ORIGINAL ARTICLE

Knowledge and Attitude towards the Use of Contraception among Medical Students in a Private Medical University, Perak, Malaysia.

Kyaw Ko Latt[1], Muhammad Zaid Imran Bin Mohd Johari[2], Sharifah Nadhirah Binti Syed Azmi[2], Putri Nurauji Fathini Binti Noorasri[2] and Farisha Sofea Binti Md Roslan[2]

[1]Faculty of Medicine, University Kuala Lumpur, Royal College of Medicine Perak, Malaysia
[2]MBBS Students, University Kuala Lumpur, Royal College of Medicine Perak, Malaysia

Corresponding Author
Dr Kyaw Ko Latt
Faculty of Medicine, UniKL RCMP, No.3, Jalan Greentown, 30450 Ipoh, Perak
Email: klkyaw@unikl.edu.my

Abstract

Aims: The study was postulated to assess the level of knowledge and attitude towards the usage of contraception among medical students in University Kuala Lumpur (UniKL) Royal College of Medicine Perak (RCMP).
Methods: A total of 241 students had participated through simple random sampling technique in this cross-sectional study. The questionnaire consisted of three components which included demographic characteristics of respondents, knowledge towards contraception and attitude towards contraception.
Results: Most of the respondents in this study comprised of Malay (93.36%), female (68.05%) and lived in urban district (70.95%). The study showed that more than half of the students (65.6%, n = 158) had good levels of knowledge while the rest of them (34.3%, n=83) had moderate levels of knowledge and there were no students that had been categorized under poor levels of knowledge towards the usage of contraception. Half of the respondents (51.5%) had moderate attitude towards contraception and 44.8% of the respondents had good attitude towards contraception. However, there were 3.7% of the respondents had poor attitude towards contraception. There were significant associations between gender, place of birth, year of study, and level of knowledge and attitude towards the usage of contraception.
Conclusion: This study revealed that the attitude towards contraception among the medical students were not satisfactory and adequate for them to be an excellent health care personnel who were soon to be expected to provide the most reliable knowledge and services on contraception. This deficiency called forth the university on the needs of comprehensive education to be implemented preferably as early as possible for the medical education programmes.

Keywords: Knowledge, Attitude, Contraception, Medical students

Introduction

Around 44% of all pregnancies around the world are unplanned, and 56% of unforeseen pregnancies lead to an induced abortion. [1] In Malaysia, A study in 2007 showed that a baby is abandoned every ten days in Kuala Lumpur. [2] Almost all abortion death and disability can be avoided through sex education, use of effective contraception, access to safe, legal induced abortion and prompt care for complications. [3] Hence, there are still addressing need to be done towards reproductive health services such as unmet needs for contraception, emergency contraception and abortion. [2]

Other than increasing number of unplanned pregnancies which lead to unsafe abortion, another rising matter that needs to be highlighted is the transmission of sexually transmitted infections (STIs). More than 1 million treatable sexually transmitted disease occur each day worldwide. Based on WHO global evaluates for 2016, there were approximate 376 million new infections of the four treatable STIs which include syphilis, chlamydia, trichomoniasis and chlamydia. [4] In Malaysia, there are at current estimates of 57,000 people infected with Human Immunodeficiency Virus (HIV) or Acquired Immune Deficiency Syndrome (AIDS) with statistic recording an increasing incidence. [5] In a study on 520 Malaysian adolescents who live in urban areas, that despite both male and female respondents might have high level of knowledge on transmission and prevention of HIV/AIDS, 72 % of them did not use condoms during sexual intimacy, and 62% of them did not think themselves to be at risk. [5]

Contraception provides many benefits which include spacing of pregnancies, postponing pregnancies in young girls who are at higher risk of health problems from early pregnancies and avoiding pregnancies among older women who also at higher risks.[1] Contraception allows women who wants to restrict the size of their families. Contraception is a cheap and effective way to plan a family. Contraception and family planning can avoid closely spaced pregnancies which contribute to some of the world's biggest infant mortality rates.[1] Women need to have more options in contraceptive to be available in every type of service delivery setting, which encompass primary healthcare clinics and family planning clinics. [6]

In a study of 1,200 mostly single adolescents aged 15-21 years in the Kuala Lumpur city, knowledge on virginity, pregnancy, contraceptive methods were found to be low. [7] Their sources of information were mainly from books, friends and parents, and there was an unmet need for such information and this topic appears as a taboo topic to be discussed on. [8] Most of the information they knew about contraception and abortion was based on what they heard from parents, partners and their peers, and some information from schools; information mainly comprised of very basic knowledge of the commonest methods.[9] Generally, family planning, contraception and abortion information, and services are more accessible and acceptable among married people compared to single adolescents.

There is an increasing number of premarital sexual activity among youngsters, especially adolescents. The increasing incidence of premarital sexual activity and the decline usage of contraception leads in an increase rate of adolescent and youth fertility. The result of these pregnancy and childbearing has remarkable impacts on maternal and child health.[2] Taking the fact of the future role of medical students as family planning adviser as well as consultant, their understanding and attitude on usage of contraceptive use need to be obtain sufficiently and up to date even during undergraduate program. [10] Hence, this study is carried out with the aim to assess the level of knowledge and attitude towards the usage of contraception among medical students studying in University Kuala Lumpur (UniKL), Royal College of Medicine Perak (RCMP) and the association between demographic factors with the level of knowledge and attitude on the usage of contraception.

Methods

The cross-sectional study design was chosen for this study as it was the best way to assess the level of knowledge and attitude towards contraceptive usage among medical students in UniKL RCMP. This study was conducted within six weeks from 19th October 2020 to 27th November 2020. The first three weeks was used for pilot study in which Cronbach's alpha values around 0.7 was obtained for reliability and validity tests, setting up online questionnaire and data collection procedures. The fourth week was used to analyse data using SPSS. The final weeks were used for report writing and submission.

The study population was medical students studying in University Kuala Lumpur, Royal College of Medicine Perak with total number of 635 medical students. The sample size was calculated by using OpenEpi software where the sample population was 635 medical students with the 50% anticipated frequency. Thus, giving out the sample size of 240 medical students with a 95% confidence interval. According to the article of A Web-based Epidemiological and Statistical Calculator for Public Health, [11] OpenEpi was used to calculate the sample size for proportions in the public health research. 240 medical students of UniKL RCMP were selected by simple random sampling technique. Since the simple random sampling technique was used, all the participants' names from Year 1 up to Year 5 were collected and their names were labelled with identification numbers accordingly. Then, the participants were selected by using a number generator.

The inclusion criterion was the medical students who are studying under Year 1, Year 2, Year 3, Year 4 and Year 5 of MBBS programme in UniKL RCMP while the exclusion criteria were the medical students who refused to participate in this research and who opted out in the middle of the study.

Data was collected by using questionnaire which was adapted with slight modification from previous researches.[7,12,13,14,15,16] Questionnaires was distributed among both male and female medical students. The questionnaire consisted of 3 parts, namely Part A, Part B and Part C. Part A consisted of 4 statements on demographic information of the respondents. Part B consisted of 10 statements regarding knowledge on the usage of contraception while Part C consisted of 10 statements about the attitude of medical student towards the use of contraception. Clear explanation was given to the students regarding the study and informed consent was taken prior to administering the questionnaire. The questionnaire was anonymous but participants' general information including age, gender and years of study was collected.

Microsoft Excel was used for preliminary data entry and Statistical Package for Social Sciences (SPSS) was used for data analysis. Both Descriptive and Inferential statistics were performed, and Chi-Square test was carried out. Hence, the knowledge towards the usage of contraception was categorized into good knowledge, moderate knowledge, and poor knowledge whereas for attitude towards the usage of contraception was categorised as good, moderate, and poor attitude.

Ethical Consideration

Ethical clearance from the Institutional Ethics Committee was obtained and the questionnaire was administered to the students. All identities and respondents' responds were kept confidential from any public domain.

Results

Of 241 questionnaires distributed, all questionnaires were completed and collected. Table 1 showed the demography of 241 respondents studying in UniKL RCMP. Among the respondents, female gender (68.05%) was predominant, and majority (93.36%) was of Malay ethnicity. Each year of study contributed 19.92% of medical students as respondents except for year 2 which contributes (20.33%) and

majority of the respondents (70.95%) were from urban areas.

Concerning the medical students' knowledge level towards the usage of contraception, most of the participants (99.17%) have heard of contraceptives in their life. 94.19% agreed that avoiding having sex on the day where pregnancy may occur was one of the natural family planning methods. Half of the respondents, 53.11%, answered correctly that birth control pills were not effective if a woman missed taking them two or three days in a row. Only 84 respondents (34.85%) knew that the maximum acceptable time after sex for a woman to take emergency contraceptive pill (ECP) was between 72 to 120 hours. Most of the respondents with the percentage of 70.54% agreed that condoms could protect against sexually transmitted disease/HIV. More than half of the respondents (60.58%) responded correctly that every two or three months, women could get an injectable contraception. A significant proportion of respondents (79.67%) understood that female sterilisation was one of the methods used to prevent pregnancy. 48.96% respondents thought that shifting to another type of contraceptive pill was helpful when a woman had side effects with a certain type of contraceptive pill. Nearly half of the respondents (47.3%) believed that there was an increased risk of breast cancer in women taking oestrogen-containing contraceptives.

Regarding the attitude towards contraception, more than half of the respondents (68.05%) believed that contraception should be used to limit the number of children. 78.01% of the respondents believed that contraception should be used to increase the time interval between childbirth. One third of the respondents (38.17%) agreed that contraception should be easily available for unmarried youths. 39.24% of the respondents believed that it was better to tell sexually active unmarried adolescents to abstain from sex when they asked for contraceptives rather than giving them whereas 41.49% (n=100) of the respondents did not agree that providing contraceptives promotes sexual promiscuity and the spread of HIV/AIDS. Meanwhile, about 171 respondents (70.95%) believed that information on contraception should not be intended only for married couples and more than half of the respondents (53.84%) agreed that cultural beliefs was preventing women from using contraceptives. Majority of the respondents (79.25%) believed that discussion about contraception with a spouse or sexual partner was not embarrassing. It was also noted that 91 of the respondents (37.76%) felt that it would not be too embarrassing for them to buy or obtain condoms in the store.

The Table 2 and Table 3 showed the overall knowledge and attitude level towards usage of contraception among medical students in UniKL RCMP.

Table 4 depicted the association between level of knowledge on contraception and gender. According to Chi-square test result, there was a significant association between gender and level of knowledge on contraception ($p=0.014$). Therefore, it was found that female students had more than two times change to have good knowledge on contraception, compared with male students.

Table 5 showed the association between attitude towards contraception and gender. Through Chi-square test, it was seen that there was a significant association between gender and attitude towards contraception ($p=0.011$).

Table 6 and 7 respectively showed that there were a significant association between year of study and level of knowledge on contraception ($p<0.001$) and attitude towards contraception ($p=0.002$). As majority of the respondents were Muslim and there was a violation of chi square test to run, ethnicity variable was not included to find out association with knowledge and attitude level.

Regarding the association between the place of upbringing and the level of knowledge towards contraception, Table 8 indicated that there was no significant association between place of upbringing and attitude towards contraception ($p=0.78$). But Table 9 showed that there was a significant association between place of

upbringing and the attitude towards contraception (p=0.004).

Discussion

Based on the results, it was observed that although majority of both male and female gender had good knowledge on the usage of contraception, female gender had higher percentage of good knowledge on conception compared to male. This may be because the aftermath of a sexual intercourse may cause them to conceive, thus the wager was more on their side as compared to male. [17] Sprecher, Harris and Meyers (2008) reported that males were less likely to discuss about sex as compared to females. This allowed women to gain more information regarding contraception than men.[18] There was a significant association (p=0.014) between gender and knowledge on contraception which correlated with a study conducted among unmarried 18-29 years old in the United States of America. According to Frost and Lindberg (2012), this may happen due to societal norm.[19] Despite more females had good knowledge on contraception, half of them, 52.4% (n=86), had moderate attitude and only 46.3% of them (n=76) had good attitude. The remaining 1.2% (n=2) scored poorly on attitude. As for males, almost half of them scored moderately as well, holding the percentage of 49.4% (n=38) while 41.6% (n=32) had good attitude and the remaining 9.1% (n=70) had poor attitude towards contraception. From this result, it was assumed that level of knowledge did not correlate with attitude. This trend was also seen in a study conducted by Child Trends by looking at the National Longitudinal Study of Adolescent Health (Add Health). Ryan, Franzetta and Manlove (2016) described that despite having high knowledge on contraception, adolescents were less likely to their attitude and practice on safe sex. [20]

While Malaysia is a multiracial community, Malays are the predominant ethnic group. Based on the findings, the level of knowledge differed greatly by ethnicity where scores were higher in Sabah or Sarawak natives, followed by Malays and Indians. The findings were somehow contraindicated to another study conducted in one of Malaysia's public universities where the results showed that Malays had the highest level of knowledge followed by Sabah or Sarawak indigenous and Indians. [10] The variation of result was probably due to the cultural sensitivity surrounding sexual issues as this topic was perceived as taboo in Malaysia. This would somehow pose an obstacle to women seeking knowledge or services for reproductive health. Besides, most of the female young adults never thought of using modern contraceptive methods due to their preferences and opted more on natural and traditional methods according to their cultural beliefs and therefore had limited knowledge. [7]

As for level of attitude according to ethnicity, other ethnicities which consisted of native Sabah and Sarawak ethnic groups had the highest percentage of respondents having good attitude towards contraception as compared to Malay and Indian. Malay and Indian participants were more likely to reflect the significance of both religious and cultural beliefs in attitudes towards premarital sexual permissiveness, according to one of the reports. [7] Strict parental supervision in Indian ethnicity and stern religious prohibitions against premarital sex in Malay ethnicity could be the factors of why these ethnic groups had lower level of attitude towards contraception as the parents would avoid talking and discussing sexual health and reproductive issues due to feeling uncomfortable and believe that it would encourage them to engage in premarital sexual behaviour. Besides, embarrassment in obtaining contraception was common and more common among Malays than other ethnic groups. The majority agreed that access to contraceptives was impaired by both societal and religious rejection of premarital sex.[7]

Since most of the respondents are Malays, there was a violation to run the Chi-square test. Thus, the ethnicity variable was not used to find out the association for knowledge and attitude.

It was found that the level of knowledge increased as the year of study increased. Majority of year 1 ,60.4% (n=29) respondents had moderate level of knowledge which might be caused by lack of exposure on the knowledge of family planning and contraception in the pre-clinical curriculum and syllabus. The respondents from year 4 had the highest percentage, 91.7% (n=44) of having good level of knowledge on contraception. In addition, the result showd that the year of study were also strongly associated with the attitude towards contraception. The attitude of the respondents from year 4 potrayed the highest percentage, 62.5% (n=30) for having good attitude towards contraception. Adequate clinical exposures and experiences especially during the gynaecology postings might be the reason for the good level of knowledge and good attitude among the clinical year students. This inference was made based on the study done in Gujerat, India which stated that academic year had significant impact on adequate knowledge of the study participants. In their study, more number of participants among the third year students had adequate level of knowledge as compared to the first and second year students($P<0.05$). [21] However, these findings did not correspond with the findings stated by previous study done among clinical students of Universiti Putra Malaysia, which showed that there were a higher percentage of respondents who had poor knowledge and negative attitude towards contraception. [10]

This study found that there was no major gap in the level of knowledge among the respondents who resided in urban and rural areas and there was no significant association betwen the place of upbringing and the level of knowledge on contraception. This finding was somehow not corresponding with the previous study done by Tunau et al, (2016) which stated that better knowledge of family planning and practice among urban area than rural area.[22] While looking at the attitude towards conceptration, we could see a significant association between the place of upbringing and the attitude towards contraception, which corresponded with the study done among adolescents women in California [23] which showed the disparities on the attitude towards contraception among the rural and urban might be due to the gap of accessibility to safe family planning services in terms of costs and logistics isssues.

Conclusion

From this study, it was found that although the knowledge of the respondents towards contraception was good, their attitude might not very comply with their knowledge. To increase the attitude level towards contraception among medical students, collaborated and comprehensive training and reproductive health education program might be needed to implement among the students as the attitude level of a person is generally related to the level of his/her dispositional optimism.

Table 1. Demographics of medical students in UniKL RCMP

Variable	n	Percentage
Gender		
Male	77	31.95%
Female	164	68.05%
Ethnicity		
Malay	225	93.36%
Indian	7	2.90%
Others	9	3.73%
Years of study		
Year 1	48	19.92%
Year 2	49	20.33%
Year 3	48	19.92%
Year 4	48	19.92%
Year 5	48	19.92%
Place of upbringing		
Urban	171	70.95%
Rural	70	29.05%

Table 2. Overall knowledge on contraception

Knowledge level	Frequency	Percentage
Good	158	65.6
Moderate	83	34.4
Total	241	100.0

Table 3. Overall attitude towards contraception

Attitude level	Frequency	Percentage
Good	108	44.8
Moderate	124	51.5
Poor	9	3.7
Total	241	100.0

Table 4. Association between level of knowledge towards contraception and gender

	Level of Knowledge					
	Good n (%)	Moderate n (%)	Chi-square value	df	POR	P-value
Gender						
Female	116 (70.7)	48 (29.3)	6.080	1	2.014	0.014
Male	42 (54.5)	35 (45.5)				

Chi-square test was performed, level of significant at p<0.05,
POR = Prevalence Odds Ratio, df = degree of freedom

Table 5. Association between level of attitude and gender

	Level of Attitude					
	Good n (%)	Moderate n (%)	Poor n (%)	Chi-square value	df	P-value
Gender						
Male	32 (41.5)	38 (49.4)	7 (9.1)	9.058	2	0.011
Female	76 (46.3)	86 (52.5)	2 (1.2)			

Chi-square test was performed, level of significant at p<0.05

Table 6. Association between level of knowledge towards contraception and year of study

	Level of Knowledge					
	Good n (%)	Moderate n (%)	Chi-square value	df	POR	P-value
Year of Study						
Year 1	19 (39.6)	29 (60.4)	34.870	4	-	<0.001
Year 2	28 (57.1)	21 (42.9)				
Year 3	29 (60.4)	19 (39.6)				
Year 4	44 (91.7)	4 (8.3)				
Year 5	38 (79.2)	10 (20.8)				

Chi-square test was performed, level of significant at p<0.05
POR = Prevalence Odds Ratio, df = degree of freedom

Table 7. Association between level of attitude towards contraception and year of study

	Level of Attitude					
	Good n (%)	Moderate n (%)	Poor n (%)	Chi-square value	df	P-value
Year of Study						
Year 1	10 (20.8)	37 (77.1)	1 (2.1)	24.938	8	0.002
Year 2	18 (36.7)	29 (59.2)	2 (4.1)			
Year 3	22 (45.8)	23 (47.9)	3 (6.3)			
Year 4	30 (62.5)	16 (33.3)	2 (4.2)			
Year 5	28 (58.3)	19 (39.6)	1 (2.1)			

Chi-square test was performed, level of significant at p<0.05
POR = Prevalence Odds Ratio, df = degree of freedom

Table 8. Level of knowledge on contraception and place of upbringing

	Level of Knowledge					
	Good n (%)	Moderate n (%)	Chi-square value	df	POR	P-value
Place of Upbringing						
Rural	40 (57.1)	30 (42.9)	3.096	1	-	0.078
Urban	118 (69.0)	53 (31.0)				

Chi-square test was performed, level of significant at p<0.05
POR = Prevalence Odds Ratio, df = degree of freedom

Table 9. Association between level of attitude towards contraception and place of upbringing

	Level of Attitude			Chi-square value	df	POR	P-value
	Good n (%)	Moderate n (%)	Poor n (%)				
Place of Upbringing							
Rural	30 (42.9)	33 (47.1)	7 (10,0)	10.811	2	-	0.004
Urban	78 (45.6)	91 (53.2)	2 (1.2)				

Chi-square test was performed, level of significant at p<0.05
POR = Prevalence Odds Ratio, df = degree of freedom

References

1. Contraception. WHO. Geneva : Department of Reproductive Health and Research, 2019.
2. Malaysian Youth Sexuality : Issue and Challenges. Yun, Low Wah. 1, Kuala Lumpur : The Journal of Health and Translational Medicine , 2009, Vol. 12.
3. Preventing Unsafe Abortion. WHO. Geneva : Department of Reproductive Health and Research, 2019.
4. Report on global sexually transmitted. WHO. Geneva : Department of Reproductive Health and Research, 2018.
5. Bridging the gap between adolescent sexuality and HIV risk: the urban Malaysian perspective. Ng C J, Kamal S F. 6, Kuala Lumpur : Singapore Medical Journal, 2006, Vol. 47.
6. Actions for improved clinical and prevention services and choices. WHO. Geneva : Global HIV, Hepatitis and Sexually Transmitted, 2020.
7. An exploration of knowledge, attitudes and behaviours of young multiethnic Muslim-majority society in Malaysia in relation to reproductive and premarital sexual practices. Wong, L.P. s.l. : Springer Link, 2012.
8. Unsafe abortion: the preventable pandemic. . Grimes D, et al. s.l. : Lancet Sex Reprod Health, 2006, Vol. 3.
9. Asking young people about sexual and reproductive behaviours: Illustrative Core Instruments. Cleland, J., Ingham, R. and Stone, N. s.l. : World Health Organization, 2005.
10. Knowledge, attitude and perception of contraception among medical students in University Putra Malaysia. Ma Saung Oo, Nursyahira binti Mohd Ismail, Wei Rou Ean, Habibah Abdul Hamid, Nik Rafiza Affendi. 2, University Putra Malaysia : Malaysian Journal of Public Health Medicine, 2019, Vol. 19.
11. OpenEpi: A Web-based Epidemiologic and Statistical Calculator for Public Health. Kevin M Sullivan, Andrew Dean, Minn Minn Soe. s.l. : Public Health Reports, 2009.
12. Illustrative Questionnaire for Interview- Survey with Young People. J, Cleland. s.l. : World Health Organization, 2001.
13. Knowledge, Attitudes and Practices of Family Planning Among Women of Reproductive Age in Suva, Fiji in 2017. Lincoln J, Mohammadnezhad M Khan S. s.l. : J Women's Health Care, 2018, Vol. 7.
14. Medical students' knowledge, attitudes and perceptions towards contraceptive use and counselling: A cross-sectional survey in Maharashtra, India. Sara Hogmark, Marie Klingberg-Allvin,Kristina Gemzell-Danielsson,Hannes Ohlsson. 12, s.l. : PubMed, December 2013, Vol. 3.
15. Knowledge, attitudes and practice of healthcare providers regarding contraceptive use in adolescence in Mahalapye, Botswana. ST Tshintege, K Nlisi, V Setlhare, R Ogundipe. 6,

s.l. : South African Family Practice, 2018, Vol. 60. https://doi.org/10.1080/20786190.2018.1501239.
16. A Study of Knowldege and Attitudes towards Contraception among Health Care Staff in Kelantan (Malaysia). H Suhaimi, D Monga, A Siva. 51-54, s.l. : Singapore Med J, Vol. 37.
17. Personal Control, Self-Efficacy in Sexual Negotiation,and Contraceptive Risk among Adolescents. Pearson, Jennifer. s.l. : Springer Science + Business Media, Inc. 2006, 2006.
18. Perceptions of Sources of Sex Education and Targets of Sex Communicatio:Sociodemographic and Cohort Effects, . Susan Sprecher, Gardenia Harris & Adena Meyers. 2008.
19. Young Adults' Contraceptive Knowledge, Norms and Attitudes: Associations with Risk, Of Unintended Pregnancy. Jennifer J. Frost, Laura Duberstein, Lawrence B. Finer. 2012.
20. Knowledge, Perceptions, and Motivations for Contraception: Influence on Teens' Contraceptive Consistency, Youth & Society. Suzanne Ryan, Kerry Franzetta, Jennifer Manlove. s.l. : Sage Publications, 2007, Vol. 39.
21. Knowledge and attitude towards emergency contraception among undergraduate medical students. Aditya N, Manish J, Apexa S, C.B Tripathi. 4, s.l. : International Journal of Basic & Clinical Pharmacology , 2017, Vol. 6.
22. Comparative assesment of modern contraceptives knowledge and utilization among women in urban and rural communities in Sokota State, Nigeria. Tunau K, Awosan KJ, Adamu H, Muhammad U, Hassan M, Nasir S, Raji M.o, Oche M.o, Nwobodo E.I, Baba T.M. 1, s.l. : Journal of Medicine Science, 2016, Vol. 7.
23. Rural-Urban Differences in Awareness and Use of Family Planning Services Among Adolescents Women in California. Jennifer Yarger, Martha J. Decker Dr. P.H. , Mary I. Campa Ph.D. , Claire D. Brindis, Dr. P.H. s.l. : Journal of Adolescent Health, 2017, Vol. 60.