ARAȘTIRMA MAKALESİ RESEARCH ARTICLE CBU-SBED, 2025, 12 (1):80-87

The Frequency of Use of Contraceptive Methods and Influencing Factors in Tekirdağ Province in Northwestern Turkey: A Cross-Sectional Study

Türkiye'nin Kuzeybatısında Tekirdağ İlinde Doğum Kontrol Yöntemlerinin kullanım Sıklığı ve Etkileyen Faktörler: Kesitsel Bir Çalışma

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*Sorumlu Yazar / Corresponding Author: Emel Kıyak Çağlayan Gönderim Tarihi / Received:19.09.2024 Kabul Tarihi / Accepted:25.10.2024 DOI: 10.34087/cbusbed.1552960

Öz

Giriş ve Amaç: Aile planlaması, çiftlerin istedikleri zamanlarda ve aralıklarda çocuk sahibi olmalarını sağlamayı amaçlamaktadır. Bu çalışmanın amacı, kuzeybatı Türkiye'de bulunan Tekirdağ ilinde yaşayan kadınlar arasında doğum kontrol yöntemlerinin kullanım sıklığını ve etkileyen faktörleri araştırmaktır.

Gereç ve Yöntemler: Bu prospektif randomize kesitsel çalışmaya 500 kadın dahil edilmiştir. Hastaların demografik verileri, kullanılan yöntemler ve etkileyen faktörler incelenmiştir.

Bulgular: Katılımcıların %68,2'si doğum kontrol yöntemleri kullandığını bildirmiştir. Modern yöntemleri kullananların oranı %50,6 olarak bulunmuştur. Doğum kontrol yöntemleri hakkında bilgi kaynağına bakıldığında, vakaların %62,2'si profesyonel sağlık çalışanlarından, %25,8'i sosyal çevresinden ve %12'si sosyal medya platformlarından bilgi aldığını belirtmiştir. Doğum kontrol yöntemi kullanmayanların %17,6'sı eşlerinin onay vermemesi nedeniyle, %17'si ise inançları nedeniyle kullanmadığını ifade etmiştir. Doğum kontrol yöntemlerinin kullanımını etkileyen faktörler arasında yaş, evlenme oranı, evlilik süresi, gebelik oranı, doğum yapma, çocuk sahibi olma, sigara kullanımı ve gelir düzevi yer almıstır.

Sonuç : Çalışmada, bölgemizdeki kadınların yaklaşık yarısının modern doğum kontrol yöntemleri kullandığı görülmüştür. Vakaların çoğunluğu doğum kontrol yöntemleri hakkında bilgiyi profesyonel sağlık çalışanlarından alırken, önemli bir kısmı da sosyal medya platformlarından bilgi aldığını bildirmiştir. Hiç doğum kontrol yöntemi kullanmayan vakaların yaklaşık üçte biri, eşlerinin doğum kontrolünü onaylamaması veya dini inançlar nedeniyle kullanmadığını belirtmiştir.

Anahtar kelimeler: Aile planlaması, Türkiye, Tekirdağ, karar verme faktörleri, dini inanç

Abstract

Aim: Family planning is aimed at enabling couples to have children at the times and intervals they desire. The purpose of this study is to research the frequency of use of contraceptive strategies and the influencing elements amongst ladies residing in Tekirdağ province in northwestern Turkey

Method: This prospective randomized cross-sectional study included 500 women Demographic data of the patients, the methods used, and influencing factors were investigated.

Results: Of the participants, 68.2% reported using contraceptive methods. The percentage of those using modern methods was found to be 50.6%. Regarding the source of information on contraceptive methods, 62.2% of the cases reported receiving information from Professional health workers, 25.8% from their social environment, and 12% from social media platforms. Of those who did not use contraceptive methods, 17.6% stated it was because their husband did not approval them to, and 17% due to their beliefs. Factors affecting the use of contraceptive methods included age, marriage rate, duration of marriage, pregnancy rate, having given birth, having children, smoking, and income level.

Conclusions: The study, approximately half of the women in our region use modern contraceptive methods. While the majority of the cases obtain information about contraceptive methods from professional health workers, a significant portion also reported obtaining information from social media platforms. About one-third of the cases who had never used any contraceptive method did not use one because their husband disapprovel contraception or due to religious beliefs.

Key words: Family planning, Turkey, Tekirdağ, decision-making factors, religious belief

1.Introduction

The World Halth Organization defines family planning as having children in the desired number and time peirod. This is accomplished thru the usage of contraceptive strategies and the manage of fertility [1]. Every year, approximately 55,000 women worldwide die due to unsafe abortions, pregnancies, or childbirth. If contraceptive methods were used, it would be possible to avoid approximately 35% of deaths related to these pregnancies. The use of contraceptive method and fertility rates vary significantly among developing countries. While approximately three-quarters of married women in some regions of Asia or Latin America use contraceptive methods, this rate drops below 10% in some sub-Saharan African countries [2]. In the United States, approximately 88.2% of women of reproductive age report using contraception at some point in their lives [3]. In low and middle-income countries, the increased prevalence of modern birth control methods over the past 50 years is among the most significant demographic changes [4]. At the other hand, a recent study in Turkey found this rate to be approximately 58.6% [5].

Sexually active individuals of reproductive age use various birth control methods [6]. These include short- and long-acting options such as oral, intramuscular, transdermal, transvaginal, and intrauterine methods [1]. Contraceptive methods are divided into two groups: modern methods, which are considered more reliable in preventing unwanted pregnancies, such as condoms, oral contraceptives. intrauterine devices (IUD). and iniectable preparations; and traditional methods, which have higher rates of unplanned pregnancies, such as withdrawal, calendar methods, or herbal mixtures [7]. Today, effective, safe, easy-to-use, and longacting methods have been developed. However, as indicated in the literature, factors such as lack of information, ethnic factors, socioeconomic and sociocultural factors, and education level affect methods in Turkey [6].

The purpose of this study is to examine the frequency of use of contraception methods among

women of reproductive age in Tekirdağ province, located in the northwest region of Turkey, and to examine the sociodemographic factors influencing the use of contraception.

2. Method 2.1Study Design

This study was structured as a prospective randomized cross-sectional study. A total of 500 women who applied to the Obstetrics and Gynecology Clinic of Tekirdağ Namık Kemal University, Medical Faculty, Training and Research Center, between June 1 and July 1, 2024, were included. Ethics Committee approval was received fort his study (Date and number: 30.04.2024 / 2024.74.04.16), and was designed following the principles outlined in the Declaration of Helsinki. They were randomly selected among volunteers, met the study criteria who appied to the Gynecology and Obstetrics clinic between the dates specified for randomization. Attention was paid to the population that could answer the questions. The survey was terminated when the target number of subjects was reached. Patients were given forms prepared by the researchers, which did not include identifying information, and were asked to fill them out. The answers of illiterate participants were recorded by healthcare workers. Informed consent was obtained.

2.2.Patient Selection

2.2.1 Inclusion criteria:

- Voluntary acceptance to participate in the study.
- 2. Age between 18-45 years and being fertile.
- 3. No infertility complaints or no hindrance to using birth control methods due to infertility.
- 4. No history of hysterectomy or bilateral oophorectomy for any reason.
- Not using oral contraceptives or intrauterine devices for any mandatory reason (e.g., PCOS).
- 6. No medical condition necessitating compulsory use of birth control methods by a doctor to prevent pregnancy (e.g., heart failure).

Fertile and sexually active womens meeting the above criteria were included in the study. Those who didn't meet the above criteria were excluded. A random survey was conducted on cases that met the above-mentioned criteria.

2. 3 Statistical Analysis

Descriptive statistics for the data included mean, standard deviation, median, minimum, maximum, frequency, and percentage values. Normality of the variables was assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests. The Mann-Whitney U test was employed for analyzing independent quantitative data, while the chi-square test was used for analyzing independent qualitative data. Statistical analyses were conducted using SPSS 27.0 software, with significance set at p < 0.05.

3. 1. Results

The average age of the 500 participants included in the study was 34±7.6 years (min:18-max:47). It was found that 84.4% of the cases were married, with an average age at marriage of 22.2±4.4 years, a marriage duration of 12.8±4.4 years, an age at first birth of 22.9±3.8, and an average number of births of 2.1±0.9. Regarding educational status, 35% of the cases stated that they were university graduates, and 22.6% were primary school graduates. In terms of occupation, the survey responses indicated that 58.4% were housewives, 14.2% were tradespeople or workers, and healthcare professionals were the third most common occupation. 64.8% of the cases resided in urban areas (district-province). In terms of income levels, 39.6% of the cases reported an income below 20,000 Turkish lira, 38.6% between 20.000-40.000, and 21.8% above 40.000 Turkish lira (in June 2024, the average exchange rate of 1 US dollar was equivalent to 32 Turkish lira according to the Central Bank of Turkey). Among the cases surveyed, 36% reported smoking, and 12.4% reported alcohol consumption. The demographic data of the surveyed cases are detailed in the Table

Out of the 500 cases participating in the study, 341 (68.2%) reported having used some form of birth control method at some point. Of those who reported using a birth control method, 74.1% used modern birth control methods (oral contraceptives, condoms, IUD, tubal ligation, and hormonecontaining three-month injections), while 25.6% traditional methods (calendar method, withdrawal, vaginal douching). When traditional methods were excluded, the rate of those using modern birth control methods was found to be 50.6%. Among the modern methods, oral contraceptives were the most frequently used at 30.2%, followed by IUD at 14.7%. When asked about their reasons for choosing different types of contraception, the top two reasons cited were reliability (144 cases, 42.2%) and ease of use (98

cases, 28.7%). When asked about their sources of information on contraception, 62.2% of the cases reported obtaining information from professional health workers (gynecologists, family physicians, nurse- midwife), 25.8% from their social environment, and 12% from the internet or social media platforms. Out of the 500 cases, 155 (31.0%) reported having discontinued the use of a contraceptive method for various reasons. The reasons for discontinuation were side effects of the methods (pain, bleeding, nausea, and disease risk) in 43.9%, desire to become pregnant in 29%, the spouse's disapproval in 9%, belief that it negatively impacted sexual life in 6.5%, and religious reasons in 4.5%. Among the 159 cases (31.8%) who had never used a birth control method, 57 (35.8%) cited the desire to become pregnant, 28 (17.6%) cited fear of side effects, 28 (17.6%) cited the spouse's disapproval, and 27 (17.0%) cited religious beliefs. The results regarding the birth control methods used, reasons for preference, and reasons for discontinuation among the surveyed cases are detailed in the Table 2. The detailed statistical analysis results of the factors influencing the use of contraceptive methods are shown in Table 3.

In the group using birth control methods, the age of the patients was significantly higher (p<0.05) than in the non-user group. There was no significant difference (p>0.05) in the educational status and living area, alcohol consumption and educational status of the spousa between the groups using and not using birth control methods. The rate of smoking was significantly higher (p<0.05) in the group using birth control methods. The income level was significantly higher (p<0.05) in the group using group.

The rate of being married was significantly higher (p=0.000) in the using group. There was no significant difference (p=0.645) in the age at marriage between the groups using and not using birth control methods. The duration of marriage was found to be significantly longer (p=0.000) in the group using birth control methods. Among the cases who had been pregnant at least once, the use of birth control methods was found to be higher (p=0.000) compared to those who had never been pregnant, while there was no significant difference (p=0.570) in the number of pregnancies between the groups. The interval between pregnancies was significantly higher (p<0.05) in the group using birth control methods compared to the non-user group (Table 4). The birth rate was significantly higher (p=0.000) in the using group. There was no significant difference (p=0.702) in the age at first birth and the number of births (p=0.965) between the groups (Table 4). The number of living children was significantly higher (p<0.05) in the using group.

Table 1: Demographic data of the cases

Table 1. Demographic data	Min-max	median	ort±SD
Age (years)	18.0- 47.0	35.0	34±7.6
Marriage age	13.0-37.0	22.0	22.2±4.4
Marriage duration	0.0-39.0	13.0	12.8±8.1
Age at first birth	15.0-36.0	22.0	22.9±3.8
Number of births	1.0-6.0	2.0	2.1±0.9
		Number	% value
Have you had a	yes	360	72.0
pregnancy before?	no	140	28.0
Have you given birth	yes	345	69.9
before?	no	155	31.0
	Not literate	20	4.0
	Primary school	113	22.6
Education level	Middle school	82	16.4
	High scholl	110	22.0
	University	175	35.0
	hausewife	292	58.4
	Healthcare worker	64	12.8
	Tradesman, worker	71	14.2
Working status	Government official	30	6
	Self-employed (engineer,architect,lawyer,etc)	21	4.2
	student	22	4.4
Area fo residence	Rural	176	35.2
	Urban	324	64.8
Use of smoking?	yes	180	36.0
	no	320	64.0
Use of alcohol?	yes	62	12.4
	no	438	87.6
İncome status	Lov <20 thousand Turkish Lira	198	39.6
	20-40 thousand Turkish Lira	193	38.6
	Over 40 thousand Turkish lira	109	21.8
Marriage status	yes	422	84.4
	no	78	15.6

Table 2: Method used, reasons for preference, reasons for discontinuation

		number	% value
Do you use contraceptive method?	yes	341	68.2
	no	159	31.8
Method	traditional	88	25.9
	modern	253	74.1
Methods used	Oral contraceptives	103	30.2
	withdrawal/calendar method	87	25.6
	condom	67	19.6
	Intra uterin device (IUD)	50	14.7
	Tubal ligation	24	7.1
	Hormonal injections	9	2.6
	vaginal douching	1	0.2
Reason to choose	Reliable	144	42.2
	Easy	98	28.7
	Side effect are few	55	16.1
	Husband's wish	40	11.7
	Healthcare worker advice	2	0.6
	To be cheap	2	0.6
Source of information	Healthcare worker	212	62.2
	Social enviroment	88	25.8
	Social media platforms	41	12.0
	Desire to become pregnant	57	35.8

	Because of fear of side effects	28	17.6
Reason for not using	Husband does not want	28	17.6
	Beliefs	27	17.0
	Sexually inactive	9	5.7
	Negatively affects sexual life	7	4.4
	Couldn't reach	3	1.9
Has she abandoned the method she	yes	155	31.0
used before?	no	345	69.0
	Side effect(bleeding,pain, nause)	68	43.9
	Desire to become pregnant	45	29.0
	Left her husband	14	9.0
Reason of quitting	Negatively affects sexual life	10	6.5
	Religious reason	7	4.5
	Orhet (sexually inactive,	11	7.1
	preganancy, health problems)		

Table 3: Factors affecting the use of contrecetive methods

		Non-user (number/%)	User (number/%)	P value
Year (Median±SD)		30.6±7.8	35.5±6.9	$0,000^{\rm m}$
	İlliterate	16 % 10.1	4 % 1.2	
	Primary school	28 %17.6	85 % 24.9	
Education level	middle	22 %13.8	60 %17.6	
	high	25 %15.7	85 %24.9	$0.646 X^2$
	University	68 % 42.8	107 % 31.4	
Spouse	İlliterate	32 %20.1	33 %9.7	
education level	primary	39 % 24.5	76 %22.3	
	middle	16 %10.1	61 %17.9	$0.311 X^2$
	high	30 %18.9	71 %20.8	
	Univesity	42 %26.4	100 %29.3	
Area of residence	rural	49 % 30.8	127 % 37.2	
	urban	110 % 69.2	214 % 62.8	$0.161 X^2$
Smoking	No	119 % 74.8	201 %58.9	$0.001 X^2$
	yes	40 % 25.2	140 % 41.1	
Alcohol use	no	145 % 91.2	293 % 85.9	$0.096 X^2$
	yes	14 % 8.8	48 % 14.1	
İncome level	Low<20 thousand	68 %42.8	130 % 38.1	
	Turksh lira			$0.013 X^2$
	20 -40 thousand	69 % 43.4	124 % 36.4	
	Over >40 thousand	22 % 13.8	87 % 25.5	

m Mann-whitney u test / X² Chi-square test

Table 4: Factors affecting the use of contraceptive

		Non-user	user	P value
		Number / %	Number / %	
Marriage status	no	45 % 28.3	33 % 9.7	$0.000 X^2$
	yes	114 % 71.7	308 % 90.3	
Those who are	no	75 % 47.2	65 % 19.1	$0.000 X^2$
pregnant	yes	84 % 52.8	276 % 80.9	
Interval between	<1 year	12 % 20.3	6 % 2.7	$0.000 X^2$
pregnancies	1-2 year	15 % 25.4	40 % 18.2	
	>2 year	32 % 54.2	174 % 79.1	
Has she given birth	no	83 % 52.2	72 % 21.1	$0.000 X^2$
before?	yes	76 % 47.8	269 % 78.9	
Living child?	no	85 %53.3	92 %27.0	$0.000 X^2$
	yes	74 % 46.5	249 %73.3	
		Average±SD, Median	Average±SD, median	
Marriage age (year)		22.6±4.8 22	22.1±4.2 21.0	0.645 ^m
Marriage duration (year)		10.3±8.4 8.0	13.8±7.8 15.0	$0.000^{\rm m}$

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Age at first birth	22.9±3.9	22.0	22.9±3.7	22.0	0.702 ^m
Number of pregnancies	2.7±1.9	2.0	2.5±1.3	2.0	0.570 ^m
Number of births	2.2±1.3	2.0	2.0±0.8	2.0	0.965 ^m

^m Mann-whitney u test / X² Chi-square test

3.2.1 Discussion

Our study focuses on the prevalence of contraceptive use, the types of methods used, and the factors influencing their use among women of reproductive age in Tekirdağ city, located in Northwestern Turkey. The rate of contraceptive use was 68.2%, while 34.6% did not use any contraceptive method cited their husbands' disapproval and religious beliefs as reasons. Among those who reported using contraceptives, 74.1% used modern methods (such as oral contraceptives. condoms, IUDs, injections). The proportion of participants using safe and effective methods accepted by modern medicine was found to be 50.6%. In a another study conducted in Turkey, the rate of modern contraceptive use was found to be 43.8%. There is an increase in the preference for modern contraceptive methods among women receiving counseling on contraceptive methods [8]. Globally, more than one billion women of reproductive age need a family planning method. Family planning is forced by factors such as socioeconomic status, culture, and religious beliefs [9]. The rates of modern contraceptive use vary by region. Ibitoye et al. [4] reported the following rates: 43.2% in East and Southern Africa, 17.9% in Central and West Africa, 56.6% in Latin America, 44.8% in South and Southeast Asia, and 46.6% in West Asia and North Africa. Further, another study reported that the average contraceptive use rate among adolescent girls in 25 sub-Saharan African countries was 25.4% [7].

In the this study, 62.2% of the participants who used contraceptive methods obtained information from professional healthcare workers (gynecologists, family physicians, nurses-midwives), 25.8% from their social circles (friends, neighbors egg), and 12% from the internet or social media platforms. These results indicate that an important rate of the population uses these platforms as a source of information, highlighting their importance in disseminating accurate information on public health issues. Providing counseling services to families and expanding family planning programs can help increase the prevalence of contraceptive methods. Research shows that there is a need for counseling services to increase the rate of contraceptive use. Education and religious beliefs are other factors that influence contraceptive use [10,11]. In the study, around one-third of the participants refrained from using contraceptive methods due to religious beliefs or disapproval from their husbands. These results indicate the importance of offering counseling services to couples jointly. Another factor influencing contraceptive use is the fear of side

effects. In the study, about one-third (31.0%) of the participants who had used contraceptive methods before stated that they had discontinued use. Approximately half of the participants discontinued due to side effects or fear of negatively affecting their sexual life. Therefore, it is important to investigate past negative experiences with contraceptive methods and provide appropriate counseling by clinicians [12].

Among the methods used in our study, oral contraceptives were the most common at 30.2%, followed by condom use at 19.6%, and IUD's at 14.7%. A significant portion of the participants (26.2%) used traditional methods (withdrawal, calendar method, vaginal douches). In the study, 62% of the information about contraceptive methods was provided by professionals offering these services. Similar to the this study, the literature indicates that oral contraceptives are the most frequently used methods [13]. Many factors influence the choice of contraceptive methods preferred by women. Irala et al. [14] found that oral contraceptives and IUDs were the most commonly used methods, often recommended by service providers. In the same study, about 45.2% of women reported that they made decisions about contraceptive methods jointly with their partners. The methods chosen together were calendar methods, female barriers, condoms, withdrawal, and male sterilization [14].

Another study found that the use of non-hormonal IUDs was the most common, while the use of hormonal IUDs was influenced by factors such as the woman's age, duration of marriage, educational status, and number of children [15]. In studies on the preference for methods, both service providers and patients generally prefer to make joint decisions. However, the majority of patients believe that it is appropriate for them to make the final decision, even though they discuss the options and the best method with healthcare professionals [16]. It is important for clinicians to establish good communication with patients, uncover their experiences, and provide counseling services based on individual needs [17]. Many factors, such as age, gender, fertility, educational status, desire to conceive, and partners' preferences, influence contraceptive use. Young women prefer methods such as oral contraceptives and condoms due to their low cost, easy accessibility, and less invasive nature, while older women prefer long-term methods [6]. In the this study, the average age of participants using contraceptive methods was found to be higher. This result is likely due to these participants having children. Contraceptive use to avoid pregnancy is more common, especially among women over the

age of 40 [12]. However, family planning services should focus on young women who are more likely to use traditional methods and have higher fertility rates [18].

Additionally, factors such as economic status (higher income level), being married, longer duration of marriage, having had previous pregnancies, giving birth, and having children were found to be influential in contraceptive use. Other parameters, such as educational status, spouses' educational status, living area (rural or urban), age at marriage, number of pregnancies, age at first birth. number of births, and number of living children. were not found to be influential in contraceptive use. However, different factors have been found to be influential in studies conducted in different geographies. For example, Alsaleem et al. [19] found that factors such as age, educational status of the woman, number of living children, and age of the last child were influential in contraceptive use. AlMalik et al. [18], Memon Za et al. [20], found that the region of residence was influential in contraceptive preferences, with urban residents using modern contraceptive methods than rural residents, and frequently higher educational levels and number of births were associated with higher use of modern contraceptive methods. Additionally, a study conducted in Africa found that access to healthcare services, quality of health facilities, community health volunteers, support from partners, educational levels, women's participation in the workforce, and area of residence were significant factors in contraceptive use [21].

3.2.2 Strengths of the Study

To the best of our knowledge, this study represents the first investigation in the literature to explore contraceptive utilization patterns among women in Tekirdağ, a province situated in Northwestern Turkey. It shares results on the effects of income level, area of residence, age at marriage, average number of children, educational status, and demographic parameters on contraceptive use in this region.

3.2. 3. Limitations of the Study

This study has some limitations. Firstly is that it is a single-center study, and another is that being a cross-sectional study, the results may vary over time. Additionally, although the questionnaire used in the study did not ask for participants' personal information, some participants might have provided incomplete answers to questions related to their sexual life.

4. Conclusion

The study, approximately half of the women in our region use modern contraceptive methods, a rate similar to that in developing countries. Oral contraceptives are the most preferred method. The majority of participants obtained information about

contraceptive methods from professional healthcare workers. However, about 12% of the participants stated that they obtained information from social media platforms. This indicates the importance of direct communication between healthcare professionals and individuals in public health services related to family planning, as well as the significant role of social media platforms as a communication tool today. Another important point is that about one-third of the participants did not use contraception due to their husbands' disapproval or religious beliefs. This suggests that family planning efforts should consider individuals' religious beliefs and include their partners in the programs.

- **5.1 Disclosure**. Authors have no conflict of interests.
- **5.2 Acknowledgments:** The authors would like to thank Prof.Dr. Fatin Rüştü Polat for his suggestions and opinions.

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