



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1318662>Available online at: <http://www.iajps.com>

Research Article

**ROLE OF HEALTHCARE PROVIDERS' AWARENESS &  
ATTITUDE ABOUT EMERGENCY CONTRACEPTIVES (EC)  
TO REDUCE MATERNAL DEATHS & UNSAFE ABORTION  
PRACTICE**<sup>1</sup>Dr. Wajahat Ali Khan, <sup>2</sup>Dr. Hafsa Rafi, <sup>3</sup>Dr. Tooba Sohail<sup>1</sup>Medical Officer DHQ Teaching Hospital DG Khan  
<sup>2</sup>THQ Kharian<sup>3</sup>Aziz Bhatti Shaheed Teaching Hospital, Gujrat**Abstract:**

**Objective:** We aimed for the assessment of awareness and attitude about EC "Emergency Contraceptives" in the midwives and nurses at tertiary healthcare level.

**Methods:** Our cross-sectional research was carried out at Services Hospital, Lahore (February to July, 2017). Every midwife and nurse were included in research after informed consent through face-to-face interview with the help of research questionnaire. Objective and subjective questions were included in the research. Eleven items including various variables such as age, religion, educational level, source of information, marital status, method, EC types, availability source and side effects were included. MS. Excel was used for data recording and analysis was carried out on SPSS. Categorical data was tabulated in the form of frequency, percentage, mean and SD values. Chi-Square test was also applied with a significant P-value (0.05).

**Results:** In the total research population of 149 participants response rate was observed as (90.30%) with a mean age factor as (20.63±1.69) years in the age bracket of 20 – 35 years 98 participants (65.8%) with matric education 66 participants (44.3%). Responses were considered as optimum if a participant responds to three questions out of four which determined the EC. Best response was graded as seven correct answers in the total of eleven questions. In the married participants significant demographic factor was also linked about knowledge and attitude about EC (P-value = 0.05).

**Conclusion:** Almost 2/3<sup>rd</sup> of the participants were having optimum awareness about EC. There is a need of educational programs about the EC to nursing staff and midwives for improved and informed attitude about EC through media. We also need to eradicate the restricting barriers and all the related misconceptions in the midwives and nurses.

**Keywords:** Attitude, Knowledge, Emergency Contraceptives (EC), Tertiary Care Centre and Nursing Students.

**\* Corresponding author:**

**Dr. Wajahat Ali Khan,**  
Medical Officer,  
DHQ Teaching Hospital DG Khan

QR code



Please cite this article in press Wajahat Ali Khan et al., *Role of Healthcare Providers' Awareness & Attitude about Emergency Contraceptives (EC) To Reduce Maternal Deaths & Unsafe Abortion Practice*, Indo Am. J. P. Sci, 2018; 05(07).

**INTRODUCTION:**

Population increase is a global issue [1]. Young reproductive health is disturbed with an unintended pregnancy in the under developed countries. Pakistan stands as sixth most populated country and it will become fourth by 2050 [2]. Almost forty percent of the total pregnancies are unintended, this rate are higher in under developed countries than developed [3]. Because of side effects couples fear about the contraceptive methods so EC is final chance to evade an undesired pregnancy.

Maternal mortality can be reduced through EC. Awareness lack, negative attitude for EC and misconceptions in nursing staff prevents the promotion of EC [4]. An improved state of awareness can be helpful to decrease unintended pregnancy through EC which will decrease the practice of unsafe abortions [5]. For the prevention of pregnancy EC can be helpful to save precious lives. It is not suggested for in case of unprotected intercourse, sexual assault, slippage, missed or late doses and condom breakage [6]. Over the globe variation can be found in attitude, practice and knowledge of EC among healthcare staff [4 – 5]. Furthermore, barriers can be caused by the inaccurate knowledge in the health care staff such as pharmacists, nurses and physicians. Drug and food administration of USA has approved four drugs to prevent pregnancy when administrated in the seventy-four hours of an unprotected sexual act [7].

Commonly available EC pills are Levonorgestrel and combined Yuzpe Regimen (Oral EC). In the time of five days effective EC is “Copper intrauterine device”. Recently, progesterone synthetic steroids (mifepristone) and progesterone modulators (ulipristal acetate) have been added as EC in the list of available methods. Pakistan also has EC availability but with restricted awareness in the healthcare staff. Scarce literary efforts have been made in the attitude and perception among midwives and nurses about knowledge and practice of EC [8]. We aimed for the assessment of awareness and attitude about EC “Emergency Contraceptives” in the midwives and nurses at tertiary healthcare level.

**SUBJECTS AND METHODS:**

Our cross-sectional research was carried out at Services Hospital, Lahore (February to July, 2017).

Every midwife and nurse were included in research after informed consent through face-to-face interview with the help of research questionnaire. Objective and subjective questions were included in the research. Eleven items including various variables such as age, religion, and educational level, source of information, marital status, method, EC types, availability source and side effects were included.

Health literacy proportion was used for the measurement of sample in the midwives and nurses (health literacy as 10.5%) [9]. Random sample selection technique was employed. Awareness was determined with quantitative observations. We excluded all the participants who were unaware about the term EC. Four knowledge-based questions assessed the ED awareness in the participants. We included four EC awareness factors such as contraceptive methods side-effects, knowledge source, correct contraceptive method and contraceptives mode of action.

Our questions included data about couple’s education, abortifacient consideration, adverse effects, ethical issues, routine use suitability, teratogenic experience, inexpensive or expensive, use convenience, restrict use in case of being pregnant, wrong behavior promotion and use likeliness.

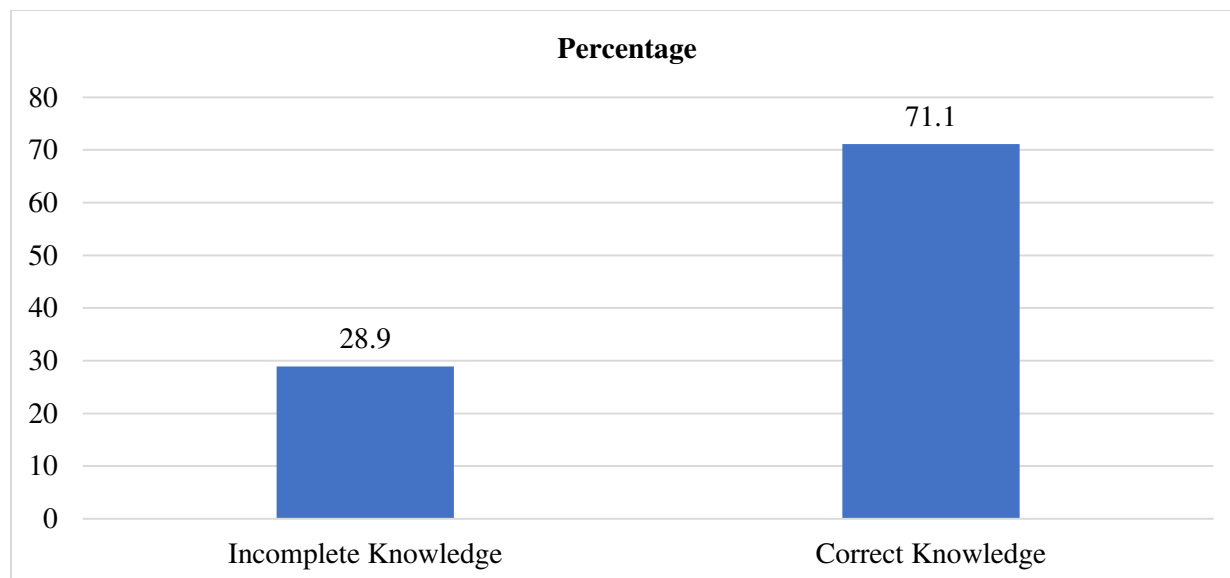
MS. Excel was used for data recording and analysis was carried out on SPSS. Categorical data was tabulated in the form of frequency, percentage, mean and SD values. Chi-Square test was also applied with a significant P-value (0.05).

**RESULTS:**

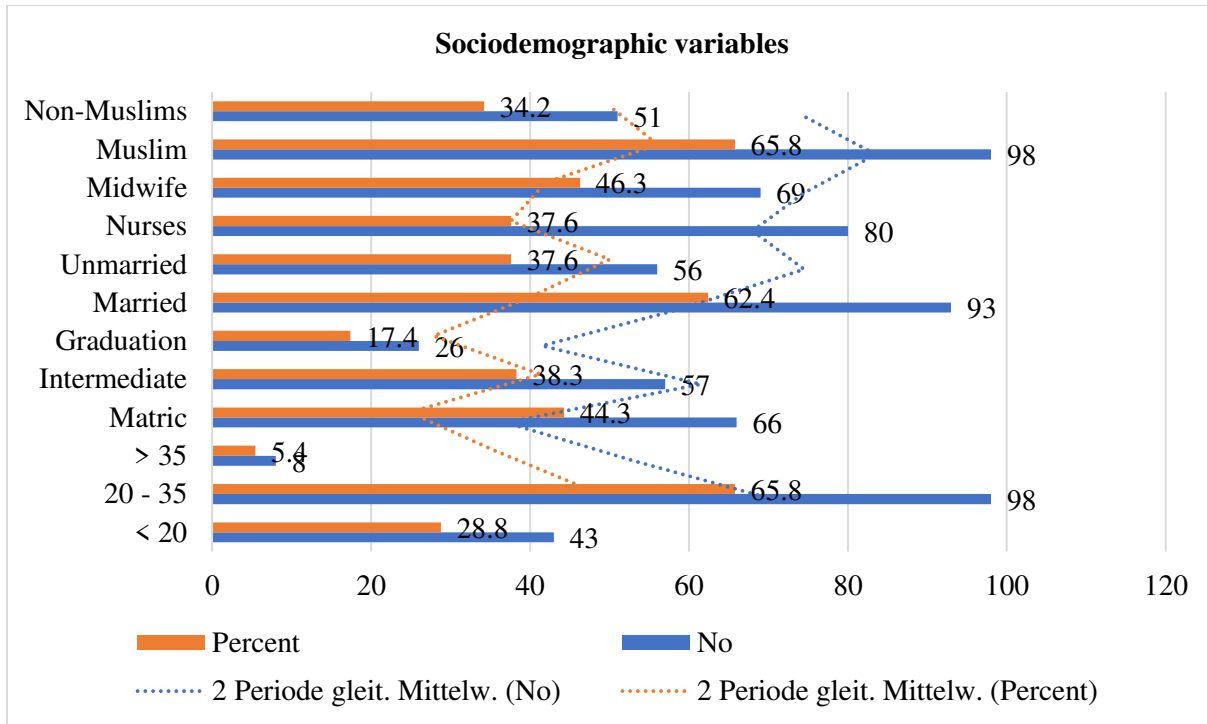
In the total research population of 149 participants response rate was observed as (90.30%) with a mean age factor as (20.63±1.69) years in the age bracket of 20 – 35 years 98 participants (65.8%) with matric education 66 participants (44.3%). Responses were considered as optimum if a participant responds to three questions out of four which determined the EC. Best response was graded as seven correct answers in the total of eleven questions. In the married participants significant demographic factor was also linked about knowledge and attitude about EC (P-value = 0.05). Detailed outcomes analysis has been carried out in Table I, II, III, IV and V with correspondent figures.

**Table – I:** Awareness regarding EC

Knowledge	Percentage
Incomplete Knowledge	28.9
Correct Knowledge	71.1

**Table – II:** Sociodemographic variables of the study (149)

Characteristics		No	Percent
Age	< 20	43	28.8
	20 - 35	98	65.8
	> 35	8	5.4
Educational Level	Matric	66	44.3
	Intermediate	57	38.3
	Graduation	26	17.4
Marital Status	Married	93	62.4
	Unmarried	56	37.6
Nurses/Midwives	Nurses	80	37.6
	Midwife	69	46.3
Religion	Muslim	98	65.8
	Non-Muslims	51	34.2



**Table – III:** Awareness of emergency contraception among nurses and midwives (149)

Characteristics	Knowledgeable		Do not know	
	Number	Percentage	Number	Percentage
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
Informed by Doctors	66	44.29	0	0
Informed through Books	35	23.48	0	0
Informed through Media	48	32.21	0	0

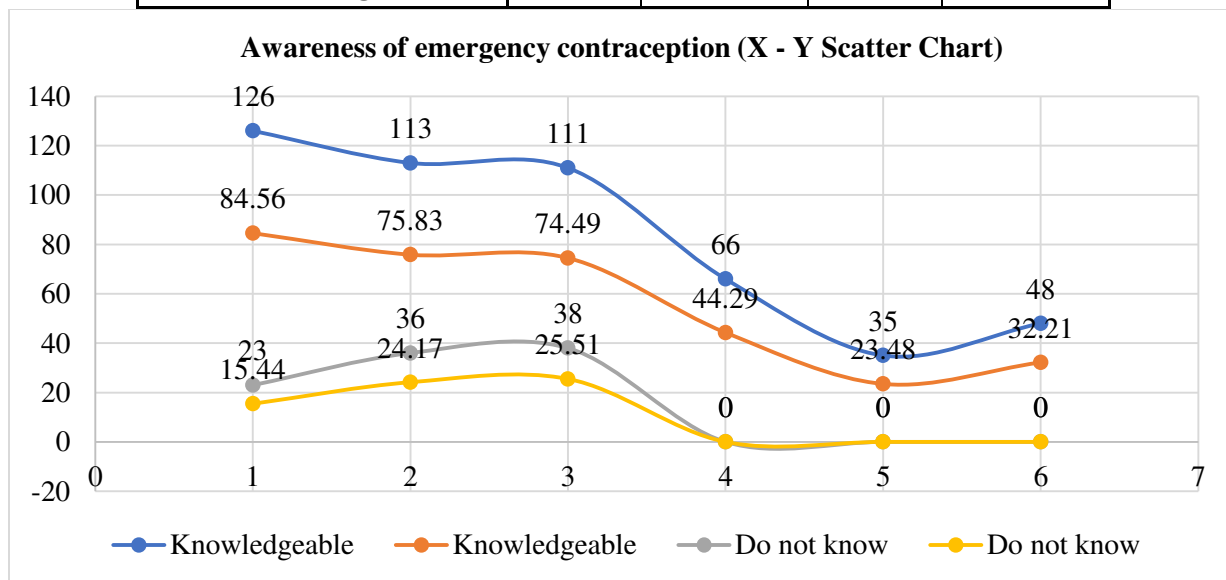
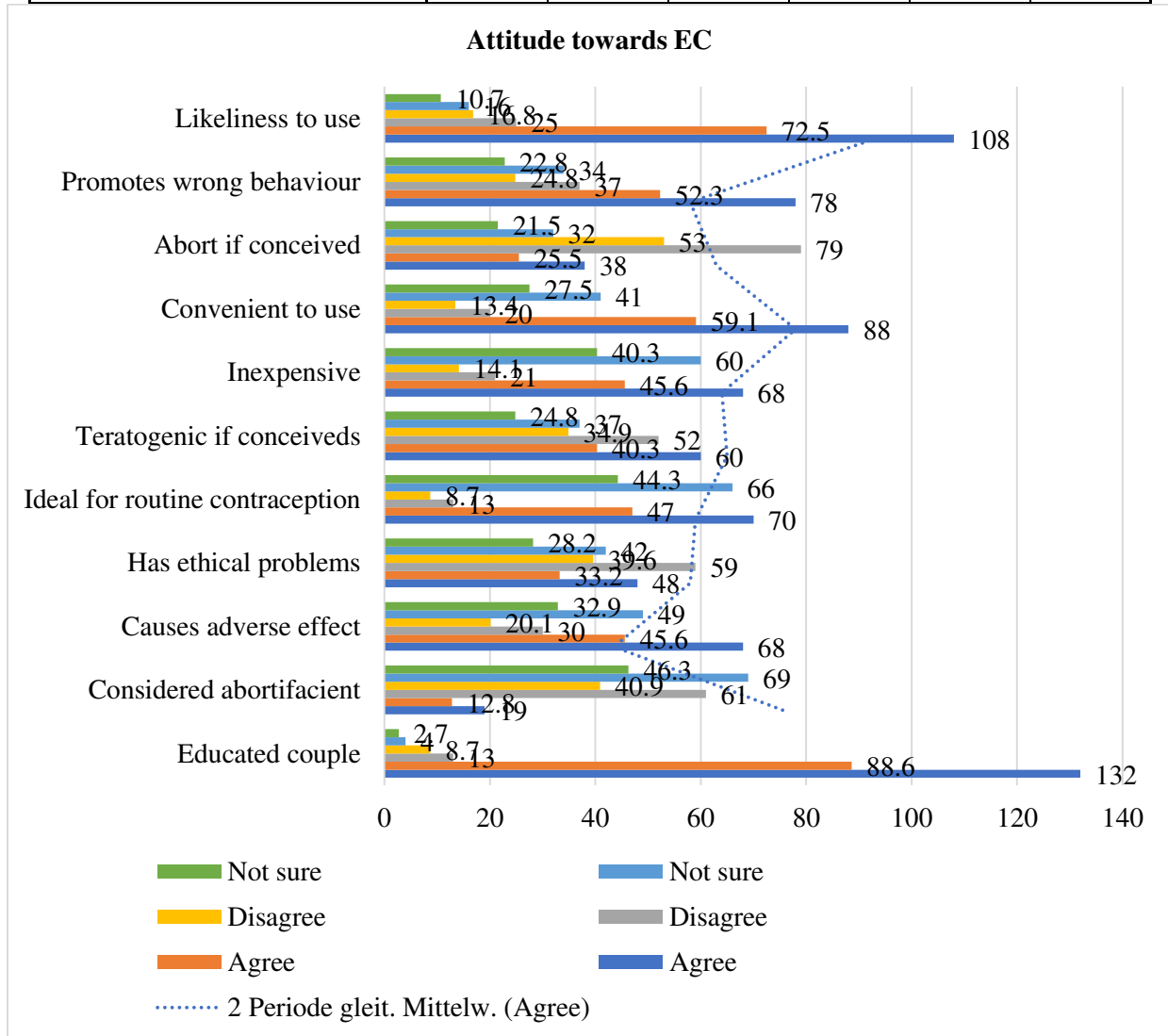


Table – IV: Attitude towards EC use by nurses and midwives (149)

Characteristics	Agree		Disagree		Not sure	
	No	%	No	%	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 behavior	78	52.3	37	24.8	34	22.8
Likeliness to use	108	72.5	25	16.8	16	10.7



**DISCUSSION:**

In the total research sample EC optimum knowledge was 106 participants (71.1%) and positive EC attitude was observed in 107 participants (71.8 %) which is comparable with available research data of numerous other countries [10]. EC awareness was observed as 95.38% in an Ethiopian research [6]. Inadequacy about awareness have been reported by various other authors [11 – 14]. A research of Ghana reports 45.7% correct response and side-effects awareness in 37.9% participants [15]. Hearing about EC was not taken as knowledge as it was reported 74% in a research [16]. Wider variations can be attributed to marital status and educational level of participants. Young population was less like to hear about EC than married [17].

We reported higher awareness in the healthcare staff because of their qualification and marital status. No effect was seen because of education, age and religion of the participants (P-value < 0.05); whereas, marital status was significantly involved in the knowledge and awareness in the participants which is also reported by other authors [17]. Awareness can better be spread through media as reported in an Indian research that 77.9% population was informed through media [18]. Knowledge about timeframe and dose was reported in an Indian and USA research respectively 54.45% and 93%; whereas, in our research it was 84.56% [19].

Unintended pregnancy is a global issue and EC can be a remarkable option with educated nursing and midwifery staff for couples. Positive attitude and awareness of healthcare staff are restricting barriers in the use of EC; which needs proper educational programs [20 – 22]. Seventy-five percent of the unintended pregnancies can be prevented through EC which is safe and inexpensive [23]. A simple educational program can be helpful to educated 36% – 54% nursing staff (P-value = 0.057) [24].

There was a positive association of knowledge and practice of the healthcare providers in the use of EC (P-value < 0.05) [25]. Education of the couple was considered as vital by 80% respondents; whereas, fifty percent were not clear about EC role as contraceptive because of ethical issues or side-effects. Consideration of abortifacient was observed in 12.8%; whereas, 46.3% were unsure. Same has been reported by local and international authors [9, 26]. We also revealed that 40.3% considered EC as routine contraceptive that is also a misconception. Whereas, wrong behavior was promoted by fifty percent of the women about frequent use of EC as its

easy availability will promote unsafe sexual practice and relationship. Easy availability of EC is advocated by WHO for the prevention of unintended pregnancy and to avoid unsafe abortions [27]. Family welfare program of Pakistani government also promotes the use of EC. Its awareness and attitude are to inculcated in the midwives and nurses for the eradication of misconceptions and better guidance of the EC users.

There is a key role of maternity healthcare staff in the communication of EC knowledge, which cannot be overruled as few authors have graded it as optimal. Counselling development about EC improves the skill and competency of the midwives and nurses if included in the syllabus. More targeted strategies are required for EC awareness through media and such forums at community level about its benefits, antenatal care, use and methods.

EC is taken just after the unprotected sexual act. Timing was known to 61.6% participants about EC use as reported by an author [28]. It is practiced to avoid unintended pregnancy and couples do seek it. Counselling skills development is mandatory in the midwives and nurses about EC use [29]. EC is capable to provide an effective post-coital treatment that can inhibit 75% unintended pregnancies as a result of unprotected sexual act [30].

An author reports 73% occurrence of unwanted pregnancies with abortion rate of 43.3% in women [31]. No sure data is available about unintended pregnancies and abortions is available in Pakistan. However, it is estimated that higher rates are there with untrained and unskilled handling by the non-qualified people. Therefore, it needs encouragement of training of healthcare staff. Ideal display of attitude and awareness is required by the nurses and midwives of underdeveloped countries such as Pakistan.

**CONCLUSION:**

Almost two third participants were having optimum awareness about EC. There is a need for the educational programs about the EC to nursing staff and midwives for improved and informed attitude about EC through media. We also need to eradicate the restricting barriers and all the related misconceptions in the midwives and nurses.

**REFERENCES:**

1. Kishore V, Misro MM, Nandan D. Providers' knowledge, attitude and dispensing practices of e-pills in government dispensaries of South

- district in Delhi, India. *Indian J Community Med* 2010; 35:46-51. [DOI: 10.4103/0970-0218.62553].
2. Baiden F, Awini E, Clerk C. Perception of university students in Ghana about emergency contraception. *Contraception* 2002; 66:23-6.
  3. Koyama A, Hagopian L, Linden J. Emerging options for emergency contraception. *Clin Med Insights Reprod Health* 2013; 7:23-35. [DoiOI:10.4137/CMRH.S8145].
  4. Gupta RK, Raina SK, Verma AK, Shora T. Emergency contraception: Knowledge and attitude toward its use among medical students of a medical college in North-West India. *J Pharm Bioallied Sci* 2016; 8:235-9. [DOI: 10.4103/0975-7406.175974].
  5. Khan SA, Hafeez H, Akbar R. Emergency Contraception: An Overview among Users. *J Ayyub Med Coll Abbottabad*. 2015; 27:51-4.
  6. Batur P, Kransdorf LN, Casey PM. Emergency Contraception. *Mayo Clin Proc* 2016; 91:802-7. [DOI: 10.1016/j.mayocp.2016.02.018].
  7. Nibabe WT, Mgutshini T. Emergency contraception amongst female college students - knowledge, attitude and practice. *Afr J Prim Health Care Fam Med*. 2014; 19:6:538. [DOI: 10.4102/phcfm.v6i1.538]. E1-7.
  8. Tesfaye T, Tilahun T, Girma E. Knowledge, attitude and practice of emergency contraceptive among women who seek abortion care at Jimma University specialized hospital, southwest Ethiopia. *BMC Women's Health* 2012; 12:31-6. [DOI:10.1186/1472-6874-12-3].
  9. Kaveri SB, Suryawanshi JV. Awareness of emergency contraception among nursing students [Online]. *Sch J App Med Sci* 2015;3(1E):306-9. Available from: <http://saspublisher.com/wp-content/uploads/2015/01/SJAMS-31E306-309.pdf>. Accessed on October 31, 2017.
  10. Abdulghani HM, Karim SI, Irfan F. Emergency contraception: knowledge and attitudes of family physicians of a teaching hospital, Karachi, Pakistan. *J Health Popul Nutr* 2009; 27:339-44.
  11. Verma R, Mahmood SE. Knowledge of Emergency Contraception among nursing students of Rohilkhand Medical College and Hospital, Bareilly [Online]. *Natl J Integr Res Med* 2012; 3:17-20. Available from: <http://www.nicpdjournals.com/mno=32001>. Accessed on October 31, 201107.
  12. Adekunle AO, Arowojolu AO, Adedimeji AA, Okunlola MA. Emergency contraception: survey of knowledge, attitudes and practice of health care professionals in Ibadan, Nigeria. *J Obstet Gynaecol* 2000; 20:284-9. [DOI: 10.1080/01443610050009638].
  13. Chopra S, Dhaliwal L. Knowledge, attitude and practices of contraception in urban population of North India. *Arch Gynecol Obstet* 2010; 281:273-7. [DOI: 10.1007/s00404-009-1096-y].
  14. Aksu H, Kucuk M, Karaoz B, Ogurlu N. Knowledge and attitudes of health care providers working in primary health care units concerning emergency contraception. *Gynecol Obstet Invest* 2010; 70:179-85. [DOI: 10.1159/000316267].
  15. Alam K, Snover A, Sultana N, Munir TA, Shah SS. Emergency contraception: knowledge, attitude and practices among doctors of a tertiary care hospital. *J Ayyub Med Coll Abbottabad* 2013; 25:141-4.
  16. Krakowiak-Redd D, Ansong D, Otupiri E, Tran S, Klanderud D, Boakye I, et al. Family planning in a sub-district near Kumasi, Ghana: side effect fears, unintended pregnancies and misuse of a medication as emergency contraception. *Afr J Reprod Health* 2011; 15:121-32.
  17. Miller LM. College student knowledge and attitudes towards emergency contraception. *Contraception* 2011; 83:68-73. [DOI: 10.1016/j.contraception.2010.06.005].
  18. Chavan GM, Waghachavare VB, Chavan MS, Chavan VM, Gore AD, Dhumale GB. A study of knowledge, attitudes and practices regarding contraceptive services among health workers in Sangli district of Maharashtra, India [Online]. *Natl J Community Med* 2014; 5:414-8. Available from: <http://www.scopemed.org/?mno=220243>. Accessed on October 31, 2017.
  19. Joseph N, Shetty B, Hasreen F, Ishwarya R, Baniya M, Sachdeva S, et al. Awareness and attitudes towards emergency contraceptives among College students in South India. *J Obstet Gynecol India* 2016; 66:363-9. [DOI: 10.1007/s13224-015-0743-4].
  20. Mackin ML, Clark MK, McCarthy AM, Farris K. Knowledge and use of emergency contraception in college women. *West J Nurs Res* 2015; 37:462-80. [DOI: 10.1177/0193945914551005].
  21. Dixit A, Khan ME, Bhatnagar I. Mainstreaming of emergency contraception pill in India: Challenges and & opportunities. *Indian J Community Med* 2015; 40:49-5. [DOI: 10.4103/0970-0218.149271].
  22. Dorairajan G, Chinnakali P, Mohan B. Knowledge, attitude & factors affecting potential use of emergency contraception in college students in Puducherry, south India. *Indian J Med Res* 2015; 141:122-4.
  23. Giri PA, Bangal VB, Phalke DB. Knowledge and attitude of medical undergraduate, interns and

- postgraduate students in India towards emergency contraception. *N Am J Med Sci* 2013; 5:37-40. [DOI: 10.4103/1947-2714.106193]. *Fouzia Perveen, Mahjabeen Khan, Rakhshinda Akhter, Saima Saleem* **283** *Annals Abbasi Shaheed Hospital & Karachi Medical & Dental College*
24. Ashimi AO, Amole TG, Muhammad SA, Aliyu LD, Garba NA, Iliyasu Z. Factors associated with nurses' knowledge and prescriptive attitudes toward emergency contraception in Northern Nigeria. *Ann Afr Med* 2016; 15:91-2. [DOI: 10.4103/1596-3519.176202].
  25. Chuang CH, Freund KM. Emergency contraception: an intervention on primary care providers. *Contraception* 2005; 72:182-6. [DOI: 10.1016/j.contraception.2005.04.012].
  26. Ehsanpour S, Mohammad Ifard M, Shahidi S, Nekouyi NS. A comparative study on attitude of contraceptive methods users towards common contraceptive methods. *Iran J Nurs Midwifery Res* 2010; 15:363-70.
  27. Jabeen M, Gul F, Wazir F, Javed N. Knowledge, attitude and practices of contraception in women of reproductive age [Online]. *Gomal Journal of Medical Sciences* 2011; 9:223-9. Available from: <http://www.gjms.com.pk/ojs/index.php/gjms/article/view/472>. Accessed on October 31, 2017.
  28. Singh S, Sedgh G, Hussain R. Unintended pregnancy: worldwide levels, trends, and outcomes. *Stud Fam Plann* 2010; 41:241-50.4.
  29. Nivedita K, Fatima SN. Knowledge, Attitude and Practice of Emergency Contraception on Nursing P personnel. *J Clin Diagnostic Res* 2014;8(9): OC20-22. [DOI: 10.7860/JCDR/2014/10463.4839].
  30. Rahman H, Khalda E, Kar S, Kharka L, Bhutia GP. Knowledge of, attitudes toward, and barriers to the practice of emergency contraception among women in Sikkim, India. *Int J Gynaecol Obstet* 2013; 122:99-103. [DOI: 10.1016/j.ijgo.2013.03.016].
  31. Busery S, Sisay M. Knowledge, Attitude and Practice of Emergency contraceptives among graduating female students of College of Health and Medical Sciences, Haramaya University, Eastern Ethiopia [Online]. *Sch. Acad J Pharm* 2016;5(12):413-20. Available from: <http://saspublisher.com/wp-content/uploads/2017/01/SAJP-512413-420.pdf>. Accessed on October 31, 2017. [DOI:10.21276/sajp.2016.5.12.2].