

# Emergency Contraception: What the General Practitioners Think ?

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## Abstract

Objective: Determine the knowledge, attitude and practice (KAP) among general practitioners in Indonesia about emergency contraception (EC). Methods: A cross-sectional descriptive study was conducted by administering an online questionnaire to internship doctors in Indonesia from July to August 2016. The inclusion criterion was all general practitioners doing the internship. Validity test with Pearson correlation and reliability test with Cronbach's alpha were carried out for analysing the questionnaire data. Spearman correlation test was done using SPSS version 23.0.

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**Index terms**— birth control, pregnancy, emergency contraception.

## 1 Introduction

At least 210 million pregnancies occur worldwide every year, among which about 80 million (38%) include unplanned pregnancies and about 46 million (22%) end in abortion. (1) Iwu DU and Ariane U stated that about 2.5 million abortions occur in Indonesia annually and 20%-60% of them were induced. This implies a ratio of 43 abortions to 100 live births or 30% of pregnancies. Women undergoing an abortion were found to be aged 20 years or older (92%), and the incidence of abortion was higher in the rural area (60%) than in the city (30%). (2) In reality, based on the Indonesian abortion law stated in 1992, an abortion is generally accepted only if the woman provides a confirmation from a doctor that her pregnancy is life-threatening, a consent letter from her husband or a family member, a positive pregnancy test result and a statement that she would practice contraception afterwards. In Indonesia, several women often seek unsafe abortion procedures performed by untrained providers, which, in turn, lead to complications and maternal deaths. Although data regarding abortion-associated mortality in Indonesia are unavailable, the World Health Organization (WHO) estimates that unsafe abortion contributes to 14% of maternal deaths in Southeast Asian countries that have highly restricted abortion laws. (3) Emergency contraception (EC) is a back-up method applied after the failure of using contraception or unprotected intercourse to prevent an unwanted pregnancy. The procedure for EC consists of hormonal and mechanical methods. A hormonal EC pill, sometimes referred to as a 'morning-after' or a 'postcoital' pill, contains higher levels of a hormone in daily oral hormonal contraceptives. In Indonesia, the EC pill is known as Pil KB Andalan Postpil or Valenor 2or Postinor 2 containing 0.75 mg of levonorgestrel (LNG) each. It should be taken as two doses and is 75%-95% effective when taken within 72 h of unprotected intercourse. (4) The most popular mechanism of action of the EC pill is the prevention of ovulation. An intrauterine device (IUD) is another EC method that has been shown to be effective for up to 12 days after unprotected sexual intercourse. The mechanism of action of an IUD is the stimulation of inflammatory response of the endometrial lining and the inhibition of implantation of the zygote. (5) The use of EC has been interfered by a lack of adequate information on its mechanism of action, benefits and fears associated with misconception. In addition, the judgemental attitude of providers towards the clients who ask for EC hampers the use of EC. In some countries, the clients need medical prescription to obtain the EC pills, which can delay the optimal time for consuming. (6) In Indonesia, the EC pill is supplied over the counter by a pharmacist; therefore, the clients can easily buy one. The easiness in obtaining the EC pill must be supported by physician knowledge to provide

the correct information about its use. Lack of appropriate knowledge can lead to wrong advice and prescription, which can trigger sexual liberty and the associated complications. The knowledge, attitude and practice (KAP) of physicians regarding EC have been extensively investigated in the Western countries; however, there is limited information in Indonesia in this regard. Therefore, this study was conducted to determine the KAP among general practitioners in Indonesia about EC.

## 2 II.

### 3 Methods a) Study Design

A cross-sectional descriptive study was conducted on internship doctors in Indonesia from July to August 2016. We recruited the participants through simple random sampling by distributing an online questionnaire. Subjects who would like to participate in the study could fill the online questionnaire directly by reading the aim of the study and the instructions. The questionnaire included eight characteristic demographic questions. In addition, to determine the KAP of physicians about EC, we asked 15 questions consisting of 5 knowledge, 8 attitude and 2 practice questions. We adopted the questionnaire based on several previously published studies. (6)(7)(8)(9) We developed the questions as appropriate to the culture and then translated it into the Indonesian language.

### 4 b) Score Determination for KAP

The respondents were asked about their KAP towards EC. The knowledge was assessed using a series of questions on the identification of EC indication, on the time frame for effective use, side effects and appropriate candidates for use. The providers' knowledge was considered as 'good' if they correctly answered 10 or more of the 13 knowledge questions. Scores of 6-9 were considered as 'fair' and less than 6 as 'poor'.

The respondents' attitudes towards prescribing EC were determined through several questions, including their perception about EC, the desire to prescribe EC, and the opinion about EC education during medical school. The Likert scale was used to determine this attitude, which was represented as strongly disagree, disagree, agree and strongly agree. If the providers' score was 15 or less, we considered it as a 'negative' attitude, while a score more than 16 was considered as a 'positive' attitude. In addition, we asked the respondents two questions about their practice on EC, including ever prescribing the EC and the reason for refusing to prescribe EC.

### 5 c) Inclusion Criteria

The inclusion criterion was all general practitioners who were doing the internship in Indonesia during the study period, so that that they would have a similar ability in the contraception service. Internship is the period after the completion of medical school in Indonesia. It takes a year to dedicate as a general practitioner under supervision in the primary health care and the hospital. The exclusion criterion was general practitioners who postponed the internship due to any reason. We considered that the respondents who had completed the online questionnaire had given their implied consent to this study.

### 6 d) Variables

The independent variables in this study were medical school and internship region. The dependent variable included the total knowledge score, which was the summation of true statements about EC, indication for prescribing EC, and the best interval time to prescribe the EC pill. We summed up the attitude statements of increasing free sex and reducing other methods of contraception caused by EC, refusing to prescribe EC due to religion or belief objection, familiarising EC widely, prescribing EC to clients as an indication and feeling as obtained adequate information about EC during medical school.

### 7 e) Validity and Reliability Test

To obtain consistent results, the questionnaire must fulfil the validity and reliability tests. The first 30 respondents were considered as the samples in our study. In the validity test, we obtained 2 of 5 knowledge questions and 2 of 8 attitude questions that were not valid, whereas the correlation coefficient (r) arithmetic was less than (r) table. We considered that those questions were essential to describe the distribution; thus, we displayed only on table not for analysing. After performing the validity test, we continued to the reliability test. The Cronbach alpha was found to be 0.56 for all valid questions. However, it was less than 0.6, and we determined that the respondents could understand all questions clearly.

### 8 f) Sample Size and Data Analysis

To estimate the sample size, we used the nominal sample size for estimation of proportion with Z? 1.96, estimation in population of 50%, and absolute precision of 0.10. Of this formula, we obtained that the minimal sample size was 97 subjects. However, due to descriptive study, we recruited all participants finishing the online questionnaire. Descriptive statistics were used for data analysis using SPSS for Windows version 23.0 for Windows. Normality was assessed using the Kolmogorov -Smirnov test for all demographic characteristic data. Descriptive data are presented in terms of frequency, percentage, median and minimum -maximum. We categorised the medical school

of general practitioners based on two aspects, namely, those coming from the government medical school and those coming from the public medical school. The internship region was categorised as 1 for Sumatra, 2 for Java, 3 for Borneo, 4 for Sulawesi, 5 for Papua and 6 for Bali and Nusa Tenggara. Validity test using Pearson correlation and reliability test using Cronbach's alpha were carried out for questions describing the KAP of EC in the questionnaire.

## g) Informed Consent

Before the beginning of this study, we informed about an online informed consent to the participants. We considered that the respondents agreed to participate in this study if they had answered all the questions.

## III.

## Results

To maximise the study participation and data collection, we sent requests to fill out the online questionnaire through each internship region by sending a message. During the 2 months of circulating the online questionnaire, we obtained 195 respondents who completed answering all the questions. According to our prediction, there were about 3,000 general practitioners doing internship in a year (the questionnaire is provided as a supplement).

Overall, the majority of respondents (61.5%) had a lack of knowledge about EC (table 2), as 20.0% of them obtained the scores of 3-5 and 41.5% of them obtained the scores 6-9. Only 38.5% of them had good knowledge (scores of 10-13). The maximum score was 13. Regarding the attitude, the mean score was 15.7 (SD 2.3) (table 3). The attitude score of 50.3% of respondents was below the mean value (negative attitude), whereas the remaining (49.7%) obtained a score above the mean value (positive attitude). The minimum attitude score was 6, and the maximum was 24. Meanwhile, the practice of respondents was shown at table 4.

## IV.

## Discussion

Our study revealed that almost all general practitioners (96.4%) who did the internship had heard about EC. This result was similar to that reported from Iran (4) , Nigeria (6)(7)(8) , the Caribbean (9) and Indonesia (10) . The respondents mentioned that the commonest indication for EC was following a rape and a condom breakage. This result was similar to that reported by IO MB, et al. (6) , who showed that 95.6% of respondents were aware that sexual assault was one of the indications for EC. Meanwhile, Oriki and Omietimi (8) reported that only 76% of interviewed doctors stated about rape for the indication of EC. A plausible explanation for the difference is that our respondents were just graduated from medical school, so that they would still have a better memory of their undergraduate knowledge.

There is a common misconception that EC is an abortifacient because only 64.1% of respondents answered correctly. This prevalence was better than that reported by the study of Hamza MA, et al. in Pakistan (11) , where only 33% of subjects answered that EC was not an abortifacient method and 42% were unsure.

In general, there was poor knowledge regarding the procedure and the optimal time to use EC pills after unprotected sexual intercourse. Only 33.3% of our respondents stated that EC was safe and effective, followed by 23.1% who answered correctly for the best time interval for taking EC pills. For safety reasons, the WHO guidelines on EC services explain that repeated use of EC does not increase the risk of health and that EC is not a reason for denying women access to treatment. (12) In fact, LNG 1.5 mg (single dose) is as effective as post coital contraceptives for up to 5 days with the best time interval within 72 h of intercourse (relative risk (RR) 0.51; 95% CI 0.31-0.84). Meanwhile, a copper IUD shows a high efficacy as EC; however, it is an invasive procedure and requires trained providers and sterilised facilities to insert, and hence, it is often not the first choice for clients. (5) Therefore, it can be said that EC is safe and effective.

Around 52.4% of respondents disagreed that they obtained sufficient knowledge about EC during medical school. This might be due to the lack of quality teaching methods or adequate attention towards the topic of reproductive health in the undergraduate medical education curriculum. In fact, the respondents were fresh graduates, so that we expected that they had high knowledge about EC.

Polis CB, et al. (13) Pointed out that administering an EC pill to women could guarantee that they possessed it in case they needed it. More than 50% of our respondents stated that EC was important in the daily practice, should be spread widely to the population and would not decrease the use of regular contraceptive methods. Melanie AG, et al. (14) and Terri LW, et al. (15) Concluded that making EC pills widely available would not increase risk-taking behaviour or adversely affect regular contraceptive use.

Although the majority of respondents in our study had heard about EC, only 7.2% of internship doctors had ever prescribed the EC pills. This percentage was lower than that of previous studies, such as in Nigeria, Pakistan and USA. In our study, the third most common reason for refusing to prescribe EC was that the clients were not on indication (72.8%), the method was not available (34.4%) and they did not have sufficient information about the method (23.6%). Data about violence against women surveyed in Indonesia showed that 11.3% of women have undergone harassment, which could be due to husband, parents, family, neighbour, boss, co-workers and others. (16) Meanwhile, the UNDP report in 2016 described that among all Papua women aged 14-64

years, 38% of them reported having experienced any physical violence from a non-partner in their lifetime. ??17) The high prevalence of harassment or sexual abuse is not followed by the high prevalence of EC prescription experience from the respondents. This is because of several reasons. In Indonesia, sex is a 'taboo', so that when a woman experiences sexual abuse, she is embarrassed to ask for help to a health professional; furthermore, she does not tell anyone that she has experienced it until she gets pregnant. In addition, the victim does not reveal about the EC method to prevent an unwanted pregnancy because of less socialisation about it. When she comes to a health professional, she is not on indication anymore; therefore, the respondents in our study stated that the most common reason was that the clients were not on indication.

We consider that the respondents have poor knowledge about EC. Although most of them knew about the indication on EC, 34.4% of them said that the method was not available. In fact, we can provide EC from the available hormonal oral contraceptives at the primary health care. We only increase the dose of LNG up to the minimum dose requirement for EC (1.5 mg). Apart from that, we can offer the copper IUD as an alternative EC method, which is available at all the primary health care centres in Indonesia.

The limitation of our study is the small sample size of internship doctors in Indonesia. Moreover, the data are based on self-report, which can result in subject recall bias. Meanwhile, we recruited respondents with a similar condition, i.e. only internship doctors. Internship doctors are the general practitioners who have just graduated, on average 6 months to 1 year before, so that we can determine the quality of reproductive health education in their medical school. They have fresh memory of the knowledge and similar experiences in health services.

Therefore, effective educational interventions are likely to improve the general practitioners' knowledge, and reproductive health training can be the key to escalate the ability of providing the method. In addition, the health department in cooperation with Badan Koordinasi Keluarga Berencana Nasional (BKKBN) should socialise to the public about the indication and the access procedure to obtain EC. The highest affectivity of EC should be at proper time intervals. EC has the potential to prevent unwanted pregnancies among adolescents or young adults who comprise the majority of sexually active population. Consequently, we can minimise unsafe abortions, which have an effect on the maternal mortality rate.

V.

## 13 Conclusion

Most of the respondents were familiar with EC; however, they do not have sufficient knowledge about EC as expected from a physician. We recommend conducting a comprehensive educational intervention and also reproductive health training for all fresh graduate general practitioners before doing the internship to improve the quality of service on contraception and to prevent unwanted pregnancies and unsafe abortions. <sup>1 2</sup>

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<sup>2</sup>Emergency Contraception: What the General Practitioners Think?

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effects of advance provision of emergency

Characteristics

Age (Years)

Median (Min-Max)

Religion

Muslim

Catholics

Christian

Hindu

Buddhist

Marital Status

Single

Married

Divorce

Educational Level

Bachelor Degree / Medical Doctor

Master Degree

Medical School

Government

Public

Graduation Year

2013

2014

2015

2016

N/A

Internship Region

Sumatra

Java

Bali and Nusa Tenggara

Borneo

Sulawesi

Papua

## 2

Statements	N (%)
I have heard about EC	188 (96.4)
Source of information on EC	
Formal education	186 (95.4)
Congress	54 (27.7)
Print/electronic media	61 (31.3)
Working place	68 (34.9)
Others	22 (11.3)
The following statements are true about EC:	
Used for unprotected intercourse	180 (92.3)
Used for inconsistent contraceptive users	114 (58.5)
Not routinely used	147 (75.4)
Safe and effective	65 (33.3)
Not for abortive method	125 (64.1)
Not for protecting from sexually transmitted disease (STD)	191 (97.9)
Indication for using EC:	
Rape	170 (87.2)
Unprotected intercourse	138 (70.8)
Condom breakage	151 (77.4)
Detached intrauterine device (IUD)	110 (56.4)
Missed pills	116 (59.5)
Missed injection	87 (44.6)

[Note: \* The question is not valid]

Figure 2: Table 2 :

## 3

Statements	Strongly Disagree N (%)	Disagree N (%)	Agree N (%)	Strongly Agree N (%)
EC are important for daily practice*	32 (16.4)	75 (38.5)	66 (33.8)	22 (11.3)
EC will increase free sex	23 (11.8)	42 (21.5)	65 (33.3)	65 (33.3)
EC will reduce other methods of contraceptive user	43 (22.1)	86 (44.1)	54 (27.7)	12 (6.2)
I will refer to OB-GYN to prescribe the EC methods*	15 (7.7)	80 (41.0)	71 (36.4)	29 (14.9)
I am not pleasant to prescribe the EC due to my religion / belief	29 (14.9)	93 (47.7)	47 (24.1)	26 (13.3)
EC should be familiarised widely among population	35 (17.9)	48 (24.6)	71 (36.4)	41 (21.0)
I will prescribe EC to the clients as an indication	1 (0.5)	27 (13.8)	92 (47.2)	75 (38.5)
I felt obtaining enough material about EC in medical school	12 (6.2)	90 (46.2)	83 (42.6)	10 (5.1)
The question is not valid				

Figure 3: Table 3 :

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Statements I Have Ever Prescribed the EC Pill I	N (%)
Refuse to Prescribe the EC because / due to	14 (7.2)
Clients have Contraindication	102 (5.3)
Clients are not on Indication	142 (72.8)
Did not know Enough about Method	46 (23.6)
Method was not Available	67 (34.4)
Religion / Belief Objection	41 (21.0)
Side Effects	10 (5.1)
Other Reasons	13 (6.7)

Figure 4: Table 4 :



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192 .2 Conflict of Interest Statement

193 The authors declare no conflict of interest.

194 .3 Funding Statement

195 None.

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