Original Article

GENDER BASED DIFFERENCES IN KNOWLEDGE AND PERCEPTIONS OF CONTRACEPTIVE METHODS AMONG UNDERGRADUATE MEDICAL STUDENTS IN LAHORE.

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ABSTRACT

Background: Pakistan is the sixth most populous country in the world with low contraceptive prevalence rate (34%) and high unmet need for family planning (17.2%). This study was carried out to assess the knowledge of contraceptive methods among medical students and to highlight the importance of family planning methods through effective family education program in both young males and females of Pakistan.

Material & Methods: A cross-sectional survey was conducted among students of Akhtar Saeed Medical and Dental institutions and a sample of 240 participants was collected through non-probability convenience sampling technique. After IRB clearance, a structured questionnaire was given to the participants for data collection. First year students from MBBS, BDS, DPT, Pharm D and nursing, who gave the informed consent and were willing to participate, were included in the study. Data was analyzed using SPSS version 23. Bivariate analysis was conducted to assess the gender difference in knowledge regarding contraceptive methods in students by keeping p value less than 0.05 as significant.

Results: This study included 240 students, out of which, 83(34.6%) were males and 157(65.4%) were females. It was observed that females had better knowledge and understanding of natural, temporary and permanent methods of contraception with significant p value = 0.00. Females were more in favour of use of contraceptive methods in future with p value = 0.00 and they had more knowledge of uses of oral contraceptive pills with p value < 0.00. It was found out during the survey, that raised family income/month was directly proportional to the better knowledge level regarding all types of contraception with p value < 0.05. Parent's educational status had also positively affected the knowledge of contraceptive methods of participants of this study.

Conclusion: A significant difference was observed in positive knowledge of female students regarding contraceptive methods. However, no significant difference among male and female students was found regarding barriers in contraceptive use and their satisfaction levels toward need of improvement of family planning services in Pakistan.

Key Words: Contraceptive methods, Knowledge, Family planning

INTRODUCTION

Contraceptive methods are preventive methods to avoid unwanted pregnancies. It includes intrauterine contraceptive devices (IUCD), barrier methods (condoms), hormonal methods, emergency contraception pills and implants etc.[1]

Each year, about 68000 women die because of unsafe abortions and millions of women end up with many complications of unsafe abortions, which include severe infections and bleeding.[2] Family planning is the most important health intervention of twentieth century.[3]

It has been estimated that the global population will increase to 9.5 billion in 2050.[4] However, in 2013, Pakistan has become the sixth largest country with population of 191 million.[5] Urban population with low income does know the importance of small family size, but 'less contraceptive usage' due to less education, discontinuation of method and improper knowledge.[6]

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Contraceptive use among young women (aged 15-24) is lower than among relatively older women in the developing world.[7] Globally, youths are more sexually active than any subgroup of the population.[8] It is considered as a period of vulnerabilities, in terms of both biological (physical and psychological) and environmental aspect.[9] Their sexual behavior has been recognized as an important social and health concern in the developing world.[10] Around 70,000 women aged 15-19 years die each year of pregnancy and child birth causes. More than 18 million young women give birth to a baby each year and among them 9 out of 10 are living in developing countries.[11] About 30% women give birth to the first child before their 20th birthday. Making young women aware of emergency contraceptives help to prevent unwanted pregnancies and promote safe sex. Sexually active young women are clients with special needs for contraception.[12]

With the influx of western culture, our society is becoming more liberal with regards to sexuality. Traditional religious and moral concepts, self-esteem and educational level, no longer play a leading role in restricting this behaviour.[13] In India, average age of first sexual encounter is 17-18years. However, majority of students lack awareness of the harms of unsafe sex. Most of them resort to quacks or untrained doctors for abortion when they get pregnant, leading to unnecessary morbidity and mortality.[14]

The current study pursues a novel subject in Pakistani settings with objective of assessing the knowledge and ascertain if there is a need for pre-marital contraceptive counselling among male and female students of medical and Allied health professions. The escalating youth population predisposes these health issues and increases threats to their present situation. This study will guide the health planners to develop a more responsive and effective family planning education program through well-established information services and the need to incorporate gender issues in their interventional program for young males and females of Pakistan.

MATERIAL AND METHODS

A cross-sectional study was conducted, using structured questionnaire among undergraduate students of Akhtar Saeed Medical and Dental Institutions. This study was conducted from 1st March to 31stAugust, 2019. A sample of 240 participants was collected through nonprobability convenience sampling technique. All participants of more than 18 years of age of both genders, were included in the study. Before collection of data through a structured questionnaire, IRB clearance (Approval No: M-18/023/-CM) was obtained from Akhtar Saeed Medical and Dental college. Data was kept in custody of principal investigator and was kept confidential. Data was entered, coded and analyzed using SPSS version 23. Qualitative variables were presented in the form of tables, bar charts and pie charts.

Chi-square test was applied to find out association of variables with gender difference, keeping 95% confidence interval. P-value was fixed at$\leq$0.05 to declare results significant.

RESULTS

A total of 240 participants were included in the study and a vast majority of participants 157(65.4%) were females. The age group ranged from 18-22 years with mean age 19.2±0.9 years. 114(47.5%) participants were from Lahore and rest of them belonged to other cities. 47(19.6%) students were from MBBS, 51(21.3%) from BDS, 79(32.9%) from Pharm-D and 62(25.8%) were from Allied sciences. Eighty-two (34.2%) participants had family income more than 100,000 rupees/month. It was observed that knowledge of students regarding importance of sexual health education and different types of contraceptive methods were better with raised family income/month and educational status of both parents. Significant results were found with $p<0.05$.

Table-1: Socio-Demographic Profile.

Gender of respondents	**Frequency**	**Percentage**
Males	83	34.6
Females	157	65.4
Total	240	100
Respondents age in years	**Frequency**	**Percentage**
18	55	22.9
19	102	42.5
20	62	25.8
21	16	6.7
22	5	2.1
Total	240	100
Academic program of students	**Frequency**	**Percentage**
MBBS	47	19.6
BDS	51	21.3
DPT	1	0.4
PHARM-D	79	32.9
Allied Sciences	62	25.8
Total	240	100
Father's education	**Frequency**	**Percentage**
Illiterate	12	5
Primary	6	2.5
Matric	31	12.9
Intermediate	27	11.3
Graduate	87	36.3
Masters	77	32.1
Total	240	100
Father's job status	**Frequency**	**Percentage**
Employed	187	77.9
Unemployed	53	22.1
Total	240	100
Mother's education	**Frequency**	**Percentage**
Illiterate	16	6.7
Primary	19	7.9
Matric	37	15.4
Intermediate	46	19.2
Graduate	78	32.5
Masters	44	18.3
Total	240	100
Mother's job status	**Frequency**	**Percentage**
Employed	52	21.7
Unemployed	188	78.3
Total	240	100
Family income/ Month	**Frequency**	**Percentage**
<25000	24	10
<50,000	49	20.4
<1,00,000	85	35.4
>1,00,000	82	34.2
Total	**240**	**100**

Bivariate analysis was performed to assess the gender difference in knowledge and perception of the participants regarding different types of contraceptive methods. Statistically significant difference in knowledge and perceptions between males and females was found. Sixty (25%) students had knowledge about natural methods of contraception, out of which, 31(51.6%) were females. 122(50.2%) participants had

knowledge about temporary methods of contraception while 93(38.8%) had knowledge about permanent methods of contraception and 48(51.6%) among them were females. Significant difference in knowledge of male and female students was observed with p=0.00 was found. Sixty-four (27.1%) students knew about combined oral contraceptive pills. Among them, 31(48.4%) were females (p=0.00).

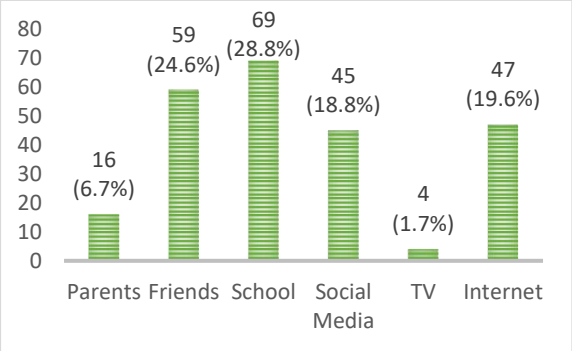

Figure-1: Sources of information of contraceptives

Regarding source of information of contraceptives, out of 240 participants, 16(6.7%) were informed by their parents, 59 (24.6%) by their friends, 69(28.8%) in schools and colleges, 45(18.8%) by social media, 4(1.7%) by TV and 47(19.6%) by the use of internet facilities.

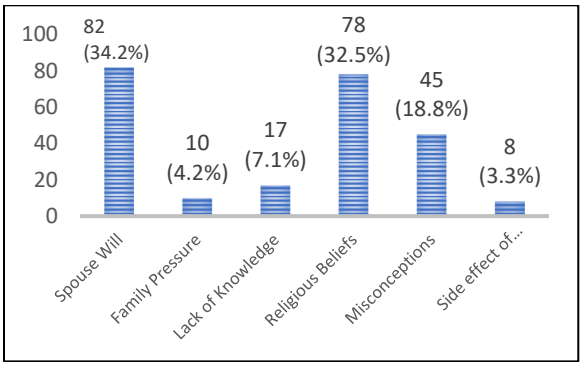

Figure-2: Important barriers of contraceptive use

Table-2:

Bivariate analysis of knowledge and perception of male and female students regarding contraceptive methods					
Variable	Males		Females		p-value
	Frequency	Percentage	Frequency	Percentage	
Knowledge regarding natural methods of contraception					
Yes	29	48.3	31	51.6	0.01*
No	54	30	126	70	
Knowledge regarding temporary methods of contraception					
Yes	63	51.6	59	48.3	0.00*
No	20	16.9	98	83.1	
Knowledge regarding permanent methods of contraception					
Yes	45	48.3	48	51.6	0.00*
No	38	25.8	109	74.1	
Knowledge regarding combined oral contraceptive pills					
Yes	33	51.5	31	48.4	0.00*
No	50	28.4	126	71.6	
Perception regarding use of contraceptives in future					
Yes	51	54.8	42	45.	0.00*
No	32	21.7	115	78.2	
Perception regarding need of improvement of family planning services in Pakistan					
Yes	61	32.2	128	67.7	0.14
No	22	43.1	29	56.9	
Perception regarding barriers to the use of contraceptive methods in our society					
Yes	61	38.6	97	61.4	0.06
No	22	26.8	60	73.2	
Perception in favour of use of contraceptive methods					
Yes	52	40.6	76	59.3	0.03*
No	31	27.6	81	72.3	

Perception of students regarding barriers to the use of contraceptives in our society revealed that, out of 240, 82(34.2%) thought spouse will is a barrier, 10(4.2%) thought family pressure, 78(32.5%) thought religious beliefs, 17(7.1%) thought lack of knowledge, 45(18.8%) thought misconceptions and 8(3.3%) thought side effects of contraception as a barrier.

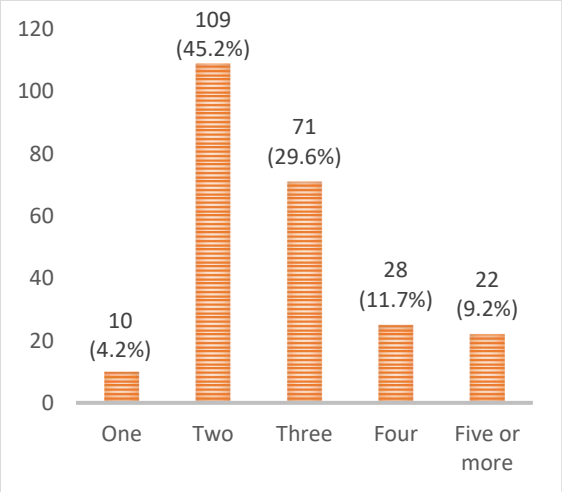

Figure-3: Perception regarding expected number of children in future

Out of 240 students, 10(4.2%) said that a couple should have one child, 109(45.2%) agreed to had two children, 71(29.6%) agreed to had three children, 28(11.7%) agreed to had four children and 22(9.2%) agreed to had five or more children in future.

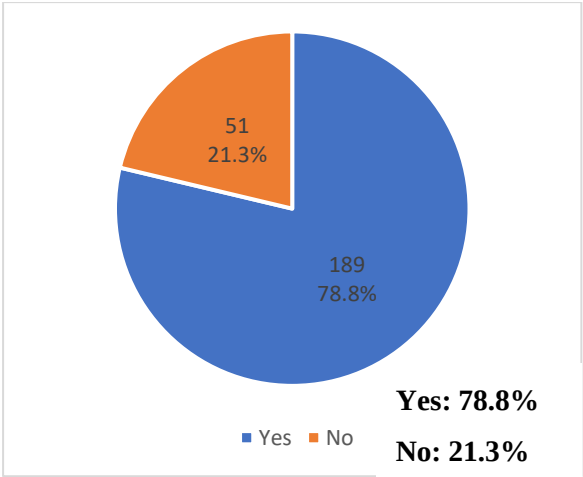

Figure-4: Availability of contraceptive services in Pakistan

Out of 240, 94(39.2 %) participants were willing to use contraceptive methods in future and 189(78.8%) students were in favour of need of improvement in family planning services in Pakistan. Among them, 128(67.7%) were females but no significant difference in opinion in both genders regarding improvement of family planning services in Pakistan was found(p=0.14).

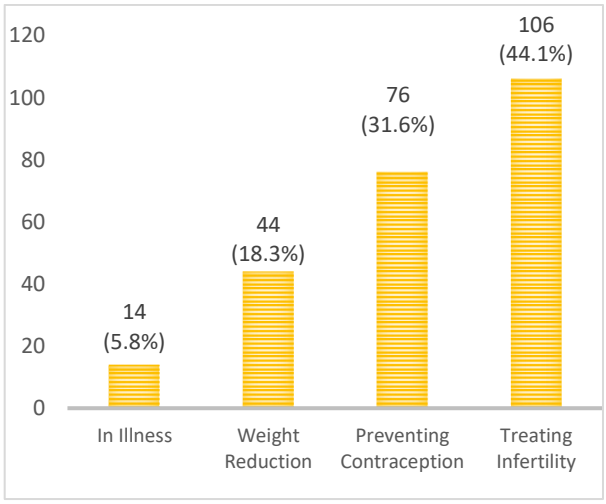

Figure-5: Knowledge regarding purpose of contraceptives usage

Out of 240 students, only 72(30%) knew about the significance of sexual health education. No significant difference was observed among males and females about their opinion on importance of sexual health education (p=0.11). Knowledge regarding purpose of use of oral contraceptive pills showed that out of 240 students, 14(5.8%) thought that they were used in illness, 44(18.3%) thought that they were used for weight reduction, 76(31.6%) thought that they were used for preventing conception, 106(44.1%) thought that they were used for treating infertility. Significant difference in knowledge of both genders was found with p=0.05.

DISCUSSION

Every year unplanned pregnancies lead to atleast 50 million abortions world-wide and result in approximately 80000 maternal deaths.[15] Around 25 million unsafe abortions take place every year in almost all developing

countries.[16] Family planning promotion is priority for the government of Pakistan to keep pace between socio-economic growth and population expansion.[17]

This survey included 240 respondents, out of which, 34.6% were male and 65.4% were females. In another study in Ghana, 53% were male and 47% were female.[18] In this study, out of 240 respondent's, 72(30%) had received sexual health education. In another study in college students of Kathmandu Nepal, 27.8% students had received reproductive health education while 76.3% had not received any education.[19] In this survey, 14(5.8%) students considered the use of contraceptive for illness, 44(18.3%) for weight reduction, 76(31.6%) thought of contraceptives to be used for preventing conception and 106(44.1%) considered it for treating infertility. In contrast to this, in another study in Ghana, 66.67% students had knowledge that contraceptive methods were used to prevent pregnancy and to prevent sexually transmitted diseases, 22.22% had knowledge that contraceptives are used to prevent child birth, 5.56% thought that these were used to prevent abortion, 5.56% thought that they were used for family planning.[20] According to another study in female undergraduates in Tanzania, 92.2% had knowledge that contraceptive methods were used to prevent pregnancy and 85.6% students had knowledge that contraceptive methods were used to prevent STDs, 90.7% thought that these were used for family planning.[21] It revealed the fact that females had better understanding of uses of contraceptives. Similar findings were observed in this study as well.

This survey showed that out of 240 respondents, 122(50.8%) students had knowledge about contraceptives. 78(32.5%) knew about condoms, 36(15%) knew about hormonal pills, 4(1.7 %) knew about injectables, 1(0.4%) knew about implants, 2(0.8%) knew about IUCD and 1(0.4%) knew about ligation. In another cross-sectional study in Uganda, 86.7% students had knowledge about hormonal pills, 35% had knowledge about IUCD, 50.3% had knowledge about injection, 26.7% had knowledge about implants, 88.4% had knowledge about male condoms, 22.1% had knowledge about female condoms,7.3% had knowledge about diaphragm and 3.5 % had knowledge about foam.[22] In another study in students of Ghana, 55.56% students had knowledge about condoms, 27.78% had knowledge about pills, 5.56 % had knowledge about IUCD, 5.56% had knowledge about spermicidal cream and 5.56% had knowledge about withdrawal.[23] In a study in Tanzania, 88% students knew about condoms, 83.5% knew about pills, 59.8% knew about injectable pills, 37.2% knew about implants, 29.7% knew about loops and 26.1% knew about tubal ligation.[24]

This study revealed the fact that only 93(38.8%) students had knowledge about permanent method of contraception, out of which, 45(48.3%) were males and 48(51.7%) were females. 65(27.1%) students had knowledge about combined oral contraceptives, out of which, 33(51.5%) were males and 31(48.4%) were females. Contrary to this survey, another study in Ethiopia showed that only 29.5% of students had knowledge about combined oral contraceptives.[25] In another study in Nicosia, only 28.9% students had knowledge about combined oral contraceptives.[23]

During this survey, it was found that 64(26.7%) students had knowledge about progesterone only pills and 60(25%) students had knowledge about natural methods of contraception, out of which, 29(48.3%) were males and 31(51.6%) were females. 205(85.4%) students knew about rhythm method, 12(5%) knew about coitus interruptus, 11(4.6%) knew about breast feeding as a method of natural contraception and only 12(5%) students had knowledge about basal body temperature. However, a study in Uganda showed that 3.6% students had knowledge about lactational amenorrhea, 10.2% had knowledge about rhythm method, 34.2% had knowledge about withdrawal.[22] In contrary to this, a study showed that 25.4% students had knowledge about withdraw 31.8% had knowledge about breast feeding,

and 36.5% had knowledge about periodic abstinence.[23]

This study showed that 16(6.7%) students got information regarding contraceptives from their parents, 59(24.6%) from their friends, 69(28.8%) from school, 45(18.8%) from social media, 4(1.7%) from TV and 47(19.6%) students received it from Internet. Whereas, a study in

Uganda showed that 3.3% students got information from their parents, 30% from their friends, 6.7% from their brothers or sisters and 60% from TV/radios.[26] During this survey, 94(39.2%) students said that they would consider the use of contraceptives in future, out of which 51(54.8%) were males and 43(45.2%) were females. In comparison to this, another study showed that 12.3% students would consider using contraceptive methods in future.[24]

CONCLUSION

Reproductive health knowledge among male adolescents was comparatively less than that of their female peers. Female students appeared to be significantly more knowledgeable than the male adolescents about contraceptive methods. This survey showed that strategies to promote use of contraception should be focused on spreading accurate information through medical and informational sources to prevent unnecessary morbidity and mortality due to unsafe abortions.

RECOMMENDATIONS

Current reproductive health and HIV prevention programs should take into account gender-based double standards among young people and their unmet reproductive health needs. Increasing modern contraceptive usage requires community-wide, multi-faceted interventions and the combined provision of information, skills, support and access to youth friendly services by the Government. Intensive education on contraceptive use should be provided at a much earlier level of education, ie. during primary school and secondary school, before the adolescents are sexually active.

AUTHOR'S CONTRIBUTION

IQ: Conceptualization & data interpretation
IM: Analysis of results & overall supervision
HM: Write up of discussion
AMJ: Literature review & methodology review
FHR: Data collection

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