

Syrian Refugees Maternal Health and Perinatal Outcome in Turkey; a Retrospective Population-Based Study

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Abstract

Aims: To compare obstetric and perinatal outcomes of Syrian refugee and Turkish citizens who gave birth at Osmaniye state hospital. We try to brighten how it effects on pregnancy to be a refugee.

Method: A retrospective study including the birth records of 4809 Syrian refugees and 14763 Turkish pregnant women between January 2013 and January 2018 were analyzed. Demographic data. Obstetric and neonatal outcomes were compared.

Results: Our results showed that the ages of Syrian refugees were significantly younger and higher adolescent pregnant rates than Turkish women (the mean age was 26.88 ± 6.11 vs 25.86 ± 6.14 , $p < 0.05$; adolescent pregnant rates 16.6% vs 23.1% $p < 0.05$; respectively for Turkish women and Syrian refugees). Cesarean rates were significantly higher for Turkish women than in Syrian refugees (47.2% vs 32%; $p < 0.05$). Birth weights of newborns were significantly higher among Turkish women when compared with Syrian refugees and low birth weight (LBW) rates of newborns were seen significantly higher among Syrian refugees than Turkish women (birth weights of newborns 3212.87 ± 518.81 vs 155.08 ± 511.51 , $p < 0.05$; LBW rates 7.3% vs 8.2% $p < 0.05$; respectively for Turkish women and Syrian refugees).

Conclusion: Adolescent pregnancies are high in Syrian pregnancies and poor obstetric outcomes are more common. Despite years of Syrian refugees' migration to our country. We still think it is inadequate to reach medical support. As a solution. A comprehensive study on communication and language should be done. In addition. Syrian refugee women should be included in pre- and post-pregnancy education.

Keywords: Syrian; Refugees; Obstetric Outcome; Perinatal Outcome

Introduction

The civil war started Syria. Result with immigration of Syrians to neighboring countries and ongoing migration since 2011 to Turkey. With a total of 3.589.384 Syrian immigrants. 1.642.331 of who are women. Turkey is the most migratory country in the world as of June 2018 [1]. Such a forced movement caused many severe health problems for the refugees. Also negatively affected reproductive health and antenatal care for pregnant refugees. Refugees at childbearing age and pregnant refugees face many difficulties. Dealing with changing family dynamics and assimilating into a new society while fearing for their safety [2]. Unlike countries that do not have any health insurance offered to the refugees and consequently have problems in reaching medical support. The Turkish government has provided free medical care to Syrian refugees and is able to get support without paying any money. Just like Turkish citizens. Including medical care and prescription drugs. Osmaniye is also home to a large number of Syrian refugees because of its proximity to refugee camps due to its close proximity to the border neighborhoods where migration is most intense. In previous studies in the literature on different ethnic groups has been shown increased negative pregnancy outcomes in refugee populations such as increased incidence of cesarean sections (CS). Preterm labor low birth weight (LBW). Bleeding during delivery increased puerperal infections. Fetal distress failed induction of labor. Oligohydramnios and gestational diabetes are seen more often in refugee populations [3-7]. Neonatal outcomes have also been reported to be impaired within the refugee population such as prolonged hospitalization of newborns. Low Apgar scores and required assisted ventilation [3,7]. The relationship between pregnancy outcomes and migration is complex and might also depend on a variety of factors such as maternal ethnicity. Socioeconomic status and country of origin [8]. Cesarean delivery should occur when maternal or fetal health is at risk [9]. Although Syria is a middle-income country. It has been reported that it has a cesarean rate close to high-income countries [10]. The aim of this study is to compare retrospectively the results of cesarean section rates and birth results between Syrian refugee women and Turkish women who gave birth in Osmaniye State Hospital.

Materials and Methods

A retrospective study between January 2013 and January 2018 at Osmaniye State Hospital was planned. The study was approved by the local ethical committee. The birth records of 19572 women including 14763 Turkish women and 4809 Syrian refugees who gave birth in Osmaniye State Hospital were retrospectively analyzed. Maternal age; gravity; age; Newborns sex; birth weight; birth-type vaginal birth and cesarean section were recorded separately. Patients living in rural and urban areas were identified. Patients' demographic data, Obstetrical history, Clinical findings obstetrical and neonatal outcomes were compared between the groups. All data was extracted from our hospital's database system. Patients who have insufficient hospital data and systemic disorders were excluded from both groups.

SPSS 24.0 (IBM Corporation Armonk New York, United States) program was used to analyze the variables. Normal distribution fitness of the data was assessed by Lilliefors corrected Kolmogorov-Smirnov test with variance homogeneity Levene test. The Independent-Samples T test was used with the Bootstrap results when comparing two independent groups with respect to each other quantitatively. The Mann-Whitney U test was used with the Monte Carlo simulation technique. Pearson Chi-Square test was tested with Exact and Monte Carlo Simulation technique in comparing categorical variables to each other and the column ratios were compared with each other and expressed according to Benjaminini-Hochberg corrected p-value results. The odds ratio was expressed with a confidence interval of 95% to show how many times more people with a risk factor are than those without. Quantitative variables were expressed as mean \pm SD (standard deviation)/ minimum-maximum and median (minimum-maximum) and categorical variables were expressed as n (%). Variables were examined at 95% confidence level and $p < 0.05$ was accepted as statistically significant.

Results

The data of 19572 women in 14763 Turkish and 4809 Syrian immigrants who gave birth in Osmaniye State Hospital were retrospectively screened and the demographic data are shown in Table 1. The mean age of Turkish women was 26.88 ± 6.11 ; the mean age of Syrian refugees was 25.86 ± 6.14 and the Syrian refugee patients were significantly younger than Turkish patients ($p < 0.05$). The percentage of adolescents aged 12–19 years were significantly higher in the Syrian patients (23.1 vs. 16.6 %; $p < 0.05$).

	Turkish citizens (n=14763)	Syrian refugees (n=4809)	Total (N=19572)	P Value
Maternal age, mean\pmSD / min. - max.	26.88 \pm 6.11 / 14-46	25.86 \pm 6.14 / 14-46	26.63 \pm 6.14 / 14-46	0.001
Living area (%)				
City	7219 (48.9)	3793 (78.9)	11012 (56.3)	<0.001
Rural	7544 (51.1)	1016 (21.1)	8560 (43.7)	3.9 (3.6-4.2)*
Maternal age (%)				
≤ 18 (adolescent pregnancy)	2449 (16.6)	1110 (23.1) ^A	3559 (18.2)	<0.001
19-35	10800 (73.2) ^B	3301 (68.6)	14101 (72.0)	
36-44	1463 (9.9) ^B	383 (8.0)	1846 (9.4)	
≥ 45	51 (0.3)	15 (0.3)	66 (0.3)	
Parity				
0	3694 (25.0)	1480 (30.8) ^A	5174 (26.4)	<0.001
1-4	9838 (66.6) ^B	2891 (60.1)	12729 (65.0)	
≥ 5	1231 (8.3)	438 (9.1)	1669 (8.5)	
* Odss Ratio: (% 95 Confidence interval); SD: Standard deviation; Min: minimum; Max: Maximum; A: significant according to the Turkish citizens group; B: significant according to the syrian refugees group				

Table 1: Demographic data of both groups

The number of Syrian pregnant women was 3684 (76.6%) the number of Turkish pregnant women was 12263 (83.1) and the rate of pregnant women aged between 18-45 years was significantly higher among the Turkish subjects ($p < 0.05$). The rate of advanced maternal age (>36 years) was 10.2% for Turkish women and 8.3% for Syrian women and it was significantly higher in Turkish women ($p < 0.05$). When the pregnant women were analyzed with regard to living in rural or urban areas, 51.1% of Turkish women were determined to live in rural areas and 78.9% of Syrian women were determined to live in urban areas ($p < 0.05$). The rate of first pregnancies was 25% in Turkish women and 30.8% in Syrian women, and the difference was significant ($p < 0.05$). The rate of the number of deliveries between 1-4 was 66.6% in Turkish women and 60.1% in Syrian women and this was significantly higher among the Turkish subjects ($p < 0.05$). The number of grand multiparous (≥ 5) women was 8.3% in Turkish women and 9.1% in Syrian women.

The obstetric and neonatal outcomes of Syrian immigrant pregnant women and Turkish pregnant women have been presented in Table 2. The mean birth weight was determined as 3212.87 ± 518.81 for the babies of Turkish women and 3155.08 ± 511.51 for the babies of Syrian women and it was significantly higher in Turkish women ($p < 0.05$). The rate of babies with small for gestational age (SGA) (birth weight ≤ 2500 gr) was 7.3% in the Turkish and 8.2% in Syrian women and the difference was statistically significant ($p < 0.05$). The rate of having SGA babies was higher in rural areas compared to urban areas for Turkish women ($p < 0.05$) and this rate was higher for Syrian women who lived in rural areas; however the difference was not statistically significant ($p = 0.949$). The rate of caesarean sections was significantly higher in both groups of SGA babies ($p < 0.05$).

	Turkish citizens	Syrian refugees	Total	P Value
	(n=14763)	(n=4809)	(N=19572)	
Birth weight (gr. mean\pmSD)	3.212.87 \pm 518.81	3.155.08 \pm 511.51	3.198.67 \pm 517.61	0.001
Sex of newborn (%)				
Female	7180 (48.6)	2361 (49.1)	9541 (48.7)	0.584
Male	7583 (51.4)	2448 (50.9)	10031 (51.3)	
Type of birth (%)				
Vaginal	7802 (52.8)	3268 (68.0)	11070 (56.6)	<0.001
Cesarean	6961 (47.2)	1541 (32.0)	8502 (43.4)	1.9 (1.8-2.02)*
Birth result (%)				
Alive	14663 (99.3)	4777 (99.3)	19440 (99.3)	1
Dead	100 (0.7)	32 (0.7)	132 (0.7)	
Low birthweight (LBW)				
≤ 2500	1083 (7.3)	395 (8.2)	1478 (7.6)	0.048
> 2500	13680 (92.7)	4414 (91.8)	18094 (92.4)	1.13(1.002-27)*
Odds Ratio: (% 95 Confidence interval); SD: Standard deviation				

Table 2: Comparison of obstetric and neonatal outcomes

The rate of living babies and stillbirths were similar in both groups. No difference was found between the groups with regard to gender; however the rate of girls was higher in Syrian immigrants. The rate of interventional and non-interventional deliveries was 68% and the rate of caesarean sections was 32% in Syrian women and these rates were 52.8% and 47.2% respectively for Turkish women; the rate of normal vaginal deliveries was statistically significantly higher in Syrian women and the rate of caesarean sections was determined to be statistically significantly higher in Turkish women ($p < 0.05$). The rate of normal vaginal deliveries was found to be statistically significantly high in the adolescence period (≤ 18 years) in both groups. The rate of caesarean sections was found to significantly increase as age and parity increase in both groups. Low birth weight was found to be higher in the cesarean section group. The most common indication for caesarean section was previous caesarean section and the rate of primary caesarean was 22.7% in Turkish women. 27.9% in Syrian section and the rate of primary caesarean was 22.7% in Turkish women. 27.9% in Syrian women and this was significantly higher in Syrian women ($p < 0.05$).

Discussion

The number of Syrian immigrants who give birth in Turkey has gradually increased due to the civil war in Syria. The pregnancies and deliveries of Syrian women are followed-up in state hospitals of Turkey and they do not pay any charges. While the socio-economic level language and cultural differences are significant problems for these women despite equality in social services care during and after pregnancy is seen to be more difficult and the outcomes are more severe. In the literature antenatal care was shown to be less age at pregnancy was found to be lower and the number of adolescent pregnancies was shown to be higher among Syrian immigrant women [2,11].

In this study the data of a total of 19572 women (14763 Turkish and 4809 Syrian) were compared the mean age was found to be lower in Syrian women the number of pregnancies during adolescence was found to be higher in Syrian women and the findings were consistent with the literature. We consider that low age at delivery results from getting married at a younger age due to religious concerns (for protecting the girl). Giving birth at young and ignorant age brings poor fetal and maternal outcomes together.

In the present study we found the rate of caesarean sections to be higher in Turkish pregnant women compared to Syrian women. We consider that this may result from medico-legal problems and patient incompliance in our country. Another reason may be the delivery type of Syrian women not being specified due to lacking an antenatal follow-up and their presenting to the hospital at the final stage of delivery and not having an option except normal vaginal delivery. Previous caesarean section was the most common indication for caesarean section consistent with literature and the rate of caesarean sections was seen to increase as the age and parity increased. Interestingly the rate of primary caesarean sections was found to be higher in Syrian women. The deliveries of SGA babies were found to result in caesarean sections at higher rates and the rates of SGA babies were higher in rural areas. Therefore

we consider that the higher rate of primary caesarean sections in Syrian women may have resulted from poor obstetric outcomes due to insufficient antenatal care and nutrition as they live in rural areas. Interestingly the rate of normal vaginal deliveries was higher among adolescent pregnancies in both groups Gungor E, *et al.* also reported higher rates of caesarean section in their study conducted at a tertiary center in İstanbul [12]. Demirci H, *et al.* compared the pregnancy outcomes of Turkish and Syrian women; they reported significantly older age. Significantly higher caesarean section rates and significantly higher birth weight for babies in Turkish women similarly to our study [13]. On the contrary to these findings. The rate of caesarean sections of Syrian women was found to be higher than the native citizens in various studies conducted in Lebanon, Jordan and our country [2,7,14].

In our study, the birth weight of babies of Syrian women was found to be lower compared to the group of Turkish woman and the rate of low birth weight (LBW) (<2500 gr) was found to be higher. The low birth weight in babies of Syrian women may be explained with insufficient antenatal care due to the negative effects of war such as low socio-economic status language and cultural differences and thereby insufficient iron and vitamin supplementation. The birth weights of the babies of Turkish, Lebanese and Syrian women were compared in the studies of Buyuktiryaki, *et al.* Reese Masterson, *et al.* and the rate of LBW was found to be higher in the Syrian group consistent with our study [7,15]. However, Gungor, *et al.* and Erenel, *et al.* reported no difference between the groups with regard to birth weight [11,12].

Study limitations

Our study had a retrospective design. Hence the data were limited to file records. However it is the most comprehensive study in the literature conducted with immigrants in Turkey through analyzing all pregnant women who gave birth at the single and the largest hospital in the Osmaniye province.

Conclusion

Studies about communication and language should be conducted for improving the antenatal care of Syrian immigrant women and the educations for pregnant women should be increased. These types of studies are required for providing better services to immigrants during transition to a normal life in a new country as the numbers of Syrian immigrants are increasing both in Turkey and worldwide.

Conflict of Interest

The authors declare that they have no competing interests.

Author's Contributions

ANS and OB assembled analyzed and interpreted the patient data. All authors contributed to writing the manuscript. OB, YS, FC, ANS and İK read and approved the final manuscript.

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