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The Effects of Family Planning Methods Used Among Women in Turkey on Depression, Anxiety and Stress Levels*

Objective: This study was planned to determine the effects of family planning methods used among women in Turkey on depression, anxiety and stress.

Materials and Methods: This descriptive and comparative study was carried out with 453 married women using an online survey. The data were collected using a "Personal Information Form" and the "Short Form of the Depression, Anxiety and Stress Scale".

Results: In the study, it was determined that the stress and anxiety levels of the women who used one of the hormonal contraceptive, intrauterine device, condom and tube ligation methods were lower than the levels of the women who did not use any method. The stress and anxiety levels of the women who did not use any family planning method or used traditional methods were higher than any of the modern methods.

Conclusion: It may be stated that the provision of counseling about modern family planning methods for women and their spouses by midwives and nurses can reduce mental problems that could result from the use of family planning methods.

Key Words: Women, family planning, depression, anxiety, stress

Türkiye'deki Kadınlarda Kullanılan Aile Planlaması Yönteminin Depresyon, Anksiyete ve Stres Düzeylerine Etkisi

Amaç: Bu çalışmada Türkiye'deki kadınlarda kullanılan AP yönteminin depresyon, anksiyete ve stres üzerine etkisini belirlemek amaçlandı.

Gereç ve Yöntemler: Tanımlayıcı ve karşılaştırmalı nitelikte olan bu çalışma web tabanlı online anket kullanılarak 453 evli kadınla yürütüldü. Veriler "Kişisel Bilgi Formu" ve "Anksiyete Stres Ölçeği Kısa Formu" kullanılarak toplandı.

Bulgular: Çalışmada hormonal kontraseptif, intrauterin araç, kondom ve tüpligasyon yöntemlerinden birini kullanan kadınların hiçbir yöntem kullanmayan kadınlara göre stres ve anksiyete düzeylerinin daha düşük olduğu belirlendi. Ayrıca herhangi bir aile planlaması yöntemi kullanmayan veya geleneksel yöntem kullanan kadınların, modern yöntemlerden herhangi birini kullanan kadınlara göre stres ve anksiyete düzeyleri daha yüksekti. Depresyon düzeyleri açısından gruplar arasında fark yoktu.

Sonuç: Ebe ve hemşirelerin kadınlara ve eşlerine modern aile planlaması yöntemleri hakkında danışmanlık vermesi kadınların AP kullanımından kaynaklanabilecek ruhsal sorunları azaltabileceği söylenebilir.

Anahtar Kelimeler: Kadın, aile planlaması, depresyon, anksiyete, stres

Introduction

The religious beliefs of individuals influence every aspect of their lives (1). The roles imposed upon women by religions prioritize especially the fertility of women and include rules about fertility. These rules include those that control fertility-related issues such as abortion and birth control and related norms. There are no official rules that are about one's compliance with religious rules. However, unofficial societal pressure is in question for those who do not abide by religious rules. Additionally, because religious beliefs are a significant component of the social identities of individuals, individuals make their social choices based on religious doctrines (2).

Several health benefits of family planning (FP) and contraception, including the prevention of unwanted pregnancies, have been proven. Thanks to FP practices and policies, unsafe abortions, maternal morbidity and mortality rates have decreased (3). However, FP is still among the public health problems of developed and developing countries. In 2017, 214 million women wanted to prevent pregnancy, but they were not able to access modern contraception methods (4). In Turkey, with the constant increase

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in the use of modern methods, the rate of unmet FP needs regularly decreased from 1993 to 2013 and dropped down from 15% to 6% (5). Nevertheless, the recent findings of the 2018 report of TNSA revealed that the rate of unmet FP needs reached almost 12% by increasing unexpectedly. In Turkey in general, a total of 11.5% of women have an unmet need for FP, including 3.9% who aim to leave a time interval between their childbirths and 7.6% who aim to stop giving birth. The sustainable development goals about FP have targeted universal access to sexual and reproductive health services including information and education (6).

There are several factors that affect FP in women. These factors include the belief that using FP methods is a sin, sociodemographic characteristics, fertility characteristics, thinking that abortion is a FP method, concerns about FP methods, the irreversibility of some methods, the expensiveness of some methods, the difficulty of using these methods, social characteristics of the partner, and the preference of the partner to not use FP methods (7-11). Studies have shown that the knowledge and attitudes of women about FP, gender-based approaches and cultural and religious beliefs affect their use of FP methods. While gender roles imposed upon men and women especially in developing countries help husbands who have patriarchal orientations to become more influential on decision-making processes about the use of FP methods, they lead to inequality by pushing women into the background. This, in turn, affects the tendencies of women in their reproductive behaviors and may lead to psychosocial problems (12).

In the literature, it has been stated that some psychological problems affect the use of FP methods. On the other hand, the psychosocial and emotional effects of the FP method that is used have been neglected. Some studies reported that some FP methods reduced the sexual pleasure of women, had effects on orgasm and lowered the frequency of sexual intercourse (13). Additionally, the failure of partners to decide on the selected FP method together due to various reasons and the decision of only the man about the method to be used in patriarchal societies may lead to stress and anxiety in the woman (14). The expectation of family elders to have grandchildren right after marriage in some societies like Turkish society, the decision of the man or the woman to postpone pregnancy, the concerns of women that their spouse will leave them and their inability to use effective FP methods due to the preference of the spouse or different reasons may leave women more vulnerable to stressors. As the exact opposite of these situations, a woman who makes a decision about FP methods by herself may also be exposed to different types of stress. Examining the effects of contraceptive use and planned parenthood on the mental health of women can be useful in terms of grasping the benefits of different reproductive behaviors. Therefore, in this study, it was aimed to determine the effects of FP methods that are used by women in Turkey on their depression, anxiety and stress levels.

Materials and Methods

Research and Publication Ethics: Ethical approval was obtained from the Health Sciences Non-Interventional Studies Ethics Committee of Inonu University (Decision No.: 2021/2634, Date: 14.12.2021).

This descriptive study was conducted in Turkey between 14.12.2021 and 20.12.2021. The data were collected through an online survey shared on women's groups on social media platforms. Women at the ages of 15 to 49 who were sexually active, married, not pregnant, able to read in Turkish and willing to participate in the study were invited to participate. When calculating the sample size, 15-20 times the number of items in the scale used and the risk of loss of 20% were taken into account, and the sample size was determined as approximately 460. Collecting data online has many advantages such as its easiness, low cost, a shorter time for collecting data and comprehensiveness (15). However, in addition to its advantages, collecting data online attracts some issues regarding its reliability. 'Carelessness' has been proposed as the factor that has the greatest impact on this lack of reliability. Various recommendations have been made to prevent this issue. These are methods like 'Self-report, SRSI Use Me, Bogus Item, Instructed Response Item, and LongString index' (16, 17). To increase the reliability in this study, the 'LongString index' and 'Instructed Response Item' methods, which are two of the most reliable ones among such methods, were utilized (18). An attention check item for every 50-100 items is recommended (19). In this study, within the scope of the LongString index, individuals who provided the same consecutive answers for more than half of the number of items in the scale (45 individuals) were removed from the sample. In the scope of the 'Instructed Response Item' method, an item stating that the participants had read all items as 'Please leave this response option blank to confirm that you have read all items' was added at the end of the scale, and 25 individuals who responded to the item were removed from the sample. The study was completed with 453 participants.

Data Collection Instruments: The data were collected using a Personal Information Form and the Short Form of the Depression, Anxiety and Stress Scale (DASS-21).

Personal Information Form: The form that was prepared based on the review of the relevant literature included 6 questions at the beginning for collecting information on the participants' age, education status, employment status, income level, previous pregnancy status, and previous childbirth status. The last two questions were designed to collect information on their status of using FP methods and the methods they used if any (hormonal contraceptives, intrauterine device (IUD), condom, tube ligation, pulling out, calendar method) (4, 10).

Depression, Anxiety and Stress Scale - Short Form (DASS-21): DASS-21 was used to determine the depression, anxiety and stress levels of the participants. The scale, which measures depression, anxiety and

stress and determines negative moods under 3 categories, was developed by Lovibond and contains a total of 21 items (20). Each category has 7 items. The validity and reliability study of the short form of the scale in Turkish was conducted by Yilmaz et al. (21). As a result of the author's study conducted with 618 participants, the reliability coefficients of the scale were found to be in the range of 0.75-0.82. In this study, the reliability coefficients of the scale were determined as 0.81 for anxiety, 0.88 for depression and 0.88 for stress. Each item is scored on a 4-point Likert-type scale ranging from 0 (does not apply to me at all) to 3 (applies to me very much). In our study, based on the total scores of each subscale, participant scores of 0-4 were considered to indicate the absence of depression, 0-3 were considered to indicate the absence of anxiety, and 0-7 were considered to indicate the absence of stress.

Data Collection: The data of the study were collected between 14.12.2021 and 20.12.2021 via an online survey shared on women's groups on social media platforms. The survey form was created on the Google Forms platform (Google LLC, Mountain View, CA, USA) and shared with a link. Short information was provided about the study at the beginning of the form, and the women were able to start responding to the items after they had marked a box that indicated their consent.

Statistical Analysis: The data were analyzed using the SPSS 22.0 (Statistical Package for the Social Sciences) program. The descriptive statistics of the numerical data are presented as mean and standard deviation, while those of the nominal (demographic) data are presented as frequency and percentage values. In the analysis of the numerical data, first of all, Kolmogorov-Smirnov test was used to test the normality of the distribution of the data. For the data that satisfied the parametric test assumptions, t-test was used in the comparisons of two groups, whereas one-way analysis of variance (ANOVA) was used to compare more than two groups. The reliability of the scale was tested using the Cronbach's alpha internal consistency coefficient. The results were interpreted on a statistical significance level of $p < 0.05$.

Results

The results of the comparison of some characteristics of the participants based on their statuses of using FP methods are given in Table 1. The mean age of the participants was 31.07 years. Among the participants who used any FP method, 46.7% had an education level of university or higher, and 37.6% had

high school degrees, while 31.2% and 22.2% of those who did not use FP methods had university or higher degrees and high school degrees, respectively. The difference between the educational levels of the groups based on their status of using FP methods was marginally significant. Of the participants who used FP methods, 85.9% had a previous pregnancy, and 85.8% had given birth before. Of those who did not use FP methods, 58.1% had a previous pregnancy, and 49.5% had given birth before. The difference between the previous pregnancy and childbirth statuses of the group that used FP methods and the group that did not use FP methods was statistically significant. The differences in the participants' employment statuses and income levels based on their statuses of using FP methods were not statistically significant.

Table 2 shows the FP methods used by the participants and their percentages. Among the participants who used family planning methods, 22.1% used condoms, 15.2% used IUDs, and 20.3% used the withdrawal method. It was determined that 79.4% of the participants used any FP method.

Table 3 presents the comparison results of the depression, anxiety and stress levels of the participants based on their type of using FP methods. Accordingly, the stress levels of the participants who used the withdrawal method and the calendar method were significantly higher than the stress levels of those who did not use any FP method and those who used modern FP methods. The anxiety levels of the participants who did not use any FP method were significantly higher than the anxiety levels of the others. The depression levels of the participants who did not use any method were higher than the levels of the others, but this difference was not statistically significant.

Table 4 shows the effects of the statuses of the participants to not use any FP method, to use a modern method and to use a traditional method on their stress, anxiety and depression levels. Accordingly, the stress levels of the participants who used traditional methods were significantly higher than the stress levels of those who did not use any FP method and those who used modern FP methods. The anxiety levels of the participants who did not use any FP method were significantly higher than the anxiety levels of those who used traditional or modern FP methods. There was no statistically significant difference between the depression levels of the participants who did not use any FP method, those who used traditional methods and those who used modern methods.

Table 1. Comparison of the characteristics of the participants based on their FP use status

Characteristics	Women who never used any method (n=93)		Women who ever used any method (n=360)		Total (n=453)		Test* and p value
	n	%	n	%	n	%	
Mean age of the women/year	31.07±7.23 (min: 18, max: 45)						
Educational level							
Illiterate	4	4.3	14	3.9	18	4	$\chi^2=11.071$ p=0.050*
Literate	4	4.3	14	3.9	18	4	
Primary school	11	11.8	44	12.2	55	12.1	
Middle school	10	10.8	40	11.1	50	11	
High school	35	37.6	80	22.2	115	25.4	
University and above	29	31.2	168	46.7	197	43.5	
Working status							
Yes	26	28	123	34.2	149	32.9	$\chi^2=1.291$ p=0.256
No	67	72	237	65.8	304	67.1	
Income rate							
Low	14	15.1	46	12.8	60	13.2	$\chi^2=3.927$ p=0.140
Middle	77	82.8	286	79.4	363	80.1	
High	2	2.2	28	7.8	30	6.6	
Previous pregnancy status							
Yes	54	58.1	309	85.9	363	80.1	$\chi^2=35.797$ p=0.000*
No	39	41.9	51	14.2	90	19.9	
Previous birth status							
Yes	46	49.5	309	85.8	355	78.4	$\chi^2=57.669$ p=0.000*
No	47	50.5	51	14.2	98	21.6	

χ^2 : Chi- SquareTest

Table 2. Family planning methods used by the participants

Methods	n	(%)
Modern contraception methods		
CHC	49	10.8
RIA	69	15.2
Condom	100	22.1
Tubaligation	38	8.4
Total of used modern methods	256	56.5
Traditional contraceptive methods		
Withdrawal	92	20.3
Calendar Method	12	2.6
Total of used modern methods	104	22.9
Total of Used FP	360	79.4

CHC: Combined hormonal contraception IUD: Intrauterine device

Table 3. Effects of types of contraception methods on stress, anxiety and depression

	Women who never used any method ^a	CHC ^b	IUD ^c	Condom ^d	Tubal ligation ^e	Withdrawal ^f	Calendar method ^g	Test* and p value
Stres	8.70±4.98	6.51±4.38	6.97±4.16	6.92±4.42	6.23±4.83	9.98±4.43	9.66±4.92	KW=38.787 p<0.001* f>b,c,d,e
Anxiety	6.84±4.18	5.24±4.07	4.65±3.18	4.62±3.68	5.76±3.77	5.16±4.38	5.41±4.64	KW=19.450 p=0.003* a>b,c
Depression	5.98±4.59	5.16±4.36	5.53±3.90	5.01±4.22	5.57±4.61	5.16±4.67	4.33±3.67	KW=4.231 p=0.645

CHC: Combined hormonal contraception; IUD: Intrauterine device; KW: Kruskal-Wallis Test

Table 4. Effects of the statuses of the participants to not use any FP method, to use a modern method and to use a traditional method on their stress, anxiety and depression levels

	Women who never used any method ^a	Modern methods ^b	Traditional contraceptive methods ^c	Test* and p value
	Mean±SD	Mean±SD	Mean±SD	
Stress	8.70±4.98	6.75±4.39	9.95±4.46	F=20.283 p<0.001 a,c>b
Anxiety	6.84±4.18	4.91±3.65	5.19±4.39	F=8.320 p<0.001 c>a,b
Depression	5.98±4.59	5.26±4.21	5.06±4.56	F=1.254 p=0.286

F: Oneway Test; SD: Standard Deviation

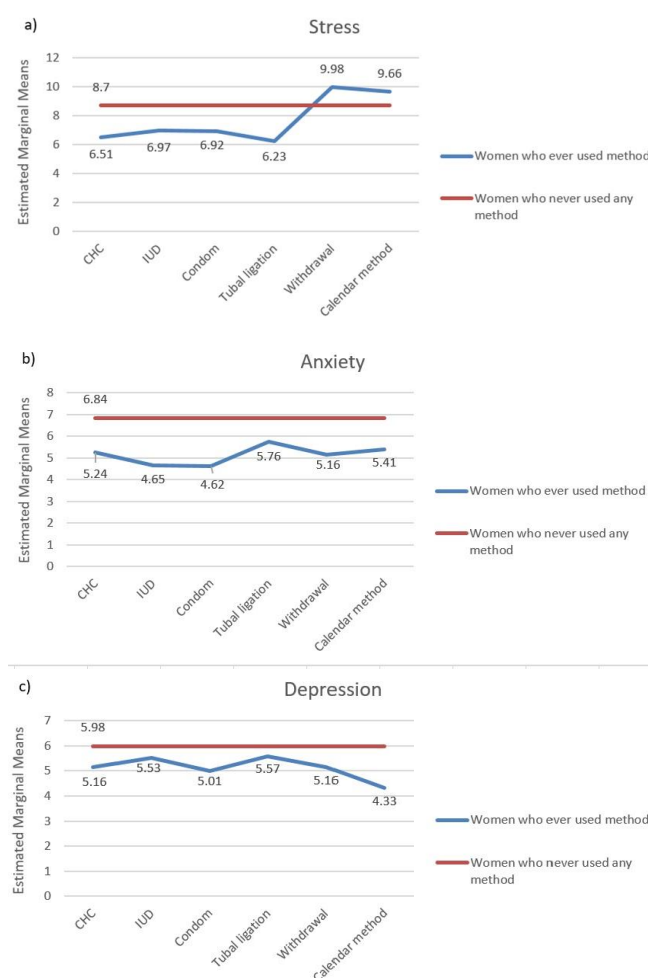


Figure 1. a-c. Pairwise group comparisons of the stress, anxiety and depression levels of the participants who used any FP method and those who did not use any FP method

Figure 1a-c presents the pairwise group comparisons of the stress, anxiety and depression levels of the women who used any FP method and those who did not use any FP method. The stress levels of the participants who used hormonal contraceptives, IUDs, condoms or tube ligation were significantly lower than

those who did not use any FP method (Figure 1a) (respectively, $t=2.604$, $p=0.010$; $t=2.352$, $p=0.020$; $t=2.643$, $p=0.009$; $t=2.600$, $p=0.010$). The participants who used hormonal contraceptives, IUDs, condoms and the withdrawal method had higher anxiety levels than those who did not use any FP method (Figure 1b) (respectively, $t=2.190$, $p=0.30$; $t=3.645$, $p=0.000$; $t=3.932$, $p=0.000$; $t=2.675$, $p=0.008$). There was no significant difference between the depression levels of the women who used any FP method and those who did not use any FP method (Figure 1c) ($p>0.05$).

Discussion

In this study, it was aimed to determine the effects of family planning (FP) methods used by women in Turkey on their depression, anxiety and stress levels. In our study, it was determined that the participants who used any FP method had higher levels of education than those who did not use any FP method ($p=0.050$; Table 1). Previous studies have shown a positive relationship between education level and the status of FP use among women (22, 23). A high educational level could provide advantages in contraceptive use in two ways. First, it allows women to obtain more accurate information about FP methods. Second, as their education processes are not interrupted, women may be more likely to postpone getting pregnant by using modern methods (24). A study conducted in Iran showed that 46.7% of women who used any FP method had university or higher degrees, and 37.6% of them had high school degrees, whereas 31.2% of women who did not use any FP method had university or higher degrees, and 22.2% of them had high school degrees (25). The results of our study were similar to those reported in other studies conducted in Muslim-majority countries and other countries.

In our study, it was determined that the participants who had a previous pregnancy and those who had given birth before had higher rates of FP method use ($p=0.000$; Table 1). However, there was no significant difference between the income levels and employment statuses of the participants who used any FP method and those who did not use any FP method, but still, the FP use rates of the working women were numerically higher than that of the women who were not working.

Previous studies have also found that reaching one's ideal number of children or women's employment increases the rates of using FP methods among women (22, 26). In a study carried out in Mali, where the ideal number of children was reported as 6, it was stated that those who had given birth four or more times were more likely to use modern contraceptives (23, 25).

In our study, 79.4% of the participants were found to use a FP method, 59.5% used a modern method, and 22.9% used a traditional method (Table 2). Studies have shown that education, information, attitudes, approaches to gender-related issues, as well as cultural and religious beliefs, affect the use of FP methods and the type of the method used. This is why, in the international literature on this topic, the rates of FP use and types of FP methods have shown a high level of variation (23). For example, in a study in Mali, the rate of using modern FP methods was found as 17.1% (23). A study conducted in Nigeria reported that 43.9% of women used modern FP methods (27). In a study in Kenya, in which most of the participants consisted of Protestants and Catholics, the rate of FP method use was determined as 34%. Especially in developing countries, gender roles imposed upon men and women in patriarchal societies lead men to play a more active role in deciding upon the use of FP methods and women to be pushed to the background. Studies performed in Turkey have reported the rates of using any FP method between 65.9% and 87.2% (26, 28, 29). According to the 2018 report of TNSA, 49% of women in Turkey use modern contraception methods, whereas 21% use traditional methods (29). Our study, in general, showed similarities to other studies conducted in Turkey. It is believed that differences may have originated from differences in the sociodemographic characteristics of women, the number of family members in their household and regional differences. The differences in our study from studies in the international literature may have occurred as a consequence of differences in ethnic structures, the developmental levels of countries and levels of access to FP methods.

In this study, it was observed that the stress levels of the participants who used the withdrawal method or the calendar method were significantly higher than those who did not use any FP method and those who used the combined hormonal contraception (CHC), IUD, tube ligation or condom method ($p < 0.001$; Table 3). This result may have arisen because those who do not use reliable methods are more exposed to stress, and individuals who use reliable methods feel safer (30). Moreover, some participants who were not using any FP method might have not used such methods as they were thinking of getting pregnant. In our study, the anxiety levels of the participants who did not use any FP method were higher than those who used CHC, IUDs, tube ligation or condoms. According to the types of FP methods used among our participants, the depression levels of those who used a FP method were lower than those who did not use any method, but this difference was not statistically significant. There is no study in the literature that has determined the effects of the types of FP methods used by women on their depression, anxiety

and stress levels together. In another study conducted in Turkey, it was seen that the anxiety levels of women who used the withdrawal method were higher in comparison to those who used condoms, oral contraceptives or IUDs (31).

In this study, it was found that the stress levels of the participants who were using traditional methods were higher than those who did not use any FP method and those who were using modern FP methods ($p < 0.001$; Table 4). Furthermore, it was discerned that the participants who did not use any FP method experienced higher levels of anxiety than those who used traditional or modern methods. A previous study demonstrated that women who used traditional FP methods used these methods as their spouses preferred them (32). Another study determined the self-esteem levels of women who used traditional FP methods to be low (33). In the same study, the withdrawal method, which was identified as the most frequently utilized method among traditional FP methods, affected the sex lives of women negatively (33). It was reported that women who used traditional methods had poor compatibility with their partners (34). It is considered that these factors may expose women to stress.

In this study, it was observed that the participants who used any of the hormonal contraceptive, IUD, condom and tube ligation methods had lower levels of stress and anxiety than those who did not use any FP method (Figure 1a-b). Women do not use FP methods or stop using these methods for various reasons. Some of such reasons may be listed as the prevention of their use of FP methods by their partner, women being kept under control even in their reproduction process due to patriarchal social structures, lack of trust in the protection capacity of some methods, fear of getting pregnant while using a contraception method, pain, infection, difficulty in usage, dizziness, irritability, stomachache and nausea, weight gain, thinking that such methods can create an imbalance in hormones, and wanting to have children (35-38). These factors could psychologically affect women in a negative way (39). Hence, these factors may explain the higher levels of stress in the participants of our study who did not use any FP method.

In this study, it was determined that the women who used traditional family planning methods and those who did not use any family planning method experienced higher levels of stress and anxiety than the women who used modern methods. Based on these results, one may argue that if midwives and nurses provide counseling for women and their partners regarding modern family planning methods, mental problems of women related to family planning can be prevented. In this way, before diseases occur, risk factors are prevented, contributing to the protection of health. Raising awareness about the use of family planning methods and gender equality in society may make it possible to solve misconceptions and negative attitudes about these methods.

Limitations of the Study

Because the number of participants was limited, and each participant had different individual characteristics, the results and findings of this study cannot be generalized to other populations or samples. Future studies could be carried out with larger samples and women who have different sociodemographic characteristics. The findings are largely limited to the individuals participating in the research and their responses to the scales.

Declarations

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