

Knowledge, Awareness and Perception about Contraception among Pharmacy Staffs: A Single Centre Experience

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Abstract

Introduction: Healthcare professionals play a vital role in instilling the right concept of contraception to the patients. Therefore, it is crucial for pharmacy staffs to emphasise the importance of contraception and changing the misconception of contraceptive usage.

Objective: This study aimed to assess the knowledge, awareness and perception of contraception among pharmacy staffs in a tertiary care hospital in Kelantan.

Methodology: This was a cross-sectional study involving the pharmacy staffs in Hospital Raja Perempuan Zainab II (HRPZ II) from March to June 2018. A validated, self-administered questionnaire from previous literature was utilised. It comprised of four sections namely demographic data, knowledge, attitude and perception towards contraception. The inclusion criteria were all pharmacy staffs which consisted of fully registered pharmacists, provisionally registered pharmacists and pharmacist assistants.

Results: A total of 130 questionnaires were distributed and 100 were returned which yielded a response rate of 77%. The mean (standard deviation (SD)) age of the study population was 32.0 (8.0) years old. Most of the respondents were female (n=72, 72%), degree holder (n=78, 78%) with the service duration of more than three years (n=62, 62%). The mean (SD) score of knowledge was 5.39 (1.34) with 74% (n=74) of respondents managed to obtain good knowledge of contraception. The mean (SD) score of awareness was 22.02 (2.64) with only 18% (n=18) of respondents having good awareness about contraception. Finally, the mean (SD) score of perception was 33.43 (3.21) with only 31% (n=31) of respondents scoring good perception regarding contraception. The correlation between the three domains showed that only awareness score was significantly associated with perception score ($r=0.292$, $p=0.004$).

Conclusion: Overall, knowledge, awareness and perception about contraception among pharmacy staffs in HRPZ II were still unsatisfactory. Continuing professional education is required to ensure that all pharmacy staffs are adequately informed regarding this topic.

Keywords: knowledge, awareness, perception, contraception, pharmacy

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Introduction

Contraception, also known as birth or fertility control, prevents pregnancy by interfering with the normal process of ovulation, fertilization, and implantation. There are various types of contraceptives that act at different points of the process (1). Contraceptive use offers protection against unplanned pregnancies and sexual transmitted diseases acquisition (2,3). Factors such as efficacy, safety, non-contraceptives benefits, cost and personal considerations influence patient's choice of contraceptive method (1).

The two important indicators in achieving universal access in reproductive health are increasing contraceptive prevalence rate and reducing the unmet need for family planning (4). Contraceptive prevalence rate has been growing rapidly in many developing countries but has yet to achieve the level of usage that exists in the developed countries (3). In Malaysia, the use of all available contraceptive methods is 55% and for modern methods is 32%. This figure is much lower when compared to global rate and less than the neighbouring countries (5).

Among the predictors which contribute to the underuse of contraceptives are patient preferences and health system factors. Another important reason is the amount of information regarding contraceptive methods that women receive from their healthcare providers (6). This includes pharmacy staffs who also play an essential role in providing correct and complete information on contraceptives. Often, they are regarded as an important source of information for women who are considering using contraceptives. Therefore, it is vital that they should be trained and have expertise in the area of comprehensive contraception counselling (7,8).

Poor communication happens when healthcare providers provide inconsistent and inaccurate information about contraception (9). Thus, pharmacy staffs with insufficient knowledge on contraception would miss the opportunity to educate women and became a potential barrier that prevents them from receiving proper counselling session (7,10). Providing erroneous information can dramatically affect the adherence to contraceptives (10). As a consequence, this will reduce the quality of family planning care for patients (6) and decrease their access to contraceptives (11).

A study conducted in United Arab Emirates showed that pharmacists had poor knowledge of proper use and missed dose instructions along with several misconceptions of oral contraceptive pills (10). Amin (2016) reported an alarming finding whereby there was no pharmacist in Egypt who managed to answer all questions about contraceptives correctly (7). So far, both works were carried out abroad among community pharmacists (7,10). In Malaysia, there is still inadequate literature regarding this topic especially in the context of pharmacy staffs in government sector. Therefore, we aimed to evaluate the level of knowledge, awareness and perception about contraception among pharmacy staffs in Hospital Raja Perempuan Zainab II (HRPZ II), Kelantan.

Methods

This was a cross sectional study conducted for a period of four months from February to May 2018. The survey involved all pharmacy staffs working in HRPZ II which included Fully Registered Pharmacists (FRP), Provisionally Registered Pharmacist (PRP) and pharmacist assistants. Those who were on leave during the study period were excluded. A self-administered questionnaire was adopted from previous literature and permission to use the research instrument was obtained from the corresponding author (12).

The questionnaire consisted of 3 domains namely knowledge (8 items), awareness (7 items) and perception (10 items). Each correct answer for the knowledge domain would receive 1 mark and a score of 0 was given to wrong or "do not know" response. This yielded a range of score of 0 to 8 with a score of 5 or more regarded as having good knowledge. All items in the awareness and perception domains were scored on a five-point scale ranging from 1 (strongly agree) to 5 (strongly disagree). The range of score for awareness domain was 7 to 35 with a score of 25 or more termed as high awareness. Whereas for perception, the score could range from 10 to 50 with good perception defined as a score of 35 and higher.

The data was entered and analysed using IBM SPSS Statistics version 22.0. All categorical data were presented as frequencies (n) and percentages (%) while continuous variables were expressed as mean and standard deviation (SD). Association between variables (knowledge, awareness and perception scores) were tested using Pearson's correlation. A *p*-value of <0.05 was considered as statistically significant.

This research was approved by the Ministry of Health Malaysia (MOH) Medical Research and Ethics Committee (MREC) and was granted with the National Medical Research Register (NMRR) ID number of NMRR-18-830-40309. Permission to conduct the study at the site was obtained from the Hospital Director. Data were reported in a collective manner in the form of journal articles with no reference to a specific individual.

Results

A total of 130 questionnaires were distributed (67 FRP, 38 PRP and 25 pharmacist assistants) and 100 were returned which yielded a response rate of 77%. The mean (SD) age of the study population was 32.0 (8.0) years old. Most of the respondents were female (n=72, 72%), degree holder (n=78, 78%) with the working experience of more than three years (n=62, 62%). About half of the them were FRP (n=54, 54%) of the age 20 to 30 years old (n=54, 54%) and married (n=55, 55%) with average income of RM3,000 to RM5,000 (n=53, 53%) (Table 1).

Table 1: Demographic characteristics of the respondents (n=100)

Variables	n (%) / mean (SD)
Age, years, mean (SD)	32.0 (8.0)
Gender, n (%)	
Male	28 (28)
Female	72 (72)
Marital status, n (%)	
Single	45 (45)
Unmarried	55 (55)
Position, n (%)	
FRP	54 (54)
PRP	23 (23)
Pharmacist assistant	23 (23)
Working experience, n (%)	
Less than 1 year	18 (18)
1 to 3 years	20 (20)
More than 3 years	62 (62)
Education level, n (%)	
Diploma	20 (20)
Degree	78 (78)
Master	2 (2)
Income, n (%)	
RM1000 to RM3000	19 (19)
RM3001 to RM5000	53 (53)
More than RM5000	28 (28)

Abbreviation: FRP – Fully Registered Pharmacists; PRP – Provisionally Registered Pharmacist

The mean (SD) score of knowledge about contraception was 5.4 (1.3). Almost all respondents had heard of contraceptive method (n=99, 99%), and majority knew about IUD (n=86, 86%), condom (n=97, 97%) and oral contraceptive (n=86, 86%). Most of respondents were still unsure regarding the fact that birth control pills could not reduce the risk of cancer in women (n=56, 56%). Many of them answered wrongly for items “it is safe to have sex during infertile period i.e. during Day 1 to Day 12”, “a woman will not be able to get pregnant for at least two months after she has stopped taking birth control pills” and “in order to get birth control pills, a woman must have a pelvic exam” (47%, 45% and 45%, respectively) (Table 2). Overall, only a total of 74% (n=74) of respondents managed to obtain good knowledge regarding contraception (Table 5).

Table 2: Knowledge about contraception among the respondents (n=100)

Items in the Knowledge Domain	Correct response, n (%)	Incorrect response, n (%)
1. Have you ever heard of contraceptive method? #	99 (99)	1 (1)
2. The risk of getting certain types of cancer in women can be reduced by birth control pills	44 (44)	56 (56)
3. A woman will not be able to get pregnant for at least two months after she has stopped taking birth control pills	55 (55)	45 (45)
4. Male condoms can protect against sexually transmitted diseases	76 (76)	24 (24)
5. Common side effects of contraceptive pills include weight gain and mood swing	88 (88)	12 (12)
6. It is safe to have sex during infertile period i.e. during day 1 to day 12	53 (53)	47 (47)
7. There is an increased risk of breast cancer in women taking oestrogen-containing oral contraceptive	69 (69)	31 (31)
8. In order to get birth control pills, a woman must have a pelvic exam	55 (55)	45 (45)

The question was followed by: ‘If yes, please tick the method: condom, oral contraceptive, implant, hormone injection, IUD, others (please specify).’

The mean (SD) score of awareness about contraception was 22.0 (2.6). Respondents believed that both genders were responsible to use contraceptive method and that contraceptive methods could bring more benefit to health (96% and 71%, respectively). They mainly had misconceptions regarding “the use of contraceptive methods in young people will increase the risk of infertility in the future” and “contraceptive pills do not guarantee 100% contraception” (76% and 43%, respectively) (Table 3). In general, a small number of 18% (n=18) of respondents had good awareness regarding contraception (Table 5).

Table 3: Awareness about contraception among the respondents (n=100)

Items in the Awareness Domain	Strongly agree, n (%)	Agree, n (%)	Not sure, n (%)	Disagree, n (%)	Strongly disagree, n (%)
1. Only women are responsible to use contraceptive method	0 (0)	2 (2)	2 (2)	47 (47)	49 (49)
2. Contraceptive methods bring more damage than benefit to health	1 (1)	4 (4)	24 (24)	60 (60)	11 (11)
3. Contraceptive methods can protect the health of family and society *	18 (18)	49 (49)	26 (26)	7 (7)	0 (0)
4. The use of contraceptive methods in young people will increase the risk of infertility in the future	5 (5)	34 (34)	37 (37)	20 (20)	4 (4)
5. Contraceptive pills do not guarantee 100% contraception *	9 (9)	21 (21)	13 (13)	41 (41)	16 (16)
6. Women's experiences of side effects linked to changes in contraception use i.e. changing to a safer form of contraceptive *	9 (9)	56 (56)	30 (30)	4 (4)	1 (1)
7. Discussion about contraception with spouse is embarrassing	4 (4)	10 (10)	9 (9)	55 (55)	22 (22)

* Reverse scoring items

Table 4: Perception about contraception among the respondents (n=100)

Items in the Perception Domain	Strongly agree, n (%)	Agree, n (%)	Not sure, n (%)	Disagree, n (%)	Strongly disagree, n (%)
1. According to Islamic teaching, the use of contraceptive method is considered a permissible action *	24 (24)	53 (53)	20 (20)	3 (3)	0 (0)
2. It is unnecessary to purchase contraceptives	1 (1)	15 (15)	19 (19)	55 (55)	10 (10)
3. Courage is needed to purchase condoms from pharmacies, conventional shops or dispensaries	25 (25)	47 (47)	16 (16)	11 (11)	1 (1)
4. Using condoms will create less sexual pleasure during sexual intercourse	16 (16)	18 (18)	58 (58)	5 (5)	3 (3)
5. Change in male attitude i.e. to participate in contraception, may increase contraceptive prevalence in some areas *	16 (16)	50 (50)	32 (32)	2 (2)	0 (0)
6. Contraceptives may reduce fear of unplanned pregnancy and afford woman the freedom to enjoy sexual relationship fully *	30 (30)	50 (50)	16 (16)	2 (2)	2 (2)
7. Contraceptives allow women to pursue higher education by delaying pregnancy and gain some measure of economic security *	26 (26)	53 (53)	14 (14)	6 (6)	1 (1)
8. It is complicated to use contraceptive methods	4 (4)	12 (12)	22 (22)	50 (50)	12 (12)
9. Sex education including contraception should be introduced in early age *	34 (34)	54 (54)	9 (9)	3 (3)	0 (0)
10. Health care providers must provide counselling on contraceptive methods, mechanism of action, best time to use and possible side effects to all women *	54 (54)	36 (36)	10 (10)	0 (0)	0 (0)

*Reverse scoring items

The mean (SD) score of perception about contraception was 33.4 (3.2). Respondents agreed that sex education including contraception should be introduced in early age (n=88, 88%). They also felt that health care providers must provide counselling on contraceptive methods, mechanism of action, best time to use and possible side effects to all women (n=90, 90%). However, they still hold negative perceptions on “courage is needed to purchase condoms from pharmacies, conventional shops and dispensaries” as well as “using condoms will create less sexual pleasure during sexual intercourse” (88% and 92%, respectively) (Table 4). All in all, only a handful of respondents (n=31) scored good perception regarding contraception (Table 5). The summary knowledge, awareness and perception levels were presented in Table 5.

As for correlation between the three study domains, only the awareness score was significantly but weakly associated with the perception score ($r=0.292$, $p=0.004$). Other variables were not significantly correlated with each other ($p>0.05$) (Table 6).

Table 5: Knowledge, awareness and perception levels of the respondents about contraception (n=100)

Domain	n (%) / mean (SD)
Knowledge Score, mean (SD)	5.4 (1.34)
Knowledge level ^a , n (%)	
Good	74 (74)
Poor	26 (26)
Awareness Score, mean (SD)	22.0 (2.64)
Awareness level ^b , n (%)	
Good	18 (18)
Poor	82 (82)
Perception Score, mean (SD)	33.4 (3.21)
Perception level ^c , n (%)	
Good	31 (31)
Poor	69 (69)

^a Good knowledge was defined as a score of 5 and higher; ^b Good awareness was defined as a score of 25 and higher;

^c Good perception was defined as a score of 35 and higher.

Table 6: Correlation between the study domains (n=100)

Domain	Knowledge score	Awareness score	Perception score
Knowledge score	-	$r=-0.005$ ($p=0.959$)	$r=0.094$ ($p=0.350$)
Awareness score	-	-	$r=0.292$ ($p=0.004$) *
Perception score	-	-	-

* statistically significant

Discussion

This study was conducted in view of the lack of local literature with regards to the topic of knowledge, awareness and perception on contraception among pharmacy staffs. Based on the literature review, previous investigators were more interested in the general population (4,13), students (12,14–16) and other healthcare providers (9,11,17).

Nowadays, the pharmacist's role in family planning is expanding and becoming increasingly important as the providers of family planning services (18). These functions include educating patients, informing prescribers and facilitating access by giving referrals (7). Pharmacists in any practice setting can screen patients for contraceptive needs and identify patients who may benefit from the optimisation of their contraceptive methods. There are countries who already legalise pharmacist-initiated contraceptives to overcome the contraceptive access limitations. For example, in the United States, such initiative was launched in California, Oregon, Colorado, New Mexico and Maryland since 2013 (8). Having said that, the collaboration and support from other healthcare providers are essential for pharmacy services to be successful (18). In Malaysia,

pharmacist assistants also work hand in hand with the pharmacists (FRP and PRP) in public healthcare facilities to dispense medications to the patients (19). Therefore, it is important that they are also equipped with the adequate knowledge to ensure the correct filling and labelling of medications.

Almost all our respondents were familiar with contraceptive methods. Being the staffs from the healthcare line, this finding was expected as depicted from previous studies among the medical and pharmacy students. They found that all of their participants (100%) had previously heard of the contraceptive methods, with condoms being the most commonly known method (12,20). Our respondents were mostly unaware that birth control pills could not reduce the risk of cancer in women. Apparently, it appears to be an increased risk of breast cancer in women using combined oral contraceptives (21). We also shared similar findings with Elkalmi *et al.* (2015), where most of their subjects were unable to give correct answers to questions “it is safe to have sex during infertile period i.e. during day 1 to day 12”, “a woman will not be able to get pregnant for at least two months after she has stopped taking birth control pills” and “in order to get birth control pills, a woman must have a pelvic exam” (12).

It was noted that a quarter of our study population still lacked knowledge about contraception. This finding was consistent with the work by Amin (2016) that identified considerable gaps in the pharmacists' knowledge in oral contraceptives. The author found that 13% of the respondents did not know the correct answer to any of the questions while no pharmacist were able to answer all questions correctly (7). Elkalmi *et al.* (2015) also found that their participants exhibited a lack in the in-depth knowledge and awareness on contraceptive measures (12). As for Tran and Vo (2018), their study population in Vietnam too had low knowledge and awareness with high number of misperceptions (15). This is concerning since inadequate knowledge would lead to ineffective contraception and unintended pregnancies due to the incorrect use of contraceptives (17).

Our respondents showed poor awareness regarding contraception, which was even lower than the figure reported by Elkalmi *et al.* in 2015 (12). Our respondents were confused over whether contraceptive usage could lead to infertility, as also demonstrated in previous studies. The similar finding was also seen when many of our respondents thought that contraceptive pills could guarantee 100% contraception. On the bright side, however, majority of the subjects in our study and other previous studies agreed on the importance of introducing sex education including contraception in early age and the significance of health care providers to provide counselling services on contraception (12,15,20).

It is undeniable that pharmacists play an integral role in providing contraceptive counselling. The awareness of readily available contraceptive products and methods is vital for pharmacists to educate women and address potential barriers to contraceptive use (22). However, our respondents revealed low levels of awareness and perception on contraception. Both variables were important as they significantly correlated with each other, suggesting that pharmacy staffs with poor awareness may tend to have negative perception. This would generally affect their interest to develop counselling skills on contraception (7). We also found that other variables were not significantly correlated with each other as explained by Atibioke (2018), whereby high level of awareness did not necessary translate to good knowledge about contraception (11).

Our results are slightly worrying as patients are now more ready to seek medical advice from the pharmacy (7,8). Studies have shown that healthcare professional counselling on emergency contraceptives can influence their use among women. Such example is from the analysis of the National Survey of Family Growth data on the use of emergency contraception in the United States. They found that women who received counselling about emergency contraception within the year prior to unprotected sex or birth control failure were 11.7 times more likely to use an emergency contraceptive compared with women who did not receive counselling (95% confidence interval 6.20- 22.15, $p < 0.001$) (23).

There were some limitations in this study. It was a single centre study, although with satisfactory response rate, the small sample captured might not reflect the opinions of all pharmacists and the results could not be generalised to the whole population. Nonetheless, we hope that the findings of this research are worth noting for future reference. Further research is required to establish the results of this study at the national level. A multicentre study involving more facilities from other regions in Malaysia which incorporates probability sampling method is recommended to avoid the potential bias.

Conclusions

Overall, the knowledge, awareness and perception about contraception among the pharmacy staffs in HRPZII were unsatisfactory. Continuing professional education is required to ensure that all pharmacy staffs are adequately informed regarding this topic. For them to get the most out of the educational programmes, they should address the existing gaps in their knowledge, create awareness and instil positive perception. This is important as pharmacy staffs frequently interact with patients and thus have the opportunity to promote effective contraception especially when patients present for emergency contraception, to a hospital for labour and delivery, or to a clinic for chronic disease management. Pharmacy staffs have the responsibility to reinforce their knowledge regarding contraception in order to educate other providers and patients. Assessment of their knowledge, awareness and perception is an important step in designing future training, education, and research endeavours.

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Conflict of Interest Statement

The author declared no conflict of interest. No external organisation was involved in this research project as it was self-funded by the authors.

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