International Journal of Health Services Research and Policy

www.dergipark.org.tr/ijhsrp

IJHSRP

e-ISSN: 2602-3482

Research Article

FAMILY PLANNING ATTITUDE IN TURKISH CULTURE: RELATIONSHIP BETWEEN EXPERIENCING UNINTENDED PREGNANCY, RECEIVING COUNSELING, AND ACCESSING METHODS

Büşra DURAN*[1], Hafize Dağ TÜZMEN[2], Şerife İrem DÖNER[3]

[1]KTO Karatay, University, School of Health Sciences, Department of Midwifery, Konya, Turkiye
[2] KTO Karatay University, School of Health Sciences, Department of Midwifery, Konya, Turkiye
[3] Health Sciences University, Gulhane Health Sciences Institute, Ankara Turkiye
* Corresponding author; busra.duran@karatay.edu.tr

Abstract: *In this study, it was aimed to determine the frequency of married women using methods related to family planning and the factors associated with method use. 400 women of childbearing age participated in the study, which was carried out as a descriptive and relationship-seeking study. The Family Planning Attitude Scale and a personal information form were utilized in the data collection phase of the study, and data were analyzed using the IBM SPSS 25 program. Ethics committee permission and written consent from the participants were obtained for the habituation to take place. T-test, one-way analysis of variance, and multiple regression analyzes were used in the analysis of the data. It was determined that the total mean score of the family planning attitude scale of the women was 133.49 ± 18.78, 67% of them used a modern family planning method, and 32.5% of them received counseling for family planning. It has been found that women's family planning attitudes are affected by age, income level, availability of family planning products and method selection reasons. It has been determined that the family planning attitude scale sub-dimensions of women who have experienced abortion/abortion have lower attitudes towards family planning and family planning method attitudes than women who have not experienced abortion/abortion. According to the research, women have positive attitudes regarding family planning, but not at the level that is ideal. More effectively delivering training and consulting services is crucial to fostering a good attitude toward family planning.*

Keywords*: Family planning, Methods, Unwanted Pregnancy*

Received: March 6, 2023 *Accepted: April 27,2023*

1. Introduction

One of the factors affecting a woman's health is her fertility. By resulting in unintended and high-risk pregnancies, high fertility rates have an impact on maternal and newborn mortality and morbidity [1]. In today's world, family planning services are being offered in order to foster healthy societies, prevent unintended pregnancies and improve maternal and fetal health [2]. Family planning services provided in the world and in Turkey enable preventing of unintended pregnancies, regulate interpregnancy intervals, and support maternal and child health [3, 4]. In face of its favorable effects on health indicators of countries and on maternal and child health, family planning methods and attitudes are still not implemented to the fullest extent in many countries, and in Turkey as well.

Family planning and attitude take an important place among the basic health practices potentially influencing women's status in society in parallel with public health [5]. There are factors that influence individuals' family planning attitudes in the world and in Turkey. Many factors such as social status,

educational background, and standard of living are important determinants of using contraception methods and family planning attitudes among people from different regions and cultures [6, 7]. Literature indicates that lack of awareness regarding family planning and low-level use of modern contraception has led rise of the rate of unintended pregnancies [8, 9]. It is reported that the increase in unintended pregnancies can have a negative impact on maternal and family health in the short term and lead to a number of negative conditions in the long term, such as challenges in the labor market, more abortions, and higher crime rates, etc. [10]. According to the 2018 report of the Turkish Population Health Research Institute, 49% of women of childbearing age in Turkey use modern methods and 20% use traditional methods. In addition, the withdrawal method is the most frequently used method (20%) in married women, followed by male condom (19%) and IUD (14%) [11]. Inadequate attitudes of couples toward family planning and failures in the use of contraceptive methods are among the main reasons for unintended pregnancies [8]. The use of modern contraceptive methods available today and the reduction of individuals' false beliefs and practices in using modern methods are influenced by the quality of family planning counseling provided to couples [12]. Dehigia et al. (2019) argue that high-quality family planning counseling has a very important effect on the continued use of modern contraceptive methods and on ensuring continuity [13].

To ensure the continuity of a modern family planning contraception method and improve the coverage of family planning, it is essential to provide people with family planning products and effective counseling [14, 15]. It was concluded that the acceptance of these approaches is linked to the growing accessibility of people to utilize the current family planning method they prefer [14, 15]. However, in the studies conducted in our country, there is no study finding in which the effect of receiving modern family planning counseling and being able to supply the product on the occurrence of unintended pregnancy is clear. Identifying people's attitudes toward family planning and the situations that influence those attitudes, as well as understanding the relationship between those attitudes and the ability to receive counseling and supply products, will guide the services to be provided at the primary level. The aim of this study was to determine the relationship between married women's attitudes toward family planning and unintended pregnancy, receiving counseling, and supplying products.

2. Material and Method

2.1. Research Type

This was a descriptive correlational study.

2.2. Sample

The sample group consists of women of reproductive age. In Turkey, 70% of married women use a contraceptive method. 49% of women benefit from modern methods [11]. Using the SampSize tool for sample size, it was calculated that 384 individuals should be taken, considering a 95% confidence interval and a margin of error of α=0.05 (http://sampsize.sourceforge.net/). 400 women who met the inclusion criteria were enrolled in the study. The inclusion criteria for our study were as follows: aged 15-49 years, those who were sexually active, those who use primary health care services, and those who participate voluntarily in the study. Those with a psychiatric story (self-report) were excluded.

2.3. Data Collection Tools

The Participant Information Sheet and the Family Planning Attitude Scale were used to collect data.

Participant Information Sheet: Consists of 15 items that examine sociodemographic characteristics (age, educational background, employment, income level, area of residence, marriage age, use of family planning, low standard of living, abortion status, number of living children, etc)[2,7,8].

Family Planning Attitude Scale (FPAS): Developed by Örsal and Kubilay (2006) to assess family planning attitude [16]. This 5-point Likert-type scale consists of 34 items and three subscales. It has no reversed item. The higher score indicates more positive FP attitude. The score varies between 34 and 170. The scale has three subscales: attitudes of the society toward family planning (items 1-15); attitudes toward contraceptive methods (items 16-26); and attitudes toward pregnancy (items 27-34). The Cronbach alpha value of the scale was reported as 0.90 [16]. Cronbach alpha value for this study was found as 0.91.

2.4. Data Collection

The questionnaire form was prepared by the researchers and filled out by the participants themselves via WhatsApp and Instagram groups with the help of the online survey system, which allows them to answer via the Internet. The data of the study were collected between April 2022 and June 2022 and the participants' responses were transferred to the SPSS 25 program.

2.5. Data Analysis

In the statistical analysis of the data; Kolmogorov Simirnov (K-S) and Shapiro-Wilks (W) tests were used to assess normality. Independent samples t-test and one-way analysis of variance (ANOVA) were used to compare mean in normally distributed parametric data, and multiple regression analysis, Mann Whitney U Test and correlation were used to determine the factors affecting family planning. Statistical significance level was accepted as $p<0.05$.

2.6. Ethical approval

Ethics committee approval (dated September 10, 2020 and numbered 2020/018) was obtained. The purpose of the study was explained to the participants and they were informed that they were free to participate in the study on a voluntary basis. Prior to data collection, participants were informed about the study and informed consent was obtained. Participants were told that they could leave the study at any time and that their responses would be kept confidential.

3. Results

Table 1 shows the sociodemographic characteristics of the women who participated in the study. Their mean age was 35.19±8.61; mean marriage age was 22.09±3.97; and mean first-time pregnancy age was 23.91±4.39. Of the participants, 68.8% had two or fewer living children, 97.3% had no unintended pregnancy, and 55.5% had no history of miscarriage/abortion. 67.5% of women did not receive FP counseling. 76.3% of the participants did not have access to FP products, while 78.5% previously used and 67% currently use modern FP contraceptive methods. 94.3% of participants said that they preferred the method they were using because of its safety and easiness.

Table 1. Comparison of FPAS Mean Scores by Sociodemographic Characteristics (N: 400)

Sociodemographic Characteristics	N (%)	$\bar{X}$±SD	Test/p
Age			
18-34	205 (%51.3)	135.60±19.69	t: 2.307
35 and above	195 (%48.8)	131.28±17.57	**p: 0.02**
Education			
Primary[1]	99 (%24,8)	124.84±16.11	F: 13.670
Secondary[2]	53 (%13,3)	132.05±15.00	**p: 0.00**
High school[3]	108 (%27.0)	133.87±16.90	**1-3/1-4**
University and above[4]	140 (%35.0)	139.87±20.76	**2-4/3-4**

Table 1. Continued.

Sociodemographic Characteristics	N (%)	X̄±SD	Test/p
Employment status			
Employed	108 (%27.0)	139.81±19.65	t: 4.173
Unemployed	292 (%73,0)	131.16±17.93	**p: 0.00**
Income level			
Good	125 (%31,3)	136.40±19.80	F: 3.1170
Average	245 (%61,2)	132.72±18.10	**p: 0.04**
Bad	30 (%7,5)	127.70±18.65	
Experience of unintended pregnancy			
Yes	11 (%2,8)	133.32±18.80	t: -1.099
No	389 (%97,3)	139.69±18.04	p: 0.27
Receiving FP counseling			
Yes	130 (%32.5)	132.73±17.61	t: -0.560
No	270 (%67.5)	133.86±19.34	p: 0.57
Accessing FP products			
Yes	95 (%23,9)	130.32±17.39	t: -1.890
No	305 (%76,3)	134.48±19.12	p: 0.05

FP: Family Planning; N: Sample (%); X̄: Mean; SD: Standart Deviation.

Using data from 400 individuals, we examined whether the FPAS mean scores differed significantly according to the sociodemographic characteristics of the women.

Given the FPAS scores of women by their age, a significant difference was found between the groups ($p<0.05$). FPAS mean scores of those aged 18-34 (135.60±19.69) were found to be significantly higher than those aged 35 and above (131.28±17.57) ($p<.05$). Given the FPAS scores by their educational background, it was determined that there was a very significant difference between the groups ($p<0.001$). FPAS mean scores of women who have graduated from university and above (139.87±20.76) were found to be significantly higher than those who graduated from high schools (133.87±16.90), secondary schools (132.05±15.00), and primary schools (124.84±16.11) ($p<.05$). It was observed that the FPAS mean scores of women who graduated from primary school were significantly lower than the FPAS mean scores of women who graduated from high school. Given the FPAS scores of women by their employment status, FPAS mean scores of employed women were found to be very significantly higher than those who were unemployed ($p<.001$). Given the FPAS scores of women by the number of children, FPAS mean scores of women who had two or fewer children were found to be very significantly higher than those who had three or more children ($p<.001$).

Given the society's attitude towards family planning subscale scores by accessing FP products, the mean scores of women who accessed FP products were found to be significantly lower than those who did not access FP products ($p<0.05$, Table 2).

Tablo 2. Comparison of FPAS Subscales' Mean Scores by Sociodemographic Characteristics

Sociodemographic Characteristics	X̄±SD	Test/p	X̄±SD	Test/p	X̄±SD	Test/p
Experience of unintended pregnancy						
Yes	60.78±8.58	U: -1.485	42.26±8.11	U:-0.704	30.28±5.56	t:-0.421
No	64.54±7.04	p:0.138	44.09±8.43	p:0.481	31.00±6.52	p:0.674
Receiving FP counseling	59.95±8.29	U:-1.522	42.40±8.37	U:-0.059	30.37±5.06	t:0.191
Yes	61.33±8.66	p:0.128	42.26±8.00	p:0.953	30.26±5.82	p:0.849
No						
Accessing to FP products						
Yes	59.04±8.13	U:-2.458	41.29±8.68	U:-1.842	29.98±5.38	t:-0.620
No	61.45±8.61	**p:0.014**	42.62±7.91	p:0.065	30.39±5.64	p:0.535

U: Mann Whitney-U; X̄: Mean SD: Standart Deviation; FP: Family Planning.

Multiple regression analysis results were significant ($F_{(11,388)}$ =5.580; p<.01, p<.05). Adjusted R^2 value was 0.11. This result shows that the 11% variance in FP Attitude is explained by sociodemographic variables. However, given the beta coefficients in Table 3, when all independent variables are included in the regression model, it is seen that only the variables of age, income level, accessing FP products and the reason for choosing the method have a significant contribution in explaining the FP attitude (p<0.05). Other independent variables were found to have no significant contribution (Table 3).

Table 3. Multiple Regression Results

Variables	B	SE	ß	p
Age	4.553	.912	.287	**.000****
Educational background	-1.452	1.628	-.045	.373
Employment status	-2.193	2.245	-.054	.329
Income level	4.240	1.816	.112	**.020***
Marriage age	9.082	5.658	.079	.109
First-time pregnancy age	.500	.852	.029	.557
Number of living children	-1.258	2.025	-.031	.535
Experience of unintended pregnancy	4.334	2.201	.098	.050
Miscarriage/abortion	1.778	2.091	.041	.396
Receiving FP counseling	2.211	1.622	.065	.174
Purpose of FP service	-8.964	3.954	-.111	.024
Access to FP products	4.553	.912	.287	**.000****
Previous FP methods	-1.452	1.628	-.045	.373
Current FP methods	-2.193	2.245	-.054	.329
Reason for method	4.240	1.816	.112	.020*
Constant	10.050	12.000	.079	.109

R^2: Adjusted R Square; SH: Standart Error; B: Non-standardized coefficient; ß: Standardized coefficient Remarks: R^2=.13; Adjusted R^2 =.11; $F_{(11,388)}$=5.580; **p<.01, *p<.05

Of participants, FPAS overall mean scores were 133.49±18.78, "Society's Attitude Towards Family Planning" subscale mean score was 60.88±8.55, "Attitude Towards Family Planning Methods" subscale mean score was 42.31± 8.11 and "Attitude Towards Pregnancy" subscale mean score was 30.30±5.58 (Table 4).

In the correlation analysis, it was found that there is a significant relationship between the status of FP counseling and accessing FP products (p<.001).

Table 4. Participants' FPAS overall and subscales mean scores (n=400)

	Min-Max Score	X̄±SD
FPAS Overall Score	34-170	133.49±18.78
Society's Attitude Towards Family Planning	15-75	60.88±8.55
Attitude Towards Family Planning Methods	11-55	42.31±8.11
Attitude Towards Pregnancy	8-40	30.30±5.58

X̄: Mean SD: Standart Deviation

4. Discussion

This study discussed the factors affecting the use of family planning methods, the selection of methods, and the FPAS by women's sociodemographic and obstetric characteristics in light of literature. In this study, we found that FPAS mean scores of women aged 18-34 who had two or fewer children were higher than those of women aged 35 years and older who had three or more children. Gözükara et al. (2015) reported that there was a significant difference between FPAS scores of women aged 17-34 and aged 35 and older, that family planning attitudes were at an undesirable level in women older than 34 years of age [17]. In their study on the prevalence of family planning by sociodemographic characteristics, Çalikoğlu et al. (2018) identified that women aged 15-24 chose modern family planning methods, while women aged 35 and older rather traditional methods [18]. Bekele et al. (2020) determined that the family planning attitude of women aged 25-34 was significantly better than other age groups [6]. In similar studies of family planning conducted in Turkey and abroad, age and the number of children were found to be significant variables in views on and attitudes toward the use of family planning methods [19, 18]. Maternal age and the number of living children were considered to be important determinants of the use of family planning methods and the development of attitudes toward family planning.

In this study, we found that the FPAS mean scores of women with a university degree or higher, who were employed and who had a high income were significantly high. These results are consistent with findings in the literature [6, 20]. Nikolic et al. determined that there was a positive relationship between educational background and the use of family planning method [21]. Semachew et al. (2018) concluded that the increase in the education level of women in Ethiopia had a positive effect on family planning method [19]. In a similar study on the use of family planning method, Guracho et al. (2022) reported that the increase in the education level of women affects their decision-making ability about family planning [22]. On the other hand, in their study on Roma women, Avcı et al. (2018) concluded that FPAS scores of Roma women who had lower educational level and unemployed were higher than those who had a higher educational level and unemployed [23]. In the literature, similarly, it was concluded that FPAS scores of employed women were higher than unemployed women [24]. Yusoff et al. examined women's awareness of attitudes towards family planning and concluded that annual income, education level and employment status were significantly related to use of and attitude towards family planning contraceptive methods [25]. In a cross-sectional study conducted in Serdang with 349 women, it was found that the women's level of knowledge about the use of contraceptive methods was effective [26]. Abdelwahab et al. (2017) found that there was a strong positive relationship between the awareness of working women and family planning attitudes and practices [27]. It is thought that higher educational levels were more effective on using safer contraceptive methods and gaining personal control over reproductive health, while income level and employment status were more effective on access to the contraceptive method.

In this study, we found that experience of unintended pregnancy did not affect FPAS mean scores. Abortion, which is considered the most important indicator of unintended pregnancies in the literature, is an important indicator for assessing individuals' attitudes toward family planning services and method

use [28, 29]. Unintended pregnancies and induced abortions are referred to as major women's health problems in the modern world [24]. Apay et al. found that as the number of unintended pregnancies and miscarriages increased, family planning attitudes scores decreased [30]. One study found that women who had not experienced abortion and miscarriage had statistically higher FPAS mean scores than women who had [17]. In their descriptive study, Tezel et al. (2015) found that the number of miscarriages and abortions of women did not have a significant relationship with the FPAS mean scores [31]. Bilgin and Keskin (2020) reported that induced abortion did not affect the family planning attitude [32]. Although the rate of unintended pregnancies in the world has decreased, it is still high. Unintended pregnancies are influenced by women's attitudes toward childbirth and failure to use modern family planning contraceptive methods [33]. In the studies conducted, it was found that people who do not have the desired attitude towards fertility for reproductive health usually do not use family planning methods at all or use a traditional method [34, 35]. In this study, it is hypothesized that the fact that the FPAS mean scores did not change by experiencing an unintended pregnancy and receiving counseling may be due to the fact that a small proportion of the people we interviewed experienced an unintended pregnancy because they did not receive counseling.

The study found that receiving family planning counseling did not affect women's FPAS mean scores. In the randomized-controlled trial of Skogsdal et al. (2019), the control group received routine contraceptive counseling, while the intervention group received reproductive life plan counseling (RLPC) in addition to routine counseling [12]. As a result of the study, it was found that the awareness of women in the intervention group about attitudes toward family planning and fertility increased. It is believed that routine counseling may not provide good information about women's attitudes toward family planning and cannot be considered a positive predictor of contraceptive use. The fact that men may not be involved in family planning education at the desired level, especially in the world and in our country, also affects women's fertility awareness and attitudes toward family planning [35]. Raj et al. (2016) determined that married couples' use of family planning methods improved after a three-session intervention study conducted with the joint participation of couples in family planning counseling [36]. Family planning counseling is found to influence the use of and attitudes toward family planning methods in several intervention studies where the content, quantity, and quality of education are expanded compared with standard counseling [37, 38]. It is hypothesized that the reason the FPAS mean scores did not change as a function of the counseling received may be that the women did not have sufficient awareness as a result of the counseling they received.

It turns out that women's access to contraceptive products and the reason for choosing the method (the fact that they find the method safe-effective-ease) increase their attitudes toward family planning. For contraceptive methods to be widely used, it is desirable that the methods be used at an optimal level. Couples' acceptance of contraception is closely related to their having access to a contraceptive method at all times [39]. Wang and Mallick (2019) found that the use of a modern method was significantly lower in regions where contraceptive availability was low than among women living in the area where access to contraceptive methods was not a problem [15]. It is shown that the risk of leaving the family planning method decreases in the regions where women who use a safe and effective contraceptive method have access to this service, and this situation affects the attitude toward family planning [11]. Even though modern methods are cost effective in the long run, it is not always possible to offer the method that individuals will use [40]. Although contraceptive methods can be provided free of charge in facilities that offer family planning services, some reasons such as the lack of supplies of the distribution methods and the restriction of free access to the service may be a barrier to the use and recruitment of family planning methods [41]. It is important to provide quality family planning services so that the public use modern family planning methods that they find safe-effective-ease, and so that their attitudes toward family planning are improved.

5. Conclusion and Recommendations

Consequently, it was found that women's characteristics such as age, education level, income level, employment status, number of children, and low abortion rates influence their attitudes toward family planning. It can be seen that the fact that women can obtain family planning products and perceive the method as safe-effective-ease increases their attitude toward family planning. Accordingly, it is important that women's attitudes toward family planning are supported by education and counseling, and that the role of midwives working in public health, especially in using existing resources and being effective counselors, addresses individual differences in counseling.

Ethical statement:

Ethics committee approval (dated September 10, 2020 and numbered 2020/018) was obtained. The purpose of the study was explained to the participants and they were informed that they were free to participate in the study on a voluntary basis. This is an evaluation as a matter of quality management, it was performed in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This study was approved by the Ethics Committee of the KTO Karatay University and conducted according to the principles of the Declaration of Helsinki.

Conflict of interest:

The authors must notify of any conflicts of interest.

Authors' Contributions:

BD, HDT, ŞİD, conceptualised the study.

BD, HDT, ŞİD, collected the data.

HDT, analyzed the data.

BD, HDT, ŞİD, drafted the initial manuscript.

BD, HDT, ŞİD, reviewed the manuscript, approved the final manuscript and agree to be accountable for all aspects of the work.

References

[1] United Nations Human Rights Council (UNHRC) (2020, March, 31). *Information series on sexual and reproductive health and rights maternal mortality and morbidity*. [Online]. Available at: https://www.ohchr.org/sites/default/files/INFO_MMM_WEB.pdf

[2] Egelioğlu Cetişli, N., Kahveci, M., Işık, S., Hacılar, A., "Postpartum Contraseptive Choice and Attitudes of Women", *Journal of Academic Research in Nursing*, 6(1), 67-72, 2020.

[3] World Health Organization (WHO) (2020, November, 9). *Family planning/contraception methods*. [Online]. Available at: https://www.who.int/news-room/fact-sheets/detail/family-planning-contraception, Date of access: 15.02.2023

[4] Utomo, B., Sucahya, P. K., Romadlona, N. A., Robertson, A. S., Aryanty, R. I., & Magnani, R. J. "The impact of family planning on maternal mortality in Indonesia: what future contribution can be expected?", *Population Health Metrics*, 19(1), 1-13, 2021.

[5] Karacan, E., & Gökçe, S. "Gender inequality and women's health". *Journal of Social Policy and Social Work Studies*, 1(1), 39-59, 2020.

[6] Bekele, D., Surur, F., Nigatu, B., Teklu, A., Getinet, T., Kassa, M., ... & Abesha, Y. "Knowledge and attitude towards family planning among women of reproductive age in emerging regions of Ethiopia". *Journal of Multidisciplinary Healthcare*, 13, 1463-1474, 2020.

[7] Çalıkoğlu, E., Yerli, E., Yılmaz, S., Koşan, Z., Aras, A., "Determination of attitudes of 15-49 age married women towards family planning", *19th National Public Health Congress Proceedings,* Antalya, 15-19 Mart 2017.

[8] Sarder, A., Islam, S. M. S., Talukder, A., & Ahammed, B. " Prevalence of unintended pregnancy and its associated factors: Evidence from six south Asian countries", *PLoS One*, 16(2), 1-13, 2021.

[9] Bellizzi, S., Pichierri, G., Menchini, L., Barry, J., Sotgiu, G., & Bassat, Q., "The impact of underuse of modern methods of contraception among adolescents with unintended pregnancies in 12 low- and middle-income countries", *Journal of Global Health,* 9(2), 1-9,2019.

[10] World Health Organization (WHO) (2019, October, 25). High rates of unintended pregnancies linked to gaps in family planning services: New WHO study. [Online]. Available at: https://www.who.int/news/item/25-10-2019-high-rates-of-unintended-pregnancies-linked-to-gaps-in-family-planning-services-new-who-study

[11] Türkiye Nüfus Sağlık Araştırmaları (TNSA) (2018). Family Planning. (2019, November, 31). [Online]. Available at: http://www.sck.gov.tr/wpcontent/uploads/2020/08/TNSA2018_ana_Rapor.pdf.

[12] Skogsdal, Y., Fadl, H., Cao, Y., Karlsson, J., & Tydén, T., "An intervention in contraceptive counseling increased the knowledge about fertility and awareness of preconception health—a randomized controlled trial", *Upsala Journal of Medical Sciences*, 124(3), 203-212,2019.

[13] Dehingia, N., Dixit, A., Averbach, S., Choudhry, V., Dey, A., Chandurkar, D., & Raj, A., "Family planning counseling and its associations with modern contraceptive use, initiation, and continuation in rural Uttar Pradesh, India", *Reproductive Health*, 16(1), 1-11,2019.

[14] Wang, W., & Mallick, L., "Understanding the relationship between family planning method choices and modern contraceptive use: an analysis of geographically linked population and health facilities data in Haiti". *BMJ Global Health,* 4(5), 1-10, 2019.

[15] Azmat, S. K., Temmerman, M., & Ali, M., "Accessibility and uptake of modern contraceptive methods in Pakistan critical view on what works?. " *The Journal of the Pakistan Medical Association,* 71(11), 20-32, 2021.

[16] Örsal, Ö., & Kubilay, G., "Developing family planning attitude scale", *Florence Nightingale Journal of Nursing,* 15(60), 155-164, 2007.

[17] Gözükara, F., Kabalcıoğlu, F., & Ersin, F. "Determining the attitudes of woman towards family planning in Şanlıurfa", *Journal of Harran University Faculty of Medicine,*12(1), 9-16,2015.

[18] Çalikoğlu, E. O., Yerli, E. B., Kavuncuoğlu, D., Yılmaz, S., Koşan, Z., & Aras, A.," Use of family planning methods and influencing factors among women in Erzurum. Medical science monitor: International", *Medical Journal Of Experimental And Clinical Research,* 24, 5027-5034, 2014.

[19] Semachew Kasa, A., Tarekegn, M., & Embiale, N., "Knowledge, attitude and practice towa rds family planning among reproductive age women in a resource limited settings of Northwest Ethiopia", *BMC Research Notes,* 11(1), 1-6, 2018.

[20] Sensoy, N., Korkut, Y., Akturan, S., Yilmaz, M., Tuz, C., & Tuncel, B., "Factors affecting the attitudes of women toward family planning". *Fam Plann*, 13, 33-39, 2018.

[21] Nikolic, Z., & Djikanovic, B. Differences in the use of contraception between Roma and non-Roma women in Serbia. *Journal of Public Health*, 37(4), 581-589, 2015.

[22] Guracho, Y. D., Belay, B. Y., Alemayehu, A., Birhanie, G., Gelaw, Y. M., Agaje, M., & Ayana, D. "Women's Decision-Making Power on Modern Family Planning Use and Its Associated Factors in Northwest Ethiopia". *BioMed Research International*, 8, 1-8, 2022.

[23] Avcı, I. A., Cavusoglu, F., Aydin, M., & Altay, B., "Attitude and practice of family planning methods among Roma women living in northern Turkey". *International Journal of Nursing Sciences*, 5(1), 33-38, 2018.

[24] Şenoğlu, A., Çoban, A., & Karaçam, Z., "Evaluation of unintended pregnancies and induced abortions". *Archive Resource Review Journali*, 28(4), 300-305, 2018.

[25] Yusoff, R. M., Akhlak, S. M., Mohammadnezhad, M., Mat, N. H. N., & Salehan, H. M. Determinants of Knowledge, Attitude and Practices towards Family Planning Among Women in Raub, Pahang, Malaysia. mortality, 8, 123-129, 2022.

[26] Mansor, M., Abdullah, K. L., San San Oo, K. A., binti Jusoh, A. S., binti Ghazali, S., Haque, M., & Choon, L. C., " The prevalence of family planning practice and associated factors among women in Serdang, Selangor". *Malaysian Journal of Public Health Medicine*, 15(3), 147-156, 2015.

[27] Abdelwahab, H., Fahmi, N. M., & Omran, A. A. H., "Women's Knowledge, Practices and Attitude Regarding Family Planning*". Egyptian Journal of Health Care*, 8(2), 147-57, 2017.

[28] UNFPA (2022, March, 31). *Nearly half of all pregnancies are unintended—a global crisis, says new UNFPA report*. [Online]. Available: https://www.unfpa.org/press/nearly-half-all-pregnancies-are-unintended-global-crisis-says-new-unfpa-report

[29] Bearak, J., Popinchalk, A., Ganatra, B., Moller, A. B., Tunçalp, Ö., Beavin, C., ... & Alkema, L., "Unintended pregnancy and abortion by income, region, and the legal status of abortion: estimates from a comprehensive model for 1990–2019", *The Lancet Global Healt*h, 8(9), 1152-1161, 2020.

[30] Apay, S. E., Nazik, E., Özdemir, F., & Pasinlioğlu, T. " The determination of the behaviours ahout family planning of the women ". *Anatolian Journal of Nursing and Health Sciences*, 13(3), 1-7, 2010.

[31] Tezel, A., Gönenç, İ., Akgün, Ş., Öztaş, Karataş D, Altuntaş Yıldız T. "Attitudes Towards Family Planning of Women and Affecting Factors". *Anatolian Journal of Nursing and Health Sciences* 18(3), 181 – 188, 2015.

[32] Çıtak Bilgin, N., & Tokur Kesgin, M. " Determining the knowledge and attitudes of women working in the poultry sector regarding family planning and emergency contraception*". Journal of Health Sciences, 29(2), 123-132, 2020.

[33] Peach, E., Morgan, C., Scoullar, M. J., Fowkes, F. J., Kennedy, E., Melepia, P., ... & Beeson, J. G., "Risk factors and knowledge associated with high unintended pregnancy rates and low family planning use among pregnant women in Papua New Guinea", *Scientific Reports*, 11(1), 1-13, 2021.

[34] Guttmacher, I. Adding It Up: Investing in Contraception and Maternal and Newborn Health. Nova York, 2017.

[35] Anbesu, E. W., Aychiluhm, S. B., & Kahsay, Z. H., "Male involvement in family planning use and its determinants in Ethiopia: a systematic review and meta-analysis protocol", *Systematic Reviews*, 11(1), 1-5, 2022.

[36] Raj, A., Ghule, M., Ritter, J., Battala, M., Gajanan, V., Nair, S., ... & Saggurti, N., "Cluster randomized controlled trial evaluation of a gender equity and family planning intervention for married men and couples in rural India", *PloS One*, 11(5), 1-20, 2016.

[37] Nanvubya, A., Wanyenze, R. K., Abaasa, A., Nakaweesa, T., Mpendo, J., Kawoozo, B., ... & Van Geertruyden, J. P., "Evaluating the effectiveness of enhanced family planning education on knowledge and use of family planning in fishing communities of Lake Victoria in Uganda: a randomized controlled trial", *BMC Health Services Research*, 22(1), 1-12, 2022.

[38] Leight, J., Hensly, C., Chissano, M., Safran, E., Ali, L., Dustan, D., & Jamison, J., "The effects of text reminders on the use of family planning services: evidence from a randomised controlled trial in urban Mozambique" *BMJ Global Health*, 7(4), 1-12, 2022.

[39] Sultan, S., "The effects of education, poverty, and resources on family planning in developing countries", *Clinics in Mother and Child Health*, 15(1), 3-6, 2018.

[40] Sedgh, G., Ashford, L. S., & Hussain, R., "Unmet need for contraception in developing countries: examining women's reasons for not using a method", *Guttmacher Institute*, 1-93, 2016.

[41] Gahungu, J., Vahdaninia, M., & Regmi, P. R., "The unmet needs for modern family planning methods among postpartum women in Sub-Saharan Africa: a systematic review of the literature", *Reproductive Health*, 18(1), 1-15, 2021.