

Brief Communication

Knowledge, awareness, and perception of contraception among senior pharmacy students in Malaysia: A pilot study

Ramadan M. Elkalmi¹, Muhammad Umair Khan², Akram Ahmad², Akshaya B. Srikanth³,
Norny Syafinase Abdurhaman¹, Shazia Q. Jamshed¹, Ammar Ihsan Awad¹, Hazrina Binti Ab Hadi⁴

¹Department of Pharmacy Practice, International Islamic University Malaysia, Kuantan Campus, Malaysia

²Department of Clinical Pharmacy, UCSI University, Kuala Lumpur, Malaysia

³Department of Clinical Pharmacy, University of Gondar, Gondar, Ethiopia

⁴Department of Pharmaceutical Technology, International Islamic University Malaysia, Kuantan Campus, Malaysia

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Corresponding author:
Dr. Akram Ahmad,
E-mail: akrampharma67@gmail.com

ABSTRACT

Objective: This study aimed to assess the knowledge, awareness, and perception of contraception among senior pharmacy students of a public sector university in Malaysia.

Methods: A cross-sectional, questionnaire-based study was conducted among senior pharmacy students. The pretested questionnaire was used to collect data from the participants over the period of 1-month. The questionnaire was divided into four sections, for gathering the information about students' demographic data, and their knowledge, attitudes, and perception toward contraception. Data were statistically analyzed using SPSS version 20.

Findings: The response rate was 68.6%. The results showed that the contraceptive knowledge was comparatively higher in year four students ($P < 0.001$), married respondents ($P < 0.001$) and those taking elective courses ($P = 0.022$) as compared to their respective counterparts. Majority of the students were well aware and had a positive perception about contraception.

Conclusion: Overall findings reflect that the majority of the students had good knowledge, perception, and awareness about contraception. The study recommends future studies to be conducted covering different pharmacy schools across the country to further establish the results.

Keywords: Awareness; contraceptive; knowledge; perception; students

INTRODUCTION

Contraception has become a widely discussed issue around the world. Family planning services and supplies currently prevent 187 million unintended pregnancies each year including 60 million unplanned births and 105 million abortions.^[1] In European and American women, the awareness of having contraception is high and approximately 98% prefer using the contraceptive pill.^[2] One study conducted in Ghana stated that 98% of all women and 99% of all men had knowledge of at least one method of contraception.^[3] Besides, it is estimated about

one-third of pregnancies in South and Southeast Asia are unintended due to low use of contraception, contraceptive method failure, and high unmet need for contraceptives.^[4] Some studies also have been conducted by researchers to the population of Malaysia. About half of the married Malay women have low knowledge on contraception.^[5] Another study reported that 70% of maternal deaths is due to lack of knowledge and awareness of family planning and contraception.^[6]

The practice of contraception remains an important problem in the society as many unintended pregnancies each year have been reported. Healthcare workers have an important role to play to acknowledge the importance and right concept of contraception among married couples to reduce the rate of maternal death. The lack of knowledge and awareness as well as false perceptions of healthcare workers could be the contributing factor toward malpractice of contraception in society. Therefore, this study was aimed to assess the knowledge, awareness,

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and perception of contraception among senior pharmacy students in a public sector university of Malaysia.

METHODS

This is a cross-sectional, descriptive and exploratory study, conducted among the pharmacy students at a public sector university of Malaysia. The study conducted over a period of 1-month from November to December, 2013.

The questionnaire was designed by a thorough literature review of the related published studies,^[3,5-9] after which the questions were short-listed to be included in the final questionnaire. The first version of the questionnaire was then sent to subject experts for content validity. The suggested corrections were made to the questionnaire before sending them to a small sample of five students for face validity. The amendments proposed by the participants were then made in view of other published literature. The reliability coefficient of the questionnaire was calculated using Statistical Package for Social Sciences (SPSS, version 20 for windows, IBM corporation, Armonk, New York, USA). The Cronbach's alpha value of 0.78 was computed. The responses of the pilot study were not included in the final analysis.

The questionnaire was formatted as a paper based survey and was divided into four sections. The first part was about sociodemographic and background characteristics of the participants. The second part evaluates the knowledge of the respondents. The third part includes statements on the awareness of respondents about contraception. The fourth part assessed the perception of pharmacy students on contraception.

The permission of the concerned lecturer was obtained prior to data collection. Furthermore, the participation of students in this study was voluntary, and it was informed to the students that completion and submission of the questionnaire would be taken as their consent to participate in this study. High level of confidentiality and anonymity was maintained throughout the study.

Data collected from the questionnaire were entered into an SPSS version 20. Chi-square test was carried out to explore the association between the independent and dependent variables. If the assumption for the Chi-square test does not seem to be justified, which the expected cell number is lower than five in the contingency table, then Fisher's exact test was used to evaluate the association between dependent and independent variables. Student's *t*-tests and one-way

analysis of variances were performed by comparing the means in analyzing respondents' knowledge.

RESULTS

A total of 188 questionnaires were distributed, and 129 were returned. A response rate of 68.61% was achieved. Majority of the participants in this study were females (62.8%). Most of the respondents in this study had an experience of hospital and community settings, which they selected as an elective course of their bachelor of pharmacy degree (hospital attachment: 33.3%, community attachment 38.0%). All the demographic data are tabulated in Table 1.

Mean knowledge score of the participants was 4.44 ± 1.68 . Professional year, marital status, and elective course were significantly associated with the knowledge of the participants ($P < 0.001$) as presented in Table 1. The results showed that 100% respondents answered that they have heard of contraceptive methods. Almost 70% of the participants ($n = 90$) believed that the risk of getting certain types of cancer in women cannot be reduced by birth control pills. Whereas, for the question of whether male condoms can protect against sexually transmitted diseases or not, most of the respondents ($n = 84$; 65.1%) gave a correct answer. The complete response of participants toward knowledge questions is presented in Table 2.

Table 3 represents the participants' responses toward the questions regarding awareness of contraception. A large number of participants disagreed or strongly

Table 1: Association of mean knowledge scores with demographic variables

Characteristics	Number (%) of respondents	Mean (SD) of knowledge score	P
Year			<0.001*
3 rd year students	71 (55.0)	3.58 (1.48)	
4 th year students	58 (45.0)	5.50 (1.30)	
Gender			0.722*
Male	48 (37.2)	4.27 (1.80)	
Female	81 (62.8)	4.54 (1.62)	
Marital status			<0.001*
Single	125 (96.9)	4.45 (1.62)	
Married	4 (3.1)	4.25 (3.20)	
Elective subject			<0.001**
Hospital attachment	43 (33.3)	4.21 (1.58)	
Community attachment	49 (38.0)	5.29 (1.60)	
None	37 (28.7)	3.59 (1.44)	

*Calculated by independent sample *t*-test, **Calculated by one-way ANOVA. Knowledge was assessed by giving 1 point to the correct answer and 0 to the incorrect answer. The scale measured knowledge from maximum 9 to minimum 0. A score of ≥ 5 was taken as good knowledge while score of < 5 termed as poor knowledge. Mean knowledge score of participants was 4.44 ± 1.68 . ANOVA=Analysis of variance

disagreed (89.1%) that only women are responsible to use contraceptive methods. Similarly, only 48.1% agreed or strongly agreed that contraceptive method can protect the health of family and society. However, 4th year students were more positive about this statement ($P = 0.003$). Furthermore, 89.2% respondents believed that contraceptive pills do not guarantee 100% contraception. Overall, awareness score of participants was 23.88 ± 3.06 .

More than half of the students (52.1%) agreed that usage of contraceptives may reduce the fear of

unplanned pregnancy. It was also observed that 36.4% of students agreed that it is complicated to use contraceptive methods; however, 3rd year students agreed more to this statement as compared to final year students ($P = 0.001$). The perception of participants is summarized in Table 4.

DISCUSSION

This study was conducted in order to assess the knowledge, awareness, and perception of contraception among senior pharmacy students. According to Olamijulo and Olorunfemi^[7] family planning services and supplies prevent 187 million unintended pregnancies every year, and this includes 60 million unplanned births and 105 million abortions. However, the results of this study suggest that participants were more knowledgeable about condoms, intrauterine device (IUD), and oral contraceptive pills. The results are in line with another study which showed that IUDs are increasingly used worldwide in nulliparous as well as parous young women since the advantages of an IUD outweigh the disadvantages in most circumstances.^[10] Condoms have found to reduce the risk of transmission of HIV, gonorrhea, chlamydia, and herpes simplex virus in both women and men.^[11] However, the results of this study showed that only 65% of the participants agreed to this statement.

There is an increased risk of breast cancer in women taking estrogen-containing oral contraceptive. This

Table 2: Knowledge of contraception among participants

Statements	Correct responses	Incorrect responses
Have you ever heard of contraceptive method?	129 (100)	0 (0)
The risk of getting certain types of cancer in women can be reduced by birth control pills	39 (30.2)	90 (69.8)
A woman will not be able to get pregnant for at least two months after she has stopped taking birth control pills	36 (27.9)	93 (72.1)
Male condoms can protect against sexually transmitted diseases	84 (65.1)	45 (34.9)
Common side effects of contraceptive pills include weight gain and mood swing	127 (98.4)	2 (1.6)
It is safe to have sex during the infertile period	34 (26.4)	95 (73.6)
There is an increased risk of breast cancer in women taking estrogen-containing oral contraceptive	96 (74.4)	33 (25.6)
In order to get birth control pills, a woman must have a pelvic exam	52 (40.3)	77 (59.7)

Data presented as number (%) of participants

Table 3: Awareness on contraception among participants

Question	Participants' response					P value*			
	Strongly agree	Agree	Not sure	Disagree	Strongly disagree	Year	Gender	Marital status	Elective subject**
Only women are responsible to use contraceptive method	2 (1.6)	6 (4.7)	6 (4.7)	60 (46.5)	55 (42.6)	0.146	0.389	0.972	0.724
Contraceptive methods bring more damage than benefit to health	4 (3.1)	32 (24.8)	41 (31.8)	42 (32.6)	10 (7.8)	0.00	0.893	0.528	0.067
Contraceptive methods can protect the health of family and society	10 (7.8)	52 (40.3)	40 (31)	21 (16.3)	6 (4.7)	0.003	0.934	0.307	0.617
The use of contraceptive methods in young people will increase the risk of infertility in the future	8 (6.2)	32 (24.8)	57 (44.2)	25 (19.4)	7 (5.4)	0.008	0.134	0.466	0.332
Contraceptive pills do not guarantee 100% contraception	50 (38.8)	65 (50.4)	4 (3.1)	9 (7.0)	1 (0.8)	0.30	0.470	0.667	0.061
Women's experiences of side effects linked to changes in contraception use that is, changing to a safer form of contraceptive	20 (15.5)	74 (57.4)	32 (24.8)	3 (2.3)	0	0.40	0.574	0.811	0.024
Discussion about contraception with spouse is embarrassing	2 (1.6)	7 (5.4)	13 (10.1)	50 (38.8)	57 (44.2)	0.129	0.716	0.350	0.393

Data presented as number (%) of participants. *Calculated by Chi-square test, **Elective subjects refers to hospital and community attachments. Attitude was assessed by giving 1 to strongly disagree, 2 to disagree, 3 to not sure, 4 to agree, 5 to strongly agree. Reverse coding was done for negatively worded questions. The scale measured attitude from maximum 35 to minimum 7. Scores <25 were taken as low awareness, ≥25 as high awareness. Mean awareness score was 23.88 ± 3.06

Table 4: Perception on contraception among participants

Questions	Participants' response					P value*			
	Strongly agree	Agree	Not sure	Disagree	Strongly disagree	Year	Gender	Marital status	Elective subject**
According to Islamic teaching, the use of contraceptive methods is considered a permissible action	19 (14.7)	83 (64.3)	16 (12.4)	8 (6.2)	3 (2.3)	0.131	0.240	0.873	0.127
It is unnecessary to purchase contraceptives	4 (3.1)	27 (20.9)	31 (24)	59 (45.7)	8 (6.2)	0.094	0.534	0.548	0.737
Courage is needed to purchase condoms from pharmacies, conventional shops or dispensaries	18 (14)	65 (50.4)	20 (15.5)	18 (14)	8 (6.2)	0.382	0.967	0.334	0.401
Using condoms will create less sexual pleasure during sexual intercourse	15 (11.6)	22 (17.1)	83 (64.3)	7 (5.4)	2 (1.6)	0.005*	0.865	0.683	0.021*
Change in male attitude that is, to participate in contraception, may increase contraceptive prevalence in some areas	13 (10.1)	71 (55)	43 (33.3)	2 (1.6)	0 (0)	0.036*	0.258	0.347	0.382
Contraceptives may reduce fear of unplanned pregnancy and afford woman the freedom to enjoy the sexual relationship	14 (10.9)	66 (51.2)	31 (24)	15 (11.6)	3 (2.3)	0.315	0.295	0.702	0.371
Contraceptives allow women to pursue higher education by delaying pregnancy and gain some measure of economic security	22 (17.1)	64 (49.6)	9 (7)	33 (25.6)	1 (0.8)	0.237	0.254	0.373	0.103
It is complicated to use contraceptive methods	1 (0.8)	47 (36.4)	34 (26.4)	37 (28.7)	10 (7.8)	0.001*	0.592	0.623	0.388
Sex education including contraception should be introduced in early age	19 (14.7)	53 (41.1)	28 (21.7)	19 (14.7)	10 (7.8)	0.402	0.049*	0.857	0.448
Health care providers must provide counseling on contraceptive methods, mechanism of action, best time to use and possible side effects to all women	90 (69.8)	36 (27.9)	2 (1.6)	0 (0)	1 (0.8)	0.836	0.091	0.207	0.246

Data presented as number (%) of participants. *Calculated by Chi-square test, **Elective subjects refers to hospital and community attachments

statement is supported by a recent analysis of data from a study, which has been following women who were 24–43-year-old when they enrolled in the study, found that the participants who used oral contraceptives had a slight increase in breast cancer risk.^[12] The participated of this study showed a relatively poor knowledge in this area 69.8% respondents wrongly answered this question.

There is a great doubt on the association of contraception methods and infertility among people. This study reveals that approximately half of the respondents were unsure whether the use of contraception will increase the risk of infertility. These results are in contrast to another report which revealed that 83% female students did not relate contraception with infertility.^[9] There is a need to initiate awareness programs among pharmacy students by acknowledging them with true knowledge of contraception as these are the future healthcare professionals and have an important role to play in improving public health.

Majority of the respondent agreed that contraceptive pills do not guarantee 100% contraception. These

results are supported by birth control pill fact sheet that has been documented by Office of Population Affairs of United States that 5 out of 100 women who are using oral contraceptive are likely to get pregnant. Contraception allows women the freedom to enjoy the sexual relationship as reported in a qualitative study.^[13] The results were not much different in this study as more than half of the participants agreed to this statement. Most of our respondents were agreed on the significance of introducing sex education including contraception in early age and the significance of health care providers to provide counseling services on contraception. These results are also supported by Ramathuba *et al.*^[8] in their study.

This study is not without limitations. The conclusions were drawn from a convenience sample representing a public sector university in Malaysia. These findings might not be generalizable for pharmacy students all over Malaysia. However, this study provides a valuable insight about knowledge, awareness, and perception about contraception among pharmacy students. Further research is required to establish the results of this study on a national level.

The study highlights that the knowledge, awareness, and perception of pharmacy students were below par. They lack the in-depth knowledge, importance and effectiveness of contraceptive measures. This study can become a basis for a nationwide study evaluating the knowledge, awareness, and perception of pharmacy students about contraception and the possible inclusion of advanced contraceptive education in the pharmacy curriculum subsequently.

AUTHORS' CONTRIBUTION

RME, MUK and AA contributed to concept development, questionnaire design, data analysis and interpretation, manuscript preparation and finalization. ABS contributed to concept development and data collection. NSA and SQJ contributed to manuscript preparation and manuscript finalization. AIA and HBAH contributed to data analysis and interpretation, and manuscript finalization. All authors read and approved the final manuscript.

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