

Knowledge and Attitude towards Emergency Contraceptives among Nursing and Midwifery Students in Tertiary Care Hospitals, Karachi

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Abstract

Objective: To assess the knowledge and attitude about the emergency contraceptives among nursing and midwifery students in tertiary care hospitals in Karachi.

Methods: This cross-sectional study was carried out in the nursing school of Dow University Hospital and & Civil Hospital Karachi. Duration of the study was January 2017 to June 2017. All nursing and midwifery students, after verbal consent, were interviewed face-to-face using a pretested structured questionnaire. The questionnaire was developed to assess knowledge and attitudes; the way in which the respondents think and behave towards emergency contraceptives (EC). Some questions were objective in nature with 'Yes' or 'No' options, whereas few questions were of multiple choice. The variables were age, educational level, religion, marital status, source of information, EC types and method of use, side effects and source of availability and the attitudes of participants towards the use of EC (11 items). The data was recorded in MS Excel (2010 version). Data analysis was done by SPSS 16. Mean and SD of age was calculated while the categorical variables were analysed by using frequency and percentages. Chi-square test was applied and significance of test was decided at p-value ≤ 0.05 .

Results: There were 149 respondents out of the 165 targeted population. The response rate was 90.30% among nurses and midwives working in public sector of health care system in Karachi, Pakistan. The mean age of the respondents was 20.63 ± 1.69 years. Most respondents were between the ages of 20-35 years; 98 (65.8%), with majority having educational level of matriculation; 66 (44.3%). There were nurses and midwives with optimum knowledge for EC based on the scale of having three or more correct responses out of four items. The best positive attitude was scaled by correct response of seven or more items out of eleven. The association of demographic factors with attitude towards EC was only significant at p-value ≤ 0.05 among married students.

Conclusion: Awareness regarding EC with optimum knowledge and positive attitude was found in about two-thirds of nurses and midwives. Information must be spread through media and training to remove barriers and misconceptions among nurses and midwives.

Keywords: Knowledge, attitude, emergency contraceptives, nursing students, tertiary care centre.

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Introduction

One of the major problems developing countries confront with, is the increasing growth of population which, in fact, is a serious threat for the global community¹. Unintended pregnancies poses a major challenge to the reproductive health of young adults in developing countries. According to the Population Reference Bureau 2010, Pakistan is the 6th most populated country of the world, and by

year 2050 it will rank as the 4th largest nation of the world². Approximately, forty percent of all pregnancies worldwide are unintended, with higher unintended pregnancy rates in developing versus developed region³. Most couples in Pakistan do not want to use long-term contraceptive methods for the fear of side effects hence in such situation EC provides them a final chance to avoid unwanted pregnancy. The use of emergency contraceptives (EC) to prevent unwanted pregnancies and unsafe abortion is an important strategy to minimise maternal mortality rate. Lack of awareness, misconceptions and negative attitude towards EC in nursing personnel can both act as a barrier for their personal use and also prevent them from promoting EC⁴. Improved knowledge about EC may decrease the unplanned pregnancy rate and unsafe abortion, thus can save many lives⁵. In addition to preventing pregnancy, EC can serve as a bridge into the health care system and a way to obtain an ongoing contraceptive method for women who do not have one. Although not recommended for regular contraception it is indicated in cases of sexual assault, unprotected intercourse, condom breakage or slippage and missed or late doses of oral contraceptive pill⁶.

Worldwide there is a variation of knowledge, attitude and practice of EC amongst health care providers⁴⁻⁵. Furthermore inaccurate knowledge among health care providers including pharmacists, physicians and nurses can pose substantial barriers to women, like timely access to the pills in the event of unprotected intercourse. Currently four products are approved by the Food and Drug Administration (FDA) of America, out of which three products are approved for prevention of pregnancy when taken within 72 hours after unprotected sex⁷. Levonorgestrel only pill and combined oral contraceptives pill (Yuzpe Regimen) are the most common EC available. Copper intrauterine device is the most effective method and can be placed within 5 days of unprotected sex. Recently, progesterone modulators (ulipristal acetate) and progesterone synthetic steroids (mifepristone) has also been added to the list. Emergency contraceptives have been available in Pakistan since a long time, but

provider's knowledge and service delivery is very limited. Limited research has been conducted on the extent of knowledge of the methods, their use and effectiveness and the perception or attitude among the nursing and midwifery students as they play a significant role in the provision of reproductive health care for women⁸.

This study was planned to assess the knowledge and attitude of EC among nursing and midwifery students in tertiary care hospitals.

Subjects and Methods

The questionnaire-based survey was conducted among nurses and midwives working in Dow University Hospital and Civil Hospital Karachi, Pakistan. The nurses and midwives were recruited on a voluntary basis after verbal informed consent. The responses received were measured quantitatively. A semi-structured validated questionnaire was developed and all responses were recorded. Based on studies, the sample size was calculated through OpenEpi, Version 3, and open source calculator-SSPropor.html. The sample size was calculated using proportion of health literacy at 10.5% among nurses and midwives⁹. The computed sample size was 145. Adding 5% non-response rate, the final sample size was 149. The sampling technique used was simple random. The list of all student nurses was given by the nursing school as a frame and sampling technique was simple random sampling from the complete list.

An institutional review board approval was taken by IRB, Dow University of Health Sciences, Karachi (IRB No: 2016/355).

A quantitative observation was made to determine awareness of and attitude towards emergency contraception among nurses and midwives working in health care system of, Karachi, Pakistan. The questions included were to determine the level of knowledge and attitude towards EC. All nurses and midwives who had not heard of EC were excluded from the analysis. A complete awareness of emergency contraception with comprehensive knowledge among nurses and midwives included four knowl-

edge-based questions. Four factors for awareness of EC included correct method of use of contraception, side-effects of contraceptive methods, sources of knowledge and mode of action of contraceptives. Nurses and midwives were labelled as having sufficient awareness and knowledgeable if three out of these four questions were answered correctly. The attitude towards EC use by nurses and midwives included 11 questions and a healthy and appropriate attitude was taken if at least seven out of eleven were answered correctly by the nurses and midwives. The questions included for assessing attitude were regarding education of the couple, whether they consider it an abortifacient, it causes adverse effects, has ethical problems, it is ideal for routine use, if it is teratogenic, it is inexpensive, it is convenient to use, should be aborted if the girl gets pregnant, it promotes wrong behaviour and likeliness to use it.

The names were kept optional on the questionnaires. Each questionnaire was coded, and all acquired data were accessible only to the primary team conducting the study and the data analysis was performed with the assistance of Statistical

Package for Social Sciences 16 (SPSS, Inc., Chicago, IL). Means with standard deviation for numerical variables and proportions for categorical variables including knowledge and attitudes towards contraception by nurses and midwives were analysed. The association between variables age, marital status, and educational levels were tested using the χ^2 test after scaling the level of knowledge and attitudes of emergency contraception among nurses and midwife students.

Results

There were 149 respondents included out of the 165 targeted population. The response rate was 90.30% among nurses and midwives working in public sector of health care system of Karachi, Pakistan. The mean age of the respondents was 20.63 ± 1.69 years. Most respondents were between the ages of 20-35 years; 98 (65.8%), with majority having educational level of matric; 66 (44.3%) as shown in Table 1. Two-thirds of the respondents were married; 93 (62.4%), and 98 (65.8%) were Muslims. A sufficient awareness of emergency contraception with comprehensive

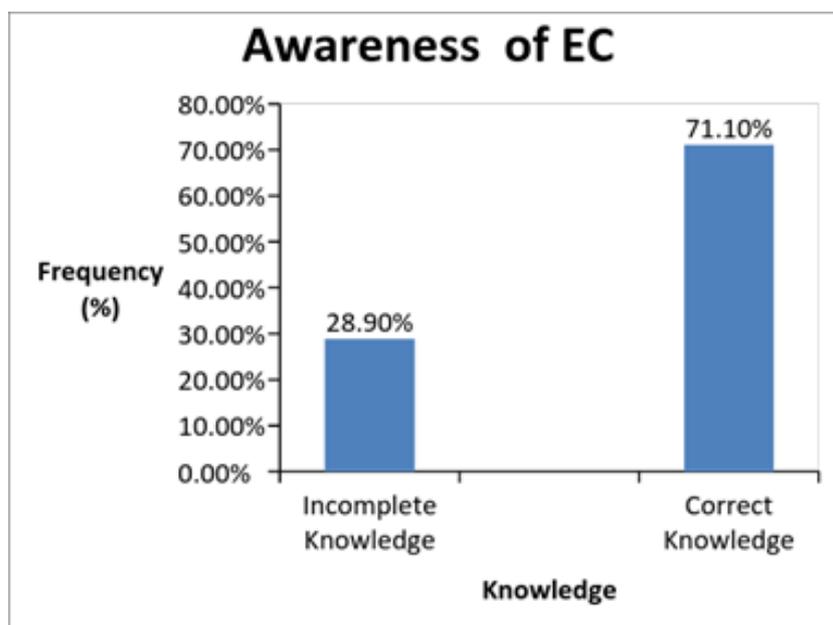


Fig. 1. Awareness regarding EC

Table 1. Sociodemographic variables of the study (n= 149)

Characteristics	No	Percent (%)
Age (Years)		
<20	43	28.8
20-35	98	65.8
>35	08	05.4
Education level		
Matric	66	44.3
Intermediate	57	38.3
Graduation	26	17.4
Marital status		
Married	93	62.4
Unmarried	56	37.6
Nurses / Midwife		
Nurses	80	53.7
Midwife	69	46.3
Religion		
Muslim	98	65.8
Non-Muslims	51	34.2

Table 2. Awareness of emergency contraception among nurses and midwives (n= 149)

Characteristics	Knowledgeable		Do not know	
	No.	(%)	No.	(%)
Correct use	126	(84.56)	23	(15.44)
Side effects of use	113	(75.83)	36	(24.17)
Mode of action of EC	111	(74.49)	38	(25.51)
Sources of information				
Doctors	66	(44.29)		
Books	35	(23.48)		
Media	48	(32.21)		

knowledge among nurses and midwives was found in two-thirds of the respondents. These items included knowledge of correct use of EC which was 126 (84.56%), knowledge regarding side-effects of EC; 113 (75.83 %), knowledge of mode of action; 111 (74.49%) and source of information as shown in Table 2. There were 4 questions to assess knowledge; a score was made to find the correct answer. Upto 2 correct answers were given by 43 (28.9%) people, however, 3 correct answers were given by 106 (71.1%) as shown in Fig. 1.

The attitude towards EC shown by 149 nurses and midwives varied in responses. These nurses in the sample also had training for midwifery on the same curriculum. Majority of the nurses and midwives agreed that the couple should be educated

Table 3. Attitude towards EC use by nurses and midwives (n= 149)

Characteristics	Agree No.(%)	Disagree No.(%)	Not sure No.(%)
Educated couple	132 (88.6)	13 (8.7)	4 (2.7)
Considered abortifacient	19 (12.8)	61 (40.9)	69 (46.3)
Causes adverse effect	68 (45.6)	30 (20.1)	49 (32.9)
Has ethical problems	48 (33.2)	59 (39.6)	42 (28.2)
Ideal for routine contraception	70 (47)	13 (8.7)	66 (44.3)
Teratogenic if conceived	60 (40.3)	52 (34.9)	37 (24.8)
Inexpensive	68 (45.6)	21 (14.1)	60 (40.3)
Convenient to use	88 (59.1)	20 (13.4)	41(27.5)
Abort if conceived	38 (25.5)	79 (53)	32 (21.5)
Promotes wrong behaviour	78 (52.3)	37 (24.8)	34 (22.8)
Likelihood to use	108 (72.5)	25 (16.8)	16 (10.7)

about EC; 132 (88.6%), EC causes adverse effects; 68 (45.6%), it is ideal for routine contraception; 70 (47%), convenient to use; 88 (59.1%), sometimes promotes wrong behaviour; 78 (52.3%) and that they like to use contraception; 108 (872.5%) as shown in Table 3. Among 149 participants, at least one answer was correct in 8 (5.4%) and most of them gave 7 or more correct answers 107 (71.8 %).

Discussion

This study revealed that out of 149 nurses and midwives, the ones with optimum knowledge regarding EC were 106 (71.1%) and a positive attitude towards EC was found in 107 (71.8 %). This is comparable to some studies from other countries, but no local data is available¹⁰. One study from Eastern Ethiopia carried out among graduating female students of college of Health and Medical sciences reported 95.38% respondents heard about EC⁶. Other studies revealed inadequate knowledge about EC in health care providers and a study from India reported 13.8% knowledge and positive attitude among nursing and midwifery students¹¹⁻¹³.

In Nigeria a community-based study showed only one-third of nurses heard of EC, knew correct method of use and side-effects, along with mode of action regarding EC¹⁴. Another study from Ghana demonstrated that 45.7% knew the correct method, 37.9% were aware of the side-effects and half of them knew the correct use¹⁵. Only hearing about EC is not comparable to knowledge as a research

from University of Pennsylvania revealed 74% students heard about EC but only one-third knew the prescription status, common side effects or mechanism of action of EC¹⁶. These wide variations are basically dependent upon their educational level and marital status. Majority of respondents were young as the study conducted in students however two-thirds were married thus having more opportunities of hearing about EC.¹⁷

High level of knowledge and positive attitude was found in our study because the respondents are under training and working in a tertiary care hospital and it has also reported that nursing students have more knowledge as compared to qualified nurses. The respondent's age, basic education and religion did not seem to have any effect at ($p < 0.05$) on knowledge and attitude of participants however marital status showed significant effect which could be attributed to more opportunities they would have encountered during marital life as also reported by others¹⁷. Regarding the source of information, media can play an important role as reported in a South Indian study, 77.9% getting information by television which is quite high in comparison to this study¹⁸. Of all the respondents, 84.56% correctly mentioned the recommended timeframe and dosage of EC following unprotected intercourse which is high compared to a study done in India (54.45), while in a study from the United States of America (USA), carried out among college students, reported 93% knew about the correct use of EC¹⁹.

Unwanted pregnancy is a major health problem and EC is a commendable option for couples so the education of nurses and midwives can play a pivotal role in it. Studies have shown that one of the major barriers to frequent use of EC is the lack of awareness and positive attitude towards EC by health care professionals²⁰⁻²². Therefore there is an urgent need to include emergency contraception in the family planning curriculum of nursing and medical schools.

A local study among doctors regarding EC revealed low levels of knowledge and practices, but a

positive attitude towards EC among nursing and midwifery students in our community¹⁴. EC is a reliable and inexpensive solution for unwanted pregnancies and the correct use can prevent 75% of unplanned pregnancies²³. Studies have shown a significant change in the counselling of affirmative attitude by nurses and midwife for EC from 36% to 54% ($p = 0.057$) by simple educational intervention²⁴. The practice of providers was found positively ($p < 0.05$) correlated with their knowledge and training regarding EC showed significant improvement in knowledge and attitude²⁵.

More than 80% respondents believed on education of couple regarding EC but about 50% were unclear or had unsure responses regarding the role of EC as a routine contraceptive, the ethical issues and causation of adverse effect. 12.8% respondents still consider it as an abortifacient and 46.3% were not sure. While 21.5% will consider abortion if conceived, 25.5% had an unsure response. Similar attitudes regarding EC as abortifacient is also reported from a study in the university students in Ghana and in doctors of Pakistan^{9,26}. The study also revealed 40.3% of the respondents still consider it as a regular contraceptive which is a misconception. About 50% of women are in opinion of promotion of wrong behaviour if EC is frequently used and easily available over the counter, as it will encourage unsafe sexual relationship. Similarly, a qualitative study from the USA regarding advance provision of EC in advance found nurses commonly expressed views that adolescents who may need EC are irresponsible and it should be used after an assault. The World Health Organization and The International Federation of Gynecology and Obstetrics advocate for easy access to emergency pills to decrease the number of unintended pregnancy and unsafe abortions²⁷. Hence, they need further educational training about EC with clear, detailed information to remove these misconceptions.

The government of Pakistan has started the promotion of EC in its family welfare programme but still there is a dearth of knowledge found in nurses working in tertiary care hospitals. Similar

studies should be conducted among health care providers in small hospitals, clinics and community and accordingly, health education regarding EC should be emphasised in respective areas by conducting seminars and/or workshops.

Maternity healthcare providers are an essential link with patients to communicate knowledge regarding EC. Nurses and midwife have been found as the key persons to provide information regarding methods of contraception, optimum use and protecting EC use by removing the myths in the community. Some studies have shown that knowledge and attitude regarding EC are often suboptimal. Since this is the a special contraceptive method used for the prevention of unwanted pregnancies, therefore, if the method is used in an emergency it gives a psychological and social pressure to the couple till the next normal cycle. This requires an attitude towards patients with full reassurance and confidence in the contraceptive method of EC. The development of counselling skills especially for EC for nurses and midwife during their training must be given prominence in the syllabus.

Strategies to improve knowledge and attitude towards EC should be more focused and accurate information should be spread through media, curriculum and training to achieve better success. The emphasis should also be given on the importance and significance of the EC at the community level. In the hospital setting more interaction with patients should be observed during antenatal care, in labour and postpartum clinic, therefore two or three simple messages regarding exclusive breastfeeding, EC use, EC methods, EC benefits and risks must be provided as a routine practice in these areas. The information must be updated regularly and given in pictorial form to the maternity care staff including nurses and midwives.

EC is used immediately after the unprotected sex. In a study about 61.6% participants were aware of timing of use of EC²⁸. Since this EC is being used to avoid unwanted pregnancies, it gives creates problems in the current situation and some

reassurance that the method is without side effect and believe that EC is one hundred percent useful.

EC has been used after contraceptive method failure and unprotected sexual intercourse by the couples seeking care to avoid unwanted pregnancies. It is mandatory to develop counselling skills by the nurses and midwife for EC options and its timely use²⁹. EC provides an effective means for post-coital management to inhibit at least 75% of pregnancies from unprotected intercourse³⁰.

One of the studies have shown that unwanted pregnancies occur in 73% of women and about 43.3% results in spontaneous abortion³¹. In Pakistan, exact data is not available regarding unwanted pregnancies and spontaneous abortion. However, estimates are very high for unwanted pregnancies which are managed by the unskilled people in the community in both rural and urban populations. Therefore, there is a significant and primary need to improve the teaching and development of skills for an increased use of EC. This requires an improvement in the practical skills and a very strong knowledge regarding the EC by the front force in the teaching hospital, the nurses and midwives. Most of the nurses and midwives were aware of at least one benefit of EC which was that it is helpful for adequate spacing between children by avoiding untimely and unwanted the pregnancies. Nurses and midwives had very ineffective knowledge about the fertile period. The nurses and midwife had knowledge of emergency contraception and its effect. Nurses and midwife require ideal attitude and practices essential to prevent unintended pregnancies. The attitude usually enhances counselling skills of nurses and midwife for EC use in the community.

There is a further need for research to determine the status of EC knowledge and attitude regarding EC by the maternity staff in the institutes and also in the community. The key stakeholders, sales of ECs, and service providers must be focussed upon to improve the utilisation of EC. The knowledge acquired by discreet sources, including leaflets and the mass media may develop some

misconception which must be avoided and positive, small and simple messages must be shared by nurses and midwives at each contact with the patient. Nurses and midwives must be provided with all the information in oral and written formats.

There are certain limitations of this study as the sample size in this study is small and our study is confined to selected tertiary care institutes, hence the results cannot be generalised for health workers in other parts of country.

Conclusion

Awareness regarding EC and overall positive attitudes although exists among the nurses and midwives as found in this study but the precise knowledge is inadequate and some misconceptions are there which acts as a barrier for the frequent and safe use of EC.

Conflict of Interest

Authors have no conflict of interests and there were no grant/funding from any organisation for this study.

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