

# Emergency Contraception and the Knowledge of Community Pharmacists in Isfahan, Iran

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## ABSTRACT

**Objectives:** Emergency contraception (EC) is a special contraception method that prevents pregnancy after an unsafe sexual contact. Pharmacists, as the most available member of medical team have a unique role in patient education for appropriate use of contraceptive methods. In this study, we assessed the pharmacists' knowledge about emergency contraception.

**Methods:** A researcher made questionnaire was developed and used according to national guide line and electronic databanks. A group of experts and pharmacists validated the questionnaire. Reliability was measured by Half-Split Test. The questionnaires were filled by pharmacists.

**Results:** Average knowledge score were  $8.12 \pm 0.28$  for women and  $7.83 \pm 0.31$  for men (from a maximum of 15) which showed no significant difference between men and women ( $P = 0.492$ ). There was no significant difference between pharmacists who had precipitated in continuing education programs and that of those who had not ( $P = 0.286$ ). Scores of pharmacists who graduated 13 years ago or more did not significantly differ from others ( $P = 0.287$ ).

**Conclusions:** Because of low scores of pharmacist's knowledge about EC and the importance of unintended pregnancy prevention, its improvement is an urgent need. Regular and frequent continuing education programs could be one of the recommended interventions.

**Keywords:** Knowledge, Pharmacist, Isfahan, Emergency contraception.

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## INTRODUCTION

Unplanned or unintended pregnancy is a pregnancy which assumes unwanted by each or both partners.<sup>1</sup> Unplanned pregnancy can cause embryonic impairments as a result of mother's unsecured habits such as smoking and harmful practices.<sup>2-3</sup> Previous studies persisted that the mother's psychiatric disorders stand on unwanted pregnancy.<sup>4</sup> Unintended pregnancy is a unique problem in Islamic countries because abortion is illegal. It can also block the public educational and economical opportunities.<sup>1</sup> In Mohammad Pour investigation, 63.1% of unwanted pregnancies in Gonabad were caused by uneducated sex-

ual preventive tools while the rest 39.1% were attributable to the cultural problems.<sup>5</sup>

Post-coital contraception or emergency contraception (EC) is a special contraception method which has the ability to prevent pregnancy after an unsecured sexual relationship.<sup>6</sup> This talent of EC is due to its effects on ovulation and endometrial problems.<sup>7</sup> In North America EC put a stop to 1.7 million unplanned pregnancies which could cause 0.8 million medical abortions in a year.<sup>1</sup> Nowadays, the pharmacists are nearly the last point of society's contact with the medical system in cure procedure. Because of this, many of the needed measures in presenting medical

services are considered as their duty.<sup>8</sup> The importance of pharmacist's role in primary care and people health is confirmed by both the physicians and the pharmacist's society.<sup>9</sup> However, Borrego et al. reported that about 5% of pharmacists do not know any thing about EC.<sup>10</sup>

A variety of drugs for pregnancy prevent is being provided. On the other hand, desire of societies for regulating family and reducing the rate of unwanted pregnancies and its following events is increasing. Hence, the need to improve pharmacists knowledge about these kind of drugs is felt more than ever. The aim of this study was to evaluate the knowledge of community pharmacists about EC and some of its associated factors in Isfahan, Iran.

## METHODS

This cross-sectional study was done among 152 community pharmacists in Isfahan in 2010. The study was approved by the Ethics Committee of Isfahan University of Medical Sciences. After providing detailed oral information to the community pharmacists, oral consent was obtained from them.

A researcher made questionnaire was prepared to assess the knowledge of pharmacists. Determinants of pharmacist's knowledge about oral contraceptive with regard to EC were considered. Subjects such as side effects and adverse reactions to these agents, efficacy of oral contraceptives, gold time of its usage, management of vomiting after consumption were determined by clinical pharmacists and community medicine specialists and 5 general pharmacists. Finally, according to EC national guideline<sup>11</sup> and some references books,<sup>12,13</sup> 20 questions were designed.

For validating primary questionnaire, a conversational approach was chosen to determine the inter-rater agreement for the instrument relevancy and clarity. In this approach, the questions that all experts agreed on the rate of their appropriateness for relevancy were marked. After validating, a pilot study was done among 30 pharmacists to determine the questionnaire reliability ( $r = 0.86$ ).

A list of active pharmacies which located in Isfahan city, were taken from the food and drug administered office of Isfahan University of Medical Science. After coding the pharmacies, 152 codes were randomly chosen by computer. The questionnaires were distributed among pharmacists in selected pharmacies, and it was collected after filling. The pharmacies were ex-

cluded from study, if the questions were not answered completely.

Absolute and relative frequencies of responses to the questionnaire were tabulated. The data were analyzed using Statistical Package for Social Sciences for Windows (SPSS), the 11<sup>th</sup> version (SPSS Inc., Chicago, IL). Data was analyzed using unpaired t-test analysis. P-values less than 0.05 were considered as significant.

## RESULTS

152 questionnaires were distributed among community pharmacists that 81 questionnaires (53%) were completed and evaluated. 47% of pharmacists did not fill or did not answer questions completely. The participant's characteristics are shown in table 1. The average of the years after graduation was 13 years.

30.3% and 14.5% of pharmacists believed that the failure rate of EC was less than 3% and more than 10%, respectively. In this study, 77% of community pharmacists emphasized on the need of EC consultation. The mean knowledge scores of community pharmacists based on sex, the years after graduation and participation in continuing education about EC are shown in table 2. It was  $7.97 \pm 1.91$  in total out of a maximum of 15.

## DISCUSSION

To our knowledge, this is the first study which provides preliminary data on community pharmacists' knowledge toward EC, not only in Iran but also in Asia. In this study, general knowledge of hormonal emergency contraception was low among community pharmacists. In addition, their scores were not different in terms of sex, the years after graduation and participation in continuing education programs about EC. In a study in Mexico, pharmacists who had participated in a state-approved EC prescribing training program and had time in their practice setting to prescribe EC had significantly higher knowledge scores.<sup>10</sup>

The low scores in our study might be attributed to the pharmacists' belief about failure rate of emergency contraception. In our study, more than two third of pharmacists believed that EC failure rate was more than 3%. However, some studies showed that the failure rate of this method was 0.5% when it was used in the first 12 hours after sexual intercourse.<sup>12-14</sup> In Blanchard and colleagues' study in which pharmacists

**Table 1.** The relative frequency of characteristics of pharmacists completed the questionnaire

Characteristics		Relative Frequency
Gender	Female	46.2%
	Male	53.8%
Place of Education (University)	Isfahan	36.2%
	Tehran	20%
	Ahvaz	16.2%
	Tabriz	7%
	Shiraz	6.2%
	Mashhad	3.8%
Counseling Cases Per Month about EC	1-3	44.3%
	3-5	21.5%
	More Than 5	34.2%
Working Shift	Morning	44.6%
	Evening	39.2%
	Night	16.2%
Attending in continuing education programs	Yes	43.4%
	No	56.6%

had low knowledge about EC, most pharmacist mistakenly believed that repeated use of EC was associated with health risk. In another study in South Africa, pharmacists had poor knowledge about EC.<sup>15</sup> A study in San Francisco demonstrated that pharmacist had above average knowledge about EC. The majority of participants in this study received an education session about EC that showed these programs increased knowledge.<sup>16</sup>

In general, because of high rate of unintended pregnancy in many countries and its negative consequences for the health of women and their children as well as its significant costs to health care system, this problem has high priority among health professionals.<sup>17-19</sup> To achieve the Healthy people 2010 objectives for reducing unintended pregnancy,<sup>20</sup> preventive strategies should be addressed. Updating and increasing knowl-

edge of health professionals including community pharmacists about emergency contraception as a primary prevention strategy could help solve the unintended pregnancy problem. We recommend regular and frequent continuing education programs with emphasis on changes of community pharmacists' attitude and knowledge toward EC. In addition emphasis on this subject in medical universities before graduation, may improve knowledge of future pharmacists.

We should consider the results with regard to the limitations of study. Nearly half of the pharmacists answered questions incompletely and were excluded from the study, then the results are not generalizable to greater populations. In addition, pharmacists who refused to participate in the survey may be less likely to have knowledge about emergency contraceptives.

**Table 2.** The average score of knowledge of community pharmacists (mean  $\pm$  SD)

Characteristics		Mean score $\pm$ SD	P-value
Gender	Female	8.12 $\pm$ 0.28	0.492
	Male	7.83 $\pm$ 0.31	
Attending in Continuing educating programs about EC	Yes	8.25 $\pm$ 0.34	0.286
	No	7.79 $\pm$ 0.26	
The years after Graduation	More than 13	7.86 $\pm$ 0.32	0.287
	Less than 13	8.30 $\pm$ 0.25	

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