Journal of Health Sciences Institute

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ORIGINAL RESEARCH

Factors Associated with Fertility Preference of Female Employees at a University

Özlem Karabulutlu[1], Gülhan Akdemir[2,] *

[1]Department of Nursing, Faculty of Health Sciences, Kafkas University, Kars, Türkiye
[2]Department of Midwifery, Faculty of Health Sciences, Iğdır University, Iğdır, Türkiye

ARTICLE INFO

Received: *09 November 2025*
Accepted: *20 June 2025*

KEYWORDS
Female
Fertility preference
Iğdır univerrsity

***Correspondence:**
glhn.srn@gmail.com

HOW TO CITE
Karabulutlu Ö, Akdemir G (2025) Factors Associated with Fertility Preference of Female Employees at a University, Journal of Health Sciences Institute, 10(2): 96-102

ABSTRACT

The research aims to determine the factors associated with the fertility preference of female employees at Iğdır University. In this descriptive, cross-sectional study, an attempt was made to reach the entire universe without choosing a sample. The population of the research consists of 186 female staff working in academic and administrative staff at Iğdır University in April 2022. 142 of these women are married. A literature review was conducted and questionnaires developed by the researcher were used. The questionnaire includes questions about women's demographic characteristics, socio-economic characteristics, fertility characteristics, cultural characteristics, information about the last pregnancy, birth and postpartum. Percentage distribution, mean, standard deviation, Pearson Chi-Square and Fisher's Exact test were used to analyze the data. In the study, the significance level was accepted as $p<0.05$. According to the study findings, while there is a significant relationship between the place of residence, the woman's education level, the spouse's education level, consanguineous marriage, the economic status of the family and the number of people in the household and the woman's fertility preference, there is a significant relationship between the family structure and the spouse's employment in a job that brings regular income and the woman's fertility preference. No relationship was found ($p<0.05$). As a result, women in the workforce plan their pregnancies with effective contraceptive use. As the level of education of the mother and father and the level of welfare of the family increases, the number of children decreases. It may be possible to increase the number of pregnancies and births for women by improving working conditions for pregnant women.

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Introduction

A woman's fertility preference is defined as the number of children she plans to have. A woman's fertility is influenced by her biological, cultural, and religious beliefs, socioeconomic status, maternal age, age at first marriage, social status, access to healthcare services, and the level of development of the society in which she lives (Abakar, 2021). Marriage is considered the beginning of pregnancy and childbirth. Women who marry at an early age tend to have more children. Higher education levels in women reduce the number of children. Women who work in jobs that provide a steady income tend to have fewer children. In communities where women's status is low, women may choose to give birth to gain status. In societies with low socioeconomic levels, women often have problems accessing healthcare services and cannot benefit from family planning services. In such cases, women cannot control their fertility as they wish (Gemicioğlu et al., 2019; Temürlenk, 2019; Kavas & De Jong, 2020). One of the important factors affecting a woman's fertility preference is the value system of the society she lives in. In monotheistic religions, motherhood is considered sacred, and women are expected to bear children (Selim & Bilgin, 2020).

Excessive fertility brings both maternal and fetal risks. In societies with high fertility rates, maternal hemorrhage, prolonged and difficult labor, gestational diabetes, preeclampsia, and unwanted pregnancies are common. In societies where women's status is low, women face difficulties accessing healthcare services, and births and miscarriages often occur under unhealthy conditions (Temürlenk, 2019; Selim & Bilgin, 2021). In societies where women's education levels are high and their participation in the workforce is increasing, pregnancies and childbirths are being postponed. In births occurring at age 35 and above, the risks of gestational diabetes, preeclampsia, hemorrhage, and fetal anomalies increase (Gemicioğlu et al., 2019; Kavas & De Jong, 2020; Abakar, 2021). There are many factors affecting women's fertility. The aim of this study is to determine the factors associated with the fertility preferences of female employees at Iğdır University.

Material and Methods

Aim and Type of the Study

This descriptive and cross-sectional study was conducted to determine the factors associated with the fertility preferences of female employees at Iğdır University.

Population and Sample of the Study

The study was carried out between April 1–10, 2022, at Iğdır University's Şehit Bülent Yurtseven and Karaağaç campuses. The study population consisted of 186 female academic and administrative staff members working at Iğdır University as of that date. Of these women, 142 were married. The sample size was calculated using a known population formula, and a minimum of 126 participants was required ($p = q = 0.50$, $t = 1.96$, $d = 0.05$). Without using a sampling method, 136 women who agreed to participate were included in the study. The inclusion criteria were being married, within the reproductive age range (15–49 years), having given birth at least once, and residing in Iğdır province.

Data Collection Tool and Procedure

The data were collected using a questionnaire developed by the researchers through a literature review (Gemicioğlu et al., 2019; Temürlenk, 2019; Kavas & De Jong, 2020; Abakar, 2021; Selim & Bilgin, 2021). The questionnaire included a total of 24 questions addressing the women's demographic characteristics, socioeconomic status, fertility characteristics, ideal number of children, cultural background, and information about their most recent pregnancy, birth, and postpartum period. The data collection form was administered by the researcher in face-to-face interviews, each lasting approximately 25–30 minutes.

Data Analysis

Percentage distribution, mean, standard deviation, Pearson Chi-Square, and Fisher's Exact Test were used to analyze the data. The level of significance was set at $p < 0.05$. Data analysis was performed using the "SPSS for Windows 21" software. Descriptive statistics were used to express the sociodemographic data of the participants. Categorical variables were presented as counts and percentages.

Ethical Considerations

The study was approved by the Non-Interventional Clinical Research Ethics Committee of the Faculty of Health Sciences at Kafkas University with decision number 81829502.903/36, dated 31.03.2022. Institutional permission was obtained from the Rectorate of Iğdır University to conduct the study. Women who were on sick or annual leave were excluded. Informed consent was obtained from all participants after they were informed about the aim of the study.

Results and Discussion

The study included 136 female employees working at Iğdır University. Table 1 presents the women's sociodemographic characteristics, fertility, and information about their last pregnancy. According to the table, the mean age of participants was 35.82 ± 3.74 years. 91.2% lived in the city center, and 96.3% lived in a nuclear family structure. While 36.8% of the women had completed a doctoral degree, 12.5% were primary school graduates. Among their spouses, 19.9% had a doctoral degree and 10.3% were primary school graduates. 67.6% of the women's spouses were civil servants, while 2.2% were unemployed. 47.8% of the women evaluated their

family's economic status as adequate, while 6.6% assessed it as inadequate. The rate of consanguineous marriage among participants was 18.4%.

According to Table 2, 38.2% of the women had their first menstruation at age 12. The age of first marriage for 75.7% of participants was between 20–29. Similarly, 80.9% of their spouses were first married at ages 20–29. 9.6% of the women had their first pregnancy before age 20. The rate of women with two pregnancies was 43.4%, and 13.2% had three births. The rate of women who had undergone curettage was 28.7%, and spontaneous miscarriage was 13.2%. Stillbirths and infant deaths under age one were each reported by 4.4% of participants. While 48.5% of women had one child, 15.4% had three children.

According to Table 3, 17.6% of women did not plan their last pregnancy. 5.9% of spouses did not want the last pregnancy. Half of the women applied to a healthcare facility during pregnancy. The rate of those fully vaccinated for tetanus was 36%. The most recent delivery was by cesarean section in 64.7% of cases. In 6.6% of cases, the newborn weighed less than 2500 grams. 52.9% of the women used contraceptive methods prior to pregnancy. 73.7% planned to use modern contraceptive methods, while 5.1% preferred traditional withdrawal methods. The most preferred contraceptive was the condom (37.7%).

According to Table 4, 36.8% of women owned property. 80.9% did not believe in gender equality. 86% of the women felt undervalued by society. 51.5% made their own marriage decisions. While 59.6% considered both themselves and their spouses as heads of the household, 25% stated that the male was the head, reflecting the patriarchal structure. 90.4% said they had more say in deciding the number of children. 42.6% saw contributing to family income as their most important household role. 72.8% said final decisions in the household were made jointly with their spouses. 61% decided on contraceptive methods together with their partners. 20.6% reported agreeing with every decision their spouse made, and 29.4% needed permission to leave home. Only 4.4% could not visit a healthcare facility alone.

According to Table 5, 51.5% of women with one child were under age 35. 72.1% of women with two or more children were over age 35. There was a significant relationship between age and number of births: women over 35 had more births. All women with one birth lived in the city center, while 17.6% of those with multiple births lived in districts or villages—indicating a statistically significant relationship between place of residence and number of births (p=0.000). Family structure and birth count were not significantly related (p>0.05). Among women with only one birth, 54.4% held doctoral degrees compared to 11.8% who completed only primary school. Among those with multiple births, 13.2% were primary school graduates, and 19.1% had doctoral degrees. There was a significant relationship between education level and number of births (p=0.000): higher education correlated with fewer children.

Regarding their spouses' education, 39.7% of women with one child had spouses with university or doctoral degrees. Among those with multiple children, 45.6% of spouses had university degrees. This difference was statistically significant (p=0.000): as the spouse's education level increased, the number of births decreased. 29.4% of women with one child had married a relative, compared to 7.4% among those with more children—indicating a significant relationship (p=0.001). Women without consanguineous marriages had more births.

All women with one birth rated their family's economic status as good, while 13.2% of those with more births evaluated it as poor. This difference was statistically significant (p<0.05). Households with three or more members were more common among women with multiple children (72.1%) than among those with one child (2.9%). This relationship was significant (p=0.000). However, whether the spouse had a regular income did not significantly impact fertility (p>0.05).

Table 1. Sociodemographic characteristics of women

Variable	n	%
Settlement		
City center	124	93.7
District center	12	6.3
Rural area	0	-
Family type		
Nuclear family	131	96.3
Extended family	5	3.7
Level of education		
Primary school	17	12.5
High school	23	16.9
University	26	19.1
Master's degree	20	14.7
Doctorate	50	36.8
Spouse's level of education		
Primary school	14	10.2
High school	24	17.6
University	58	42.6
Master's degree	13	9.7
Doctorate	27	19.9
Spouse's profession		
Officer	92	67.6
Employer	27	19.9
Employee	14	10.3
Not working	3	2.2
Family economic situation		
Very good	0	-
Good	62	45.6
Sufficient	65	47.8
Insufficient	9	6.6
Number of people in the household		
1	0	-
2	5	3.7
3	80	58.8
4	25	18.4
5 and more	26	19.1
Consanguineous marriage		
Yes	25	18.4
No	111	81.6

Table 2. Fertility characteristics of women

Variable	n	%
Menarche		
11	33	24.3
12	52	38.2
13	29	21.3
14	12	8.8
15 and older	10	7.4
First marriage age		
Younger than 20	21	15.5
20-29	103	75.7
30 and older	12	8.8
Age of spouse at first marriage		
Younger than 20	0	-
20-29	110	80.9
30 and older	26	19.1
Age at first pregnancy		
Younger than 20	13	9.6
20-29	95	69.9
30 and older	28	20.5
Total number of pregnancies		
1	45	33.1
2	59	43.4
3	19	14.0
4 and more	13	9.5
Total number of births		
1	68	50.0
2	50	36.8
3	18	13.2
4 and more	0	-
Curettage		
Yes	39	28.7
No	97	71.3
Spontaneous abortion		
Yes	18	13.2
No	118	86.8
Stillbirth		
Yes	6	4.4
No	130	95.6
0-1 year old infant death		
Yes	6	4.4
No	130	95.6
Number of living children		
1	66	48.5
2	49	36.1
3	21	15.4
4 and more	0	-

Table 3. Characteristics of women's last pregnancy

Variable	n	%
The last pregnancy was planned		
Yes	112	82.4
No	24	17.6
Whether the spouse wanted the last pregnancy	128	94.1
Yes	8	5.9
No		
Pre-pregnancy contraceptive use		
Yes	72	52.9
No	64	47.1
Applying to a health facility for pregnancy		
Yes	68	50.0
No	68	50.0
Tetanus vaccination		
Fully vaccinated	49	36.0
Incompletely vaccinated	70	51.5
Unvaccinated	17	12.5
Pregnancy plan		
Yes	52	38.2
No	84	61.8
Type of birth		
Vaginal	48	35.3
Cesarean	88	64.7
Newborn birth weight (grams)		
<2500	9	6.6
2500	20	14.7
2500-3999	101	74.3
4000 and more	6	4.4
Contraceptive method plan		
Yes	70	51.5
No	66	48.5
Contraceptive method preference		
Condom	51	37.7
IUD	31	22.8
Withdrawal	7	5.1
Tubal ligation	10	7.5
Oral contraceptive	8	5.7
I don't think so	29	21.2

Table 4. Women's views on their status in the family and society

Variable	n	%
Registered property		
Yes	50	36.8
No	86	63.2
Believe in gender equality		
Yes	26	19.1
No	110	80.9
Believe that women are valued		
Yes	19	14.0
No	117	86.0
Decision maker for marriage		
Me	70	51.5
My family	9	6.6
Me and my family	57	41.9
Householder		
Me	18	13.2
My husband	34	25.0
Family elder	3	2.2
Me and my husband	81	59.6
Deciding on the number of children		
Me	123	90.4
My husband	13	9.6
Your most important duty in the family		
Household chores	27	19.9
Child care	51	37.5
Contribution to family income	58	42.6
The one who has the last say in the family		
Me	1	0.7
My husband	22	16.2
Family elder	14	10.3
Me and my husband	99	72.8
Deciding on a contraceptive method		
Me	47	34.6
My husband	6	4.4
Me and my husband	83	61.0
Complies with every decision of her husband		
Yes	28	20.6
No	108	79.4
Getting permission from her husband when leaving the house		
Yes	40	29.4
No	96	70.6
Able to go to the health institution on their own		
Yes	130	95.6
No	6	4.4

Table 5. The relationship between women's sociodemographic characteristics and fertility preference (n=136)

Features	Single Birth (1 Birth)		Multiple Births (2 and more)		Test statistic and Significance
	n	%	n	%	
Age					
≤35	35	51.5	19	27.9	0.005
>35	33	48.5	49	72.1	
Settlement					
City center	68	100	56	82.3	0.000
District center and rural area	0	-	12	17.7	
Family type					
Nuclear family	66	97.1	65	95.6	Fisher: 1.000
Extended family	2	2.9	3	4.4	
Level of education					
Primary school	8	11.8	9	13.2	0.000
High school	7	10.3	16	23.5	
University	3	4.4	23	33.8	
Master's degree	13	19.1	7	10.3	
Doctorate	37	54.4	13	19.1	
Spouse's level of education					
Primary school	8	11.8	6	8.8	0.000
High school	3	4.4	21	30.9	
University	27	39.7	31	45.6	
Master's degree	3	4.4	10	14.7	
Doctorate	27	39.7	0	-	
Spouse's profession					
Working	68	100	65	95.6	Fisher: 0.243
Not working	0	-	3	4.4	
Family economic situation					
Good	68	100	59	86.8	Fisher: 0.003
Bad	0	-	9	13.2	
Number of people in the household					
2	66	97.1	19	27.9	0.000
3 and more	2	2.9	49	72.1	
Consanguineous marriage					
Yes	20	29.4	5	7.4	0.001
No	48	70.6	63	92.6	

Discussion

According to the study, most women lived in urban areas and had high levels of education. The family structure was generally nuclear, and 93.4% rated their economic status as sufficient. The number of household members (4–5) and the regular employment of spouses were considered influential. A similar study found that as family welfare increases, the number of children decreases (Aydemir & Sarıçoban, 2023).

75.7% of women had their first marriage between ages 20–29. Higher education levels delayed the age of first
marriage. Sipahi and Atalay (2021) found a significant relationship between women's school enrollment and labor force participation. Similarly, women working in the service sector had higher educational attainment, marriage age, and fertility age compared to less educated and non-working women (Görkey & Çağlı Kaynak, 2022). In this study, 90.4% of participants experienced their first pregnancy after age 20, likely due to higher education, later marriage, and employment.

Half of the participants had one child; the other half had two or more, with none reporting four or more. Employment significantly influenced fertility, reducing the desired number of children. Contrary to expectations, some studies have found a positive correlation between fertility rates and labor force participation (Sipahi & Atalay, 2021).

82.4% of the last pregnancies were planned, and 52.9% had used modern contraceptives before pregnancy. 38.2% of women were currently planning a pregnancy. These findings indicate awareness and control over fertility. The most preferred contraceptive method was the condom (37.7%), followed by IUDs (22.8%). Other studies show similar trends: Kaya et al. (2021) found that 37.5% preferred condoms for convenience, while 46.2% used the withdrawal method. Kırıcı et al. (2020) reported that women preferred IUDs (35.9%), condoms (20.1%), and oral contraceptives (17.4%).

61% of women decided on contraceptive methods jointly with their partners. Cesarean deliveries accounted for 64.7% of births, possibly due to the perception that it is less painful under anesthesia.

Although all participants had regular income-generating jobs, only 36.8% owned property—possibly due to the patriarchal structure limiting women's property rights. Only 19.1% believed in gender equality, and 14% believed they were valued in society. 29.4% still needed spousal permission to leave the house, suggesting that societal norms influence women's autonomy more than income or education.

Conclusion

This study aimed to identify factors associated with fertility preferences among female employees at Iğdır University. Significant relationships were found between fertility preferences and place of residence, woman's education level, spouse's education level, consanguineous marriage, family economic status, and household size. As women's education level increased, their use of modern contraceptive methods also increased, moving away from traditional practices in both marriage and fertility. There was no significant relationship between fertility preference and family structure or whether the spouse had a regular income. It appears that economically independent women have more confidence and autonomy in fertility decisions, even if their partners are not employed. A high level of education and employment in income-generating jobs for both spouses are key to women having control over their fertility preferences. Public awareness and further research on fertility preferences are recommended.

Declarations

Acknowledgments

We extend our sincere gratitude to Iğdır University, as well as to its academic and administrative personnel, for their valuable support in the realization of this study.

Conflict of Interest

Authors disclose no potential conflicts of interest.

Ethics Statement

Approval for the research was obtained from the Kafkas University Faculty of Health Sciences Non-Interventional Research Ethics Committee with the decision numbered 81829502.903/36, dated 31.03.2022. Institutional permission was obtained from the Iğdır University Rectorate to conduct the research.

Informed Consent

Informed consent was obtained from the participants.

Author Contributions

Ö.K. conceptualized the study, Ö.K. wrote the original draft, Ö.K. and G.A. performed the statistical analysis, and Ö.K. and G.A. supervised the research and provided critical revisions. Ö.K. developed the methodology and ensured compliance with ethical standards. Ö.K. and G.A. curated the dataset and created the visualizations. Ö.K. and G.A. reviewed and edited the manuscript for intellectual content and clarity.

Funding

Not applicable.

Data Availability

The data used to support the findings of this study can be made available upon request to the corresponding author.

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