

# Fertility characteristics and related factors impacting on Syrian refugee women living in Istanbul

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## Abstract

**Background:** Women's fertility characteristics are affected by many different factors.

**Aim:** To gain an awareness of fertility characteristics of Syrian refugee women and the influential factors

**Methods:** This study was planned as a cross-sectional study to determine the efficiency and related factors of Syrian refugees living in Istanbul. The survey of 300 refugee women applying Arabs who migrated to Turkey, Kurds, Turkmen and Yezidi origin they receive.

**Results:** Average age of the women studied was  $34.26 \pm 10.15$ , 34.6% of the participants had not received any education, 37% had less than two-year inter-pregnancy interval, 58.6% have not received "Safe Motherhood" service, 43.6% have conceived their last child unwillingly. Women in the study group had in average  $3 \pm 2,4$  children and the number of children they wanted was  $3 \pm 1,59$ . These values were substantially affected negatively by the women's education level and positively by the income level. Yezidis had significantly more children than other ethnic groups and did not have a "religious ban" on voluntary abortion.

**Conclusion:** It has been noted that fertility characteristics of refugee women who migrated to Turkey changed according to their ethnic backgrounds and were sustained in the country they migrated to. Along with harsh living conditions and insufficient access to health services the situation has been observed to pose serious risks on reproductive health.

**Keywords:** Syrian refugee woman, fertility characteristics, impacting factors.

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## Introduction

From 2011 to 2019, 3,644,342 Syrian refugees migrated to Turkey because of the civil war, with 50% of them being women. Approximately 10% of the Syrian refugees live within camps located across 10 provinces, whereas 90% live outside these camps, spread throughout Turkey<sup>1,2</sup>.

Besides problems related to severe living conditions and essential needs such as nutrition and housing refugees

face various issues on women's health such as not being able to benefit from general health and safe maternal care services, birth and newborn complications and genital infections<sup>3,4</sup>.

The population and religious structure in Syria vary. Kurds, Armenians, Circassians, Assyrians, Turkmens, and Yezidis all live in Syria, where the Arabs have an overwhelming majority. In countries where the Sharia law is enforced fertility is considered a surplus value and strengthen the fertile woman's position in the family and the society while glorifying that of man<sup>5</sup>.

Each society and culture perceive fertility differently. It is affected by many factors such as fertility consciousness and perception, socio-cultural and political structure of society, belief systems, status of women and gender, marital age, education and working status<sup>6</sup>. According to data from 2017, 13.3% of women in Syria were married before 18 years, while the fertility rate in the 15–19 age group was 44,567.

Between 2011 and 2016, approximately 200,000 Syrian children were born in Turkey<sup>8</sup>. Syrian women with a high fertility rate, especially those living outside the camps, have difficulty accessing safe maternity services and contraceptive methods in Turkey<sup>2,9</sup>.

This research was designed to identify fertility characteristics and impacting factors of Syrian refugee women according to their ethnic identity. The following questions were investigated in this study:

1. What is the fertility characteristic of Syrian refugee women living in Istanbul?
2. Is fertility affected by socio-demographic characteristics?
3. Is there a difference between ethnic groups?

## Methods

### Participants

This cross-sectional descriptive study was carried out on married Syrian refugee women, aged 15–49, who applied to the Association for Solidarity with Asylum Seekers and Migrants (ASAM) in Istanbul.

The study population is composed of 1,934 women from

Syrian refugees, between the ages of 15–49, who applied to the ASAM in Istanbul in four months (1 November 2014–1 March 2015). Using the formula to compute a sample size on the basis of a finite universe, the sample size was found to require a minimum of 252 Syrian refugee women<sup>10</sup>. This study was realized with 300 refugee women in the fertile age range chosen through random sampling method.

### Data Collection

Data on women's socio-demographic and fertility characteristics and factors impacting their fertility were collected using a questionnaire consisting of 45 items prepared in accordance with the literature<sup>11,12</sup>. 45-point questionnaire has been prepared in a (Demographic & Health Survey) DHS type survey format and had the content as below. Interviews were carried out by certified translators of ASAM in a special room.

### Data analyses

In the evaluation of the data, SPSS (version 24.0) package program was used in computer environment. Frequency, percentage, mean, standard deviation, Pearson's chi-square and Kruskal, Wallis test were used to analyze the data. Significance level,  $p < 0.05$  was accepted.

### Ethics

Ethical approval was obtained from the Eskisehir Osmangazi University Medical Faculty ethical committee (28.05.2015; No: 181/1). Written approval was obtained from the ASAM officials in Istanbul, while written consent was obtained from the women who voluntarily participated.

### Results

Our study group comprised 300 Syrian refugee women of Arab (93), Kurdish (147), Turkmen (34), and Yezidi (26) descent. The women's average age was  $34.26 \pm 10.15$ , which did not differ among the ethnic groups. It has been observed that Yezidi group was more disadvantaged than other ethnic groups (Table 1).

**Table 1.** Socio-demographic characteristics of syrian refugee women by ethnic identity (N:300)

Socio-Demographic Characteristics	Women's Ethnic Identity				χ <sup>2</sup> ; p
	Kurdish n (%)	Arab n (%)	Yezidi n (%)	Turkmen N (%)	
<b>Education level</b>					
Uneducated	40 (27.2)	33 (35.5)	17 (65.4)	14 (41.2)	<b>22.071; .001</b>
Primary school	67 (45.6)	31 (33.3)	9 (34.6)	15 (44.1)	
High school and above	40 (27.2)	29 (31.2)	0 (0.0)	5 (14.7)	
<b>Residential type</b>					
Shanty	24 (16.3)	10 (10.8)	14 (53.8)	6 (17.6)	<b>29,583; .000</b>
Apartment	122 (83.0)	82 (88.2)	11 (42.3)	28 (82.4)	
Ruins/Abandoned	1 (0.7)	1 (1.1)	1 (3.8)	0 (0.0)	
<b>Previous residence</b>					
City center	68 (46.3)	49 (52.7)	2 (7.7)	8 (23.5)	<b>72.863; .000</b>
District	68 (46.3)	38 (40.9)	9 (34.6)	24 (70.6)	
Town	11 (7.5)	6 (6.5)	15 (57.7)	2 (5.9)	
<b>Reason for coming to Turkey</b>					
War	136 (92.5)	80 (86.0)	26 (100.0)	21 (61.8)	<b>28.187; .009</b>
Acquaintances' suggestion	11 (7.5)	13 (14.0)	0 (0.0)	13 (38.2)	
<b>Employment Status</b>					
Unemployed	112 (76.2)	83 (89.2)	26 (100.0)	30 (88.2)	<b>13.727; .003</b>
*Employed	35 (23.8)	10 (10.8)	0 (0.0)	4 (11.8)	
<b>Profession</b>					
Housewife	97 (66.0)	80 (86.0)	25(96.2)	29 (85.3)	<b>21.049; .000</b>
**Other	50 (34.0)	13 (14.0)	1 (3.8)	5 (14.7)	
<b>Family's income status***</b>					
Equivalent to expenditure	21 (14.3)	24 (25.8)	0 (0,0)	7 (20.6)	<b>13.341; .038</b>
Higher than expenditure	12 (8.2)	7 (7.5)	1 (3.8)	4 (11.8)	
Lower than expenditure	114 (77.6)	62 (66.7)	25 (96,2)	23 (67.6)	
<b>Benefiting from safe maternity Services</b>					
Yes	19 (12.9)	16 (17.2)	1 (3.8)	8 (23.5)	9.012; .173
No	93 (63.3)	48 (51.6)	19 (73.1)	16 (47.1)	
Inadequate	35 (23.8)	29 (31.2)	6 (23.1)	10 (29.4)	
	<b>X ±SS</b>	<b>X±SS</b>	<b>X±SS</b>	<b>X±SS</b>	<b>KW; p</b>
Age	33.35±9.47	34.92±11,43	37.96±9.20	33,53±9.20	6.370; .095
Age at first marriage	19.88±3.13	18.85±2.89	17.58±2.26	18.88±2,24	<b>17.83; .000</b>

\*8 employees did not have regular employment (5 Kurds, 3 Arabs), \*\*49 women identified their profession as workers and others as civil servants, \*\*\* Women's own expression  
 χ<sup>2</sup>chi-squaretest, KW=Kruskal-Wallis Test

It has been studied that Yezidis had children more in order to satisfy the expectations of the society and the family elders (p=0.002) (Table 2).

**Table 2.** Fertility characteristics of syrian refugee women by ethnic identity (N:300)

Fertility Characteristics	Women's Ethnic Identity				$\chi^2$ ; p
	Kurdish n (%)	Arab n (%)	Yezidi n (%)	Turkmen n (%)	
<b>*Time between pregnancies</b>					
<2 years	53(43.4)	32 (46.4)	11 (50.0)	16 (55.2)	1.440; .696
≥2 years	69(56.6)	37 (53.6)	11 (50.0)	13 (44.8)	
<b>Gender preference</b>					
Boy	23(15.6)	27 (29.0)	9 (34.6)	1 (2.9)	19.301; .004
Girl	21(14.3)	10 (10.8)	0 (0.0)	4 (11.8)	
No difference	103(70.1)	56 (60.2)	17 (65.4)	29 (85.3)	
<b>Expectation most influential in having a child</b>					
Desire to have sons	6 (4.1)	1 (1.1)	1 (3.8)	1 (3.0)	35.045; .002
Love of child	37 (25.2)	14 (15.1)	2 (7.7)	4 (12.1)	
Family's continuity	38 (25.9)	32 (34.4)	6 (23.1)	10 (30.3)	
Community's/family elders' expectation	27 (18.4)	10 (10.8)	7 (26.9)	4 (12.1)	
Continuity of marriage	34 (23.1)	31 (33.3)	4 (15.4)	13 (39.4)	
No expectation	5 (3.4)	5 (5.4)	6 (23.1)	1 (3.0)	
<b>Determinants in having a child</b>					
Male	65 (44.2)	45 (48.4)	19 (73.1)	22 (64.7)	11.791; .225
Female	4 (2.7)	2 (2.2)	0 (0.0)	0 (0.0)	
Male and female together	64 (43.5)	38 (40.9)	6 (23.1)	11 (32.4)	
Grandmother and grandfather	14 (9.5)	8 (8.6)	1 (3.8)	1 (2.9)	
<b>Places of last births</b>					
Hospital	136(92.5)	80 (86.0)	26 (100.0)	21 (61.8)	19.033; .000
**House	11 (7.5)	13 (14.0)	0 (0.0)	13 (38.2)	
<b>Voluntary pregnancy of the last child</b>					
Yes	77 (53.1)	64 (68.8)	9 (34.6)	20 (58.8)	11.561; .009
No	68 (46.9)	29 (31.2)	17 (65.4)	14 (41.2)	
<b>Miscarriage</b>					
None	98(66.7)	53 (57.6)	10(38.5)	20(58.8)	19.963; .003
Voluntary miscarriage	21(14.3)	6 (6.5)	8(30.8)	3 (8.8)	
Involuntary miscarriage	28 (19.0)	33 (35.9)	8 (30.8)	11 (32.4)	
<b>Opinions about voluntary miscarriage</b>					
Religious sin	79 (54.1)	62 (66.7)	1 (3.8)	22 (64.7)	49.499; .000
Dangerous to health	33 (22.6)	11 (11.8)	6 (23.1)	7 (20.6)	
Horrible	10 (6.8)	2 (2.2)	2 (7.7)	1 (2.9)	
To be done if required	24 (16.4)	18 (19.4)	17 (65.4)	4 (11.8)	

\*7 women did not remember, \*\* 9 women gave birth at home without health personnel's help,  $\chi^2$ chi-square test

Moreover, men were more determinant in deciding to have children than women. The home birth rate was higher in Turkmen (p<0.001). Involuntary and voluntary

miscarriage rates were higher in Yezidis, whereas voluntary miscarriage rates were lower in the Arabs and Turkmen (p=0.003) compared with other groups. The Arabs had the highest number of children wanted (p=0.005) (Table 3).

**Table 3.** Comparison of fertility characteristics of women according to their ethnic identity

Fertility Characteristics	Women's Ethnic Identity				KW; p
	Kurdish X±SS	Arab X±SS	Yezidi X±SS	Turkmen X±SS	
Number of births	3.27±2.11	3.78±2.93	4.31±2.29	3.47±1.98	7.200; .066
Number of children	3.19±2.03	3.82±2.80	4.27±2.29	3.44±1.97	<b>8.139; .043</b>
Number of children wanted	2.71±1.23	3.41±2.11	2.35±1.38	3.24±1.04	<b>16.362; .001</b>
Age at the first pregnancy	20.66±3.22	19.89±2.94	18.50±2.30	19.71±2.35	<b>12.819; .005</b>
Number of total miscarriages	1.50±.61	1.72±.79	1.63±.50	1.36±.63	3.858; .277
Number of voluntary miscarriages	1.45±.59	1.43±.53	1.67±.50	1.00±.00	3.861; .277
Number of involuntary miscarriages	1.43±.62	1.73±.83	1.57±.53	1.45±.68	2.413; .491

*KW=Kruskal-Wallis Test*

As women's education level decreased, the number of births and children increased, while the average age at first marriage and pregnancy decreased ( $p < 0.001$ ) (Table 4).

As the women's income level decreased age of first marriage and pregnancy went down ( $p = 0.001$ ) and the number of children went up ( $p < 0.05$ ) (Table 5).

**Table 4.** The comparison of age and fertility characteristics averages according to women's education level

Fertility characteristics	Illiterate	literate (drop out)	Primary school	High school	College/ Faculty	KW; p
	X±SS	X±SS	X±SS	X±SS	X±SS	
Number of births	7.03±2.60	4.82±2.13	2.74±1.36	2.12±1.66	1.64±1.27	<b>141.499; .000</b>
Number of children	6.91±2.51	4.69±1.94	2.75±1.34	2.07±1.64	1.77±1.23	<b>142.590; .000</b>
Number of children wanted	3.31±2.51	3.19±1.69	2.82±1.20	2.83±1.54	2.64±1.21	3.295; .510
Number of total miscarriages	2.25±.716	1.49±.59	1.44±.59	1.31±.47	1.00±.00	<b>23.039; .000</b>
Age at first marriage	16.66±2.54	17.43±1.85	19.3±2.17	21.60±2.99	23.50±1.91	<b>123.405; .000</b>
Age at first pregnancy	18.03±2.94	18.32±1.92	20.20±2.39	22.32±3.03	24.46±2.02	<b>100.202; .002</b>

*KW=Kruskal-Wallis Test*

**Table 5.** The comparison of age and fertility characteristics averages according to women's income levels

Fertility characteristics	Income equivalent to expenditure X±SS	Income higher than the expenditure X±SS	Income less than expenditure X±SS	KW; p
Number of births	3.55±2.62	2.29±.99	3.68±2.44	<b>7.967; .019</b>
Number of children	3.46±2.63	2.29±.99	3.65±2.33	<b>8.396; .015</b>
Number of children wanted	3.50±2.19	2.67±.76	2.86±1.46	3.215; .200
Number of total miscarriages	1.52±.68	1.33±.57	1.59±.67	0.550; .759
Age at first marriage	19.56± 3.10	21.29±2.59	18.96±2.90	<b>15.190; .001</b>
Age at first pregnancy	20.51±3.60	22.13±2.38	19.82±2.86	<b>14.765; .001</b>

*KW=Kruskal-Wallis Test*

## Discussion

In 2015, the fertility rate in Syria was 2.55, while the number of children wanted by married women aged 15–49 was 4.2. Fertility rates were higher in the rural parts of the country<sup>13</sup>. The average number of births in the study group was higher than the Syrian average (Table 3), possibly because more than half of the research group came from rural settlements Syrian refugees who migrated to Turkey continued their fertility characteristics with nearly 200,000 births<sup>28</sup>. Castles and Miller's remark that "Migrants preserve some elements of their languages and cultures throughout at least a couple of generations" support our data<sup>14</sup>.

Fertility in women is associated with many factors, such as age, education, marriage age, and socio-economic status<sup>15</sup>. In our study, 34.7% of the women were either illiterate or literate without a diploma (Table 1). Consistent with the literature, as education level decreased, the age at first marriage and pregnancy decreased ( $p=0.001$ ) and the number of births and children increased ( $p<0.05$ ) (Table 4).

The literature also states that fertility rate decreases as income increases<sup>15,16</sup>. In the 2014 AFAD report, 97% of women outside the camp stated that they had no income during the study period's last month (2) and that most of them did not work, had household incomes less than

expenses, and did not receive aid from the state (Table 1). Corroborating the literature, the ages at first marriage and pregnancy were higher and the number of births and children was lower for those who had higher household incomes (Table 5).

In patriarchal societies, men desire to have children to continue their lineage and women to win their husband's and family's respect and strengthen their social status<sup>17-19</sup>. A study in Ghana showed that women's fertility decision is determined by men<sup>20</sup>. In our study group with similar beliefs and cultural characteristics, ensuring "family's continuity" was the primary reason, and men were more decisive than women. In traditional societies, having a son is particularly important for the family's continuity. Accordingly, women continue to conceive until they have a son. In our study group, the desire to have sons was greater than the desire to have girls. Yezidis' wish to have sons and high fertility rate can be explained with endogamic and hierarchic structure of the Yezidi community<sup>21</sup> (Table 2).

In the Turkish Medical Association's report, refugee women were not able to access health services during pregnancy, childbirth, and puerperium because of ignorance, living in a different country, language problems, being unregistered, paid services, and medicine<sup>22</sup>. In this study, 58.7% of the women stated that they did not benefit from safe maternity services, while 12.3% delivered

their last child at home without health personnel's help (Tables 1 and 2).

In traditional societies, religious doctrines on anti-abortion negatively affect women's decision regarding voluntary miscarriage<sup>23</sup>. Yezidis stated that voluntary miscarriage was "to be done if required," while more than half of the women expressed that it was a "religious sin" ( $p < 0.001$ ). These differences between ethnic groups may be explained by their distinct religious rituals<sup>21</sup>. Thus, high abortion rate among Yezidi women could be interpreted as those women viewing abortion as an "acceptable" solution during the refugee crisis.

### Limitations of the Study

- This study cannot be generalized to all women migrating to Turkey because the study included only Syrian refugee women who applied to Istanbul ASAM Center and voluntarily participated in the research.
- Conducting the interviews through an interpreter made it difficult to collect detailed data at regular intervals and also extended the duration of the interview. Due to all these reasons this study demonstrates results from a limited number of refugee women. No monetary or material support has been given to women to ensure their participation in the study.

### Conclusion and Recommendations

The answers to our research questions have been presented within our findings. Within this context, it has been observed that the refugee women who participated in our study preserved the fertility characteristics of their home countries, their fertility characteristics differed according to their ethnic identities and that their education level, economic situation and first marriage age affected their fertility characteristics.

Socio-demographic and cultural characteristics that impact women's lives must be considered in determining policies and service models to facilitate refugee women's access to health services. The results of this study can be guiding in the planning of reproductive health services for refugee women.

### Conflict of interest

None declared.

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