevent pregnancy after unprotected sex. The content of drug was known to very few i.e. 8 % AWW in this study. Among all, 39.9 % AWW knew that ECPs are effective if taken as soon as possible after unprotected sex (Table 3). The proportion of AWW with knowledge of content, dose and indication of EC pills ranged between 6 to 18 %. Majority of them had opinion that education about ECPs to be given to all sexually active women (83.2%) while only 8.8% said that it should not be given to girl below 16 years (Table 4).

**Phase II (Post-training)**

Table 2 reveals that there was significant increase in AWWs knowledge after training. Almost 96.2 % AWW could score between 11 and 20 after training. Most of them could enumerate more than 3 advantages after training (Table 5). Anganwadi workers were asked to opine about social issues and consequences of ECPs. Fifty-five percentages of AWWs felt that ‘more number of women may not opt for regular contraceptives’ and it declined to 16 % after training. More than half of them felt that ‘use of ECPs would lead to increase in promiscuity’ in women (69.7%) which reduced to 49.6 % with training. (Table 6) Significant number of AWWs changed their opinion about ECPs after the training. Proportion of AWWs with negative attitude towards EC pills declined significantly (Table 6).

**Table 1:** Socio demographic profile of AWWs (N=275)

Socio demographic Profile	Frequency	Percentages
---------------------------	-----------	-------------

Age structure		
21-30	70	25.5
31-40	115	41.8
41-50	57	20.7
51-60	31	11.3
61-70	2	0.7
Marital status		
Unmarried	30	10.9
Married	225	81.8
Widow	18	6.5
Divorcee	2	0.7
Education		
Secondary	199	72.3
Higher Secondary	37	13.4
Graduate and above	39	14.2
Religion		
Hindu	234	85.1
Muslim	9	3.3
Christian	8	2.9
Other	24	8.7
Years of experience		
0-5yrs	102	51.5
6-10yrs	8	4
11-15yrs	9	4.5
16-20yrs	34	17.1
above20yrs	45	22.7

**Table 2:** Difference in Anganwadi workers knowledge (Score) about EC Pills after intervention

Score	No of AWWs with knowledge (%)	
	Pre training	Post training
0-10	171(71.8)	7(2.9)
11-20	67(28.2)	229(96.2)
21-30	0	2(0.8)

(N= 238), (Wilcoxon Signed Rank Test = 0.000)

**Table 3:** Difference in the knowledge needed for utilisation of ECPs after training

Correct knowledge	No of AWWs with knowledge (%)		Test value(McNemar)
	Pre training	Post training	
Content	19(8.0)	208(87.4)	0.000
Dose	15(6.3)	209(87.8)	0.000
Prevents fertilisation	120(50.4)	219(92.0)	0.000
Effective within 72 hrs of unprotected sex	95(39.9)	226(95.0)	0.000
Indications	26(10.9)	207(87.1)	0.000
Contraindication	37(15.5)	175(73.5)	0.000

**Table 4:** Anganwadi worker’s opinion about desirable effects of ECPs (N= 238)

Correct knowledge	No of AWWs with knowledge (%)		Test value(McNemar)
	Pre training	Post training	
ECPs prevent pregnancy	109(45.8)	227(95.4)	0.000
Benefit to all sexually active women	198(83.2)	224(94.1)	0.000
Benefit to below 16 yr old girls women	21(8.8)	153(64.3)	0.000

**Table 5:** Knowledge about advantages of EC Pills in AWW (N= 238)

No. of advantages known to AWWs	No of AWWs with knowledge (%)		‘p’ value (x <sup>2</sup> Test)
	Pre training	Post training	
0	100(42)	7(2.9)	0.000

1-3	42(17.6)	16(6.7)	0.000
>3	96(40.3)	215(90.3)	0.000

**Table 6: Attitude of AWWs towards ECPs (N= 238)**

Attitude of AWW	No of AWWs with knowledge (%)		Test value (McNemar)
	Pre training	Post training	
Increase in promiscuity	166(69.7)	118(49.6)	0.000
More no of woman may not opt for regular contraceptives	132(55.5)	38(16.0)	0.000

## DISCUSSION

After introduction of ECPs, Family Welfare Programme in India in 2003 showed that their uptake has been limited due to lack of awareness among users as well as providers. The Family Planning division, MOH and FW of India has prepared and circulated the manual on ‘Guidelines for Emergency Contraception’ to equip all service provider with appropriate knowledge for ensuring quality provision of ECPs. This will further improve the reproductive health of women by preventing incidence of septic/unskilled abortions for unwanted/unplanned pregnancies. Govt. of India approved the dedicated regimen of EC (E pill) in 2001 and later introduced the same in the National Family Welfare Programme in 2003. It was declared as over the counter (OTC) product in September 2005.<sup>1,5</sup> Most AWWs were young (age group of 21-40) and married. If AWWs are well versed with different aspects like ‘content of drug, mechanism of action, time of administration’, there will be a significant dealing for urgent contraceptive needs with ‘general’ and ‘at risk’ clients as well. Training equipped all workers so as to allow right messages percolate down in the community, which in turn would increase use of EC pills by women in need.

### Phase I (Pre-training)

Studies which examined level of knowledge about ECPs in medical officers like GPs, gynaecologists, paediatricians and family medicine providers found it was adequate<sup>3,4,6,7,8</sup> as compared to present study population i.e. Anganwadi workers. Awareness of EC pills was very low among AWWs as compared to LHVs, ANMs as studied by V. Kishor<sup>4</sup> but more than PHNs in Mumbai and CHVs of Muslim country as studied by R.N. Kulkarni *et al* and Azeem Sultan Mir *et al*.<sup>[3,9]</sup> Tripathi *et al* also demonstrated low level of knowledge in paramedics at New Delhi.<sup>10</sup> Less than half of AWWs knew that ECPs prevent pregnancy, whereas almost 3/4<sup>th</sup> of health care providers knew the same in Nigeria as studied by Ebuchi Om *et al*.<sup>11</sup> The knowledge of content, dose, correct timings and indications was also very low as compared to the paramedical workers at Delhi, Addis Abba as studied by V. Kishore and Netsanet Tekalign.<sup>4,12</sup> Correct timing of ECPs was noted by more than one-third

of AWWs as against only 10% of the providers studied by Ebuchi Om *et al* in Nigeria.<sup>11</sup> Most of AWWs felt that ‘more no. of women may not opt for regular contraceptives’ (55.5%) while only 14 % of family medicine providers felt same as found by Jennifer L. Wallace *et al*.<sup>8</sup> Many studies had analysed about the attitude of Health care provider towards ECPs. The proportion of AWWs (30%) with perception as ECPs would increase promiscuity in women is much lower than findings by Jennifer W. (59%) but comparable with findings by Hamza N in Pakistan (31%).<sup>8,13</sup> The manual for guidelines to use ECPs has clearly mentioned that these pills are not regular family planning method and is intended for “emergency use” alone<sup>1</sup>. The data reveals that only 18.2% of the total AWWs were aware of this fact, which is very low as compared to 90% of the providers of South District of Delhi.<sup>4</sup>

### Phase II (Post-training)

In pre-test, most of them were in the category of poor knowledge on EC pills. After training, they could score between ‘11 to 20’ indicating good knowledge. Training resulted in a significant ( $p < 0.05$ ) improvement in knowledge and attitude of Anganwadi workers. The present findings are in conformity with other studies done among health care providers like Medical officers, ANMs, LHVs etc.<sup>3,4,13</sup> Though there was significant increase in AWW’s knowledge related to EC pills, the aim of shifting majority of AWW to range of 21 to 30 score was not achieved. There still exists a scope of further refresher training on this subject of emergency contraception. There are few studies, which surveyed the level of knowledge about ECPs among health care providers and carried out the training for them too. Few studies have revealed that training creates positive impact on the health care workers knowledge about EC pills.<sup>3,4</sup> The conclusion of present study is analogous to that by R.N. Kulkarni *et al* in Mumbai<sup>3</sup> where they evaluated the impact of training on ECPs among Medical Officers and PHNs and proved the significant improvement in level of knowledge after training.<sup>3</sup> It has been emphasized in the guidelines that Community health worker can distribute EC Pills and it has been included in the kit of workers like ASHAs as well.<sup>5</sup> The study population i.e.

Anganwadi workers showed a favourable attitude towards EC pills but there was a knowledge gap. There is satisfactory improvement in their knowledge after training, indicating the effectiveness of the developed tool for same; however refresher training in the same subject is needed. The present study recommends a large-scale study to assess the need of training of various grass root level workers on EC pills who are in direct contact with the general population.

## ACKNOWLEDGEMENT

We express our sincere thanks to Mr. Mahendra Gaikwad, CDPO, ICDS Dharavi, Mumbai, Maharashtra, INDIA.

## REFERENCES

1. Guidelines for Administration of Emergency Contraceptive Pills by Health Care Providers **Family Planning Division**, Ministry of Health and Family Welfare, Government of India November 2008.
2. International institute of Population sciences and Macro International 2007. National Family Health Survey 3, 2005-06: India Vol 1. Mumbai IIPS; 2007.
3. R.N. Kulkarni\*, B.N. Joshi\*, S.L. Chauhan\*\*, K.T. Hazari\*\* and S.M. Chitlange\*Health and Population-Perspectives and Issues 30 (1): 1-11, 2007Training Of Service Providers On Emergencycontraception: Experience In Mumbai\*
4. Vertika Kishore, Man M Misro, DeokiNandan.Providers' knowledge, attitude and dispensing practices of E-Pills in government dispensaries of south district in Delhi, India. Indian JCom Med2010;35:46-51
5. Fact Sheet. ICEC India-5-22-13
6. Mondal A, Ghosh D, Seal SL, Bose C, Chakraborty AK. Knowledge, attitude and practices among beneficiaries and providers. J Indian Medical Association 2006; 104:551-3.
7. Neville H. Golden, MD\*; Warren M. Seigel, MD‡; Martin Fisher, MD§; Marcie Schneider, MD§EmilynQuijano, MD§; Amy Suss, MDi; *et al.* Emergency Contraception: Pediatricians' Knowledge, Attitudes, and Opinions. Paediatrics 2001:107:287
8. Jennifer L. Wallace, MD; Justine Wu, MD; Jamie Weinstein, MD; DanielW. Gorenflo, PhD; Michael D. Fetters, MD, MPH, MA.Emergency Contraception: Knowledgeand Attitudes of Family Medicine Providers (FamMed 2004; 36(6):417-22.)
9. Azeem Sultan Mir, Raees Malik. Emergency contraceptive pills: Exploring the knowledge and attitudes of community health workers in a developing Muslim country. North American Journal of Medical Sciences 2010, 2:359-64.
10. Tripathi R, Rathore AM, Sachdeva J. Emergency contraception: Knowledge, attitude and practices among health care providers in North India. J Obstetric Gynaecology Res 2003; 29:142-6.
11. Ebuchi Om, Ebuchi OAT, Inem V. Health care provider's knowledge of attitude towards and provision of emergency contraceptive in Lagos, Nigeria. Intl FamPlannPersepct 2006; 32:89-93.
12. Netsanet Tekalign *et al.* Assessment of Knowledge and Perception of Emergency Contraception among Health Care providers in Addis Ababa.
13. Hamza N Emergency Contraception: Knowledge and attitudes of Family physicians of a teaching hospital, Karachi, Pakistan. J Health Population Nutrition;2009 (June 27)

Source of Support: None Declared  
Conflict of Interest: None Declared