



Original Research / Özgün Araştırma

Birth Control Methods Used by Men and Their Attitudes towards the Male Birth Control Pill

Erkeklerin Kullandığı Doğum Kontrol Yöntemleri ve Erkek Doğum Kontrol Hapına Karşı Tutumları

İzzet Göker KÜÇÜK¹, Utku ESER², Murat ÇEVİK³, Raziye Şule GÜMÜŞTAKIM⁴, Kurtuluş ÖNGEL⁵

ABSTRACT

The present study aims to determine the Turkish men's knowledge level on family planning and contraceptive methods, contraception preferences, and their attitudes towards male contraceptive pills, which is not one of the contraceptive methods used in our country, among 18+-year-old men, who applied to family health center polyclinic. In this prospective study, a questionnaire consisting of 19 questions was conducted to 527 men over the age of 18. It was observed that 86.3% of the participants (53.8% of men, 32.8% of women and 13.4% of both genders) used contraceptive methods. The most commonly used contraceptive methods among men are as follows; condoms (57.8%), coitus interruptus (40.4%) and other methods (1.8%). Among the reasons for not wanting to use; the rate of side effects was 53.7%, the ease and success rate of other methods was 16.2%, the difficulty of use was 13.6%, and the rate of other reasons was 16.5%. There was a statistically significant relationship between educational status, use of the contraceptive method, and status of knowing that there is a male contraceptive pill ($p=0.0001$, $p=0.0001$). Male contraceptive pills can be an important option in family planning if Turkish men, who are concerned about the side effects of the contraceptive pill, are provided with the necessary information, and also have easy access to male contraceptive pills.

Keywords: Family planning, birth control among men, male contraceptive pill

ÖZET

Çalışmanın amacı aile hekimliği polikliniğine başvuran 18 yaş üstü erkeklerin aile planlaması ve doğum kontrol yöntemleri hakkındaki bilgi düzeyleri, doğum kontrol yöntemi tercihleri ve ülkemizde kullanılan doğum kontrol yöntemleri arasında yer almayan erkek doğum kontrol hapına Türk erkeklerin bakış açılarını belirlemeye çalışmaktır. Prospektif tipte planlanan çalışmada 18 yaş üstü 527 erkeğe toplam 19 sorudan oluşan anket yapıldı. Katılımcıların% 86.3'ü (Erkeklerin % 53,8'i, kadınların % 32,8'i ve her iki cinsiyetin % 13,4'ü) kontraseptif yöntem kullandığı belirlenmiştir. Erkekler arasında en sık kullanılan kontraseptif yöntemler prezervatif (% 57,8), coitus interruptus (% 40,4) ve diğer yöntemlerdir (% 1,8). Erkek doğum kontrol hapi kullanabileceğini belirten erkeklerin oranı % 21,8 iken kararsız erkeklerin oranı % 17,1'di. Kullanmak istememe nedenlerinin oranları arasında; yan etki oranı % 53,7, diğer yöntemlerin kolaylık ve başarı oranı % 16,2, kullanım güçlüğü % 13,6 ve diğer nedenlerin oranı % 16,5 idi. Eğitim durumu ile doğum kontrol yöntemi kullanma ve erkek doğum kontrol hapi olduğunu bilme durumu arasında istatistiksel olarak anlamlı bir ilişki vardı (sırasıyla $p = 0,0001$, $p = 0,0001$). Türk erkeklerinin doğum kontrol hapının yan etkileri konusunda ki endişelerinin giderilmesi, gerekli bilgilendirmelerin yapılması ve erkek doğum kontrol hapına ulaşımının kolay olması durumunda erkek doğum kontrol hapları aile planlamasında önemli bir seçenek olabilir.

Anahtar kelimeler: Aile planlaması, erkeklerde doğum kontrolü, erkek doğum kontrol hapi

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¹Kemalöz Family Health Center, Uşak, Turkey

²Uşak University, Faculty of Medicine, Department of Family Medicine, Uşak, Turkey

³Güdül Family Health Center, Güdül, Ankara, Turkey

⁴Kahramanmaraş Sütçü İmam University, Faculty of Medicine, Department of Family Medicine, Kahramanmaraş, Turkey

⁵Izmir Katip Çelebi University, Faculty of Medicine, Department of Family Medicine, Izmir, Turkey

*Address for Correspondence / Yazışma Adresi: İzzet Göker Küçük, Kemalöz Family Health Center, Uşak, Turkey, E-mail: izzetgoker@gmail.com
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INTRODUCTION

Family planning enables the individuals to have children at the number they want and to determine the interval between pregnancies. These objectives can be achieved by using contraceptive methods and infertility treatment. The benefits of family planning include decreasing the pregnancy-related risks among women, decreasing the infant mortality rates, reducing the rate of sexually transmitted diseases (i.e., HIV), strengthening the people, increasing the chance of education, reducing the adolescent pregnancies, and taking population under control.¹

The increase in the global population in recent years lays a significant burden on the environment. In recent years, men also want to take responsibility in family planning. The contraceptive methods used by men include withdrawal (coitus interruptus), condom and vasectomy. In cases that contraception is used by men, these methods might not be suitable for all men. For this reason, the use of male contraceptive pill may meet this need.²

In our study, it was aimed to determine the knowledge level on family planning and contraceptive methods, the contraception preferences, and Turkish men's attitudes towards male contraceptive pills, which is not one of the contraceptive methods used in our country, among 18+-year-old men, who applied to family health center polyclinic.

MATERIALS AND METHODS

Upon the approval of the Non-Interventional Research Ethics Committee of İzmir Katip Çelebi University (10.10.2018, No.326), the present study was carried out between 1 May 2018 and 1 June 2018. In this study having prospective design, a questionnaire was conducted in order to evaluate the contraceptive method preferences of male patients applying to Uşak Kemalöz Family Health Center, Family Medicine Polyclinic of Medical Faculty of Uşak University, and Training Center of Family Health of İzmir Katip Çelebi University. The questionnaire prepared by researchers consisted of 19 items. The first 7 items were related to socio-demographic data and the remaining 12 items were related with contraceptive methods. The questionnaire was conducted with a face-to-face interview method, upon the consent of patients. The ones having known psychiatric disorder, those with incomplete survey form, and the involuntary people were excluded. The inclusion criteria were set to be as follows; being informed about the study, accepting the participation, being a male, and answering all the questions.

The data obtained in the present study were analyzed using IBM SPSS Statistics Version 22 package software. The normality of variable distribution was tested using Shapiro Wilk's test because of the number of units. In interpreting the results, the statistical significance was set to be 0.05; since the data were not distributed normally, the intergroup differences were analyzed using Mann Whitney U and Kruskal Wallis-H tests. When statistically significant differences were found in the Kruskal Wallis-H test, the groups with difference were determined using the Post-Hoc Multiple Comparison test. Chi-Square analysis was used in analyzing the relationships between the groups of nominal variables.

RESULTS

In total, 527 individuals were involved in our research. The rate of smoking was found to be 50.5%. From the aspect of educational status, 39.8% of participants were university graduates, 26.6% were high school graduates, 14.2% were elementary school graduates, 13.5% were secondary school graduates, and 5.9% had a doctoral degree or higher. From the aspect of marital status, 72.5% of participants were married, 20.9% were single, and 6.6% were divorced. The mean number of children was found to be 1.92 (Min-Max 0-5).

It was found that 89.2% of participants had an active sexual life. The rate of using the contraceptive method was 86.3%. The rates of spouses' use of contraception were 53.8% for men, 32.8% for women, and 13.4% for both spouses. The most frequently used methods among men were condom (57.8%), coitus interruptus (40.4%), and other methods (1.8%), whereas no one was using the vasectomy method.

The rate of having knowledge about the male contraceptive pill was 25.8%. Moreover, 21.8% of participants stated that they might use this method, whereas 17.1% were indecisive and 61.1% stated that they do not want to use this method. The reason for being unwilling of using this method was the adverse effects for 53.7% of participants, the idea "using other methods would be easy and successful" for 16.2%, the difficulty of use for 13.6%, and other reasons for 16.5%.

There is a significant relationship between educational status and use of contraceptive methods ($p=0.0001$). It was determined that the contraceptive method was used by men in 28.3% of elementary school graduates, 52% of secondary school graduates, 51.3% of high school graduates, 65.3% of university graduates, and 44.8% of those having doctoral level of higher.

There is a statistically significant relationship between educational status and having knowledge about the male contraceptive pill ($p=0.0001$). It was found that 6.7% of elementary school graduates, 8.5% of secondary school graduates, 20% of high school graduates, 38.1% of university graduates, and 54.8% of those having doctoral or higher degree have heard of the male

contraceptive pill. However, there was no statistically significant relationship between educational status and his or his spouse's/partner's use of contraceptive method ($p=0.596$).

A statistically significant relationship was found between the status of active sexual life and the use of the contraceptive method by him or his spouse/partner ($p=0.001$).

Table 1a. Results of Analysis of the Difference between Contraception Status by the Number of Children									
	Number of Children						Mean Rank	z	p
	n	Mean	Median	Minimum	Maximum	SD			
Do You or Your Spouse use any contraceptive method (including coitus interruptus)?									
Yes	358	1.87	2.00	0.00	5.00	1.09	204.35	-2.03	0.042
No	59	2.31	2.00	0.00	5.00	1.41	237.22		
Total	417	1.93	2.00	0.00	5.00	1.15			
Have you heard about the male contraceptive pill?									
Yes	83	1.40	1.00	0.00	5.00	1.08	154.82	-4.8	0.0001
No	336	2.05	2.00	0.00	5.00	1.14	223.63		
Total	419	1.92	2.00	0.00	5.00	1.15			

*Applied statistics is Mann-Whitney U test.

A statistically significant difference was found in the use of the contraceptive method by the participant or his spouse in terms of the number of children ($p=0.042$). The number of participants, who or whose spouse/partner was using a contraceptive method was found to be significantly lower than that of participants, who or whose spouse/partner were not using a contraceptive

method. Moreover, it was determined that there as a statistically significant relationship between the number of children and having knowledge about the male contraceptive pill ($p=0.0001$). The number of children of those having heard about the male contraceptive pill was found to be statistically significantly lower than that of those, who have not heard about the male contraceptive pill.

Table 1b. Results of Analysis of the Difference between Contraception Status by the Number of Children									
	Number of Children						Mean Rank	H	p
	n	Mean	Median	Minimum	Maximum	SD			
Who uses the contraceptive method?									
Male	171	1.84	2.00	0.00	5.00	.99	171	1.3	0.517
Female (Spouse of partner)	128	1.94	2.00	0.00	5.00	1.19	128		
Male and Female Together	51	1.75	2.00	0.00	5.00	1.20	51		
Total	350	1.86	2.00	0.00	5.00	1.10			
Do you think about using the contraceptive pill?									
Yes	72	1.50	1.50	0.00	5.00	1.21	72	17.5	0.0001
No	276	2.09	2.00	0.00	5.00	1.15	276		
Indecisive	71	1.69	2.00	0.00	4.00	.98	71		
Total	419	1.92	2.00	0.00	5.00	1.15			

*Applied statistics is Kruskal-Wallis H test.

There was no statistically significant difference between those using the contraceptive method in terms of the number of children ($p=0.517$). There was a statistically significant difference in thinking about using a contraceptive

method in terms of the number of children ($p=0.0001$). The number of children of those not thinking of using contraceptive pills was significantly lower when compared to those thinking of using and being indecisive.

Table2: Conditions that affect thinking of using contraceptive pill									
	Would you think of using the contraceptive pill?								p
	Yes		No		I don't know		Total		
	n	%	n	%	n	%	n	%	
Educational status									
Elementary school	9	12.0	62	82.7	4	5.3	75	100.0	0,0001
Secondary school	6	8.5	58	81.7	7	9.9	71	100.0	
High school	15	10.7	85	60.7	40	28.6	140	100.0	
University	68	32.4	104	49.5	38	18.1	210	100.0	
PhD or higher	17	54.8	13	41.9	1	3.2	31	100.0	
Total	115	21.8	322	61.1	90	17.1	527	100.0	
Marital status									
Married	59	15.4	262	68.6	61	16.0	382	100.0	0,0001
Single	44	40.0	47	42.7	19	17.3	110	100.0	
Divorced	12	34.3	13	37.1	10	28.6	35	100.0	
Total	115	21.8	322	61.1	90	17.1	527	100.0	
Do you have an active sexual life?									
Yes	101	21.5	288	61.3	81	17.2	470	100.0	0,859
No	14	24.6	34	59.6	9	15.8	57	100.0	
Total	115	21.8	322	61.1	90	17.1	527	100.0	
Do you or your spouse/partner use a contraceptive method (including coitus interruptus)?									
Yes	99	23.2	255	59.7	73	17.1	427	100.0	0,081
No	8	11.8	49	72.1	11	16.2	68	100.0	
Total	107	21.6	304	61.4	84	17.0	495	100.0	
Who uses the contraceptive method?									
Male	57	25.3	132	58.7	36	16.0	225	100.0	0,118
Female (Spouse or partner)	23	16.8	91	66.4	23	16.8	137	100.0	
Male and Female Together	17	30.4	27	48.2	12	21.4	56	100.0	
Total	97	23.2	250	59.8	71	17.0	418	100.0	
Have you heard about the male contraceptive pill?									
Yes	55	40.4	52	38.2	29	21.3	136	100.0	0,0001
No	60	15.3	270	69.1	61	15.6	391	100.0	
Total	115	21.8	322	61.1	90	17.1	527	100.0	

*Applied statistics is Chi-Square test.

Among the singles and those who are currently using a contraceptive method, the rate of those stating that they would use male contraceptive pill increased as the educational level increased. Among the pairs, in which the contraceptive method was used by females, the rate of men stating that they would use a contraceptive pill was found to be lower. The rate of those stating that they would be willing to use a contraceptive pill was higher among the men who have heard about the male contraceptive pills; compared to whom that did not know about it before.

DISCUSSION

The need for family planning is indispensable for healthy families and a healthy community structure. It is used throughout the world at different levels depending on the sociocultural factors and geographical regions. Considering the geographical regions, the rate of using a contraceptive method

was 33% in Africa, 40% in developing countries, 59% in Oceania, and 75% in North America. When compared to literature, the rate of using contraception was found to be at a higher level (86.3%) in our country.¹

In the study conducted by Ateşer et al., 60.5% of people using birth control methods, were found to be male.³ In our study, examining the distribution of those using one of the family planning instruments, men's rate of using contraceptive methods (53.8%) was higher than average usage in Turkey but lower than reported in the study of Ateşer. It is believed that factors such as high educational status, single and divorced men's desire to take control of contraception, and high socioeconomic level had effects on these findings.

Examining the contraceptive methods used by men, the most frequently used methods are

coitus interruptus, condoms, and vasectomy. The usage rates of these methods vary depending on the regions and countries.

The appropriate use of condoms provides appropriate family planning and it can also prevent the transmission of sexually transmitted diseases.⁴ The rate of pregnancy was found to be 2% - 18%.⁵ The worldwide rate of condom usage was 8% in 1994 but increased to 12% in 2015.⁶ The overall usage rate of condoms in Turkey was 7.2% in 1988 and increased to 19% in 2018. Percentages of places where condoms are provided are as follows; pharmacies 43.9%, other sources 29% (stores/corners 26.2%), and public sector 27.1% (family medicine/family medicine centers (26.3%).⁷ It was found that the use of condoms (31%) in our study was higher than in Turkey's average. It is believed that ease-of-access of condom, non-restricted use (such as prescription), ease of use, prevention of sexually transmitted diseases, and high educational level might have played a role in these findings.

Withdrawal (coitus interruptus) is a method that is widely used in our country and also worldwide as well. However, the chance of success is lower when compared to other contraceptive methods. The harmony between spouses/partners and concentration are very important.⁸ The failure rates of coitus interruptus (the rate of pregnancy at the end of a year) were 4% - 22%.⁵ The rates of using coitus interruptus were found to be 12.14% in National Sexual Health and Behavior Survey 2018 involving all the age groups.⁹ According to Turkey Demographic and Health Survey (TNSA) 2018, the rate of using coitus interruptus method in our country was found to be 25.7% in 1988 and 20% in 2018.⁷ In the present study, however, the same rate was found to be slightly higher (21.7%) than the average of Turkey. We have seen that participants use less traditional methods, such as coitus interruptus because they mostly live in urban areas and their educational level is high.

Vasectomy is a very effective and reliable method. In this method, the rate of contraceptive failure in cases that azoospermia is achieved is less than 1%. The most important complication is the difficult and expensive reversal.¹⁰ It is a method that is widely used in the world and this operation is performed for approx. 50 million individuals globally every year.² According to TNSA 2018 in Turkey, the rate of individuals using vasectomy as a contraceptive method was 0.1%.⁷ In our study, in contrast with literature, none of the participants has undergone a vasectomy surgery. We believe that the participants didn't prefer this method since it is applied surgically, its reversal is difficult, and they might want a child (ren) in the future.

In a study by Vanya et al., the significant relationship was found between the education level of their partner and the contraceptive method used in women.¹¹ High educational level positively influences the status of having knowledge about contraception.¹² In another study, it was found that the coitus interruptus was widely (70%) preferred among the people with low educational levels and since the information about contraceptive methods is obtained mainly (46%) from friends.¹³ There was a positive relationship between educational status and having heard of the male contraceptive pill ($p=0.0001$). In our study, in accordance with the literature, it was observed that there was a significant relationship between educational status and contraceptive method used and the rate of using contraceptive methods increased with increasing educational level ($p=0.0001$).

In various studies, it was observed that educational status had positive effects on practice.^{12, 14} However, in the present study, there was no statistically significant relationship between educational status and use of the contraceptive method by the participant ($p=0.596$).

The participants having active sexual life were found to use contraceptive methods significantly more frequently. In the literature, various studies reported similar results.^{15, 16}

In another study carried out on men in Nepal, it was found that the number of children (1-2) and the gender of the child (boy) increased the use of contraception.¹⁷ The participants having >2 children were found to be more disposed to use a contraceptive method when compared to those having 1-2 children and those having no child. The ones having few children have more frequently preferred implant or monthly injections with long-acting formulations over daily pills and gel.¹⁸ In this study, similar to the literature, it was found that having many children positively affected the use of contraception by men. Consistent with the literature, those having a higher number of children were more aware of and willing to use the contraceptive pill for men as a birth control method ($p=0.0001$, $p=0.0001$).

The studies on hormonal contraceptive methods among males have been carried out for approx. 50 years. The main principle is to prevent the spermatogenesis by suppressing the axis consisting of hypothalamus-pituitary and testicles.¹⁰ The addition of progestin into the testosterone hormone increases the severity and rate of suppression.¹⁹ The male contraceptive pills are very effective when they keep sperm levels below $1 \times 10^6/\text{mL}$ and the rate of failure is approx. 0.6%. After the cessation of pill use, fertility returns to

normal, and the rates of spontaneous abortion and congenital abnormality in children born in the future are not different from the rest of the society.²⁰ The threshold for fertility is $2 \times 10^6/\text{mL}$. In a review carried out by Liu PY et al., 67% of men reach this level within the first 6 months and 100% reach this threshold at the end of 24 month-period.¹⁹

The contraceptive failure rates of hormonal contraceptive pills range between 0.8% and 2.3%, whereas the same rate is 7% for low doses of female contraceptive pills.

The short-term adverse effects of contraceptive pills on the men are acne, night sweating, weight gain, and weight loss, liver inflammation, gastrointestinal symptoms, dose-dependent hypokalemia, disulfiram-like reaction, muscle atrophy, inconsistent state of mind (depression, anger, fluctuations, irritability), variation in libido (increase or decrease), fatigue and lethargy, shrinkage in the size of testicles, increase in hemoglobin and hematocrit, decrease in HDL-C, fatty skin, medicament administration-related effects (i.e., pain in the injection region, severe coughing after injection, skin rashes after injection, or swollen face), sleep-related respiratory problems, hypertension, and polycythemia.^{20, 21, 22}

Considering long-term adverse effects, it is not known if the long-term exposure to the testosterone increases the infertility, benign prostate hyperplasia and prostate cancer. Its effect on cardiovascular events and atherosclerosis is not clear.²⁰

In various studies, the rate of individuals stating that they might use the male contraceptive pills ranged between 25 and 83%.^{18,21,22-24} In the present study, the portion of participants, who have heard of the male contraceptive pill, was 25.8%. The portion (21.8%) of participants, who stated that they want to take the male contraceptive pill, was lower in comparison to the literature. Considering the reasons for not wanting to use it; 53.7% of the participants stated that they could harm themselves (e.g., infertility, may cause medical complications, etc.), 16.2% stated that the use of other birth control methods would be easier and more successful, 13.6% stated that this method was difficult to use and 16.5% stated other various reasons. The briefings about the efficiency and adverse effects of these medications might increase the use of the male contraceptive pill as a contraceptive method.

The intake of contraceptives in form of a daily pill (oral intake was preferred more than injection), monthly injection, and high level of education and income might increase the use of oral contraceptives.^{18,25,26} In the present study, the

participants having a high educational level statistically significantly more frequently stated that they have heard of the male contraceptive pill ($p < 0.05$).

In countries, in which contraception is mainly used by men, the acceptance rate of contraception was found to be higher when compared to the other countries.¹⁸ The men having a serious relationship took a brighter view of the use of the male contraceptive pill.²⁷ Considering the development of paternity tests and the financial load and responsibility duration of child supports, the men took a bright view of using the male contraceptive pill.²⁸

We think that a higher level of desire to take male contraceptive pill among single and divorced men indicates the higher level of risky sexual behaviors and the low level of trust in partners in this group.

The limitations of our study include that the sample involves only the cities in the Aegean region, that it cannot represent the entire population of the country, and that other hormonal contraceptive methods (i.e., gel or monthly injections).

In conclusion, the desire to take the male contraceptive pill was found to be higher among singles, those having a high educational level, those currently using a contraceptive method, and those who have heard of the male contraceptive pill. Male contraceptive pills can be a useful option among the other methods because the male contraceptive methods currently used have various limitations and cannot meet the needs of all men, and also men increasingly want to participate in family planning. As it can be seen in this study, eliminating the concerns of men about the adverse effects of the male contraceptive pill, providing necessary information, and ease of access to male contraceptive pill might yield a significant increase in demand for this option. However, further comprehensive and long-term studies on this subject are needed.

Conflict of interest

No potential conflict of interest relevant to this article was reported.

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KAYNAKLAR

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