Scientific Reports in Medicine

Research Article

Family planning among migrants living in Adana

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DOI: 10.37609/srinmed.34

Abstract

Objective: Family planning plays a crucial role in public health by enabling individuals to control their reproductive choices in a responsible and informed manner. However, migrant populations often face barriers to accessing these services, leading to increased rates of unintended pregnancies and reproductive health complications. This study aims to assess the knowledge, attitudes, and behaviors regarding family planning among migrants living in Adana, Türkiye, compared to the local population.

Methods: This cross-sectional study was conducted in January 2025 at Doğankent Family Health Center and Doğankent Migrant Health Center. The study population included individuals aged 15-49 who voluntarily participated. A structured questionnaire was administered through face-to-face interviews to collect sociodemographic data, knowledge levels, and usage patterns of modern family planning methods. The sample size was determined as 220 participants with 95% power and a 5% confidence interval; ultimately, data from 245 individuals were analyzed. Statistical analyses were performed using SPSS 20 software, employing the Kolmogorov-Smirnov test for normality assessment, parametric (t-test), non-parametric (Mann-Whitney U test), and categorical comparisons (chi-square test). A p-value of <0.05 was considered statistically significant.

Results: Of the 245 participants, 143 (58%) were locals and 102 (42%) were migrants. Although knowledge of modern family planning methods was similar in both groups, actual use of modern methods was significantly lower among migrants (38.6% vs. 51.4%; $p = 0.049$). Barriers to modern contraceptive use included lack of partner consent, limited accessibility and economic constraints.

Keywords: Contraception, Migrants, Reproductive Health

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Recieved : 2025-02-27
Accepted : 2025-03-26

INTRODUCTION

Family planning is a process that allows individuals to consciously and responsibly control the timing, number, and spacing of their children. According to the World Health Organization (WHO), family planning not only aims to prevent pregnancies but also seeks to protect the health of mothers and children and support individuals' reproductive rights (1). Family planning services help individuals avoid unwanted pregnancies, prevent sexually transmitted infections, and reduce reproductive health risks. While improving individuals' quality of life, family planning also positively impacts public health.

Today, modern family planning methods are preferred over traditional methods due to their reliability and effectiveness. Modern methods include oral contraceptives, condoms, intrauterine devices (IUDs), sterilization, and hormonal injections (2).

Modern family planning services in Türkiye began with the adoption of the Population Planning Law in 1965 and have since become an integral part of public health programs (3). According to the 2018 Türkiye Demographic and Health Survey (TDHS) conducted by the Hacettepe University Institute of Population Studies, 47.4% of women of reproductive age use a modern family planning method. However, this rate varies between rural and urban areas, being lower in rural regions (4). Additionally, education level, socioeconomic status, and access to healthcare services are among the primary factors influencing the use of modern methods.

It has been reported that migrants do not benefit sufficiently from family planning services, may experience unwanted pregnancies, have incomplete pregnancy check-ups, and face higher rates of birth complications, maternal and perinatal mortality risks, and despite these challenges, maintain high fertility rates (5).

The aim of our study is to determine the knowledge, attitudes, and behaviors of migrants living in Adana regarding family planning in comparison to the local population.

MATERIALS AND METHODS

This cross-sectional study was conducted in January 2025 at the Doğankent Family Health Center and the Doğankent Migrant Health Center among individuals aged 15-49. Approval for the study was obtained from the Çukurova University Ethics Committee.

The sample size was determined as 220 individuals based on a reference sample size analysis with 95% power and a 5% confidence interval (r=0.5). A total of 245 participants were reached using the convenience sampling method. Face-to-face interviews were conducted with voluntary participants using a questionnaire.

The questionnaire included socio-demographic information (age, number of children, employment status, income level, health insurance, marital status) and questions assessing knowledge about family planning methods, receipt of family planning information, use of modern family planning methods, reasons for non-use, type of method used, and factors influencing method selection.

Statistical analysis

Data were analyzed using the SPSS 20 software. The Kolmogorov-Smirnov test was used to assess normal distribution. Parametric tests (t-tests) were applied to normally distributed data, non-parametric tests (Mann-Whitney U test) were used for non-normally distributed data, and chi-square tests were used for categorical data comparisons. A p-value of <0.05 was considered statistically significant.

RESULTS

Of the 245 participants included in the study, 143 (58%) were from the local population, while 102 (42%) were migrants. The average age of the local population was statistically significantly higher than that of the migrant group ($p = 0.001$). The migrant group had a higher number of children ($p = 0.007$). In terms of education level, the migrant group had a lower level of education, with a higher proportion of primary school graduates and illiterate individuals

(p < 0.001). Regarding employment, most migrant women were housewives, and their employment rate was lower (p < 0.001). Income levels showed that most migrant women earned at or below the minimum wage (p < 0.001). Moreover, while the rate of having health insurance was significantly high among the local population (82.4%), it was very low among migrants (2.9%) (p < 0.001).

Table 1. Sociodemographic characteristics by groups

	Median(min-max) or n(%)		
Characteristics	**Local Population**	**Migrant**	**p**
Age	32(16-65)	27(16-58)	**0.001**
Number of Children	2(0-7)	3(0-6)	**0.007**
Education			
University	36(25.5)	1(1.0)	**<0.001**
High school	32(22.7)	7(6.9)	
Secondary school	27(19.1)	34(33.3)	
Primary school	30(21.3)	51(50.0)	
Illiterate	16(11.3)	9(8.8)	
Occupation			
Housewife	88(63.3)	89(87.3)	**<0.001**
Worker	22(15.8)	12(11.8)	
Civil servant	27(19.4)	1(1.0)	
Retired	2(1.4)	0(0.0)	
Employment status			
Employed	51(35.9)	16(15.7)	**<0.001**
Unemployed	91(64.1)	86(84.3)	
Household income (m.w.=29.516 TL)			
Below minimum wage	19(13.5)	19(19.0)	**<0.001**
Minimum wage	58(41.1)	79(79.0)	
More than twice the minimum wage	64(45.4)	2(2.0)	
Health insurance			
Available	117(82.4)	3(2.9)	**<0.001**
Not Available	25(17.6)	99(97.1)	
Marital status			
Married	110(77.5)	95(95.0)	**0.001**
Single	26(18.3)	5(5.0)	
Widowed/Divorced	6(4.2)	0(0.0)	

There was a statistically significant difference between the migrant and local groups in terms of the desire to have children and pregnancy status within the last two years (p=0.047). The proportion of individuals receiving information on family planning methods at Family Health Centers was significantly higher among migrants (p < 0.001). However, the rate of using modern family planning methods was lower among migrants than among the local population (p=0.049). The most commonly preferred modern method among migrants was condom use.

DISCUSSION

TO is an autoimmune disease affecting the thyroid gland and eye (4). Mechanical and inflammatory factors play a significant role in the ocular findings of TO and can change ocular, corneal biomechanical and densitometric properties (5). Reduced tear production and rubbing of eyes, common in Graves' disease, is a known precipitant of keratoconus (KC). Our study showed some differences in corneal biomechanical properties among the patients with TO disease. By using Pentacam all the patients were evaluated and the results of this analysis demonstrate the haziness score at three layers of corneal depth: the anterior layer, comprising 120 μm of anterior cornea; the posterior layer, comprising 60 μm of the extreme posterior cornea; and the central layer, located between the anterior and posterior layers. A total densitometry score is also reported that represents the volume between the epithelium and endothelium. Eventhough there are not enough studies related with the effects of TO on corneal densitomery, we found out that there were significant differences in anterior and posterior layers of 2-6 mm zone (p<0,040, p<0,010), all layers of 6-10 mm zone (p<0,008, p<0,002, p<0,002, p<0,003) and in all layers of overall corneal thickness (p<0,008, p<0,004, p<0,002, p<0,007). During the second month of evaluation, there were significant differences in posterior layers of 0-2mm and 2-6mm zones (p<0,045, p<0,034), and in the central layers of 2-6mm zone and overall corneal thickness (p<0,037, p<0,041). In the last month of evaluation only in the anterior layer of total corneal thickness a significant difference is seen (p<0,03). We can say that every stage of TO has effect on corneal densitometry and the most affected one is the anterior layer which is supposed to lead to the thinning of epithelial layer. Previous studies have analyzed mostly corneal densitometries of keratoconus, primary congenital glaucoma and outcomes after keratoplastic surgeries. Lopes et al.[5] found out a higher densitometry in all layers of the central cornea (p<0.001). The difference was marked in all layers of 0-2mm and 2-6mm zones and these values were detected in different stages of KC (5). Monitoring the cornea in patients with TO using Pentacam may help to show the presence of subclinical inflammation and regulate the follow-up and treatment protocols. For this reason larger sample sizes and prospective design studies are needed to reach more conclusive results.

It is known that increased expression of inflammatory mediators in tears of GO patients suggests that the lacrimal glands could be a target for immune responses and this may play role in the pathogenesis of tear film and ocular surface stability (6). The pathophysiologic alterations of active TO could result in an increase in orbital soft tissue volume, which pushes the globe anteriorly, leading to raised retrobulbar pressure and progression of proptosis (7). In our study, hertel exophthalmometry measurements increased during the severity of TO and significant differences were seen in the 1st month in mild and severe TO patients (p<0,041) and 3rd month especially in patients with mild-moderate (p<0.025) and mild-severe TO (p<0,020). Same results were found in the study of Tran et al.[8], where at initial presentations 41% of their patients demonstrated asymmetric proptosis (8). Upon reaching the stable phase, asymmetric proptosis persisted in only 22% of patients. A decline in the rate asymmetric proptosis was greatest within the first 3 months of the active phase (8). During the third month the retinal nerve fiber layer values were significantly thinner in patients with moderate-severe TO (p<0,029). Luo et al.[9], no statistically significant differences were found between the mild thyroid-associated opthalmopathy group and the control group in nerve fiber layers of patients (9). In the moderate-to-severe thyroid-associated opthalmopathy group, temporal and nasal peripapillary nerve fiber layer thicknesses were lower compared to the control group ($p = 0.041$, $p = 0.012$). The thinning of RNFL might be a strong suggestion for closer vision follow-up and earlier decompression surgery.

Almost 50% of patients with TO symptoms are mild (10). If the diagnosis couldn't be performed at the active phase, some cases might have severe

Table 2. Methods offered by the family and the level of knowledge among immigrants compared to local people			
	Median(min-max) or n(%)		
Characteristics	**Local population**	**Migrant**	**p**
Desire to have children			
Yes	48(35.6)	48(48.5)	0.047
No	87(64.4)	51(51.5)	
Pregnancy status in the last 2 years			
Yes	45(31.9)	56(56.0)	<0.001
No	96(68.1)	44(44.0)	
Knowledge about family planning method			
Yes	106(75.7)	90(90.0)	0.005
No	34(24.3)	10(10.0)	
Knowledge of modern family planning methods (Ex. Birth control pills, IUD, Condom, Sterilization etc.)			
Yes	114(80.9)	87(87.0)	0.206
No	27(19.1)	13(13.0)	
Status of providing information about family planning in FHC			
Yes	94(66.7)	88(88.0)	<0.001
No	47(33.3)	12(12.0)	
Current use of family planning methods			
Yes	72(51.4)	39(38.6)	0.049
No	68(48.6)	62(61.4)	
If no, why?			
Pregnant	2(3.8)	22(45.8)	<0.001
Not neccessary	18(34.0)	12(25.0)	
Single	15(28.3)	3(6.3)	
I want to have children	11(20.8)	1(2.1)	
I shouldn't use it	0(0.0)	4(8.3)	
I don't want to use	5(9.4)	6(12.5)	
I am not informed	1(1.9)	0(0.0)	
Expensive	1(1.9)	0(0.0)	
Which is used as a modern family planning method?			
Oral Contraceptive Pills	19(21.6)	6(12.5)	<0.001
Intrauterine Device	16(18.2)	3(6.3)	
Condom	30(34.1)	37(77.1)	
Hormonal Injection	1(1.1)	1(2.1)	
Implant	1(1.1)	0(0.0)	
Tubal Ligation	10(11.4)	0(0.0)	
Withdrawal Method	4(4.5)	0(0.0)	
Not Using	7(8.0)	1(2.1)	
Has a modern family planning method been used before?			
Yes	79(56.4)	73(71.6)	0.016
No	61(43.6)	29(28.4)	

sight-A statistically significant difference was found between the local population and migrants in terms of receiving family planning counseling services and healthcare providers ($p < 0.001$). Among migrant participants, 82.4% reported receiving family planning counseling services, compared to 61% of the local population. The rate of obtaining information about families in ASM is higher than that of the immigrant class (88%), but examination services are mostly provided by officials and midwives rather than doctors. When the most important factor in choosing a modern family planning method was questioned, a statistically significant difference was observed between the two groups (p=0,015). The most common reason for method preference among migrants was ease of use (58%), whereas 37.2% of the local population emphasized effectiveness as the most crucial factor. Among the reasons for not using modern methods, the response "my spouse does not approve" was prominent in the migrant group. A significant difference was also found between the groups regarding difficulties in accessing family planning methods ($p < 0.001$). While 36% of migrants reported experiencing difficulty in accessing family planning methods, this rate was 12.4% among the local population.

Table 3. Knowledge, Attitudes, and Behaviors Regarding Family Planning Methods Among Migrants and the Local Population

	Median (min-max) or n (%)		
Characteristics	**Local population**	**Migrant**	**p**
Received family planning counseling from any healthcare institution (e.g., FHC, hospital, etc.)			
Yes	86 (61.0)	84 (82.4)	<0.001
No	55 (39.0)	18 (17.6)	
If counseling was received, which healthcare professional provided it?			
Doctor	57 (58.8)	5 (5.7)	<0.001
Nurse/Midwife	38 (39.2)	82 (93.2)	
Did not receive counseling	2 (2.1)	1 (1.1)	
Did the received counseling service provide sufficient information on modern family planning methods?			
Yes	84 (74.3)	74 (81.3)	0.236
No	29 (25.7)	17 (18.7)	
Did the counseling service influence your decision to use a modern family planning method?			
Yes	63 (57.3)	66 (72.5)	0.025
No	47 (42.7)	25 (27.5)	
How did you decide to use a modern family planning method?			
Healthcare professional's recommendation	14 (23.3)	14 (34.1)	0.104
Based on my own research	13 (21.7)	7 (17.1)	
Family members/Friends' recommendation	7 (11.7)	0 (0.0)	
Together with my spouse/partner	19 (31.7)	15 (36.6)	
Based on previous experiences	4 (6.7)	5 (12.2)	
Not using any method	3 (5.0)	0 (0.0)	
What was the most important factor in choosing a modern family planning method?			

Effectiveness (pregnancy prevention rate)	19 (32.7)	4 (11.8)	0.015
Ease of use	13 (22.4)	20 (58.8)	
Cost/Accessibility	2 (3.4)	3 (8.8)	
Spouse/Partner's preference	11 (19.0)	4 (11.8)	
Healthcare professional's recommendation	3 (5.2)	2 (5.9)	
Fewer side effects	8 (13.8)	1 (2.9)	
Not using any method	2 (3.4)	0 (0.0)	
Reasons for not using modern methods			
Fear of side effects	9 (19.1)	0 (0.0)	0.125
Spouse does not approve	12 (25.5)	8 (50.1)	
Religious reasons	5 (10.6)	2 (12.5)	
Lack of access	3 (6.4)	3 (18.8)	
Single	9 (19.1)	1 (6.3)	
Pregnant	2 (4.3)	1 (6.3)	
Other	7 (14.9)	1 (6.3)	
Who do you discuss family planning with?			
Doctor	20 (26.0)	3 (3.8)	<0.001
Spouse	33 (42.9)	61 (76.3)	
Family members	4 (5.2)	11 (13.8)	
Friends	15 (19.5)	5 (6.3)	
No one	5 (6.5)	0 (0.0)	
Does your spouse support your use of family planning?			
Yes	81 (68.6)	59 (62.1)	0.318
No	37 (31.4)	36 (37.9)	
Do you experience difficulties in accessing family planning methods?			
Yes	16 (12.4)	36 (36.0)	<0.001
No	113 (87.6)	64 (64.0)	
Do you think you need more information about family planning methods?			
Yes	44 (32.1)	48 (48.5)	0.011
No	93 (67.9)	51 (51.5)	
Is the counseling service you received at FHC sufficient?			
Yes	90 (73.2)	75 (76.5)	0.568
No	33 (26.8)	23 (23.5)	
Do you think modern family planning methods are harmful to health?			
Yes	25 (18.7)	15 (14.9)	0.442
No	109 (81.3)	86 (85.1)	
Have you considered receiving family planning services from another healthcare facility?			
Yes	20 (14.8)	24 (24.5)	0.062
No	115 (85.2)	74 (75.5)	

DISCUSSION

The accessibility of family planning services for migrant individuals varies based on their level of integration into the healthcare system, economic conditions, and cultural values. Modern family planning methods are crucial for protecting individuals' health, preventing unwanted pregnancies, and optimizing reproductive health.

The proportion of individuals aware of modern family planning methods was similar between the local population (80.9%) and migrants (87.0%). However, significant differences existed in terms of usage rates: 51.4% of the local population used modern methods compared to only 38.6% of migrants. Family Health Centers serve as important sources of information for modern family planning methods. While 66.7% of the local population received family planning information from these centers, this rate was 88% among migrants. However, this high rate of awareness did not fully translate into the adoption of modern methods. Economic and cultural barriers might be preventing migrant individuals from utilizing these services.

The median number of children among migrants was higher than that among the local population. A higher number of children increases the need for family planning services, and failure to meet this need may lead to health complications. The finding that migrant women have more children at a younger age aligns with international literature. For example, Benova et al. (6) reported that migrant women tend to have children at a younger age and in higher numbers compared to local women. This can be explained by cultural norms and lower education levels within migrant communities. In our study, migrant women were found to have lower education levels, with most being primary school graduates or illiterate. Education level is identified as a key factor in adopting family planning methods (7).

The lower rate of modern family planning method use among migrants is consistent with the literature, which suggests that migrant women tend to prefer traditional methods more (8). The predominance of condom use among migrants is a significant finding, which can be attributed not only to its accessibility and low cost but also to its male-controlled nature, reflecting a male-centered approach to contraception. Among the reasons for not using modern methods, "husband does not approve" was a frequently cited response, highlighting the influence of gender roles on migrant women's decision-making regarding family planning (9).

Globally, the use of modern methods increased from 35% in 1990 to 45% in 2021 (10). This rate varies across countries due to differences in socioeconomic conditions, cultural factors, and healthcare accessibility. The use of modern methods remains lower in low- and middle-income countries, leading to higher rates of unintended pregnancies (11).

Among migrant women in Türkiye, family planning knowledge and utilization levels are lower compared to the local population (12). Studies indicate that migrant women face challenges such as language barriers, cultural factors, and economic difficulties in accessing family planning services (13). Limited use of modern contraceptive methods among migrant women is associated with higher rates of unintended pregnancies. This pattern may, in part, be explained by the fact that a considerable number of women are already pregnant at the time of migration, which may delay or reduce the perceived need for contraception.

Limitations of the study

Limitation of this study is that it was conducted in only one Family Health Center and one Migrant Health Center within the province of Adana. Incorporating data from different regions could allow for more comparative and generalizable findings.

CONCLUSION

Our study reveals significant differences in family planning methods and access to healthcare services between the local population and migrant women. While migrant women exhibit high awareness of

modern family planning methods, their actual usage rate is lower compared to the local population.

To overcome barriers to accessing modern family planning methods, healthcare services must be redesigned with cultural sensitivity. Family Health Centers should enhance their educational and informational efforts while addressing language barriers and cultural differences. Economic support programs can also improve access to these services.

Acknowledgement

Peer-Review

Double blind both externally and Internally Peer Reviewed

Conflict of Interest

The authors declare that they have no conflict of interests regarding content of this article.

Financial Support

The Authors report no financial support regarding content of this article.

Ethical Declaration

Ethical approval was obtained from Çukurova University Clinical Research Ethical Committee with date 07/02/2025 and number 152, and Helsinki Declaration rules were followed to conduct this study.

Authorship Contributions

Concept: BM, TDÜ, Design: BM, TDÜ, EŞ, Supervising: BM, TDÜ, MT, Financing and equipment: EŞ, İK, MAK, Data collection and entry: LY, MK, FY,MT, Analysis and interpretation: BM, CKŞ, Literature search: BM, CKŞ, SAD, Writing: BM, CKŞ, TDÜ, Critical review: BM, CKŞ

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