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CAESAREAN SECTION AND ITS RELATION WITH PRETERM BIRTHS IN AL-ZAHRAWI HOSPITAL – DAMASCUS – DURING SYRIAN CRISIS

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ABSTRACT
This research aim to study the prevalence of caesarean section (CS) in Al-Zahrawi hospital in Damascus and to investigate if it affects the preterm births (< 37 weeks of gestational age) by increasing its rate during the Syrian crisis period (2011 – 2018) this study is a cross-sectional study, and to study this we gathered our data from the archive of Al-Zahrawi hospital and then calculated the rate of CSs that occurred at a gestational age < 37 weeks and the rate of all CSs and calculated the percentage of the first rate from the second rate in each year of the above then compared the results of each year with the year before the Syrian crisis (2010) . Data were analyzed by using Spss 25.0, our results showed that there was no significant evidence if the increased CS rate caused a rise in the preterm births rate however this may be due to the limited sample size.

KEYWORDS: Caesarean Section, Preterm births, Statistical, Syrian crisis.

INTRODUCTION
A recent global studies showed that there is a relation between the high rates of CS and the increased rate of preterm births, one of the studies showed that there was a very high rate of CS in Brazil and it was 55% and because of that the rate of preterm births increased.[1] In the meantime in Syria there is not enough studies conducted about this preterm problem and how much the CS affect their rate especially in the Syrian crisis period, but there is a local study in Syria showed that there was a gradual increase of the CS rate during the years of the crisis until it reached its peak at the end of the first half of 2017 and it was 51%>[2] and there is another global study showed a positive relation between CS and preterm.[3]

About 15 million preterms are born annually and this number is increasing and the complication of preterms is the leading cause of mortality in the children younger than 5 years[4], and we have no clear idea about the size of this problem in Syria and this was a reason to do this research.

It's known that preterm births causes health problems for neonates and knowing whether CS may causes an increase in preterm birth rate or not can help to prevent this problem.

OBJECTIVES
Determining the prevalence of CS and the number of cases of preterm birth after CS in Al-Zahrawi hospital - Damascus - Syria in each of the years of the study during the Syrian crisis and to investigate if there is a positive relation between the CS rate and preterm rate.

MATERIALS AND METHODS
- Type of Study: Cross-sectional.
- Participants: Pregnant patients whose pregnancy ended by a CS at a preterm gestational age at Al-Zahrawi Hospital during the period of the Syrian crisis (2011 - 2018) and compared with 2010 before the crisis and the sample size was 173.
- Data collection: by referring to the records of Al-Zahrawi Hospital and searching for Caesarean deliveries during the years of the Syrian crisis and taking into account some factors such as: maternal age - gestational age - the number of previous births - the number of previous caesareans if there was any - the blood group of the mother and the newborn - indication of CS – presence of previous health issues.
- Data Analysis: Determination of CS prevalence in each year of the crisis period and then determination of CS performed at gestational age <37 weeks (preterm) and then comparing the results and ratios obtained after analyzing the data with the prevalence rates in 2010.
- The data were entered into the computer and then we used the program of statistical package for social sciences SPSS version (25) in the analysis of these

data and we relied on the following statistical methods in the analysis:

1. **Descriptive Statistics:** To find the relative repetitive distributions of categorical study variables (sex of the newborn, the main symptoms,) and added graphs to enrich the results, and find descriptive statistics of quantitative variables in the study (gestational age, newborn weight).
2. **Analytical Statistics:** To compare between the average of two independent samples (Independent Samples T test).

- Equal ratios test using Chi-square to compare ratios.
- Chi-square independence test to study the relationship between two categorical variables.
- Normal z-test to compare two proportions combined with different sizes

RESULTS

Part I: Characteristics of the study sample

- Percentage distribution of study sample

This part of the analysis aims to present the characteristics of the study by determining the percentages of each studied category variable. The results are summarized as follows:

Table 1: Percentage Distribution of Women in the Study Sample by Age Groups.

		N	%
Maternal age	< 20 years	19	11.0
	20 – 34	139	80.3
	> 34 years	15	8.7
	Total	173	100

Table (1) and Figure (1) show the relative distribution of the ages of the women in the study sample. It was found that the most prevalent age group among the other age groups was [20-34] with (80.3%) followed by women who were younger than 20 years with (11%) and the lowest women over the age of 34 (8.7%..)

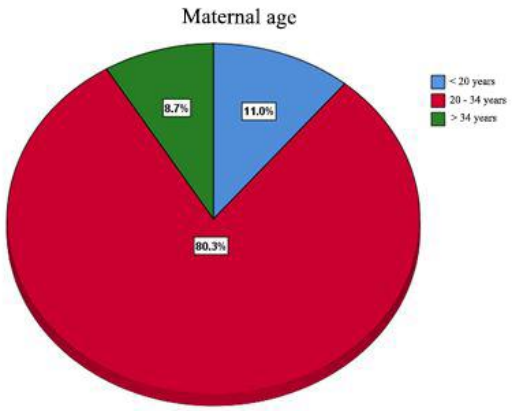

Figure 1: Chart of The Distribution of Age Groups For The Study Sample.

Table 2: Percentage Distribution by Newborn Sex.

		N	%
Newborn sex	Male	101	58.4
	Female	72	41.6
	Total	173	100

Table (2) and Figure (2) show the relative distribution of the sex of the newborn among the study sample, the sex of the newborn was 41.6% female and 58.4% male.

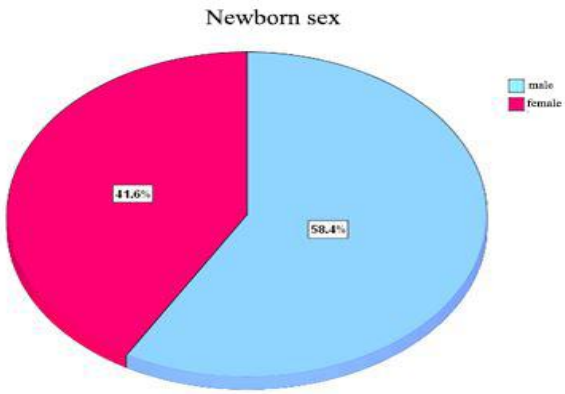

Figure 2: Chart of the Distribution of The Newborn Sex For The Women In The Study Sample.

Table 3: Percentage Distribution of Women In The Study Sample By The Pathological Precedents According To The Patients Files In The Archive.

		N	% Between all study samples	% Just between pathological precedents samples
Pathological precedents	Abortions	23	13.3	54.8
	Bicornate uterus	2	1.2	4.8
	Chronic Hypertension	3	1.7	7.1
	Past uterus rupture	1	0.6	2.4
	Sepsis during pregnancy	8	4.6	19
	Preeclampsia	2	1.2	4.8
	Anemia	1	0.6	2.4
	Gestational Diabetes	2	1.2	4.8
	Total	42	24.3	100
	No pathological precedents	131	75.7	
	Total	173	100	

Table (3) and Figure (3) show the relative distribution of the types of pathological precedents mentioned in the patients files in the study sample, 75.7% of women in the study didn't have a positive medical history and 24.3% had a positive medical history and the highest rate of the pathological precedents was for abortions at a rate of 54.8% followed by "sepsis during pregnancy" with 19% and the least were "past uterine rupture" and "anemia" (laboratory diagnosed anemia) at equal proportions of 2.4%.

Note on Table 3

The first percentage reflects the ratio of each pathological variable to all study samples

The second percentage reflects the relative distribution of pathological precedents among women with a history of pathological precedent only, excluding women without pathological precedents outside this ratio.

The second ratio is shown in Figure (4).

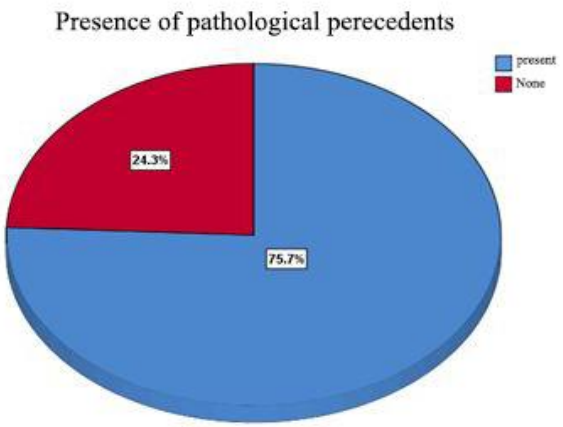

Figure 3: Chart of The Distribution of Women of The Study Sample According To The Presence or Absence of Pathological Precedents.

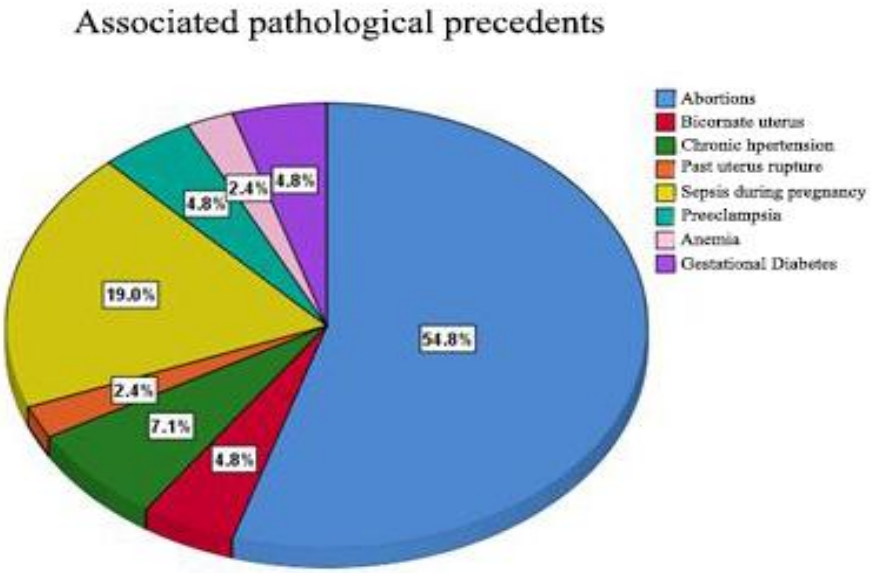

Figure 4: Chart of The Distribution of Women In The Study Sample According To The Type Of Pathological Precedent They Had.

Table (4): Percentage Distribution of Women In The Study Sample By The Number Of Previous Births.

		N	%
No./of previous births	None	47	27.2
	1 previous birth	21	12.1
	≥2 previous births	105	60.7
	Total	173	100

Table (4) and Figure (5) show the relative distribution of the number of previous births among the women of the study sample, It was found that the percentage of women who had two or more previous births was the highest category (60.7%), followed by the category of nulliparous (27.2%) and the least is one previous birth category (12.1%).

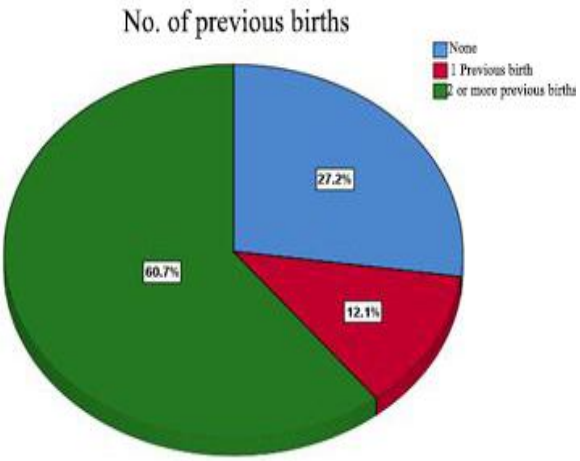

Figure 5: Chart of the distribution of women in sample according to the number of previous births.

Table (5): Percentage Distribution of Women In The Study Sample By The Number Of Previous Caesarean Births.

		N	%
No./of previous caesarean births	0	81	46.8
	1	11	6.4
	2	57	32.9
	3	10	5.8
	4	5	2.9
	5	1	0.6
	6	3	1.7
	7	2	1.2
	8	3	1.7
	Total	173	100

Table (5) and Figure (6) show the relative distribution of the number of previous cesarean births among the women of the study sample, It was found that the percentage of women without previous cesarean births was the highest (46.8%) followed by the proportion of women who had 2 previous cesarean births (32.9%).

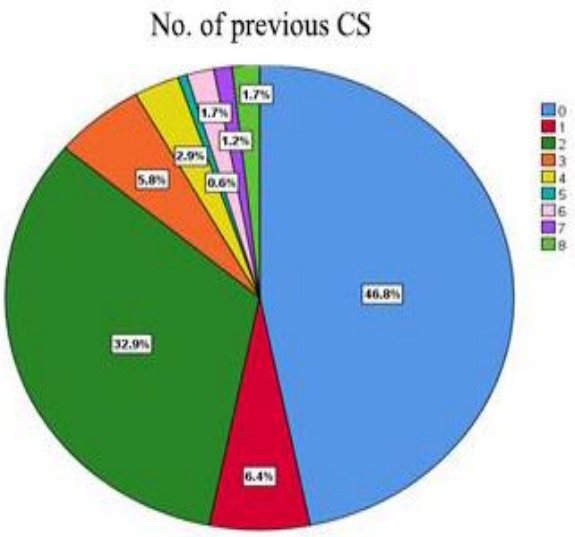

Figure 6: Chart for distribution of the women in the study sample according to the number of previous cesarean births.

Table 6: Percentage Distribution of Women In The Study Sample By The Current Cs Indication.

		N	%
Current CS indication	Previous CS	69	39.9
	Premature labor	2	1.2
	Preterm – Premature rupture of membranes P-PROM	9	5.2
	Cephalopelvic disproportion CPD	22	12.7
	Malpresentation	20	11.6
	Eclampsia	6	3.5
	Placenta Previa	12	6.4
	Past uterus Rupture	2	1.2
	Placental abruption	10	5.8
	Chorioamnionitis	2	1.2
	Pre-eclampsia	10	5.8
	Multiple gestation	9	5.2
	Total	173	100

Table (6) and Figure (7) show the relative distribution for the women in the study sample according to the current indication of CS, It was found that the most frequent indications are previous CS (39.9%) and the least frequent is Chorioamnionitis, premature labor and past uterine rupture by (1.2%).

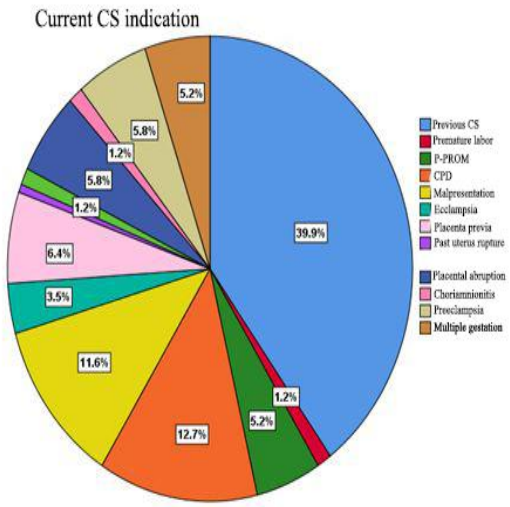

Figure 7: Chart Showing The Distribution of Current Cs Indications For The Women Of The Study Sample.

Table 7: Percentage Distribution of Women In The Study Sample According To Their Blood Groups.

		N	%
Mother's blood group	A+	81	46.8
	A-	6	3.5
	B+	28	16.2
	B-	4	2.3
	AB+	13	7.5
	AB-	0	0
	O+	36	20.8
	O-	5	2.9
	Total	173	100

Table (7) and Figure (8) show the relative distribution of the women of the study sample according to their blood groups. It was found that the highest percentage was A + (46.8%).

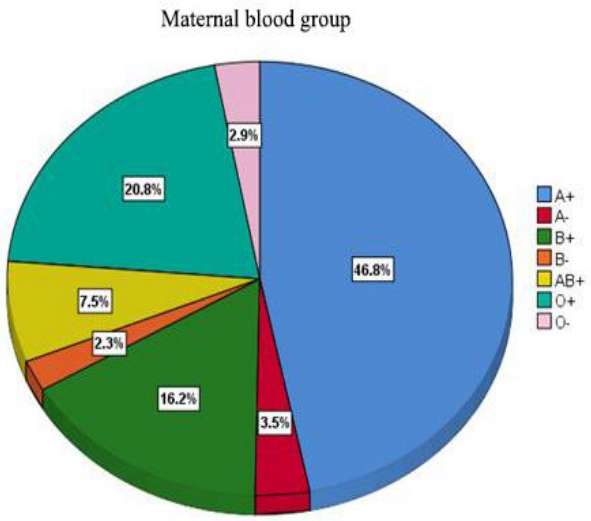

Figure 8: Chart For the Distribution of Women In The Study Sample According To Their Blood Group.

Table 8: Percentage Distribution By Newborn Blood Group.

		N	%
Newborn blood group	A+	76	43.9
	A-	3	1.7
	B+	29	16.8
	B-	1	0.6
	AB+	11	6.4
	AB-	0	0
	O+	50	28.9
	O-	3	1.7
	Total	173	100

Table (8) and Figure (9) show the relative distribution according to the blood group of the newborn and the highest percentage was for group (A+) (43.9%).

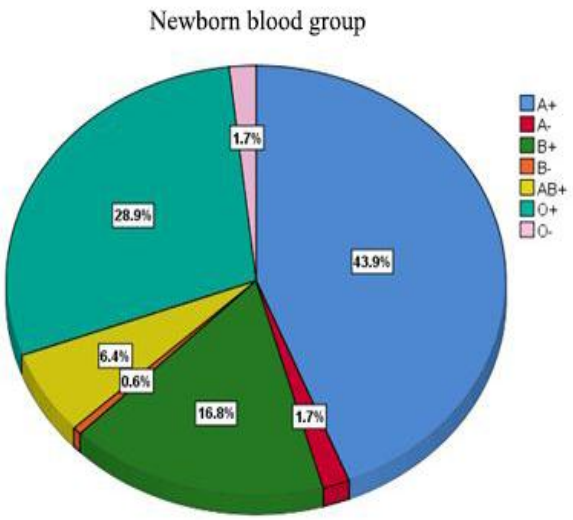

Figure 9: Chart for The Distribution of Blood Groups In The Newborns of The Women In The Study Sample.

Table 9: Percentage Distribution of Preterm Infants After A Cs In Each Year of The Study.

		N	%
Year	2011	22	12.7
	2012	27	15.6
	2013	13	7.5
	2014	25	14.5
	2015	20	11.6
	2016	21	12.1
	2017	24	13.9
	2018	21	12.1
	Total	173	100

Table (9) and Figure (10) show the number of preterm births after a CS from the total Caesarean births and their relative distribution in each year of the study and the highest number and proportion was in favor of the year 2012 by 15.6% and the lowest in 2013 by 7.5%.

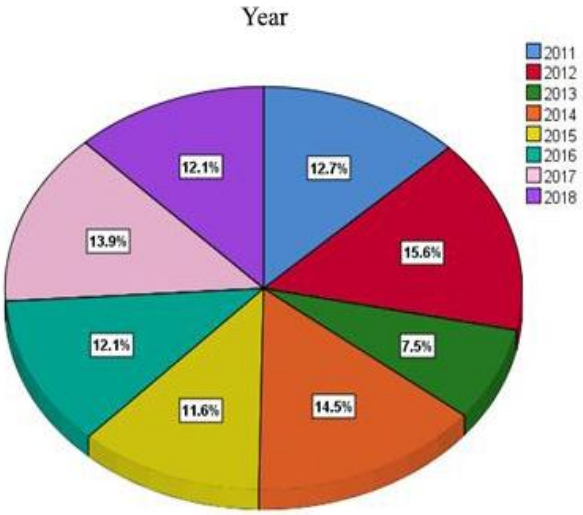

Figure 10: Chart of the Relative Distribution of Prematurity After A Cs By Years Of Study.

Descriptive Statistics of Quantitative Study Variables

Table (10): Descriptive Statistics For Fetal Gestational Age And Birth Weight In The Study Sample.

For Age Descriptive									
	N	Mean	Std. Deviation	Mod	Median	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Gestational age (weeks)	173	32.4	2.8	36	33	32.02	32.87	24	36
Birth weight (gram)	173	1776.3	539	1500	1750	1695.41	1857.19	650	3000

From Table (10) we see:

- The mean gestational age of the women in the study sample was 32.4 weeks with a standard deviation of 2.8 weeks, their gestational ages ranged from 24 to 36 weeks with a median value of 33 weeks and the most frequent gestational age was 36 weeks.
- The mean birth weight of the newborn for the women in the study sample was 1776.3 grams with a standard deviation of 539 grams. Their weight ranged between 650 and 3000 grams with a median value of 1750 grams and the most frequent birth weight was 1500 grams.

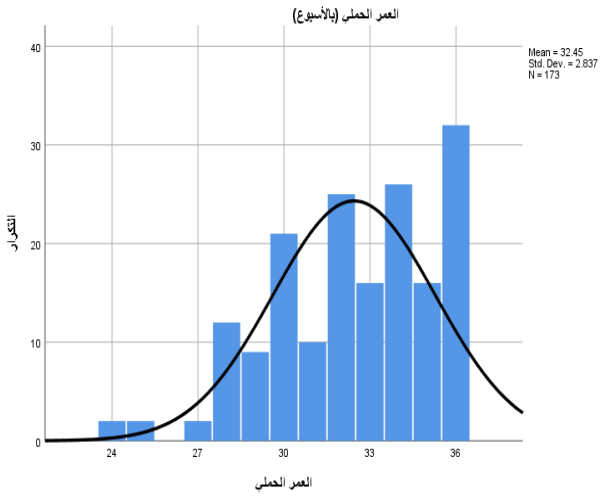

Figure 11: Histogram of Gestational Age.

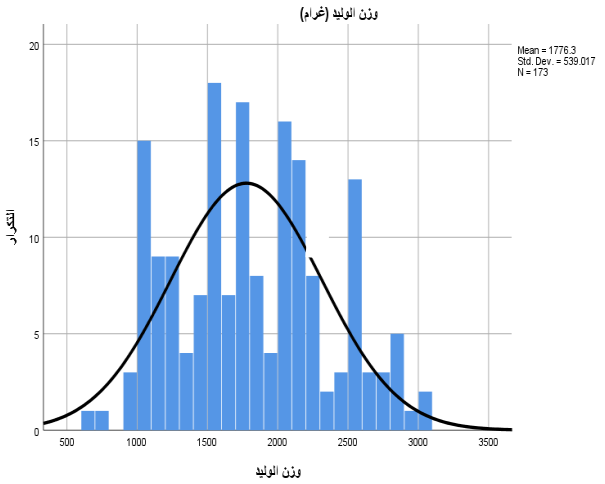

Figure 12: The Histogram of Birth Weight.

Numbers and percentages of caesarean sections in each year of study

Table (11): Relative Distribution of Caesarean Sections In Each Year of The Study.

Years		N	%	95% CI
2010	No. of cesarean deliveries	1403	23.7	[22.7, 24.7]
	Total number of all births	5930		
2011	No. of cesarean deliveries	1233	23.3	[22.3, 24.3]
	Total number of all births	5279		
2012	No. of cesarean deliveries	1126	23.5	[22.5, 24.5]
	Total number of all births	4780		
2013	No. of cesarean deliveries	1020	26.3	[24.9, 27.6]
	Total number of all births	3879		
2014	No. of cesarean deliveries	1300	29.8	[28.5, 31.2]
	Total number of all births	4360		
2015	No. of cesarean deliveries	1122	22.6	[21.5, 23.8]
	Total number of all births	4952		
2016	No. of cesarean deliveries	1240	23.5	[22.4, 24.7]
	Total number of all births	5270		
2017	No. of cesarean deliveries	1314	22.6	[21.5, 23.6]
	Total number of all births	5822		
2018	No. of cesarean deliveries	1628	21.7	[20.8, 22.7]
	Total number of all births	7489		

Table (11) shows the rates of caesarean sections among all births that were in the hospital for each of the studied years , In 2011 the proportion of cesarean deliveries among all births was 23.7% with 95% confidence interval for this percentage [22.4%, 24.7%], and the other years in the table are explained in the same way.

Numbers and percentages of preterm births in each studied year

Table 12: Percentage Distribution of Preterm Infants After A Caesarean Section In Each Studied Year.

Years		N	%	95% CI
2010	No. of preterms after a CS	19	1.3	[0.7 , 2]
	Total No. of cesarean deliveries	1403		
2011	No. of preterms after a CS	22	1.8	[1 , 2.5]
	Total No. of cesarean deliveries	1233		
2012	No. of preterms after a CS	27	2.4	[1.5 , 3.3]
	Total No. of cesarean deliveries	1126		
2013	No. of preterms after a CS	13	1.3	[0.6 , 2]
	Total No. of cesarean deliveries	1020		
2014	No. of preterms after a CS	25	1.9	[1.2 , 2.7]
	Total No. of cesarean deliveries	1300		
2015	No. of preterms after a CS	20	1.8	[1 , 2.6]
	Total No. of cesarean deliveries	1122		
2016	No. of preterms after a CS	21	1.7	[1 , 2.4]
	Total No. of cesarean deliveries	1240		
2017	No. of preterms after a CS	24	1.8	[1.1 , 2.5]
	Total No. of cesarean deliveries	1314		
2018	No. of preterms after a CS	21	1.3	[0.7 , 1.8]
	Total No. of cesarean deliveries	1628		

Table (12) shows the rates of preterm birth after a caesarean section in each of the studied years , In 2011 the rate of preterm births among CS was 1.3% with 95% confidence interval for this rate [0.7%, 2%], and the other years in the table are explained in the same way.

Part II: Statistical relations

First: Comparing Rates of Preterm Births After A Caesarean Section In Each Studied Year With 2010 (Before The Syrian Crisis).

Table 13: The Standard Z Natural Test For Comparing Preterm Birth Rates After A Caesarean Section Between 2010 and 2011.

				Z Test	
Years		**N**	**%**	**Z value**	***p.value**
2010	No. of preterm births after CS	19	1.3	-0.89	0.373
	Total No. of cesarean deliveries	1403			
2011	No. of preterm births after CS	22	1.8		
	Total No. of cesarean deliveries	1233			

**Statistically significant at (p-value ≤0.05)*

Table (13) shows that there are no statistically significant differences in the percentage of preterm births after a caesarean section between 2010 and 2011 (1.3% vs. 1.8%), respectively, where is $(Z = -0.89, p.v = 0.373 > 0.05)$

Table (14): The standard Z natural test for comparing preterm birth rates after a caesarean section between 2010 and 2012.

				Z Test	
Years		**N**	**%**	**Z value**	***p.value**
2010	No. of preterm births after CS	19	1.3	-1.952	0.051
	Total No. of cesarean deliveries	1403			
2012	No. of preterm births after CS	27	2.4		
	Total No. of cesarean deliveries	1126			

** Statistically significant at (p-value ≤0.05)*

Table (14) shows that there are no statistically significant differences in the percentage of preterm births after a caesarean sections between 2010 and 2012 (1.3% vs. 2.4%) respectively, but the statistical significance value is critical.

Table 15: The Standard Z Natural Test For Comparing Preterm Birth Rates After A Caesarean Section Between 2010 And 2013.

				Z Test	
Years		**N**	**%**	**Z value**	***p.value**
2010	No. of preterm births after CS	19	1.3	0.170	1
	Total No. of cesarean deliveries	1403			
2013	No. of preterm births after CS	13	1.3		
	Total No. of cesarean deliveries	1020			

**Statistically significant at (p-value ≤0.05)*

Table (15) shows that there are no statistically significant differences in the percentage of preterm births between caesarean sections between 2010 and 2013 (1.3% vs. 1.3%), respectively, $(Z = 0.170, p = 1 > 0.05)$.

Table 16: The Standard Z Natural Test For Comparing Preterm Birth Rates After A Caesarean Section Between 2010 And 2014.

				Z Test	
Years		**N**	**%**	**Z value**	***p.value**
2010	No. of preterm births after CS	19	1.3	-1.168	0.243
	Total No. of cesarean deliveries	1403			
2014	No. of preterm births after CS	25	1.9		
	Total No. of cesarean deliveries	1300			

**Statistically significant at (p-value ≤0.05)*

Table (16) shows that there are no statistically significant differences in the percentage of preterm births after a caesarean sections between 2010 and 2014 (1.3% vs. 1.9%), respectively, $(Z = -1.168, p = 0.243 > 0.05)$.

Table 17: The Standard Z Natural Test For Comparing Preterm Birth Rates After A Caesarean Section Between 2010 And 2015.

				Z Test	
Years		**N**	**%**	**Z value**	***p.value**
2010	No. of preterm births after CS	19	1.3	-0.568	0.569
	Total No. of cesarean deliveries	1403			
2015	No. of preterm births after CS	20	1.8		
	Total No. of cesarean deliveries	1122			

**Statistically significant at (p-value ≤0.05)*

Table (17) shows that there are no statistically significant differences in the percentage of preterm births after a caesarean section between 2010 and 2015 (1.3% vs. 1.8%), respectively, $(Z = -0.658,\ p.v = 0.569 > 0.05)$.

Table (18): The Standard Z Natural Test For Comparing Preterm Birth Rates After A Caesarean Section Between 2010 And 2016.

				Z Test	
Years		**N**	**%**	**Z value**	***p.value**
2010	No. of preterm births after CS	19	1.3	-0.713	0.476
	Total No. of cesarean deliveries	1403			
2016	No. of preterm births after CS	21	1.7		
	Total No. of cesarean deliveries	1240			

**Statistically significant at (p-value ≤0.05)*

Table (18) shows that there are no statistically significant differences in the percentage of preterm births after a caesarean section between 2010 and 2016 (1.3% vs. 1.7%), respectively, $(Z = -0.713,\ p.v = 0.476 > 0.05)$.

Table 19: The standard Z natural test for comparing preterm birth rates after a caesarean section between 2010 and 2017.

				Z Test	
Years		**N**	**%**	**Z value**	***p.value**
2010	No. of preterm births after CS	19	1.3	-0.986	0.324
	Total No. of cesarean deliveries	1403			
2017	No. of preterm births after CS	24	1.8		
	Total No. of cesarean deliveries	1314			

**Statistically significant at (p-value ≤0.05)*

Table (19) shows that there are no statistically significant differences in the percentage of preterm births after a caesarean sections between 2010 and 2017 (1.3% vs. 1.8%), respective, $(Z = -0.986,\ p.v = 0.324 > 0.05)$.

Table 20: The Standard Z Natural Test For Comparing Preterm Birth Rates After A Caesarean Section Between 2010 And 2018.

				Z Test	
Years		**N**	**%**	**Z value**	***p.value**
2010	No. of preterm births after CS	19	1.3	0.155	1
	Total No. of cesarean deliveries	1403			
2018	No. of preterm births after CS	21	1.3		
	Total No. of cesarean deliveries	1628			

** Statistically significant at (p-value ≤0.05)*

Table (20) shows that there are no statistically significant differences in the percentage of preterm births after a caesarean sections between 2010 and 2018 (1.3% vs. 1.3%), respectively $(Z = 0.155,\ p.v = 1 > 0.05)$.

Second: Studying the statistical differences between the levels each of the variables of the study: in order to determine the characteristics of the newborn or newborn mother we studied The statistical differences between the levels of each studied variable (neonatal sex, maternal age group, neonatal blood group, ...) in the sample using

the conformity test by applying the Chi-Square statistic, the results are shown in the following table [21].

Table (21): The Statistical Differences Of The Studied Characteristics.

The studied characteristics of the women or their children in the sample	Variables	N	%	Chi-Square value	P-value
Newborn sex	Male	101	58.4	4.861	0.027
	Female	72	41.6		
Total		173	100.0		
Maternal age group	< 20 years	19	11.0	172.208	0.000
	20 - 34	139	80.3		
	> 34 years	15	8.7		
Presence of pathological precedents	Exist	42	24.3	45.786	0.000
	None	131	75.7		
Total		173	100		
Pathological precedents	Abortions	23	54.8	34.429	0.000
	Bicornate uterus	2	4.8		
	Chronic hypertension	3	7.1		
	Past uterus rupture	1	2.4		
	Sepsis during pregnancy	8	19		
	Preeclampsia	2	4.8		
	Anemia	1	2.4		
	Gestational diabetes	2	4.8		
Total		42	100		
No. of previous births	None	47	27.2	64.136	0.000
	1 previous birth	21	12.1		
	≥ 2 previous births	105	60.7		
Total		173	100		
Maternal blood group	A+	81	46.8	186.59	0.000
	A-	6	3.5		
	B+	28	16.2		
	B-	4	2.3		
	AB+	13	7.5		
	O+	36	20.8		
	O-	5	2.9		
Total		173	100		
Neonate blood group	A+	76	43.9	148.676	0.000
	A-	3	1.7		
	B+	29	16.8		
	B-	1	.6		
	AB+	11	6.4		
	O+	50	28.9		
	O-	3	1.7		
Total		173	100		

- Table (21) shows the following:
- There are statistically significant differences between the sex of the preterm neonate as this difference was in favor of the male sex by 58.4%. $\left(\chi^2 = 4.861, p = 0.027 < 0.05\right)$
- There are statistically significant differences among the age groups of sample and this difference was in favor of the age group [20 -34] by 80.3%. $\left(\chi^2 = 172.208, p = 0.000 < 0.05\right)$
- There are statistically significant differences between the presence or absence of pathological

precedents in the sample $\left(\chi^2 = 45.786, p = 0.000 < 0.05\right)$ This difference was in favor of women who did not have a history (75.7%).

- There are statistically significant differences between the pathological precedents found in the women of the study $\left(\chi^2 = 34.429, p = 0.000 < 0.05\right)$ This difference was in favor of women who had abortions (54.8%).
- There are statistically significant differences between the number of previous births among the sample $\left(\chi^2 = 64.139, p = 0.000 < 0.05\right)$ This difference was in favor of the study women who had two or more previous births by 60.7%.
- There are statistically significant differences between the blood groups of the study women $\left(\chi^2 = 186.59, p = 0.000 < 0.05\right)$ This difference was favorable to the women with blood group A+ by 46.8%
- There are statistically significant differences between the newborn blood group $\left(\chi^2 = 148.676, p = 0.000 < 0.05\right)$ This difference was in favor of neonates with blood group A+ by 43.9%.

DISCUSSION

The comparison of our research with other studies showed the following :

the study in Brazil[1]

- The mean prevalence of caesarean sections in our studied years was 24.1%, while the rate was higher in this Brazilian study and estimated at 55.5%, and therefore the average number of preterm births after a caesarean section in our study is estimated at 1.7% and in the other study 3.1%.[1]

- Our study had similar results to this study according the maternal age group , The age group (20 - 34 years) was the highest in both studies.[1]

- The two studies also resembled in terms of sample factors that most of the samples did not have a previous cesarean section, the proportion of these samples in our study was 46.8%, while in the other study 55.17%.[1]

- In our study there was no significant correlation between increased cesarean section rate and increased number of preterm births, unlike the other study.[1]

Another study conducted in Syria[2]

- The prevalence of caesarean section in our study at Al-Zahrawi Hospital - Damascus in 2010 was 23.7%, whereas in this study in 2010 it was estimated 29% at Al-Tawlid hospital – Damascus.-

- In our study, the prevalence of CS increased after the beginning of the Syrian crisis (after 2010) until it reached its peak in 2014 and was estimated at 29.8% in Al-Zahrawi Hospital. After 2014 and reaching 2018 This percentage declined to a similar shape as it was in 2010 before the crisis.

But In this other study, the prevalence of caesarean section increased after the Syrian crisis, as in our study, but reached its peak in 2017, estimated at 51% in Al-Tawlid hospital - Damascus[2], while in our study in 2017 it was estimated at 22.6%.

-Other studies:

- There is an international study that examined the effects of caesarean section on mothers and newborns, our study was similar to this study in terms of the slightly increased rate of preterm births after a CS.[5]

- Our study is similar to one of the global studies, and in this study there is a difference from ours that showed a clear increase in the rate of preterm birth after a caesarean section compared with preterm birth after a normal birth, while in our study it was mild and not that significant.[6]

- There is a difference between our study and a study conducted in Sweden in terms of indications of caesarean section , maternal indications (such as cesarean precedents - early labor ..) accounted for one third of the indications in the Sweden study and fetal indications accounted for two thirds.[7] While In our study, maternal indications were the largest proportion.

- Another global study, which shows that when performing a caesarean section in the second stage of labor, there is an increased risk of preterm birth in the next pregnancy[8]

While our study did not study the time of cesarean section performed according to labor and whether this factor has a role or not in increasing the rate of preterm birth.

CONCLUSION

There may be a risk for increased rate of preterm births because of the increasing CS rate, in our study there was no significant evidence for that, we think it's due to our small sample size because as we seen in the other global studies that had a much larger sample size they clarified that there is a relation between the increasing rates of CS and the increased risk of preterm births.

Limitations

- The inability to take more information about the study samples from patient files may be related to the problem such as: financial condition and poverty - marital status - educational level of the mother, because some of this information is not mentioned in the sample records
- Small sample size: The sample size represents only one hospital in our country, we could have had a bigger idea of the problem if there was a large database of several health centers
- Difficulty in collecting data from sample records because some important information were not recorded by the medical staff or wrongly recorded.

Recommendations

- Awareness of the problem of prematurity and risk factors and the importance of follow-up visits during

pregnancy to avoid this problem as much as possible.

- Taking all the important details of the patients and fully recording them in their records.
- Working on a digital database in health centers in Syria.

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