

Knowledge and preference of contraceptive advice to peers among first year medical students at a private university, Malaysia

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Abstract: The unprotected sexual relationships, limited knowledge and incorrect usage of contraceptive methods increase the risk of teenage pregnancy, unintended pregnancy and sexually transmitted infections. This study measured the prevalence of knowledge on different contraceptive methods and preferred methods for friends among first year medical students at a private university. A cross-sectional study with universal sampling was conducted using self-administered questionnaire on six contraceptive methods in April 2017. The chi-square test was used to analyze the association between sociodemographic characteristics and knowledge of different methods. Out of 157 respondents, female (68.8%) and male (31.2%) were involved. Most students obtained their first source of information on contraceptive methods from secondary schools (74.5%) and from teachers (68.8%). The percentages of correct answers on knowledge about different contraceptive methods were: condom (92.4%), followed by abstinence (82.8%), oral contraceptive pills (80.3%), hormonal injection (73.9%), withdrawal (73.2%) and emergency OCP (46.5%) respectively. The knowledge on withdrawal method among male students (83.7%) was significantly higher than female students (68.5%) ($p=0.04$). Respondents' choice on most suitable method for friends who came for their advice were condom (51.5%) then OC pill (21.9%), periodic abstinence (10.3%), withdrawal and emergency pill (6.4%) each, hormonal injection (2.1%) and others (1.3%). Respondents' sufficient knowledge on various contraceptive methods reflects the effectiveness of sexual health education in their secondary schools. Therefore, encouragement on early reproductive health education should be maintained in institutions to prevent unwanted consequences.

Keywords: Contraceptive methods, youth, reproductive health

I. INTRODUCTION

Contraceptive methods are defined by 'the prevention of pregnancy' [1] and this pregnancy changes the course of a women's health, life, spouse, and family in general because a child has basic needs, apart from care and protection by the caretaker [2]. Generally, the methods of contraception can be divided into two groups: temporary and permanent. Temporary methods include barrier methods, natural contraception, intra-uterine contraceptive devices, steroidal contraception; while permanent includes tubal occlusion for female, vasectomy for males [3].

Approximately, every year there are two hundred and ten million of the women in the worldwide conceive: among them, around seventy five million pregnancy (about 36%) are unintended and / or undesired [4]. Besides that, knowledge of contraceptive methods can help in maintaining the standard of living such as having a good family planning [5]. In addition, it can help to prevent human immunodeficiency virus and sexually transmitted infections as barrier method of contraception can reduce diseases transmitted. It is important as the 50% of incidence of HIV happened among those below 24 years old [6]. The benefit of having the knowledge of contraceptive methods among the university students is very important in order to prevent the risk of teenage pregnancy, unintended pregnancy and sexually transmitted infections. This study measured the prevalence of knowledge on different contraceptive methods and preferred methods for friends among first year medical students at a private university.

II. METHODOLOGY

A cross-sectional study with universal sampling was conducted using self-administered questionnaire on six contraceptive methods among year 1 medical students in April 2017. All students both males and females from first year medical programme course who have signed the informed consent in questionnaire distributed on the day of the study were taken as observational unit of the study. The calculation of sample size was based on the previous study on the prevalence of knowledge on OCP as (82.4%) [7] with 95% CI and 5% precision. Finally the estimated sample was around 140 with 20% non-response rate. The modified self-administered questionnaires were provided based on Illustrative Questionnaire for Interview-Surveys with Young People by John Cleland [8]. It is comprised of two sections: Section A consisted of socio-demographic data (age, gender, marital status, ethnicity, parents' marital status, respondents' first source of information on contraceptive method- time, place, person). The section B consisted the questions related to knowledge on six types contraceptive methods with the answers on 'true (1), false (0) and do not know (0)', then knowing on place and person to obtain these relevant methods and advising the most suitable method to their peers who came to get advice from them with single response answer.

III. STATISTICAL ANALYSIS

The data were analyzed using IBM SPSS, Version 20.0. The prevalence of contraceptive knowledge was calculated using frequency and percentage. For bivariate analysis, chi-square test was used to analyze the association between gender and knowledge on different methods. P value of less than 0.05 will be considered as significant.

IV. ETHICAL CONSIDERATIONS

This study got ethical approval from the Ethical Committee of the Faculty of Medicine, via FOM/SSM-FINAL/2018/08 number.

V. RESULTS

The total number of respondents was 157 and among them female (68.8%), single (89%), Chinese (53.5%), staying with both parents (94.3%) and their mean age was 20.13 ± 0.8 . Most of the respondents obtained their first source of information during their secondary school (time) (74.5%), from academic places (place) (77.1%), and from their teacher (person) (68.8%). (Table I)

Among the six contraceptive methods listed, the method in which most respondents knew of were condom (92.4%), followed by abstinence (82.8%), oral contraceptive pills (80.3%), hormonal injection (73.9%), withdrawal (73.2%) and emergency OCP (46.5%). More than 80% of the respondent knew where to obtain condom and oral contraceptive pills and around half of the participants knew where to obtain hormonal injection and emergency OCP. (Table II)

The knowledge on withdrawal method among male students (83.7%, 41 /49) was significantly higher than female students. (68.5%, 74/108) with $p= 0.047$. (Table III)

The percentage of the female who know the location to obtain contraceptive method was lesser than male, except oral contraceptive pill (83.3%). The percentage of male who know the place to obtain condom is the highest (89.8%) among all the contraceptive methods. There was no significant association between gender and knowledge on place to obtain all contraceptive methods with $p>0.05$. (Table III)

The percentage of the male who know the person to obtain the contraceptive methods were higher in all methods compared to female respondents and there was a significant association between gender and knowledge on person to obtain emergency contraceptive pill with $p= 0.031$. (Table III)

Respondents' choice on most suitable method for friends who came for their advice were condom (51.5%) then OC pill (21.9%), periodic abstinence (10.3%), withdrawal and emergency pill (6.4%) each, hormonal injection (2.1%) and others (1.3%). (Table IV)

For the knowledge on other contraceptive methods that they heard of with the multiple response answers were: the intrauterine device as the most commonly heard method (23.1%, $n=138$), followed by equal percentages (21.9%, $n=131$) for spermicidal cream and female sterilization method, male sterilization (21.8%, $n=130$), hormonal implant (6.9%, $n=41$), and dermal patch (4.4%, $n=26$).

VI. DISCUSSION

Globally students of present day generation live independently and most of them especially in tertiary institution live away from their parents [9]. The new environment, freedom, being unsupervised, new friends, away from home gives them an opportunity to mix freely, indulge in high risk behavior and to sexual relationships. There is a risk of pre-marital sex, unwanted pregnancies, abortions and also sexually transmitted diseases, HIV and AIDS [9-11]. All these activities and its unwanted outcomes lead to a burden to the parents, society and the country. It was estimated that in United States the unwanted pregnancies, births, abortions cost them \$21 billion in 2010 [12].

This study is also timely as its importance has been highlighted in the star paper on 2nd October by Dr Chong SP, of Reproductive Rights Advocacy Alliance Malaysia (RRAAM) who said that comprehensive sex education syllabus should be introduced along with improved access to contraceptives as it would prevent unwanted pregnancies and abortions in Malaysia. He added that the government should ensure that sex education is taught in school and they should also have access to contraceptives [13].

The majority of the students in this study obtained their first source of information when they were in secondary schools, academic places and from their teachers. This in contrast to a study carried out in Botswana where they obtained their information from friends and social media [14] while in another study by Oyedokun et al it was from hospitals and clinics [15].

The overall the undergraduate students from this institution had good knowledge and perception of the common methods of contraceptive methods. Being medical students it is commendable as they are taught and are aware of the risks of HIV/AIDS and STIs and the increased number of abortions. The female were more aware of where to obtain the oral contraceptive pills while the male knew where to obtain condoms. This is not surprising because males are more exposed to use condoms and they lack interest to other forms of contraceptives as they expect the females to know since they are the ones who are using them. The knowledge on the use of condoms which was 92.4% and their advice to the peers was also to use condom. Almost similar findings was also found in another study conducted in South East Nigeria where it was 95% [16] and also in many studies among undergraduates in different countries [17]. The advertisement on condoms and its usage being the widely used method of contraception, its easy availability at medical shops even at some grocery shops over other contraceptive methods and the perceived advantages could be the reason for

the increased knowledge on condoms. This was also found in with another study conducted by Hall et al [18]. In one study by Ross and Hardee, they pointed out that high knowledge on condoms and pills over other contraceptive methods could be attributed to its easy access over the other methods [19].

However knowledge was lacking for other contraceptive methods like intrauterine device (23.1%, n=138), for spermicidal cream and female sterilization (21.8%, n=130) hormonal implant (6.9%, n=41), and dermal patch (4.4%, n=26). Besides the knowledge on OCP especially emergency OCP was low, only 46.5% when compared with that of condom. This not surprising as a similar finding was noticed in another study by IWHC [20] and another in Nigeria [21].

This findings did not represent the knowledge of all medical students of this university because only year 1 medical students with few samples were involved in this study . They are from pre-clinical part and not exposed to clinical subjects yet.

VII. CONCLUSION

Early sexual education is not only for undesired societal problems such as unwanted pregnancies, unsafe abortions and abandoned newborns, but also for the prevention of sexually transmitted infections. However, some of the students have a limited knowledge on newer types of contraceptive options approved and available in the market , the respondents' sufficient knowledge on various contraceptive methods reflects the effectiveness of sexual health education in their secondary schools. Therefore, early reproductive health education should be encouraged in institutions to prevent unwanted consequences.

VIII. ACKNOWLEDGMENT

This research was supported by Year 1 and Year 4 Medical Students at AIMST University, Kedah, Malaysia.

IX. CONFLICT OF INTEREST: None

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Annexes:

Table I. Socio-demographic Data of the First Year Medical Students in Aimst University Involved in the Survey of Prevalence of Contraceptive Knowledge.

Variables	Sub-variables	Number	%
Age	Age in years: (Mean \pm Standard deviation)	20.13 \pm 0.8	
Gender	Male	49	31.2
	Female	108	68.8
Marital Status (n=156)	Single	139	89
	Non-single	17	11
Ethnicity	Chinese	84	53.5
	Non-Chinese (Malay, Indian, Sikh, Sino-Native)	73	46.5
Parent's Marital Status	Staying with both parents	148	94.3
	Others (Separated/ Divorced, Not preferred to answer)	9	5.7
First source of information (Time)	Secondary school	117	74.5
	Others (Primary school, Pre-university, Degree)	40	25.5
First source of information (Place)	Academic places	121	77.1
	Others (Home, Health Institute, Social Media)	36	22.9
First source of information (Person)	Teachers	108	68.8
	Others (Family Members, Peers, Social Media)	49	31.2

Table II. Prevalence of Contraceptive knowledge, Place and Person to obtain Contraceptive Methods (n=157).

Contraceptive methods	Know	Place to buy	Person to contact
	Number (%)	Number (%)	Number (%)
Condom	145 (92.4)	137 (87.3)	80 (51.0)
Abstinence	130 (82.8)	-	-
Oral contraceptive pills	126 (80.3)	126 (80.3)	67 (42.7)
Hormonal injection	116 (73.9)	78 (49.7)	44 (28.0)
Withdrawal	115 (73.2)	-	-
Emergency OCP	73 (46.5)	78 (49.7)	43 (27.4)

Table III. Association between Gender & knowledge, place and person to obtain different contraceptive methods

Different methods	Knowledge		P value	Source of information Place		P value	Source of information Person		P value
	Male (n=49) Know	Female (n=108) Know		Male Know	Female Know		Male Know	Female Know	
OC pill	43 (87.8)	83 (76.9)	0.112	36 (73.5)	90 (83.3)	0.150	21 (42.9)	46 (42.6)	0.975
Hormonal injection	41 (83.7)	75 (69.4)	0.060	25 (51)	53 (49.1)	0.821	14 (28.6)	30 (27.8)	0.918
Condom	44 (89.8)	101 (93.5)	0.518	44 (89.8)	93 (86.1)	0.521	29 (59.2)	51 (47.2)	0.165
EOCP	23 (46.9)	50 (46.3)	0.940	30 (61.2)	48 (44.4)	0.051	19 (38.8)	24 (22.2)	0.031
Withdrawal	41 (83.7)	74 (68.5)	0.047	-	-	-	-	-	-
Abstinence	44 (89.8)	86 (79.6)	0.118	-	-	-	-	-	-

Table IV. Comparison between response of male and female students in the question "Which method do you think is most suitable for young people"

Gender	Condom	OCP	Periodic Abstinence	Emergency Pills	Withdrawal	Injections	Other Methods
Male	39 (32.5)	14 (27.5)	8 (33.3)	5 (33.3)	6 (40)	3 (60)	2 (66.7)
Female	81 (67.5)	37 (72.5)	16 (66.7)	10 (66.7)	9 (60)	2 (40)	1 (33.3)
Total	120 (51.5%)	51 (21.9%)	24 (10.3%)	15 (6.4%)	15 (6.4%)	5 (2.1%)	3 (1.3%)