

An-Najah National University

Faculty of Graduate Studies

**Risk Factors Associated With Cesarean Sections In Jenin,
Palestine· 2015 Descriptive Study**

Prepared by

Lina Hassan Zaidan

Supervised by

Dr.Eman Alshawish

**This Thesis is Submitted in Partial Fulfillment of the Requirements for
the Degree of Master of Public Health, Faculty of Graduate Studies,
An-Najah National University, Nablus-Palestine.**

2016

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Palestine, 2015 Descriptive Study**

**By
Lina Hassan Zaidan**

This Thesis was Defended Successfully on 20/9/2016 and approved by:

Defense Committee Members

- 1. Dr.Eman Alshawish /Supervisor**
- 2. Dr. MunaAhmead / External Examiner**
- 3. Dr. Hamzeh Al zabadi / Internal Examiner**

Signature

Eman Alshawish

Dr. Muna AHmed

[Signature]

Dedication

إلى من وقف بجانبى و ذللا لى الصعاب و لهما الفضل بعد الله فىما أنا فىه أبى و أمى أمد الله
بعمهما و قدرنى على برهما .

إلى إخوتى الغاللىن رنا و على و الممىزة حنان بارك الله لى فىهم و بشرنى بالخر لهم .

إلى زوجى (أبو غىث) رفىق الدرب و الحىاة .

إلى ابنى (غىث) و ابنتى (دىنا) الأحباء حفظهما الله .

إلى أسرتى الكبىرة الغاللىة و اخص بالذكر حماتى العزىزة .

إلى زملائى و زمىلاتى فى العمل (مؤنس و وفىة و مجد) و رئىسى (سعادة القاضى بشار النمر)
الذىن لم يدخروا جهداً فى مساعدتى .

Acknowledgments

أود أن أتقدم بالشكر و التقدير و الإهداء.....

إلى أستاذتي د. إيمان الشاويش لما استفدت من علمها ولما قدمته لي من مساعدة و حمداً لله
انه يسرها في دربي و يسر بها أمري.

إلى جامعة النجاح الوطنية و طاقم قسم ماجستير الصحة العامة بإدارتها و أساتذتها الكرام.

وإلى طاقم التمريض و إدارة مستشفى الأمل في جنين للمساهمة في إنجاز هذا العمل، وأخص
بالذكر لرئيسة التمريض (أم جورج).

إلى كل من ساعدني و قدم لي يد العون و اخص بالذكر زميلتي و صديقتي مرح ابو صالحه.

إقرار

أقر أنا الموقع أدناه ،مقدم الرسالة التي تحمل العنوان:

عوامل الخطر المرتبطة بالولادة القيصرية في مدينة جنين ، 2015 دراسة وصفية

**Risk Factors Associated With Cesarean Sections In Jenin, Palestine,
2015 Descriptive Study**

أقر بأن ما اشتملت عليه هذه الرسالة هي من نتاج جهدي الخاص ، باستثناء ما تمت الإشارة إليه
حيثما ورد، وإن هذه الرسالة ككل، أو أي جزء منها لم يقدم من قبل لنيل أي درجة أو لقب علمي
أو بحثي لدى أي مؤسسة علمية أو بحثية أخرى.

Declaration:

The work provided in this thesis, unless otherwise referenced, is there
searcher's own work, and has not been submitted elsewhere for any other
degree or qualification.

Student's Name:

اسم الطالب: لينا حنن زيدان

Signature:

التوقيع: 

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List of variables definition

Page no	Variables	Conceptual definition	Operational definition
1	Obstetric risk factors	Risk factors of pregnancy, labour, and the puerperium (Al Busaidi et al.,2012).	Previous CS, parity, history of miscarriage, contraceptive methods (Al Busaidi et al.,2012).
2	Non-obstetric risk factors	Risk factors of socio-demographic and environmental factors (Al Busaidi et al.,2012)	Measurements of age-education-place of residency-smoking-sports (Al Busaidi et al.,2012).
3	Maternal age	The age of them other at the period of conception (Gutemal et al., 2014).	1. 15-27years old 2.28-34years old 3.35 and above years old(Gutema et al.,2014)
4	Body mass index (BMI)	Body mass in kg divided by height in meters squared(kg.m ⁻²) used to evaluate the extent of adiposity(Poobalan et al., 2008).	WHO classification for BMI is less than 18.5, underweight;18.5-24.9, normal weight;25-29.9,pre-obese;30-34.9,obese class I; 35-39.9,obese class II; greater than 40,obese class III (Poobalan et al., 2008).
4	Gestational age	Gestational age of the newborn can be estimated by noting various physical characteristics that normally appear at each stage of fetal development (Gutema et al., 2014).	Number of weeks of pregnancy. The full term of pregnancy is forty weeks (Gutema et al., 2014).

5	Gestational diabetes	Involves a defect in the way the body processes and uses sugars (glucose) in the diet (Khalifeh et al., 2014).	High blood sugar during pregnancy (Khalifeh et al., 2014).
6	Blood hypertension	a. Abnormally elevated arterial blood pressure. b. Arterial disease marked by chronic high blood pressure (Huesch et al., 2015).	PB equal or more than 140/90 (Huesch et al., 2015).
7	Hemorrhage	Losing blood as a result of the rupture or severance of blood vessels (Katy et al., 2014).	Uterine bleeding during current pregnancy (Katy et al., 2014).
8	Anemia	Reduction below normal of the number of erythrocytes, quantity of hemoglobin, or the volume of pack red cells in the blood; a symptom of various diseases and disorders (Katy et al., 2014).	Hb level (g/dl) equal to 10 or below (Katy, et al., 2014).
9	Pre-eclampsia	A toxic condition of pregnancy characterized by high blood pressure, protein in the urine, abnormal weight gain, and edema (Huesch, et al., 2015).	New onset of hypertension and either proteinuria or end-organ dysfunction or both after 20 weeks of gestation in a previously normotensive woman (Huesch et al., 2015).

10	Heart disease	A structural or functional abnormality of the heart, or of the blood vessels supplying the heart that impairs its normal functioning.	Heart dysfunction
11	Contraceptive methods	A substance or device capable of preventing pregnancy (Al Busaidiet al.,2012).	Pregnancy prevention (Al Busaidiet al.,2012).
12	Congenital mal-formation	A physiological or structural abnormality that it could be developed at or before birth and it is present at the time of birth, especially if it is a result of faulty development, infection, heredity, or injury (Marie et al., 2013).	Birth defects (Marie et al., 2013).
13	Intensive care unit	A hospital unit in which is concentrated with special equipment and specially trained personnel for the care of seriously ill patients that require immediate and continuous attention (Marie et al., 2013).	Vaginal or Caesarian section, GA, BW, single or multiple births, diagnoses of any diseases, the duration of survival (Marie et al., 2013).

14	APGAR score	A method that it is used for determining an infant's condition at birth by scoring the heart rate ,respiratory effort ,muscle tone, reflex, irritability, and color. Each of the factors is rated 60 seconds after birth and again five minutes later. The Apgar score is an objective way of assessing and describing an infant's adaptation to extra uterine life (Marie et al., 2013).	The infant is rated from 0 to 2 on each of the five items, the highest possible score being 10 (Marie et al., 2013).
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List of Abbreviations

List of abbreviation	Explanation
ACU	Antenatal care unit
APGAR	Appearance, Pulse, Grimace, Activity, and Respiration.
BA	Bachelor
BP	Blood presser
BMI	Body mass index
C/S	Cesarean Section
CM	Centimeter
DM	Diabetes Mellitus
DV	Dependent variables
EBSCO	Elton B. Stephens company
ECS	Emergency cesarean section
GA	Gestational age
GD	Gestational Diabetes
HINARI	Health internetwork Access to research initiative
IRB	Institutional review board
IUCD	Intrauterine contraceptive device
IV	Independent variables
LRTI	Lower Respiratory Tract Infection
LBW	Low Birth Weight
NICU	Neonatal intensive care unite
PI	Personal investigator
Q	Question
RF	Risk Factor
SPSS	The Statistical Package Of Social Sciences
TOLAC	Trail of labour after caesarean
UK	United Kingdom
VND	Vaginal Normal Delivery
WHO	World Health Organization

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Abstract

1. Background

During the period from 2010 to 2015, the percentage of live births delivered by cesarean section (CS) in Palestine progressively increased. This rate exceeds the World Health Organization's recommended percentage of between 10-15% (2010).

2. The aim of the study

The aim of my study is to assess the common non-obstetric and obstetric risk factors of CS in Jenin. Moreover, it aims to determine the CS neonatal outcome.

3. Methodology

A descriptive study was conducted using a standardized questionnaire to determine the independent risk factors that are related to CS. A total of 300 participants (150 cases who had a CS and 150 who had spontaneous vaginal delivery) were selected from three hospitals in Jenin, Palestine from February, 2016 to April, 2016, and they have been interviewed through face-to-face interviews.

4. Results

The following independent risk factors were found to be significant association ($P>0.05$) with increased risk of CS: over-weight before and during pregnancy; having edema, anemia, bleeding or high blood hypertension during pregnancy; mal-presentation of fetus; higher level of education; living in village; history of eclampsia; previous CS; more gestational age; head circumference of newborn, use of pregnancy fixatives products, and use of IUD contraceptive methods. However, the independent factors that might help patients avoid cesarean section were practicing exercise before pregnancy, increase number of antenatal visits, and using of safe medical herbs.

5. Conclusion

The study highlights the important of increasing awareness about clinical and public health majors that would lead to prevention of risk factors associated with increased risk of cesarean section. To decrease the risks, maintaining normal BMI, practicing sports, the importance of adequate antenatal visits, and prevention of any complications during pregnancy.

Keywords: Obstetrics; Non-obstetrics; Cesarean section.

Chapter One

1.Introduction

Using cesarean sections a delivery method is a global and a local issue, and its incidence rate increased during the five year period of 2010 to 2015, according to the World Health Organization report(2014),and to the statistics of the annual report of the Palestinian Ministry of Health (Al-Bitar J,et al., 2011; Gunter 2015).

The number of cesarean section (CS) deliveries continues to increase in both the developing and in the most developed countries. The prevalence exceeded the world health organisation with recommended rate of 10–15%(2014). WHO has pointed out that there is no justification for any region to have a rate higher than the recommended rate (WHO,2010).

The percentage of cesarean sections in 2010 increased to 4.8% when compared to the percentage of the same period in 2009, while in 2011, the number of cesarean deliveries in West Bank and Gaza strip was 14,511births (Al-Bitar et al., 2012). In addition, according to the annual report of the Palestinian Ministry of Health in 2013, the total number of births in 2013 reached to 40,058, which included 7,533 cesarean sections (Al-Bitar et al., 2014).

Moreover, the percentage of the cesarean sections in the Palestinian hospitals inmid-2015 was24.4% according to the mid -annual report of the

Palestinian Ministry of Health in 2015 (Al-Bitar et al., 2015) as seen in Table 1.

Table 1: The percentage of CS in Palestine

Years	Percentage of CS in Palestine
2010	16.7%
2011	20.7%
2012	18.7%
2013	18.8% only in west bank
2014	22.4%
Mid of 2015	24.4%

According to Table 1, the percentage of the cesarean births has increased over the period of 2010 to 2015. There have been various studies to examine the obstetric and non-obstetric risk factors associated with CS (Aghdash & Ghojazadeh M, et al., 2014), (Poobalan A, Aucott L S, et al., 2008), (Patel R, Peters T, Murphy D, et al., 2005), (Gutema H, Shimye A. 2014) have examined the obstetric and non-obstetric risk factors that are associated with cesarean sections. Moreover, there is a lack of this kind of published research in Palestine.

1.1.1. Non-obstetric Risk Factors

The rate of the cesarean sections increases with the maternal age, particularly over the age of 35 years and more; this is due to the increasing of the proportion of mal-presentation, the labour dysfunction, and the labour complications (Stotland, et al., 2004). Moreover, CS is higher among first-time mothers and among the women who have 3 or more life births (Gomes et al., 1999).

Additionally, the extremes of the neonatal birth weight were associated with emergency cesarean sections (J-shaped) as it increases the new born head circumference(Riskin et al., 2014). CS is higher for birth weight that is more than3000 g (Villar et al.,2006). While cesarean delivery increased 1.5 times with overweight women, it rose even higher with obese pregnant women at a rate of raised 2.25 times more likely(Poobalan et al., 2008).In addition to the above non obstetric factors, short-stature mothers who are 155 cm or below had statistically significant higher rates of CS (David et al., 2015). The CS rate tended to rise with increased maternal schooling and with women who were working outside the house(Gulati et al. 2012).

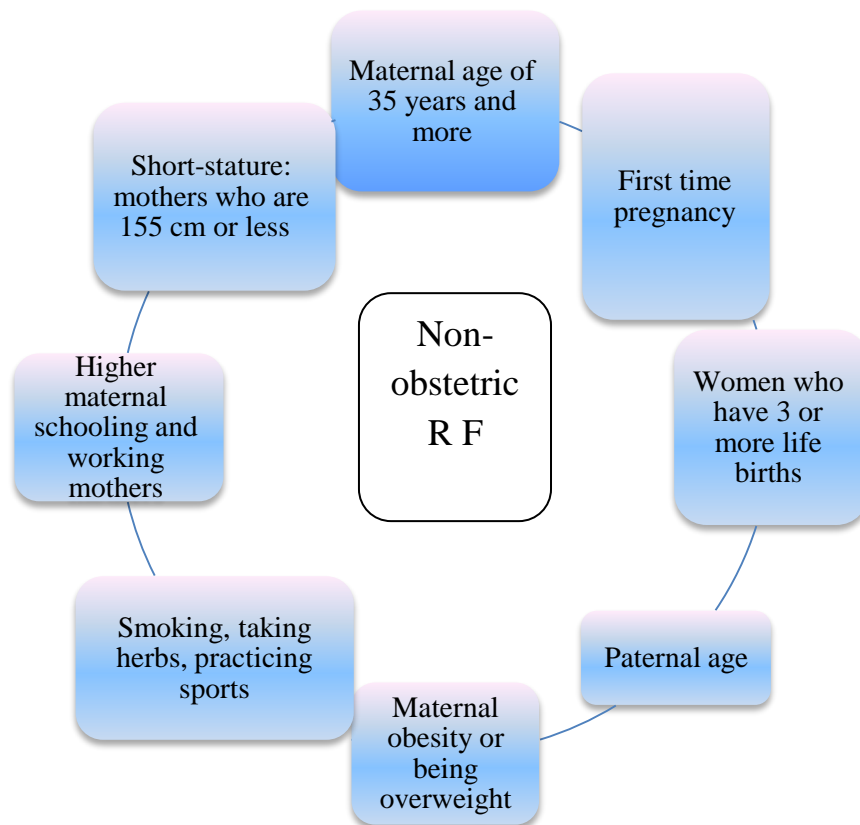


Figure 1: List of non-obstetric risk factors

1.1.2.Obstetricriskfactors

1.The obstetric history is a factor. Womenwho have previous pregnancy that ended in stillbirth, miscarriage, or termination will be two times more likely to have an emergency cesarean section(Gomes et al ., 1999; Poobalanet al ., 2008).

2. The rate of CS among nulliparous women raises dramatically after 40 weeks of gestation(Gomes et al ., 1999; Peipert, et al .,1993).

3.Those with a previous cesarean section had increased risk of the second emergency CS because the previous CS increased risks for malpresentation, placenta previa, fail in prolong labour, antepartum hemorrhage, and preterm birth(Kennare et al., 2007;Heffner et al., 2003).

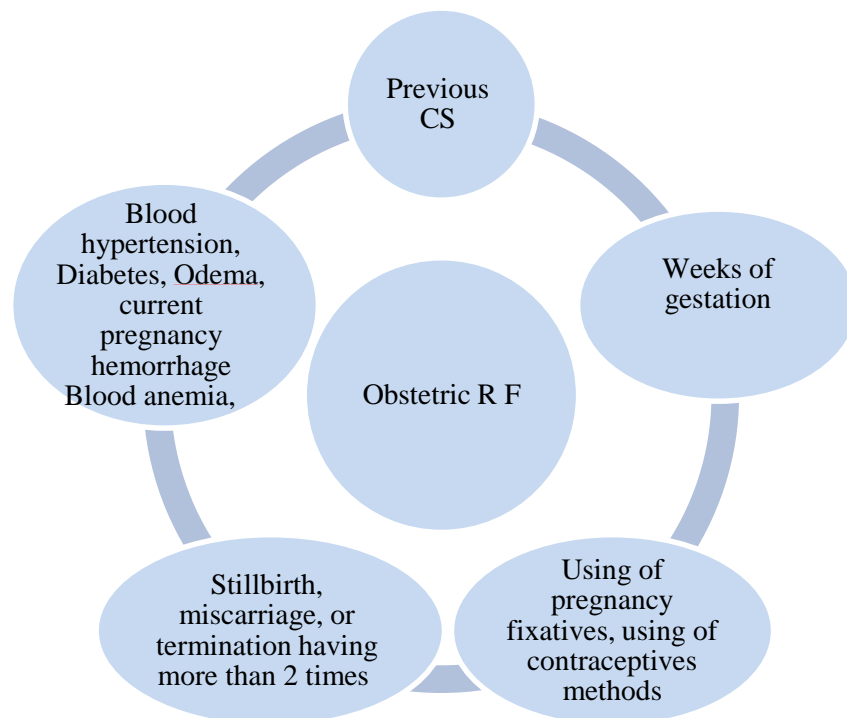


Figure 2: List of obstetric risk factors

1.1.3. Cesarean delivery and neonatal outcome

Evidence shows a strong correlation between CS & neonatal outcome. It increases the risks for the following:

1. Risk of respiratory setting
2. Low blood sugar
3. Poor temperature regulation
4. Slower neurological adaptation after birth
5. The differences in the levels of hormones and enzymes depress the function of the immune system (Riskinet al., 2014; Villar et al., 2006; Magnuset al.,2011).

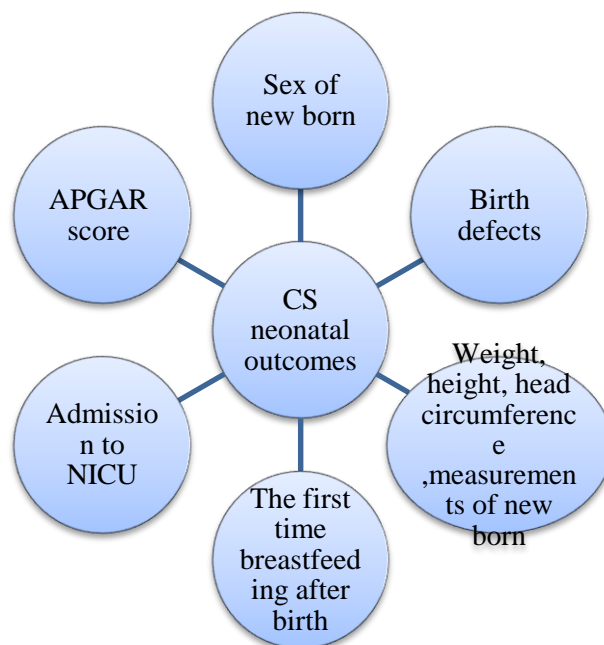


Figure 3: List of CS neonatal outcomes.

1.2. Significance of the study

This study provided an assessment about the risk factors that could be associated with CS in Jenin in 2015-2016, and neonatal risk factors that could be associated with CS by using descriptive study design. There are a lack of previous Palestinian studies that can assess the risk factors mentioned in the literature review; also, all of the Palestinian previous studies were cross sectional studies (Hanan et al., 2009; Abu Khaizaran et al., 2014).

Also, the percentage of CS in Palestine during the midpoint of 2015 was 24.4% and this percentage exceeded the WHO recommended prevalence rate (Al-Bitar et al., 2015).

1.3. The aim of the study

The aim of my study is to assess the common risk factors related with the cesarean section among women attended in the only three hospitals in Jenin city in 2016, also to determine the CS neonatal outcome.

1.3.1. Study objectives

1- To investigate the relationship between the non-obstetric risk factors, the mentioned and discussed risk factors, and the cesarean delivery rate.

2- To assess the correlation between the obstetric risk factors including the gestational age, gestational diabetes, number of previous CS, fetal presentation as factors associated with the cesarean delivery rate.

3-To assess the correlation between neonatal risk factors and having cesarean section and to identify the CS neonatal outcomes.

1.3.2. Hypothesis of this study

Table 2 H1 and H0 of the thesis

Study Hypothesis	Null hypothesis
There is a correlation between the obstetric independent risk factors and having CS.	No correlation between the obstetric independent risk factors and having CS.
There is a correlation between non-obstetric independent risk factors and CS.	No correlation between non-obstetric independent risk factors and CS.
There is a correlation between neonatal independent risk factors and CS.	No correlation between neonatal independent risk factors and CS.

1.4. Literature review

In order to acquire the required knowledge about the risk factors associated with CS, and to assess cesarean section neonatal outcomes including the parameters of some CS risk factors, the researcher has collected the required information from the academic databases such as google scholar, Ebsco, science direct and HENARI, and by using several keywords as follows:

(Cesarean section, obstetric, non-obstetric, cesarean delivery rate, risk factors, maternal age, gestational age, birth weight, diabetes, pregnancy

outcome, gestational weight gain, absorption, metabolism, oral progesterone, asthma respiratory tract infection).

Table 3: Keywords

	Term	Combined with
1	Cesarean section, OR cesarean delivery rate	And
2	Obstetric OR non obstetric , OR risk factors	
3	Maternal age OR gestational age	
4	Pregnancy outcome OR neonatal outcome	
5	Oral progesterone OR progesterone	

In the literature review, quantitative studies are included; some articles were excluded after review of the abstract reviewed and some were excluded after the full article had been reviewed.

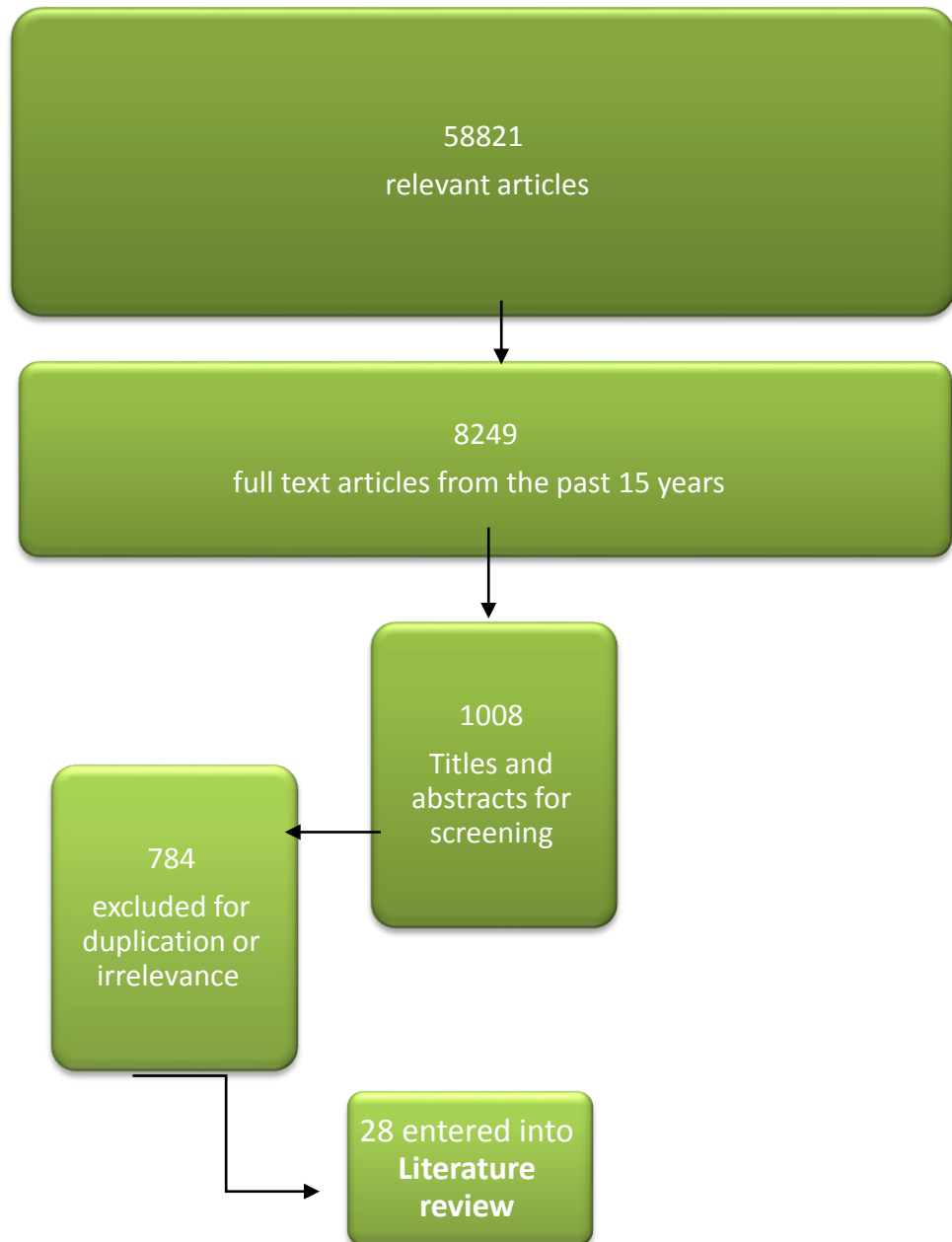


Figure4: Exclusion and inclusion criteria

This study included 28 studies from the literature review, with the following detailed paragraphs about the place, the date of the published studies, the aims of each one and the methodology that the authors have used, besides

the findings of each research. The data extraction sheet is presented in Annex3.

1.4.1. Local studies

A study was conducted in West bank and Gaza strip; the data was obtained from the Palestinian family health survey 2006 by using logistic regression method in order to examine services and clinical related factors, and the socio-demographic factors that are associated with CS in Palestine. They found that the low birth weight, primary birth, and maternal age above 35 years old are risk factors. They are significantly associated with CS in both Gaza and West bank (Hanan et al., 2009).

Another local study was conducted in 2014 in Haifa, Israel. The data was obtained from 18 months of medical records. The study's aim was to compare the neonatal outcomes between early neonatal gestational age elective CS and the neonatal outcomes that are delivered in their schedule. They found that the neonatal morbidity, including admission to intensive care and respiratory problems, are directly associated with early neonatal gestational age. This study is the first of its kind according to its research goals; also, it supplies readers with a clear picture of the neonatal outcome with early gestational age (Riskin et al., 2014).

Another important observational retrospective local study was performed in Almaqased and Al-Arabi specialized hospitals and sought to assess the effectiveness of progesterone peccaries in preventing preterm labour in

twin gestation. The statistical results show that there was significant association between the progesterone and emergency CS although it was found that progesterone did not prevent emergency CS. This result supports the researcher's idea about the association between the using of the progesterone and CS(Abu Khaizaran et al., 2014).

1.4.2. Medial Eastern Studies

A hospital-based case control study was conducted in Oman in order to examine the risk factors that are related to CS and to find the cesarean section neonatal outcome. The cases were randomly selected from the cesarean section and the normal vaginal delivery. They found that women who have high number of children and women who have family planning methods had a reduced risk of CS (except the use of intrauterine contraceptive device-IUCD). Moreover, the study established that were associated with having CS, which included the following: having a previous CS, a pregnancy after the age of 25 years old, obese women, neonatal overweight, and diabetes before pregnancy. However, the author of this study did not write about the neonatal outcomes of CS despite the fact that the neonatal outcome was one of the objectives of the study(Al Busaidi et al.,2012).

1.4.3. International studies:

A study that is entitled with “Gestational Weight Gain, Macrosomia, and Risk of Cesarean Birth in Non diabetic Nulliparas” was conducted in the United States in 2004, to investigate the excessive weight gain in non-diabetic women risk factor for cesarean birth by using cohort retrospective studies and singleton primary mothers. They found women who gain more weight than the guidelines allow are more likely to have CS except if neonatal weight is less than 4,000gram. Also, macrosomia, a new born who is significantly larger, was significantly associated with cesarean birth(Stotland et al., 2004).

Another important study was about age as risk factor for cesarean delivery. Peipert et al. (1993) divided the women into three groups based on ages: 35 and more, 30-34, and 20-29. The researcher found that the CS rate increased with the age of the pregnant women, so it is significantly associated with 35 years and more with (P-value:0.002). This association had been interpreted due to fetal mal-presentation. Cephalo-pelvic disproportion that was another risk factor which highly increases with old maternal ages. Also, the older first-time mother had prolonged second labour stage, dysfunction labour, and they were more likely to have labour complications(Peipert et al., 1993).

The study entitled Prevalence and causes of cesarean section in Iran: Systematic review and meta-analysis was conducted in 2013 was designed to discover and review the prevalence and the efficient factors of the cesarean section in Iran were based on the previous research selected from 34 articles. They found that the prevalence of CS was between 16.2%-66.5%. Moreover, they found that the causes of CS could be divided into three categories:

- 1.Social and demographical reasons (CS is high among women with high income).

- 2.Clinical and midwife causes as the previous CS and fetal distress, non-progressing vaginal birth.

- 3.Non-obstetric reasons including mother disease, and mother's vaginal delivery fear. This review also found that CS repetition increased 7 times with higher-education and late pregnant women(Kozhimannil et al., 2014).

Another study was conducted in Turkey in 2015 to assess the morbidity of the mothers gotten birth of 5 or more CS. They excluded the Syrian maternal refugees since the medical records were not available. The medical records and files, between 2012 and 2014 of A diyaman University Medical Faculty Training and Research Hospital's Obstetrics and Gynaecology Clinic were retrospectively examined. The authors found that the mothers who had CS 4 times were critical cases and had dangerous

levels because they increased the adhesions. The study concluded that, the vaginal delivery had to be recommended after CS(Kaplanoglu et al., 2015).

Moreover, a similar study about maternal health was conducted in the United States in 2011, To test the relation between developing asthma, wheezing, and the recurrent LRTI (lower respiratory tract infection) for neonatal up to 36 months with CS delivery. They found that the child who was born at 36 months was more likely to develop asthma, and this association was stronger for no atopic women. (RR= 1.17 and 95% CI;1.03-1.32). These results were the same for the elective and acute CS. In general, the newborn, who is delivered by CS, is more likely to have asthma, wheezing, LRTI than the newborn, who is delivered by VND(Normal Vaginal Delivery).In addition to that, the study showed us that the newborns, who are delivered by CS are more expected to mothers who are late pregnant(35year old and above), obese, primary birth, or mothers with previous CS (Magnus et al., 2011).

Another study was conducted in UK, 2008.To test the hypothesis about the association between the obesity and the risk of elective or emergency CS through using the systematic review and meta-analysis of the published cohort studies. They found that the BMI of the overweight CS women is (25-30), but for obese CS is (30-35), and the BMI of the morbidity obese CS is (above 35 Kg). The risk of CS increases 1.5 times in over weight mothers, but it increases 2.25 times with obese women when compared to mothers with a normal weight(Poobalan et al., 2008).

An important study was conducted in England, 2004, in order to investigate the prenatal risk factors that are associated with CS. A multi-variable regression model has been used to find the results. They found that the risk of CS increased with the previous CS, non-cephalic presentation, birth weight, recent obstetric history as miscarriage and stillbirth. Also the risk of CS increased if the newborn's head was large in circumference. The association decreased with the high parity and with the increasing gestational age (Patel et al., 2005).

Another cross sectional study was conducted in Mizan Aman General hospital Southwest Ethiopia, 2014. The medical files of mothers are based on the study that has been conducted in order to find the CS risk factors that caused CS highest rate. They found that there was negative association between CS and gestational age. Also CS increased with the maternal ages of 35 years and more. In addition to that, the neonatal who are born dead, significantly, they are associated with CS (Gutema H, et al., 2014).

Another study was conducted in Ghana, 2012. To find the cesarean section indicators and to determine the mothers undergoing cesarean delivery general characteristics. They used a retrospective cross sectional study. They found that the first-time mothers, young mothers, and high social class mothers are more likely to have cesarean section. As for fetal malpresentation and fetal distress, those were also significantly associated with CS (Gulati et al., 2012).

Further study was conducted in California, 2010. To determine the common main causes behind African American mothers and high CS prevalence. They found that African-American mothers had prolonged labour in comparison with other race, besides another common CS factors including first-time mothers, previous CS, mal-presentation, hypertension, pre-term gestational age, and fetal heart abnormalities. All these factors were responsible for high CS prevalence rate of this ethnicity (Huesch et al.,2015).

A retrospective study was conducted in Brazil in 2013 to estimate the CS risk factors, differences and changes over the time, between the period 1991-2006. The findings showed that: The common factors between 1991-1996 were women from the high income families, mothers with advanced education, late pregnant women, mothers from urban areas, and white mothers. During the period of 2000-2006, CS causes decreased among educated and urban mothers, but CS had significant difference between women from both periods(Raifman et al., 2014).

Another cross-sectional study was conducted in Germany,2014. To find the variation in CS prevalence through different social groups, immigrant and non-immigrant people and another risk factors. The data were gathered from three public hospitals in different cities in Germany not from the rural areas where the immigrants lived. They found that the prevalence of CS was the same between non-immigrant and immigrant groups while the CS

was high among old mothers, risk groups, and overweight fetes(David M, et al., 2015).

Another retrospective study was conducted in North Carolina city-USA, 2014. To test the association between pregnant mothers, weight gain, and the risk of having CS. They divided the weight measurements into four levels based on W/H(weight over height) with taking into consideration that $BMI \geq 30 \text{ kg/m}^2$ as obese pregnant women. They found the obese mothers are exposed to have CS more than normal weight mothers with 1.78 odds ratio (David M, et al., 2015).

Retrospective study was conducted in UK, 2012. It was under the title of paternal age and risk for cesarean delivery, this study aimed to examine the association between the fetal father age and the risk of cesarean delivery. The study included the African American and Caucasians fathers who had living births and excluded mothers who were having risk factors of CS in order to control the results. They found that the fetal father age, equal or above 40 years old, may be considered as risk factor for CS with ($p=0.0001$)(Faro R, et al., 2012).

Another study was conducted in Sweden, 2013.To search the probability of second CS. After having previous primary cesarean section, they took two groups from Swedish hierarchy published system; the first group had CS after previous primary CS. The second group was TOLAC(Trail Of Labour After Cesarean section). They found that pregnant women, who experience placenta-praevia and mal-presentation in the first CS birth, could

experience in-planned CS with (1.27 OR), while women who experienced risky pregnant, would have second CS with (3.87 OR). Moreover, the rate of TOLAC was 69 percent, and 1.1% of the pregnant who had TOLAC experienced uterine rupture(Fargerberg et al., 2013).

A cohort study was conducted in Norway,2007. To investigate the association between the maternal educational level and the risk of having CS. They found that the mothers, with low and medium levels of education, had high risk of cesarean delivery with (1.50 RR) for planned and urgent CS. This finding was discovered between the period 1967-2004. This results have been changed to positive ways during the period 2005-2007 because of the new social media and networks and the simplest tools at this time to get and to have the information (Mette C, et al., 2007).

Retrospective study was conducted in UK, 2008.To investigate the relation between maternal age and the risk of having CS and the biological basis for delaying labour of late pregnant women. They found that CS is associated with late pregnant womenwith (1.49 OR) because of the long period of the myomaterial contraction where the study found a negative linear regression between maternal and spontaneous uterine contraction (Gordon C, et al., 2008).

Retrospective review of cohort study was conducted in Ireland, 2014.To determine and to examine the association between the incidence of CS and gestational and pre-gestational DM. They found that the pre-gestational DM have high CS incidence rate with significant difference; this rate was

descending over the period of time between 1999 to 2008. While mothers with gestational DM were having higher stable CS incidence rate more than general population of the same period of that time, but it is not significant difference. In general, there is a positive linear relationship between CS and Hyperglycaemia (Khalifeh A , et al., 2014).

Important observational study was conducted in Turkey,2012. To find and determine the risk factors that are associated with the first birth cesarean section. The results of this study found that the factors of high educational level, maternal and paternal age, maternal weight gain, fetes weight, maternal height, and low dilatation of the cervices in the last induction stage were significantly associated with CS at the end of pregnancy (Karabulut A, et al., 2012).

Cross-sectional study was conducted in Arizona-USA, 2009. To study the factors that were associated with CS. After studying labour induction for the first-time mothers and multi-paria women, they found that the factors of mother age, medicine induction, level of education could associated with CS for the primiparia women, and factors of mother age, and medicine induction, could be associated with CS for the multi-paria mothers (Wilson et al., 2010).

A cross-sectional study was conducted in China, 2011to define the factors that were laying behind the high CS rate in China within the period of 1993-2008. They found that the high income, education, for the secondary

school and college and above, insurance coverage in the urban and rural areas were influencing the high rate of CS in China (Feng et al., 2012).

Another study was conducted at a hospital in Japan, 2013. To determine the reasons that are influencing the CS raising rate, in specific hospital in Japan, during the last 10 years. They found that the factors of breach-presentation, pre-gestational age birth, LBW, previous CS, sudden fatal death, primipara, were causing the progressive CS rate in the period 2002-2012(Suzuki et al., 2013).

Another study was conducted in London in 2005 to identify the factors that were associated with emergency CS within multi-ethnic society. They found that through a period of 3 years (2005 to 2008), emergency cesarean sections(ECS) were 12.4 percent of the total percentage of 10,217 births, while the scheduled CS were 7.4 percent from the same total births in north Middlesex Hospital. The factors that were associated with ECS included first-time mothers, mothers aged above 40 years old, and epidural analgesia(Jerneck et al., 2001).

One more retrospective study was conducted in Boston, Massachusetts, United States of America. This study analyzed data from 2009 to 2010 from the discharge files database of the national USA hospitals. The aim of this study was to examine the reason behind CS if it attributed to women clinical diagnosis. The author found that fetal distress, GD, gestational hypertension, hemorrhage during pregnancy, advanced age of the mother,

feto-pelvic obstruction, and large hospital size were significantly related to CS(Kozhimannil et al., 2014).

1.4.4.Literature review conclusion

The main findings of the previously mentioned studies and the extracted data were summarized the risk factors of CS as maternal advanced age, first-time mother, advanced paternal old age, overweight and obese mothers, maternal smoking, maternal schooling, mothers who work outside the home, maternal height, previous CS, weeks of gestation, use of contraceptives methods, maternal hypertension, diabetes, anemia, and neonatal measurements, and more of CS risk factors was listed in highlighted table see Annex (3) in order to facilitate the CS risk factors gathering.

Based on this Literature review, the questionnaires of this study has been developed as presented in Annex (1).

Chapter Two

Methodology

2.1. Study design: descriptive study

To achieve the main objectives of the study, a descriptive study that conducted, the study researcher looked back in time to discover what the exposures of our groups are that defined the risk factors, and the study compared two groups: the CS groups and VND in three hospitals in Jenin, Palestine.

A descriptive study was designed to identify the trend of cesarean sections in live births in this geographic region. situation. Moreover, the study's aim was also to provide information about the health status (Lewallen et al., 1998).

2.2. Study setting

The data of this study was obtained from the three hospitals in Jenin city: Dr. Khalil Suleiman governmental hospital in Jenin and two private hospitals(Al-Razi Hospital and Al-amal Hospital).

These hospitals were selected because they are the only three hospitals in Jenin city that have maternity sections.

1. Dr. Khalil Suleiman governmental hospital: The only government hospital in Jenin, located in the west of the city of Jenin Camp Street, was named in honor of the Martyr Dr. Khalil Suleiman.

2. Al-Razi hospital: a private hospital, followed to center zakat committee of Jenin, located in the center of Jenin city.

3. Al-amal Hospital: a private hospital followed to Society patient charitable friends, located in the west of the city of Jenin Camp Street.

2.3. Study population

The study population were women who had recently given birth through CS and VND in singleton pregnancies in the three selected hospitals.

2.3.1. Eligibility of the study

Mothers were included and excluded mothers in the study according to the following criteria presented in the following table:

Table 3: Criteria for study selection

Inclusive criteria	Exclusive criteria
Women who have recently given birth through vaginal or cesarean delivery in singleton pregnancies.	Twins or more.
	Refused to participate.
	Women who delivered at home.
	Women who have heart disease

The researcher excluded women who had heart disease, and caesarean delivery in twins or more pregnancies, because the hospital's protocol is to refer these cases directly to CS.

2.3.2. Definition of study population

2.3.2.1. First group

The first group consists of women who have recently given birth through cesarean delivery in singleton pregnancies in the one of the three hospitals that have been selected in the period from February 8, 2016 to April 8, 2016.

2.3.2.2. Second group

Is a group of women who have recently given birth through normal vaginal delivery in singleton pregnancies in one of the three hospitals that have been selected in the period from February 8, 2016 to April 8, 2016.

2.3.5. Identification of study population

The study includes mothers from the time period indicated who have had CS and have to stay at the hospital for at least two days according to the CS protocol in Palestine.

The cases of VND were recruited from the normal delivery department in the selected private and governmental hospitals. These subjects leave the hospital earlier after delivery than the CS cases, because they only have to stay 24 hours after delivery and before discharge.

Both CS cases and VD cases were selected from the same hospitals departments.

2.4. Sample size and sampling method

A permission to conduct the study in the hospitals' maternity unit was obtained from the Palestinian Ministry of Health (MOH) for the governmental hospitals and from the hospital's managers of the private hospitals. An explanatory letter for all participants was attached to each questionnaire that explained the aim, importance, confidentiality and anonymity of the information with optional participation (voluntary). Because the participants agreed to participate, a written and signed informed consent was obtained from each participant.

The study of population was recruited subjects from the normal vaginal departments in the hospitals (one governmental and two private hospitals), 150 of subjects vaginal delivery and 150 cesarean delivery. A convenience sample was recruited through the period between February 8, 2016 to April 8, 2016.

The researcher excluded mothers who did not want to participate, mothers who had heart disease, and those with multiple births.

Due to the administration of Al-Razi Hospital, the researcher was prevented from interviewing the mothers in the normal delivery section and the caesarean section. Al-Razi Hospital eventually released a list of phone numbers to the researcher so that the mothers meeting the criteria could be contacted. However, there were few phone interviews conducted because it was difficult to reach the mothers, many of whom were staying with family

after giving birth, or the mother had provided a number of a family member.

2.5. Data collection methods and instrument

The data gathering instrument was developed from the CS risk factors of the finding of 28 studies included in the literature review, and the extracted data consists of a five-part questionnaire; the first part includes socio-demographic characteristics of the participations; the second part includes a questions about the risk factors that are related to present pregnancy. The third part includes questions about the surgical and medical history and lastly questions about the risk factors that are related to obstetric history. The last part included questions about neonatal assessment using an Apgar score instrument to evaluate the outcome of neonate as seen in Table 4.

Table 4 List of variables included in the study questionnaires

#	Variable	Description
1	Maternal Age	15-49(childbearing age) <20 20-24 25 or over
2	Education	Illiterate Read and or write / primary /secondary /graduate & above
3	Maternal Occupation	Working or not working
4	Mode of delivery	Vaginal birth-cesarean birth
5	Gestational age	Determine the weeks pregnancy. 38 weeks / 38-40 weeks/ < 40 weeks>
6	Parity (Number of birth)	the number of children to which a woman has given birth
7	progesterone intake	include the type(duphastone-

		progesterone tablets or suppository)
8	Amount of progesterone intake	-close ended answers
9	Number of previous cesarean section	0 / 1 / 2 or above
10	Diabetes Mellitus	None –Gestational – Pre pregnancy
11	Hypertension	Diastolic equal or more than 90
12	Edema	For the face and hand and / or ankle
13	Type of birth spacing method in the past	Not used / pills / injection / ICUD / condom / other traditional methods
14	Anaemia	Hb:9gms or less
15	Body mass index (Gestational age = 12 or above)	Underweight (less than 18.5) Normal(18.5-24.9) Overweight (25-29.9) Obesity(over 30)
16	Fetal mal-presentation	Cephalic – Breech
17	Absence of fetal movement after 36 weeks	-----
18	Neonatal birth weight	Underweight(less 2.500 g) Normal(2.500-3.99 g) Overweight(above 400g)
19	Umbilical cord	Normal or not
20	Exclusive Breast -feeding	When was neonatal start breast-feeding
21	Congenital malformation	Normal or if any
22	Apgar score	Five factors are used to evaluate the neonatal condition : 1. Appearance 2. Pulse 3. Reflexes response. 4. Activity 5. Breathing effort and rate(Jerneck TH, et al.,2002).

See Annex (1)

2.5.1. Validity and reliability of the questionnaire

The content validity of the instrument that was used in the study was established by the recommendations of panel of four experts who have doctoral degrees in this field, and three gynecologists.

The experts recommended the following for the questionnaire:

1. Correct the grammatical issues of the questions in the study, also they asked the author to add certain questions related to using pregnancy products.
2. They suggested that the numbers of the questions be rewritten into serial numbers. One expert asked the researcher to add more information about the importance of the objectives of the study, which were already found in the consent form.
3. Number the questions in serial numbers, and to add three options for the answers of the question about residency. (1. City, 2.village, 3. Camp). Moreover, the experts asked the researcher to add question about the length of the mother, and they commented that the researcher has to add question about the mother's interest in playing sports before and during pregnancy. Additionally, they recommended the question that is about the position of the baby during the 36 weeks of gestation be rewritten, and to add more options for the answers. The experts asked the researcher to add questions about the epidural and its efficiency, and to add a question about the Apgar score.

The gynecologists:

1. They noted that the study needed a question about the reason for the first CS, which was already written.
2. Also, they advised the researcher to rewrite the question about edema in a more straightforward way. Otherwise, the questionnaire covers the whole factors that are related to CS.
3. Moreover, the gynecologists recommended that the study instrument cover the entirety of information needed to study the objectives of the research.

2.5.2. The reliability of the questionnaire

The reliability of the study instrument was determined by piloting of the questionnaire on 30 mothers who were not included in the study.

Piloting is trying out or the pre-testing for the study instrument (Edwin R, et al., 2001); this gives the researcher the warning signs about where could the study failed, or what the inappropriate question is. Therefore, the piloting of the questionnaire is a tool for assessing and developing the study instrument to ensure confidential scientific information collected by a standardized questionnaire that was gathered (Edwin R, et al., 2001).

After the piloting of the study questionnaire on 30 mothers, the researcher modified question number 10 from “How much was the weight of the mother after giving birth?” to “How much was the weight of mother before

birth? (the last reading of the weight).”The corrections were made according to the input in addition to modifying the results of all questions and converting them from open to closed answers and numbering the answers.

2.5.3. Cronbach test:

Accepted internal consistency of the study questionnaire through applying alpha cronbach test which was equal 0,78 (78%).This evaluation mean that the study questionnaire was acceptable(Mendenhall et al.,2009).

2.5.4. Missing data:

The researcher filled in the questionnaire with answers by herself because of the mother’s health condition after the CS surgery, so there was no missing data. The researcher checked that all questions are filled in without any missing items.

2.6.The study variables

The dependent variables are the outcomes or the outputs. In this study the DV are both CS and VND. These outcomes would be measured through the independent variables which mean the effects that caused the outcomes, as illustrated below in 2.6.2 section.

2.6.1.The dependent variable

Cesarean delivery and vaginal normal delivery.

2.6.2. The independent variables

CS mothers could be affected by the following variables:

A. Demographic data: maternal age, paternal age, level of education, marital age, occupation, mother length, mother overweight, and economical status.

B. Factors related to present pregnancy: numbers of antenatal clinical visits during pregnancy, the first time of antenatal clinical visit, the gestational age, having gestational diabetes mellitus, mother high blood pressure, mother anemia, fetes mal presentation during the 36 weeks of pregnancy, and the use of maintenance products.

C. Medical and surgical history: history of hemorrhage before birth, carrier for diabetes, history of eclampsia, the use of pregnancy contraceptives, and the kind of pregnancy contraceptives.

D. Obstetric history: the main reason of first CS, parity.

E. Neonatal assessment: the weight of newborn, the length of newborn, newborn defects, neonatal head circumference, neonatal residency in ICU, neonatal Apgar score.

Table 5: Five factors used to evaluate the neonatal condition

Factors	0 point	1 point	2 point
1. Pulse .	Absent	Below 100 bpm	Over 100 bpm
2. Reflexes response.	Floppy	Minimal response to stimulations	Prompt response to stimulations
3. Activity.	Absent	Flexed arms and legs	Active
4. Respiratory.	Absent	Slow and irregular	Vigorous cry
5. Appearance.	Blue and pale	Pink body, blue extremities	Pink

An Apgar score has been calculated according to the above table to evaluate the newborn health state. If the newborn has scores of 8 or above, it is a sign of good health; and if the new baby acquires less than 8, it means the baby is less than healthy, which is cause for concern (Jerneck et al., 2001).

2.7. Statistical analysis and management of the data

Quantitative data analysis of the questionnaire data results through using SPSS 24 (the statistical package of social sciences):

- **Alpha Cronbach:** tested to assess the reliability and the internal consistency of the study questionnaire.
- **Data checking:** the questionnaires were filled out by the researcher herself.

- **Data entry checking:** to establish the validity of input to SPSS. Questionnaires were taken randomly by the researcher and supervisor, and they were matched to the input numbers.
- **Data coding:** data were transformed to classified numbers on SPSS as for yes answer took the code 1, while no answer took the code 2.
- **BMI** was calculated through using the formula = mother's weight before pregnancy (Kg) divided by the mother's height (m)², (BMI; kg/m²) (53).
- **Descriptive statistics** were computed for the independent variables of the CS and VND cases.
- **Univariate analysis** was done for risk factors with Chi-square test.

2.8. Ethical considerations

The study researcher was given the approval from An-najah university IRB. Moreover, permission to conduct the study in the hospitals' maternity unit was obtained from the Palestinian Ministry of Health (MoH) for the governmental hospitals and from the hospital's managers of the private hospitals. An explanatory letter for all participants was attached to each questionnaire; this letter explained the aim, importance, the confidentiality and the anonymity of the information with the optional participation (voluntary). The researcher was also available at the hospital to give details and explain the study to the participants whenever needed.

2.9.Privacy and confidentiality

The major study tool was a questionnaire filled in by the researcher herself, standardized questionnaire. All data were collected through this tool. The principal investigator (PI) took the whole responsibility for the confidentiality and the privacy of the collected data by allowing no access to anyone except the researcher herself and her supervisor from the faculty of Medicine and Health Sciences.

All data were entered in statistical software by giving code number to each participant without knowing his/her name by statistical analysis center in Jenin in which it is involved in this study, and kept the privacy for information. The original questionnaire was kept in a secure and a closed place with keys carried by the PI. Furthermore, the PI disposed of all questionnaires by burning them after the publication of the thesis.

Chapter Three

Results

3.1. Introduction

The study includes 300 participants (150 CS and 150 VND). These are mothers who have agreed to participate in the study and have recently given birth,. They were also matched the included and excluded criteria of the CS and VND case.

A convenient sample was taken during the period from February 8, 2016 to April 8, 2016. Face-to-face meetings were conducted in the governmental and Al-amal hospitals of Jenin city. The data collection process in Al Razi Hospital has completed by using the cell phone because of the hospital administration's decision to reject the face-to-face meetings with Alrazi customers.

3.1.1. Statistical analysis of the results

Descriptive and inferential statistics were used to analyze the study data; thus, the descriptive statistics got the author's general information that could describe, organize and discuss the study data in a way or another, including numbers and tables. Moreover, it provided different, up-dated data that happened over a period of time in order to make comparison between them (DeCaro, 2003).

Many advantages were benefited from because of the using of the descriptive statistics in the study analysis. They are essential for displaying

and arranging data, also descriptive statistics form the basis of the rigorous data analysis. Moreover, they include useful techniques for summarizing data. Also, it is used to form the basis of more advanced statistical analytical methods (DeCaro, 2003). Inferential statistics are the branch of the statistics dealing with conclusions, predictions, and estimations based on data from samples (DeCaro, 2003).

Inferential statistics allow the author to make a relationship between the inserted data in the study when there are causes and effects. Inferential statistics were prepared through using Chi-square tests in order to determine the differences between the groups, and by using correlation(p-value), which is used to measure the similarity in the changes of the values of the intervals variables (DeCaro, 2003).

3.2. Descriptive results

Table 6 shows the number of the participants from each hospital. The majority of the cases were from the governmental hospital n=91 of women who have VND(60.7%) and 116CS(7.3%,) cases while 40VND(26.7% VS) and 28CS(18.7% CS) cases are from Al Ammal hospital.

3.2.1. Socio-demographic factors

12 Items of the questionnaires discuss the socio demographic factors from Q3-Q14. They are presented in Annex(4). The association between the variables of these questions, that are significant with $p < 0.05$, are presented in table(8).

(Q3-Q14): The majority of the cesarean section cases are living in village with a frequency of 113 (75.3%) and 32(21.3%) CS are living in Jenin city. The ages of 46(69%) of the CS cases are between 15-27 years old, while 77(51.3%) VND cases are from the same age. In comparison to 23(15.3% CS) and 11(7.3%), VND cases are at the age 35 and more. The marriage age of 142 (94.7%) VND cases are between 15-27 years old, and 138 (92% CS) cases are from the same age. 83(55.3%) VND cases studied up to secondary school, in comparison to 81 (54%) of CS cases that they have BA. 128 (85.3%)VND cases and 119 (79.3%) CS cases do not work outside of the home. 5(3.3%) of VND and 26 (17.4%) of CS mothers were overweight during BMI . 18 (12%) VND were smoker, of these most of them 15 (9.9%) smoke water-pipe, while 8 (5.3%) CS cases smoked cigarettes. The majority of the vaginal section cases regularly participated in exercise or sports before pregnancy 81(54%), but the percentage becomes 15 (10%) of the cases participating in sports after pregnancy. In comparison to the cesarean section cases, only 33 (22%) of them practiced sports before pregnancy, and 12 (8%) of them practiced sports after pregnancy.

3.2.2. Factors related to current pregnancy

12 items of questionnaires discussed the factors that related to current pregnancy from Q15-Q26 responses to these questions that are presented in Annex(4). The association between the variables of these questions that are significant with $p < 0.05$, are presented in table (8).

(Q15):The majority of VND cases 114 (76%) visited the antenatal care 8-12 times during pregnancy. And just 15 (10%) visited the antenatal care 13 times and more. As for CS cases, 78 (52%)of them visited the antenatal care 8-12 times, and 57 (38%) visited the antenatal care 13 times and more.

(Q16): The frequency of vaginal delivery cases gave their births at 38 weeks an above the gestational age were 142(94.7%), and 5 (3.3%) gave their births in 35-37 weeks. 121 (80.7%) of CS cases gave their births in 38 weeks and above, while 27 (18%) gave their births in 35-37 gestational weeks.

(Q17-20): 3 (2%) of CS cases have gestational diabetes, while no one of VND cases has GD.22 (14.7%) of CS cases have high blood pressure, but there are no VD cases has it.64 (42.7%) of CS cases and 33 (22%) of VND cases have odema on their faces, hands, and ankles .10 (6.7%) of CS cases and (0%) of VND cases have bleeding during pregnancy.

(Q21-22): Moreover, 24(16%) of CS cases and 7(4.7%) of VND cases have anemia during pregnancy.100%) of VND fetuses were cephalic presentations during the last gestational weeks before giving birth. In comparison to CS fetal presentations, 22(14.7%) fetuses were breech presentation, 1(0.7%) fetuses were shoulder presentation, 7(4.7%) fetuses were transverse lie presentation, and 120 (80%) fetuses were cephalic presentation.

(Q23- 25):Also the researcher found that Number of 80 (53.3%) of CS cases used Pregnancy fixatives during current pregnancy, 63 (42%) of them took duphaston. 76 (50%) of CS cases finished more than one full box of the pregnancy maintenance products, but only 21 (14%) of VD cases used it. 16 (10.7%) of them took duphaston, 9 (6%)of them consumed more than one full box.(Q26) 109 (72.7%) of VND cases used medical herbs, and 65 (43.3%) of CS cases used it.

3.2.3. Medical and surgical history

Five items of questionnaires discussed the factors that are related to the medical and surgical history, from Q27-Q31. Responses to these questions are presented in Annex(4). And the association between the variables of these questions, that are significant with chi-square $p < 0.05$, are presented in table (8).

(Q27-29): About 2 (1.3%) of CS cases have a diabetes carriers, and 16 (10.7) of CS cases have a history of eclampsia and pre-eclampsia. However, there is no vaginal delivery cases from the women had any diabetes or eclampsia. In addition to, there was no one have heart diseases.

(Q30-31): The majority 54 (36%) of CS cases used contraceptives. 36 (24%) of them used IUCD. 7 (4.7%) of them used contraceptive pills, and 7 (4.7%) used male condom. While 52 (34.7%) of VD cases used contraceptives methods. 20 (13.3%) used male condoms. 16 (10.7%) used pills. 5 (3.3%) IUCD and 7 (4.7%) were using fertility awareness methods.

3.2.4. Obstetric History

Ten items of questionnaires discussed the factors that are related to obstetric history, from Q32-Q38. Responses to these questions are presented in Annex (4). The association between the variables of these questions, that are significant with $p < 0.05$, are presented in table (8).

(Q32-38): The reasons behind most of 44 (29.3%) of the CS cases were because of the risk on the fetus, 41 (27.3%) were because of maternal fatigue and exhaustion after long labour, and 16 (10.7%) were because of the absent of fetus movement. 16 (10.7%) cases happened due to other reasons: 14 (9.3%) eclampsia, 6 (4%) Diabetes, and 2 (1.3%) blood hypertension. The percentages of the people who decided to refer a mother to the cesarean section to give her birth were: 139 (92.7%) doctor, 8 (5.3%) the midwife, and 3 (2%) the mother here self. 108 (72%) of VND cases and 111 (74%) of CS cases have another children. 87 (78.4%) of CS cases and 15 (13.88%) of VND cases had previous CS .

3.2.5. Neonatal assessment

Nine items of questionnaires discussed the neonatal assessment factors from Q39-Q47. Responses to these questions are presented in Annex (4). The association between the variables of these questions, that are significant with $p < 0.05$, are presented in table (8).

(Q39-40): The sex of the new born babies within the VND cases are 82 (54.7%) male and 68 (45.3%) female. While, for the CS cases, the sex of

the new born babies are 88 (58.7%) male and 62 (41.3%) female. 77 (51.3%) of the newborn babies' weights within the VND cases ranges between 2.100-3000g, and 67 (44.7%) of the newborn babies' weights ranged between 3.100-4000g. Also 4 (2.7%) of the cases weights 4000g and more. The majority of newborn babies' weights for the CS cases, ranges between 3.100-4000g, on which it was 73 (48.7%), and 70 (46.7%) for the weights between 2.100-3000gm, and 6 (4%) for the weight of 4000g and above.

(Q41- 44): Regarding to the lengths of the newborn babies, for the VND cases are: 84 (56%) of the newborn babies whom their lengths are between 50-51 cm, 31 (20.7%) of the newborn babies whom their lengths are between 51.5-53cm, and 6 (4%) of the newborn babies whom their lengths are between 53.5-55cm. While the length of the newborn babies within the CS was oscillating between 38 (25.3%) for the newborn babies' lengths who are less than 50cm, 69 (46%) for the newborn babies' lengths who are between 50-51cm, 29 (19.3%) for the newborn babies' lengths who are between 51.5-53cm, 14 (9.3%) for the newborn babies' lengths who are between 53.5-55cm. There is no neonatal defect for the whole study sample that was recorded. The measuring of the neonatal head circumference within the VD is 31(20.7%) for the measurement between 30-31 cm, and it is 101 (67.3%) for the measurement between 31.5-33 cm. While the majority of the neonatal head circumference is 69 (46%) for the measurements between 36 cm and above. And it is 61 (40.7%) for the

measurements between 33.5-35cm. 15 (10%) of the CS and 8 (5.3%) of the VND newborn babies were admitted to the intensive care unit .

(Q46-47): 6 (4%) of CS newborn babies and only 3 (2%) of VND newborn babies have APGARE score 5 and below. The first time of breastfeeding for the VND newborn babies was after 1-2 hours of giving the birth. After birth, they are 84 (56%) while the majority are 84 (56%) of the CS newborn babies that had the first breastfeeding after 4 hours and more of giving their births.

Table 6: Number of cases from the selected hospitals in the study

Vaginal section			
Governmental Hospital	Al razi Hospital	Al ammal Hospital	Total
91(60.7%)	19(12.6%)	40(26.7%)	150
Cesarean section			
Governmental Hospital	Al razi Hospital	Al ammal Hospital	Total
116(77.3%)	6(4%)	28(8.7%)	150

3.3. Inferential results

3.3.1. Chi-square test of independents variables

Chi-square test shows that living in village ($p=0.000$)(Question3),level of education ($p=0.000$)(Q6), mother weight before pregnancy and mother weight before getting birth ($p=0.000$)(Q9 & Q10)and practicing sports before pregnancy ($p=0.000$)(Q13)are list of the socio-demographic factors that caused CS. And among the factors that are related to present pregnancy that are significant. Mothers number of visits the Doctor or antenatal care

units ($p=0.000$)(Q15). Duration of pregnancy/ Weeks($p=0.000$)(Q16), mother blood hypertension ($p=0.000$)(Q18), mother face, hands, and ankle odema ($p=0.000$)(Q19), mother have bleeding during pregnancy($p=0.005$)(Q20). Mothers have anemia ($p=0.001$)(Q21). Fetal mal –presentation (non-cephalic) during the first 36 weeks of pregnancy ($p=0.006$). Mothers taken pregnancy fixative($p=0.000$)(Q23), also the amount of pregnancy fixative that mothers used ($p=0.000$)(Q25), mothers who are not drinking medical safe traditional herbs($p=0.003$)(Q26).

Also among the factors that are related to the mother obstetric history that are significant, history of having Eclampsia ($p=0.000$)(Q28), history of using IUCD contraceptive methods ($p=0.000$)(Q31) , previous CS ($p=0.001$)(Q38). This results are reasons to reject the null hypothesis number (1) and (2).

Moreover, among the factors that are related to the newborn, head large circumference measurement for 36 cm and more of the newborn ($p=0.001$)(Q43),and the period of time that the child stay at the intensive care unit ($p=0.031$)(Q45), also Number of times of breast feeding after birth most of CS new born take the first lactation after 4 hours and above after birth ($p=0.000$)(Q47). This results are reasons to reject the null hypothesis number (3).

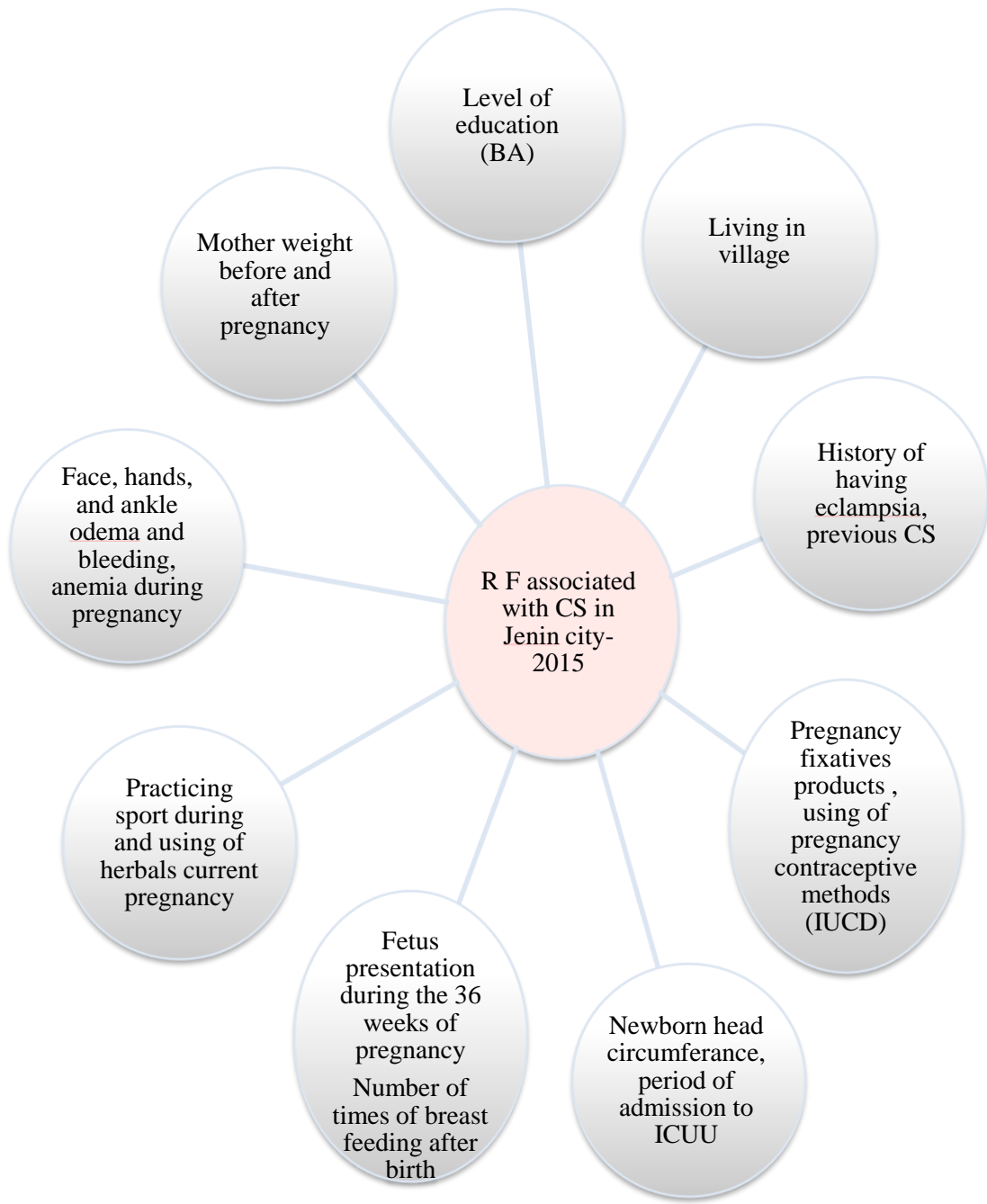


Figure 5: List of the significant chi-square p-value of independent variables.

Table 8: Qui-square test of the independent variables

#	Character	Variable	vaginal delivery		Caesarean delivery		Qui square p-value
			Frequency	Percent	Frequency	percent	
1	Q3-Place of residency	City	51	34.0	32	21.3	0.000
		Village	77	51.3	113	75.3	
		Camp	22	14.7	5	3.3	
2	Q6-The educational level	Primary and Elementary	23	15.3	21	14.0	0.000
		Secondary	83	55.3	48	32.0	
		BA	43	28.7	81	54.0	
		Higher education	1	0.7	00	00	
3	Q9-Mother's weight before pregnancy	50-55 / Kg	76	50.7	32	21.3	0.000
		56-60 / Kg	40	26.7	35	23.3	
		61-65 / Kg	23	15.3	35	23.3	
		66 / Kg and more	11	7.3	48	32.0	

4	Q8&9- Mother BMI	UNDERWEIGHT (less than 18.5)	3	2	2	1.3	0.0013
		Normal(18.5-24.9)	142	94.7	122	81.3	
		Overweight(25-29.9)	5	303	26	17.4	
		Obesity(above 30)					
5	Q10-Mother's weight before getting birth	50-55 / Kg	19	12.7	8	5.3	0.000
		56-60 / Kg	38	25.3	16	10.7	
		61-65 / Kg	44	29.3	17	11.3	
		66 / Kg and more	49	32.7	109	72.7	
6	Q13-Do you practice sports before pregnancy?	Yes	81	54.0	33	22.0	0.000
		No	69	46.0	117	78.0	
7	Q15-How many times did you visit the Doctor?	4 Times or less	1	0.7	3	2.0	0.000
		5-7 / Times	20	13.3	12	8.0	
		8-12 / Times	114	76.0	78	52.0	
		13 / Times or more	15	10.0	57	38.0	

8	Q16-Duration of pregnancy/ Weeks	31-34 / Weeks	3	2.0	2	1.3	0.000
		35-37 / Weeks	5	3.3	27	18.0	
		38 / Weeks and more	142	94.7	121	80.7	
9	Q18-Did you suffer Hypertension during current pregnancy?	Yes	0	0	22	14.7	0.000
		No	150	100.0	128	85.3	
10	Q19-Did you have swelling in your face, your hands, or severe pain in your ankles?	Yes	33	22.0	64	42.7	0.000
		No	117	78.0	86	57.3	
11	Q20-Did you suffer haemorrhage during current pregnancy?	Yes	1	0.7	10	6.7	0.006
		No	149	99.3	140	93.3	
12	Q21-Did you suffer anemia during current pregnancy?	Yes	7	4.7	24	16.0	0.001
		No	143	95.3	126	84.0	

13	Q22-What was the presentation of the newborn during the first 36 weeks of pregnancy?	Cephalic presentation	150	100	120	80.0	0.006
		Breech presentation	0	0	22	14.7	
		Shoulders' width	0	0	1	0.7	
		Transverse lie	0	0	7	4.7	
14	Q23-Did you take pregnancy fixative?	Yes	21	14.0	80	53.3	0.000
		No	129	86	70	46.7	
15	Q25-If you used pregnancy fixative tablets, how much did you use?	Full box and more	9	6.0	76	50.7	0.000
		slice	10	6.7	74	49.3	
16	Q26-Mothers drinking medical herbs during Current pregnancy	Yes	109	72.7	84	56	0.003
		No	41	27.3	65	43.3	
17	Q28-Did that happen before and suffered Eclampsia?	Yes	1	0.7	16	10.7	0.000
		No	149	99.3	134	89.3	

18	Q31-What kind of contraceptives did you take?	Pills	16	10.7	7	4.7	0.000
		Cervical cup	3	2.0	2	1.3	
		Male condom	20	13.3	7	4.7	
		IUCD	5	3.3	36	24.0	
		Lactation amenorrhea methods	3	2.0	1	0.7	
		Fertility awareness	7	4.7	1	0.7	
		Another ways	1	0.7	5	3.4	
19	Q38-Previous having Childs		Previous VD	Previous cs	Previous VD	Previous cs	0.001
		Male	45(41.7%)	7(6.5%)	20(18.01%)	51(45.9%)	
		Female	48(44.4%)	8(7.4%)	4(3.6%)	36(32.4%)	
		Total births	93(86.11%)	15(13.88%)	24(21.6%)	87(78.4%)	

20	Q43-What is the head circumference measurement of your newborn?	30-31 / cm	31	20.7	2	1.3	0.000
		31.5-33 / cm	101	67.3	18	12.0	
		33.5-35 / cm	18	12.0	61	40.7	
		36 / cm and more	00	00	69	46.0	
21	Q45-The period of time that the newborn stay at the intensive care unit	Many hours	3	2.0	13	8.7	0.031
		Many days	5	4	2	1.3	
22	Q47-Number of times of breast feeding after birth	1-2 Hours	84	56.0	25	16.7	0.000
		2.5-3 Hours	37	24.7	21	14.0	
		3.5-4 Hours	18	12.0	20	13.3	
		More than 4 hours	9	6.0	84	56.0	
		Not breastfeed	2	1.3			

3.4 Conclusion:

The results of the chi-square test of the independent variables have shown that the null hypothesis number (1) No relation between the obstetric risk factors and having CS. And the null hypothesis number (2) No relation between non-obstetric risk factors and CS. And the null hypothesis number (3) No relation between neonatal risk factors and CS have been rejected.

All the independent factors that increasing the incidence of the cesarean section, such as being over-weight, having edema and blood hypertension, mal-presentation, anemia, bleeding, BA level of education, living in village, history of eclampsia, previous CS, using of pregnancy fixatives products, and the use of IUCD contraceptive methods. Moreover, mothers can follow the independent factors that can help to avoid cesarean section through exercise before pregnancy and follow-up medical appointments and antenatal clinic care, and the use of medical herbs.

The independent factors that are related to newborn assessment include the newborn head circumference. Also, the CS will be at risk of being admitted to the ICU and at risk of lower success rate of breast feeding.

Chapter Four

Discussion

4.1. Introduction

The aim of the study was to explore the common risk factors that are related to the use of cesarean sections in Jenin, Palestine in 2015- 2016, also to determine the CS neonatal outcome.

The study population consisted of mothers who had recently given birth through VND and cesarean delivery in singleton pregnancies in one of three hospitals that were selected during the period of February 8, 2016 to April 8, 2016.

4.2. The author's three hypotheses

The researcher tried to arrange and discuss the study significant findings based on the study three rejected null hypothesis:

4.2.1. There is no correlation between non-obstetric independent risk factors and having CS.

4.2.2. There is no correlation between the obstetric independent risk factors and CS.

4.2.3. There is no correlation between independent neonatal risk factors and CS.

The study main significant findings that researcher discussed: place of residency ($p=0.000$), level of education ($p=0.000$), mother's weight before pregnancy and mother's weight before giving birth ($p=0.000$) and mother being overweight BMI ($p=0.0013$), and practicing sports before pregnancy ($p=0.000$) are list of the socio-demographic factors that caused CS. Among the factors that are related to present pregnancy are significantly different. Mothers number of visits the doctor or antenatal care units ($p=0.000$). Duration of pregnancy/weeks($p=0.000$), mother's hypertension($p=0.000$), mother face, hands, and ankle edema ($p=0.000$), mother have bleeding during pregnancy($p=0.005$). Mothers have anemia ($p=0.001$). Fetal presentation during the first 36 weeks of pregnancy ($p=0.006$). Mothers taken pregnancy fixative($p=0.00$), also the amount of pregnancy fixative that mothers used ($p=0.000$), mothers taking medical herbs($p=0.003$). Also, among the factors that are related to the mother obstetric history that are significant difference, history of having eclampsia ($p=0.000$), history of using contraceptive methods ($p=0.000$), previous CS ($p=0.001$). This results are reasons to reject the null hypothesis number (1) and (2). Moreover, among the factors that are related to the newborn, head circumference measurement of the newborn ($p=0.001$), the period of time that the newborn stays at the intensive care unit ($p=0.031$), and the number of times of breast feeding after birth($p=0.000$). These results are reasons to reject the null hypothesis number (3).

Looking back to the findings of the previous study that the author included in the literature review, the studies found that prim-parity, mother age (35 years and above), diabetes before pregnancy, short statured mothers, previous miscarriage, and stillbirth, young mother, maternal hypertension, maternal race, paternal old age, and large hospital size were mother risk factors for CS.

While LBW, young fetus gestational age, neonatal overweight, dead newborn, and fetal distress were neonatal risk factors for CS.

4.2.1. Non-obstetric independent risk factors results

4.2.1.1 Place of residency

Based on chi-square study, place of residency in village more than city with ($p=0.000$), which is in the consistency with the findings of the Brazilian study conducted in 2013. It aimed to assess the changes of CS risk factors over specific period of time between 1991 to 2006. The results show that CS was positively associated with mothers from urban areas (Raifman et al., 2014). Another study was conducted in China in 2011. The Chinese study aimed to find the factors that lying behind the high incidence rate of CS in China. The author found that CS rate was high among women who are living in urban areas (Feng et al., 2012). These results maybe happened because of the nature of the population distributions in Jenin area, and the numbers of the population in the rural areas, which are larger in the city of Jenin.

4.2.1.2. Educational level

Educational level of the mothers is independent risk factor according to the study results ($p=0.000$). However, the educated mother's (BA) level of the exposed group was 54%. As the same way in the previous study that was conducted in Iran, the author found that the CS rate increased 7 times with higher educated mothers (Raifman S, et al., 2014). Higher education is associated with having CS. This was the result of a Brazilian study conducted in 2013 (Raifman et al., 2014). Another study approved this study findings. The study was conducted in turkey, in 2012. It aimed to study the risk factors that are associated with CS for first-time mothers. One of the CS risk factors of this Turkey study was maternal high education (Karabulut et al., 2012). Moreover, a Chinese study was conducted in 2011. It aimed to find the factors that affect the high rate of CS among the Chinese mothers during the period of 1988 to 2008. Getting higher education was one of the risk factors that is associated with CS in China (Feng et al., 2012).

4.2.1.3. Overweight mothers and mother's weight before giving birth

Over weight mothers, BMI, and mother weight before getting birth ($p=0.000$) both are independent variables that are significant. This result is coming parallel to the results of another studies conducted in Oman, one of this study findings was overweight BMI, which was truly associated with the risk of having CS with ($OR=1.93; p=0.05$) (Al Busaidi I, et al., 2012). Another USA study conducted in 2004 aimed to study the hypothesis that

excessive weight gain risk factor for CS. The result of this study was that mothers who gain weight above the guideline are more likely to have CS unless if the neonatal was not overweight (Stotland et al., 2004). These study results were closed to the finding of North Carolina, USA study. Thus, it was found that overweight mothers are 1.13 times more likely to have CS than normal weight mothers (Graham et al., 2014). Moreover, UK study results help the author to approve the current study findings; thus, it was found that CS risk increased 1.5 times with overweight mothers (Poobalan et al.,2008) because being overweight is associated with preeclampsia, gestational hypertension, gestational diabetes, and fetal macrosomia.

4.2.1.4. Practicing sports before pregnancy

The author in this study also found that the mother not practicing sports before pregnancy is significant ($p=0.000$). This result is similar to the previous study. It aimed to find the risk factor and the effect of practicing a physical activity that may be related to CS. One of the relevant Turkish study findings was that increasing the number of practiced physical activities will decrease the risk of CS by 4 times (Karabulut et al., 2012). According to this study, the author justified this results by stating that the initiation and the progression of labour induction increased with participation in sports; moreover, not practicing sports due to being overweight or obese can lead to the main risk factors of CS. Therefore, if

the mother was practicing sports before pregnancy, that facilitates natural childbirth according to the results of this study.

4.2.1.5. Pregnancy fixative

Mothers who have taken pregnancy fixative products are more likely to have CS ($p=0.000$). This result has not been studied in any previous research papers.

4.2.1.6. Use of medical herbs

According to the chi-square test, mother using of medical herbs is significant difference ($p=0.003$). This result has not been studied in any previous research papers.

4.2.2. Obstetric independent risk factors

4.2.2.1. Mother visits to ACU (Antenatal care unit)

One of the significant factors that are related to current pregnancy is the number of the mothers who visit doctor for Obstetrics and Gynecology, and /or antenatal care clinic during the current pregnancy for 13 visit, and more with ($p=0.000$) Most of the visits were after 36 weeks of gestation. This result is similar to the previous study that was conducted in china. The author found that CS increased 1.24 for mothers who used the health insurance to visit a gynecology in urban areas, and it increased 1.45 for the same reason in the rural areas (Feng et al., 2012).

4.2.2.2.Duration of pregnancy

The weeks of gestation is one of the significant independent factors with ($p=0.000$), this is parallel to the finding of the 2004 UK study that attempted to find the common CS risk factors, and Patel (2005) found that the probability of experiencing CS increased with increasing gestational age. Likewise, another study that had the same results was conducted in Ethiopia in 2014. Gutema (2014) found that there was a direct link between increased CS and gestational age at the Mizan Aman General Hospital.

4.2.2.3. Maternal Hypertension

Hypertension is a significant difference factor ($p=0.000$), which is similar to the findings of USA California study, in 2010. The author found that hypertension an independent risk factor for CS(Huesch M et al., 2015). Another USA, Boston study was conducted in 2014, found the same results that gestational blood hypertension is IR for CS (Kozhimannil et al.,2014).

4.2.2.4.Edema on mother's face, hands, or ankles

If a mother has edema in her face, hands, or ankles, she is more likely to experience CS; additionally, CS is associated with being overweight, having high blood pressure, and eclampsia and diabetes, which are caused by edema. This result is similar to the findings of the previous study that was conducted in Oman in 2012. The researchers found that pre pregnancy diabetes, and obesity were risk factors for CS. Thus, both are causes for edema (Al Buasaidi et al., 2014). Also, the causes for edema are both

weight related (overweight and obese) and are factors associated with risk of having CS. These were the findings of UK study that was conducted in 2008 (Poobalan et al., 2008). Moreover, one of the causes of edema is hypertension, which was one of the results of Huesch's (2015) study that aimed to study the risk factors that are associated with CS in California, USA.

4.2.2.5. Mother's hemorrhage during current pregnancy

Mothers who have hemorrhaging during the last pregnancy are more likely to need CS ($p=0.000$). This result is similar to the findings of Kozhimannil (2014), whose US-based study aimed to examine the relation between the maternal clinical diagnosis and the risk of having CS. Hemorrhage during the last pregnancy was one of this study's findings. This is because the maternal hemorrhage is a warning sign for placenta previa, preterm birth, blood disorder, fetal macrosomia, and the history of miscarriage and stillbirth.

4.2.2.6. Maternal anemia

According to the chi-square test, blood anemia of the mother is a significant difference ($p=0.001$). This result has not been studied in any previous research papers.

4.2.2.7. Fetal mal-presentation in 36 weeks of gestation and above:

Fetal mal presentation (non-cephalic pregnancy) is independent risk factor which is significant difference ($p=0.000$). This result is similar to the findings of UK study in 2004, aimed to find the prenatal risk factors for CS, the author found that non-cephalic presentation was associated with CS (Patel R, et al., 2005). Moreover, Huesch et al. (2015) also found similar results in a California study, and the authors found that fetal mal-presentation was one of the factors that could be associated with CS. Another supported study conducted in Ghana, in 2012, determined that fetal mal-presentation was one of CS indications (Gulati et al., 2012).

4.2.1.8. Use of contraceptive methods

Mothers who used (IUCD) contraceptive methods before pregnancy are more likely to have CS. This was in agreement with the results of the previous case-control study that was conducted in Oman in 2012. The researchers found that (8.4%) of CS mothers who have given birth were using IUCD contraceptive method, while only (3%) of the vaginal mothers who have given birth were using the same contraceptive method (Al Busaidi et al., 2012). This association is due to IUCD cause uterus perforation to 4 for each 1000 women, and it causes uterine inflammation, thus increasing the uterus wall thickness to be contributed in the positive association with the expectation of CS.

4.2.2.9. Eclampsia

Women who experienced diabetes before pregnancy, are more likely to experience CS($p=0.000$). This result is similar to the finding of the reported, conducted studies. One of those studies was the Omani study. Thus, the researcher found that eclampsia was associated with risk of CS with ($OR=9.3;p=0.04$)(Al Busaidi et al., 2012). One more study approved this current study results. A study was conducted In Ireland in 2014. It purposed to examine the relation between pregnancy eclampsia with risk of experiencing CS. The researcher found that eclampsia has a high CS incidence rate (Khalifeh et al., 2014). This finding is also related to fetes macrosomia.

4.2.2.10. Previous CS

Women with previous CS, are more likely to have another CS, ($P=0.0014$). This result is similar to the findings of the Omani study, which found that the previous CS is significantly associated with risk of next CS with ($OR=22.71;p=0.001$)(Al Busaidi et al., 2012). The similar findings were found also in the Iranian study which was conducted in 2013. The researcher found that the previous CS was one of the clinical factors that are related to CS (Aghdash et al., 2014). Previous CS was also one of the UK study results that is truly associated with the risk of having CS(Patel et al.,2005).Another similar study was conducted in Ghana in 2012, which found that having a previous CS was one of the CS risk factors with ($p=0.0001$) (Gulati et al. 2012). Moreover, a previous study was conducted

in California USA in 2010; it aimed to find the risk factors that are laying behind the high prevalence of CS with African American mothers. The researcher found that having a previous CS was truly associated with having another CS (Huesch et al., 2015). With parallel to this study findings, another study was conducted in Sweden in 2012; it aimed to examine if the first CS could be an indicator for urgent next CS. The researchers found that having a previous CS is related to having another CS with 1.65 (1.17, 2.3) (Fargerberg et al., 2013). Likewise, Sukuki's (2013) study found that having a previous CS was truly associated with an expected next CS. This has been justified due to the fear of expected uterine rupture, the strong association between previous CS and fetal malpresentation, preterm birth, risk of stillbirth, and the risk of hemorrhage due to placenta previa through pregnancy.

4.2.3. Neonatal risk factors associated with CS

4.2.3.1. Newborn head circumference

The neonatal large head circumference of 36 cm and more is a significantly independent risk factor ($p=0.001$) for CS. This is similar to the findings of the UK study conducted in 2004, aimed to determine the prenatal RF that associated with CS; the author found that the large new born head circumference was associated with CS (Gulati et al., 2012).

4.2.3.2. New born admitted to intensive care units

CS newborns are more likely to be admitted to neonatal intensive care unit($p=0.031$) This is similar to the 2014 study was conducted in Haifa, which aimed to assess CS neonatal morbidity; the researchers found that the CS new born respiratory distress plays the main reason for admitting the neonatal for ICU (Magnuset al.,2011). Suzuki's (2013) study found that CS neonatal outcomes have risks of LBW and pre-gestational age birth, which cause admittance to the ICU. The need for ICU for CS newborns has also been justified due to a low APGAR score (Gori et al., 2007).

4.2.3.4. Number of times of breast feeding after birth

According to the chi-square test, the number of times of breast feeding after birth is a significant risk factor for CS($p=0.000$)since most of CS newborns start breast feeding after more than 4 hours after birth. This result has not been studied in any previous research papers. This finding justified by the period of time that CS newborn admitted to ICU and due to mother's health after surgical operation.

4.3. Study strengths and limitations

4.3.1 The study's limitations

1. The first challenge was to recall bias, and to decrease it by using the same standardized instrument with all participants.

2. From the administrative side, the administrations of the Governmental Hospital and Al-Ammal Hospital welcomed the researcher and facilitated the process.

3. On the other hand, the administration of Al-Razi Hospital prevented the researcher from interviewing the mothers in the normal delivery section and the caesarean section, as it was shown in the thesis proposal. They claimed that this was against the protocol of the hospital. After trying many attempts to convince the administration of the hospital, at the end, Al-Razi Hospital agreed to give the researcher a list of phone numbers of the women who recently gave birth. Then, the researcher called all of the women on the list. However, results were difficult to obtain because most of those numbers were for one of the siblings of the mothers and their relatives.

4.3.2. Study strengths

1. The questionnaires were filled in by the researcher to avoid missing data and misunderstanding.

2. The validity of the study instrument was established by the recommendations of panel of four experts and three field tests, gynecologists. The reliability of the study instrument was determined by piloting of the questionnaire on 30 mothers who were not included in the study.

3.To establish the validity of input to SPSS, questionnaires were taken randomly by the author and matched to the input numbers.

4.4.Conclusions and recommendations

4.4.1. Conclusions

Through this study discussion, pregnant women will be at risk if they have any of following factors: over-weight, edema and blood hypertension, anemia, fetal mal-presentation(non cephalic), mother bleeding during current pregnancy, level of education, living in village, history of eclampsia, previous CS, using of pregnancy fixatives products, and the use of IUCD contraceptive methods.

Moreover, mothers can be aware and follow the factors that can help avoid CS through exercise before pregnancy and follow-up medical appointments and antenatal clinic care and by using medical herbs.

The independent factor related to newborn assessment is a head circumference of 36 cm or more. Also, the CS newborn will be at risk of admittance to the ICU. Additionally, the CS baby could take longer to breastfeed.

4.4.2. Recommendations for improvement

1. This study highlights the need to raise the awareness of the managers and the heads of the private hospitals in order to facilitate the task of the students because the result would be extended to benefit everyone.

2. Advanced aged pregnant women have to refer to antenatal care clinics to learn more about CS. They should be counselled that they are at risk for CS.
3. Antenatal care clinic should be attentive to the indication of CS on which they can discover through following up the pregnant women, checking their length or weight, and advising them how they can try to avoid CS.
4. For overweight women and mothers with history of diabetes, they should practice sport exercises before and during pregnancy and by following dietary program.
5. Using IUCD contraceptives before pregnancy, and the using of pregnancy fixatives products, should be re-examined and studied separately because CS occurs due to many variables.
6. Delaying CS timing for the primary delivery and the early timing for the following CS, which is following the previous CS, both have adverse effect on the neonatal outcomes. Therefore, the mother has to cooperate with the antenatal care clinic to follow up on the fetal movement in order to choose the suitable time for delivery.

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Annex

Annex: (1)

عوامل الخطر المرتبطة بالولادة القيصرية في مدينة جنين . 2016، دراسة الشاهد و الحالة

الأم العزيزة.

تم تصميم هذا النموذج لدراسة عوامل الخطر التي تتسبب في الولادة القيصرية. هو شامل لجميع النساء اللواتي أنجبن عن طريق الجراحة القيصرية أو الولادة المهبلية. مشاركتكم محل تقدير كبير ومهم لاستكمال الدراسة. لا تتطلب هذه الدراسة الحصول على أسماء أو هويات المشاركين أيضا بمشاركة طوعية

1. نمط الولادة:

() ولادة قيصرية

() ولادة مهبلية

2. إذا كانت ولادة قيصرية:

() قيصرية اختيارية

() قيصرية طارئة

أ- المعلومات الديموغرافية	
3. مكان الإقامة	1. مدينة 2. قرية 3. مخيم
4. عمر الأم	1. 15-27 2. 28-34 3. 35 وأكثر
5. عمر الزواج	a. 15-27 b. 28-34 c. 35 وأكثر
6. المستوى التعليمي	1. التعليم (الابتدائية والإعدادية) 2. (مدرسة ثانوية) 3. (بكالوريوس) 4. (الماجستير أو أعلى)
7. المهنة	1. تعمل 2. لا تعمل 3. نوع المهنة ()
8. طول الأم بالسنتيمتر	1. أقل من 160 سم 2. 161-165 سم 3. 166-170 سم 4. أكثر من 170 سم
9. وزن الأم قبل الحمل	1. 50-55 كلغم 2. 56-60 كلغم 3. 61-65 كلغم 4. 66 كلغم فأكثر
10. وزن الأم قبل الولادة (القراءة الأخيرة للوزن)	1. 50-55 كلغم 2. 56-60 كلغم 3. 61-65 كلغم 4. 66 كلغم فأكثر
11. هل أنت مدخنة؟	1. نعم 2. لا
12. نوع التدخين؟	1. دخان 2. نارجيلة

13. هل تمارسين الرياضة قبل الحمل ؟	1. نعم	2. لا
14. هل تمارسين الرياضة خلال الحمل؟	1. نعم	2. لا
ب. العوامل المتعلقة بالحمل الحالي		
15. كم عدد المرات التي قمت بها بزيارة الطبيب و / أو عيادة أثناء فترة الحمل الحالي؟	1. 4 مرات أو أقل 2. بين 5-7 مرات 3. من 8-12 مرة 4. 13 مرة و أكثر	
16. ما هي مدة الحمل (بالأسابيع)؟	1. 31-34 2. 35-37 3. 38 فأكثر	
17. هل كنت تعاني من مرض السكري أثناء الحمل؟	1. نعم	2. لا
18. هل كنت تعاني من مرض ارتفاع ضغط الدم خلال الحمل؟	1. نعم	2. لا
19. هل كان لديك انتفاخ في الوجه أو اليدين أو وذمة شديدة في الكاحلين؟	1. نعم	2. لا
20. هل كان لديك نزيف أثناء الحمل؟	1. نعم	2. لا
21. هل عانيت من فقر دم خلال الحمل الأخير؟	1. نعم	2. لا
22. ما هو وضع الجنين خلال الأسابيع 36 من الحمل؟	1. عرض رأسي. 2. المجيء المقعدي. 3. عرض الكتف. 4. عرضي	
23. هل تعاطيت منتجات مثبت الحمل؟	1. نعم	2. لا
24. أي نوع من منتجات تثبيت الحمل استخدمتها؟	1. دوفستون 2. حبوب بروجسترون 3. تحاميل بروجسترون 4. حقن 5. لا اعلم	
25. إن كنت استخدمت حبوب تثبيت الحمل ما هي الكمية المستخدمة؟	1. علبة كاملة أو أكثر 2. شريحة 3. أقل من شريحة	
26. هل تتناولين الأعشاب الطبية خلال الحمل؟	1. نعم .. اذكر اسم الأعشاب المستخدمة 2. لا	
السيرة الطبية و الجراحية		
27. هل لديك مرض السكري؟	1. نعم إن كانت الإجابة نعم اذكر النوع	2. لا

28. هل سبق و ان عانيت من تسمم الحمل؟	1. نعم	2. لا
29. هل لديك مرض قلبي؟	1. نعم	2. لا
30. هل تستخدمين وسائل منع الحمل؟	1. نعم	2. لا
31. إذا كانت الإجابة بنعم، أي نوع من وسائل منع الحمل التي استخدمتها؟	1. حبوب منع الحمل 2. حلقة المهبل 3. الكوندوم الذكري 4. اللولب (داخل جهاز الرحم) 5. حقن 6. طريقة انقطاع الطمث نتيجة الرضاعة. 7. أساليب الوعي بالخصوبة. 8. طرق أخرى	
ج. سيرة الولادات القيصرية السابقة		
32. ما هو السبب الرئيسي لأول عملية قيصرية الخاصة بك التي قمت بها؟		
32. وجود خطر على الأم	أ. داء السكري ب. ارتفاع ضغط الدم. ج. التهاب الكبد الوبائي ج أو ب د. تسمم حمل. ر. أسباب أخرى..	
33. وجود خطر على الجنين	أ. تغيب من حركة الجنين. ب. انخفاض المشيمة. ج. توأمين أو أكثر. د. أسباب أخرى.	
34. الأم التعب والإرهاق بعد مخاض طويل.		
35. سبب اخر ، (-----)		
36. من هو الشخص الاول الذي قرر تحويلك الى العملية القيصرية؟	1. الطبيب 2. القابلة 3. أنت	
37. هل لديك اطفال آخرين؟	1. نعم	2. لا
38. إذا كانت الإجابة (نعم) ارجو ملء الفراغات التالية:		
جنس الطفل	نمط الولادة	
ذكر	أنثى	قيصرية
د. تقييم حديثي الولادة		
39. ما هو جنس حديث الولادة؟	1. ذكر	2. أنثى

40. ما هو وزن الطفل حديث الولادة؟	1. 1.500-2000 غرام 2. 2.100-3000 غرام 3. 3100-4000 غرام 4. أكثر من 4000 غرام
41. ما هو طول الطفل حديث الولادة؟	1. أقل من 50 سم 2. من 50-51 سم 3. 51.5-53 سم 4. 53.5-55 سم
42. هل هناك أية عيوب خلقية لدى الطفل حديث الولادة؟	1. نعم 2. لا
43. ما هو قياس محيط الرأس لدى طفلك حديث الولادة؟	1. 30-31 سم 2. 31.5-33 سم 3. 33.5-35 سم 4. 36 سم فأكثر
44. هل وضع الطفل في العناية المكثفة بعد الولادة؟	1. نعم 2. لا
45. إذا كانت الإجابة نعم، ما هي مدة إقامة الطفل في العناية المكثفة؟	1. عدة ساعات. 2. عدة أيام. 3. عدة أشهر.
46. ما هي قراءة ال APGAR Score الخاصة بطفلك حديث الولادة؟	1. أقل من 5 2. أكثر من 5
47. بعد كم ساعة كانت أول رضاعة طبيعية بعد الولادة؟	1. من 1-2 ساعة 2. 2.5-3 ساعة 3. 3.5-4 ساعة 4. أكثر من 4 ساعات 5. لم يرضع

توقيع الأم

Annex: (2)

بسم الله الرحمن الرحيم

Consent form

الموضوع: الموافقة على المشاركة في دراسة علمية لرسالة ماجستير في الصحة العامة.

عنوان الدراسة: عوامل الخطر المرتبطة بالولادة القيصرية في مدينة جنين ، 2015 :دراسة الشاهد
و الحالة

الطالبة : لينا حسن زيدان.

المشرف الأكاديمي: الدكتورة إيمان الشاويش .

تحية طيبة وبعد :-

أنا الطالبة لينا زيدان من مدينة جنين أقوم بدراسة عوامل الخطر المرتبطة بالولادة القيصرية في مدينة جنين لسنة 2016 كمتطلب لاستيفاء درجة الماجستير في الصحة العامة / جامعة النجاح الوطنية .

تهدف هذه الدراسة إلى معرفة العوامل المرتبطة بحدوث الولادة القيصرية .تتطلب تلك الدراسة القيام بتعبئة إستبانته من قبل 300 امرأة مشاركة عدد 150 أم من قسم الولادة الطبيعية و عدد 150 أم من قسم الولادة القيصرية .

نرجو من حضرتكم التكرم بالموافقة على المشاركة في تلك الدراسة حيث لا يوجد مخاطر من الاشتراك بها ، والمعلومات التي سنحصل عليها ستبقى سرية ولن تستخدم إلا لأغراض البحث العلمي فقط ولك الحق في الانسحاب متى تشاء من الدراسة .

مع وافر الاحترام

الطالبة : لينا زيدان .

الجوال : 0599335411

البريد الإلكتروني : aboalleen@yahoo.com

لقد قرأت التوضيح أعلاه وبناءا عليه أوافق على المشاركة بمحض إرادتي :

التوقيع :

التاريخ :

Annex (3):

Investigators Names:	Research papers titles:	Research papers dates of publish:	Places of publish:	The objectives and the results of the studies:	Mother Risk Factors	Newborn Risk Factors
1. Hanan F. Abdul-Rahima, Niveen "Mohammad Elias" Abu-Rmeilehb, Laura Wickb	Cesarean section deliveries in the occupied Palestinian territory : An analysis of the 2006 Palestinian Family Health Survey	2009	West bank and Gaza strip	This study aims to examine the socio-demographic risk factors that are associated with CS.	primiparity , mother age (35 years and above).	LBW
2. Arieh Riskin MD MHA, Ron Gonen MD, Amir Kugelman MD, Elias Maroun MD, Gregory	Does Cesarean Section before the Scheduled Date Increase the Risk of Neonatal Morbidity?	2014	Haifa-Israel	The aim of this study was to compare between the premature newborn outcome and the neonatal on their schedules. This study found that the morbidity is related directly to the younger gestational ages, including		the younger gestational ages

Ekhile vitch MD and David Bader MD MHA				admission to intensive care and respiratory illnesses.		
3. Razan Abu Khaizaran Mira Abu Samra	Preterm labour in twin gestation :effectiveness of cervical cerclage and progesterone pessaries.	2013-2014	Almaqas ed hospital and al arabi specializ ed hospital	Retrospective observational study Statistical results shows that the number of 122 women with progesterone intake have p value of (0,024.)	Using of Progesterone	
4.Ibrahim Al Busaidi, Yahya Al-Farsi, Shyam Ganguly, and Vaidyanathan Gowri	Obstetric and Non-Obstetric Risk Factors for Cesarean Section in Oman	2012	Oman	The objectives of this study is to examine the risk factors of CS , and to explore CS neonatal outcomes.	1. previous CS ,2. late pregnant women(above25 years old), 3.Obese women's , 4. Diabetes before pregnancy	Neonatal overweight
5. Naomi E. Stotland, MD, Linda M. Hopkins, MD, and Aaron B. Caughey,	Gestational Weight Gain, Macrosomia, and Risk of	2004	California, USA	It aims to study the hypothesis that excessive weight gain related to experience CS.	mothers gaining weight above the guideline more	overweight newborn strongly associated with cesarean delivery

MD, MPH	Cesarean Birth in Nondiabetic Nulliparas				likely to have CS.	
6. Jeffrey F. Peipert, MD, MPH, And Michael B. Bracken, PhD, MPH	Maternal Age: An Independent Risk Factor for Cesarean delivery	1993	USA	searches about the association between late pregnant women as risk factor for Cesarean Delivery.	They were divided the women's into three groups based on ages: 35 and more, 30-34, and 20-29 . the researchers found that the CS incidence rate increased with the pregnant women advanced age so it is significantly associated with 35 years and	

					more with (p.0002)	
7. Saber AZAMI-AGHDASH, Morteza GHOJAZA DEH, Nima DEHDILAN I, Marzieh MOHAMMADI, *Ramin ASLAMIN ABAD	Prevalence and Causes of Cesarean Section in Iran: Systematic Review and Meta-Analysis	2013	Iran	The goal of this study was discovering the prevalence and the efficient factors of the cesarean section that is based on research papers which have been conducted in Iran.	1.Social and demographical reasons (CS is high among women with high income,) 2.Clinical and midwife causes as the previous CS and fetal distress. 3. Non-obstetric reasons. The CS repetition is increased 7 times with higher-education and late pregnant women.	

8. Mustafa Kaplanoglu, Mehmet Bulbul, Dilek Kaplanoglu, Suleyman Murat Bakacak	Effect of Multiple Repeat Cesarean Sections on Maternal Morbidity: Data from Southeast Turkey	2014	Turkey	The study aimed to assess the morbidity of women with 5 or more CS.	The 4 times-CS are critical and dangerous levels because they increase the adhesions.	
9. Maria C. Magnus, Siri E. Haberg, Hein Stigum, Per Nafstad, Stephanie J. London, Siri Vangen, and Wenche Nystad	Delivery by Cesarean Section and Early Childhood Respiratory Symptoms and Disorders The Norwegian Mother and Child Cohort Study	2011	USA	Cohort research aimed to study the relation between developing asthma, wheezing, and recurrent LRTI for neonatal up to 36 months with CS delivery. Statistically, they found that the newborn who is born for 36 months is more likely to develop asthma and this association is stronger for nonatopic women. With (RR= 1.17 and 95% CI 1.03-1.32)		

<p>10. A. S. Poobalan¹, L. S. Aucott¹, T. Gurung¹, W. C. S. Smith¹ and S. Bhattacharya</p>	<p>Obesity as an independent risk factor for elective and emergency caesarean delivery in nulliparous women – systematic review and meta-analysis of cohort studies</p>	<p>2008</p>	<p>UK</p>	<p>Systematic review and meta analysis are of the published cohort studies.</p>	<p>CS is (25-30, for obese CS is (30-35), and the BMI of the morbidity obese CS is (above 35 Kg). the risk of CS is increasing 1.5 times on overweight and 2.25 times in obese women if we compared them with mothers with normal weight (obesity).</p>	
<p>11. Roshni R Patel,^{1*} Tim J Peters,² Deirdre J Murphy³ and the ALSPAC</p>	<p>Prenatal risk factors for Caesarean section. Analyses</p>	<p>2004</p>	<p>UK</p>	<p>A community based cohort and the multi-variable regression model have been used to</p>	<p>previous CS, obstetric history as miscarriage and</p>	<p>non-cephalic presentation, birth weight, and the large newborn</p>

Study Team4	of the ALSPAC cohort of 12 944 women in England			find the Cesarean Section risk factors.	the stillbirth , and it decreased with high parity and with increasing gestational age.	head circumference, and it decreased with increasing gestational age.
12.Hordofaa Gutemal, Ashenafi Shimye2	Caesarean section and associated factor at Mizan Aman General Hospital Southwest Ethiopia	2014	Ethiopia	Aimed to find CS risk factors at Mizan Aman General Hospital Southwest Ethiopia.	Age of mothers, gestational age at labour	Dead newborn
13. Dipali Gulati, Gerd Inger, Hjelde	Indications For Cesarean Sections At Korle Bu Teaching Hospital GHANA	2012	GHANA	Aimed to find the indicators of CS, and to determine the women general characteristics who are undergone to cesarean delivery.	Previous CS, young mothers, Primaria , arrested labour, high class pregnant women are tended to have elective CS.	Fetal distress, fetal mal-presentation (breech).

<p>14. Marco Huesch, MBBS, PhD, and Jason N. Doctor, PhD</p>	<p>Factors Associated With Increased Cesarean Risk Among African American Women: Evidence From California, 2010</p>	<p>2010</p>	<p>California</p>	<p>The study was aimed to determine the risk factors that associate with African American mothers high prevalence CS in comparison to others race.</p>	<p>Hypertension, before term gestational age, Previous CS, Primaries, Race because African-American women have prolonged labour in comparison to others.</p>	<p>Mal-presentation</p>
<p>15. Sarah Raifman , Antonio J. Cunha, Marcia C. Castro.</p>	<p>Factors associated with high rates of caesarean section in Brazil between 1991 and 2006</p>	<p>2013</p>	<p>Brazil</p>	<p>Retrospective study aimed to evaluate the changes in the CS risk factors overtime in the period between 1991 and 2006 in Brazil.</p>	<p>The common factors between 1991-1996 were women from the high income families, high educated, late pregnant women, from</p>	

					urban areas, white mothers, while in the period 2000-2006 the CS causes were decreased among educated and Urban mothers but CS has significant difference between women from both periods.	
16. Matthias David, Theda Borde, Silke Brenne, Wolfgang Henrich, Jürgen Breckenkamp, Oliver Razum.	Caesarean Section Frequency among Immigrants, Second- and Third- Generation Women, and Non-	2014	Germany	Aimed to determine the variation in CS prevalence between different social groups (immigrant and non-immigrant people), and through another risk factors.	Mothers between 30-49 years old, risk groups, and CS prevalence is similar between non-immigrants	Overweight baby.

	Immigrants: Prospective Study in Berlin/G ermany				nt and immigra nt women.	
17. Lauren E. Graham, MSPH, Larissa R. Brunner Huber, PhD, Michael E. Thompson, DrPH, and Jennifer L. Ersek, MSPH	Does Amount of Weight Gain During Pregnancy Modify the Association Between Obesity and Cesarean Section Delivery ?	2014	North Carolina city, USA	To test the relation between pregnancy weight gaining and the risk of CS	Obese mothers are exposed to have CS more than normal weight mothers with 1.78 odds ratio.	
18. Revital Faro, Joaquin Santolaya-Forgas, Joseph C. Canterino, Yinka Oyelese & Cande V. Ananth.	Paternal age and risk for cesarean delivery.	2012	United Kingdom	To examine if the paternal age is risk factor for CS	Father aged above 40 years old may consider risk factor for CS.	
19. Marie C. Fagerberg,a, b Karel Marsál,b Per Ekström,d	Indications for First Caesarean and Delivery	2012	Sweden	To determine if the first CS could be an indication for undecided CS.	Previous CS	

Karin Källenc	Mode in Subsequent Trial of Labour					
20. Mette, C. Tolla, N. Thompson, J. Daltveit, A. & Irgens, L, RGENS	Cesarean section and maternal education; secular trends in Norway, 1967_2004	2007	Norway	Aimed to examine the association between the maternal education level and the Risk of CS .	Low and medium maternal education level has highest probability of having CS in comparison to mothers with high education level. This results was changed after 2004 and in the recent years with exists of new social networks.	

21. Gordon C. S. Smith, Yolande Cordeaux, Ian R. White, Dharmintra Pasupathy, Hannah Missfelder-Lobos, Jill P. Pell, D. Stephen Charnock-Jones, Michael Fleming.	The Effect of Delaying Childbirth on Primary Cesarean Section Rates	2008	United Kingdom	Aimed to examine the association between maternal age and the risk of CS.	Old maternal ages, 35-39 and more risky for the age of 40 years old and above.	
22. A. Khalifeh , F. Breathnach , S. Coulter-Smith , M. Robson , C. Fitzpatrick & F. Malone	Changing trends in diabetes mellitus in pregnancy	2014	Ireland	Purposed to investigate and examine the association between gestational DM and pre-gestational DM and the incidence of CS.	Mothers with pre-gestational DM have high CS incidence rate while mothers with gestational DM were higher stable CS incidence rate more than general population but	

					not significant difference.	
23. Aysun Karabulut, Aysel Uysal Derbent, Melahat Yildirim, Serap Simavli & Nilgün Öztürk Turhan.	Evaluation of risk factors and effect of physical activity in caesarean section in nulliparous women	2012	Turkey	To study the risk factors that associated with CS for women who not get birth before.	Nulliparous, weight gain, late pregnant women, higher educational level, paternal age, mother height, dilatation of cervices.	Fetus distress(compromise of fetus)
24. Barbara L. Wilson, RNC, PhD, Judith Effken, RN, PhD, FACMI, FAAN, & Richard J. Butler, PhD	The Relationship Between Cesarean Section and Labour Induction	2009	USA	To study the CS that follow labour induction for primaries' and multiparous mothers	Race, Age, Parity, Mother educational level	
25. Xing Lin Feng,a Ling Xu,b Yan Guoa & Carine Ronsmansc	Factors influencing rising caesarean section rates in China between 1988 and	2011	china	To find the factors that laying behind the high incidence rate in china.	CS rate was High in Urban areas where there is high income,	-----

		2008.				education, insurance coverage. so it was highly related to the social – economical level.	
26. Shunji Suzuki and Mariyo Nakata	Factors Associated with the Recent Increasing Cesarean Delivery Rate at a Japanese Perinatal Center	2013	Japan	To determine the reasons that cause the CS raising rate in specific hospital in Japan during the last 10 years.	previous CS, first birth.	Mal-presentation, LBW, Sudden fetal death, pre-gestational age birth, Umbilical artery.	
27. AF Khalid, V Tailor, W Yoong, AF Fakokunde.	Risk factors for Emergency Caesarean section in Multiethnic Environment	2008	London, UK	Aimed to find the factors that associated with Emergency CS within Multi-ethnic society.	Parity, mother aged above 40 years old, epidural analgesia.		

28. Katy B. Kozhimannil, Mariana C. Arcaya, S. V. Subramanian	Maternal Clinical Diagnosis and Hospital Variation in the Risk of Cesarean Delivery: Analyses of a National US Hospital Discharge Database	2014	Boston, USA	The aim of this study to examine the reason behind CS if it attributed to women clinical diagnosis.	GD, gestational hypertension, hemorrhage during pregnancy, mother advanced age, large hospital size	fetal distress, fetopelvic obstruction,
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Annex(4): Distribution of the characteristics of the study population:

Character	Variable	vaginal delivery		Caesarean delivery	
		Frequency	percent	Frequency	percent
Q1-Born pattern	CS	00	00	150	100
	VD	150	100	00	00
Q2- In case of cesarean delivery	Optional cesarean	00	00	5	3.3
	Urgent cesarean	00	00	145	96.7
Q3-Place of residency	City	51	34.0	32	21.3
	Village	77	51.3	113	75.3
	Camp	22	14.7	5	3.3
Q4-Mother's age	15-27 / years	77	51.3	69	46.0
	28-34 / years	62	41.3	58	38.7
	35 years and more	11	7.3	23	15.3
Q5-Marital Age (first marriage)	15-27 / years	142	94.7	138	92.0
	28-34 / years	7	4.7	9	6.0
	35 / years and more	1	0.7	3	2.0
Q6-The educational level	Primary and Elementary	23	15.3	21	14.0
	Secondary	83	55.3	48	32.0
	BA	43	28.7	81	54.0
	Higher education	1	0.7	00	00

Q7-Occupation	Working	22	14.7	31	20.7
	Not working	128	85.3	119	79.3
Q8-Mother's Length	160 cm and less	69	46.0	53	35.3
	161- More than 170 cm	81	54	97	64.7
Q9-Mother's weight before pregnancy	50-55 / Kg	76	50.7	32	21.3
	56-60 / Kg	40	26.7	35	23.3
	61-65 / Kg	23	15.3	35	23.3
	66 / Kg and more	11	7.3	48	32.0
Q8&9- Mother BMI	UNDER WEIGHT (less than 18.5)	3	2	2	1.3
	Normal(18.5-24.9)	142	94.7	122	81.3
	Overweight(25-29.9)	5	303	26	17.4
	Obesity(above 30)				
Q10-Mother's weight after pregnancy	50-55 / Kg	19	12.7	8	5.3
	56-60 / Kg	38	25.3	16	10.7
	61-65 / Kg	44	29.3	17	11.3

	66 / Kg and more	49	32.7	109	72.7
Q11-Are you a smoker?	Yes	18	12.0	8	5.3
	No	132	88	142	94.7
Q12-Smoking kind	Cigarette s	3	2.0	8	5.4
	Water pipes	15	9.9	142	94.63
Q13-Do you practice sports before pregnancy?	Yes	81	54.0	33	22.0
	No	69	46.0	117	78.0
Q14-Do you practice sports during pregnancy?	Yes	15	10	12	8.0
	No	135	90.0	138	92.0
Q15-How many times did you visit the Doctor?	4 Times or less	1	0.7	3	2.0
	5-7 / Times	20	13.3	12	8.0
	8-12 / Times	114	76.0	78	52.0
	13 / Times or more	15	10.0	57	38.0
Q16-Duration of pregnancy/ Weeks	31-34 / Weeks	3	2.0	2	1.3
	35-37 / Weeks	5	3.3	27	18.0
	38 / Weeks and more	142	94.7	121	80.7
Q17-Did you have Diabetes during the current pregnancy?	Yes	0	0	3	2.0
	No	150	100	147	98.0

Q18-Did you suffer Hypertension during current pregnancy?	Yes	0	0	22	14.7
	No	150	100.0	128	85.3
Q19-Did you have swelling in your face, your hands, or severe pain in your ankles?	Yes	33	22.0	64	42.7
	No	117	78.0	86	57.3
Q20-Did you suffer haemorrhage during current pregnancy?	Yes	1	0.7	10	6.7
	No	149	99.3	140	93.3
Q21-Did you suffer anemia during current pregnancy?	Yes	7	4.7	24	16.0
	No	143	95.3	126	84.0
Q22-What was the presentation of the child during the first 36 weeks of pregnancy?	Cephalic presentation	150	100	120	80.0
	Breech presentation	0	0	22	14.7
	Shoulders' width	0	0	1	0.7
	Transverse lie	0	0	7	4.7
Q23-Did you take pregnancy fixative?	Yes	21	14.0	80	53.3
	No	129	86	70	46.7
	Duphaston	16	10.7	63	42.0

Q24-What kind of pregnancy fixative products did you use?	Progestr on tables	3	2.0	6	4.0
	Progestr one supposit ory	1	0.7	4	2.7
	Injection			5	3.3
	Somethi ng else				
Q25-If you used pregnancy fixative tablets, how much did you use?	Full box and more	9	6.0	76	50.7
	slice	10	6.7	74	49.3
Q26-Mothers drinking medical herbs during Current pregnancy	Yes	109	72.7	84	56
	No	41	27.3	65	43.3
Q27-Do you have Diabetes?	Yes	0	0	2	1.3
	No	150	100	148	98.7
Q28-Did that happen before and suffered Eclampsia?	Yes	1	0.7	16	10.7
	No	149	99.3	134	89.3
Q29-Do you have any heart disease?	Yes	0	0	1	0.7
	No	150	100	149	99.3
Q30-Did that happen before and you took Contraceptives?	Yes	52	34.7	54	36.0
	No	98	65.3	96	64.0
		16	10.7	7	4.7
	Pills				
	Cervical cup	3	2.0	2	1.3

Q31-What kind of contraceptives did you take?	Male condom	20	13.3	7	4.7
	IUCD	5	3.3	36	24.0
	Lactation amenorrhoea methods	3	2.0	1	0.7
	Fertility awareness	7	4.7	1	0.7
	Other ways	1	0.7	5	3.4
	Diabetes			6	4.0
	Blood hypertension			2	1.3
	Risk of mother			5	3.3
	eclampsia			14	9.3
	Absence of fetal movement			16	10.7
	Low laying placenta			6	4.0
	Other reasons that cause risk on fetus			44	29.3
	Maternal fatigue and exhaustion after long labour.			41	27.3

Q32-What was the main reason that led you to make the first Caesarean surgery?	(no vaginal dilatation)				
	Other			16	10.7
Q36-Who was the first person that decided to transfer you to make the Caesarean surgery?	Doctor			139	92.7
	Midwife			8	5.3
	You			3	2
Q37-Do you have other children?	Yes	108	72	111	74.0
	No	42	28.0	39	26.0
Q38-Previous children		Previous VD	Previous cs	Previous VD	Previous cs
	Male	45(41.7%)	7(6.5%)	20(18.01%)	51(45.9%)
	Female	48(44.4%)	8(7.4%)	4(3.6%)	36(32.4%)
	Total births	93(86.11%)	15(13.88%)	24(21.6%)	87(78.4%)
Q39-The sex of new born	Male	82	54.7	88	58.7
	Female	68	45.3	62	41.3
	1.5 - 2 / Kg	2	1.3	1	0.7
	2.100-3 /	77	51.3	70	46.7

Q40-What is your new baby's weight?	Kg				
	3.100-4 / Kg	67	44.7	73	48.7
	4 Kg and more	4	2.7	6	4.0
Q41-What is your new baby's length?	Less than 50 cm or less	29	19.3	38	25.3
	Between 50-51 cm	84	56.0	69	46.0
	51.5-53 cm	31	20.7	29	19.3
	53.5 - 55 / cm	6	4.0	14	9.3
Q42-Newborn birth defect	Yes	00	00	00	00
	No	150	100	150	100
Q43-What is the head circumference measurement of your newborn?	30-31 / cm	31	20.7	2	1.3
	31.5-33 / cm	101	67.3	18	12.0
	33.5-35 / cm	18	12.0	61	40.7
	36 / cm and more	00	00	69	46.0
Q44-Has the newborn has been admitted to the intensive care unit after birth?	Yes	8	5.3	15	10.0
	No	142	94.7	135	90.0
Q45-The period of time that the newborn stayed at the intensive care unit	Many hours	3	2.0	13	8.7
	Many days	5	4	2	1.3

Q46-APGAR Score	Less than 5	3	2.0	6	4
	More than 5	147	98.0	144	96
Q47-Number of times of breast feeding after birth	1-2 Hours	84	56.0	25	16.7
	2.5-3 Hours	37	24.7	21	14.0
	3.5-4 Hours	18	12.0	20	13.3
	More than 4 hours	9	6.0	84	56.0
	Not breastfed	2	1.3		

جامعة النجاح الوطنية

كلية الدراسات العليا

عوامل الخطر المرتبطة بالولادة القيصرية في مدينة جنين، فلسطين 2015،
دراسة وصفية

إعداد

لينا حسن زيدان

إشراف

د. ايمان الشاويش

قدمت هذه الأطروحة استكمالاً لمتطلبات الحصول على درجة الماجستير في الصحة العامة بكلية

الدراسات العليا في جامعة النجاح الوطنية في نابلس-فلسطين

2016

عوامل الخطر المرتبطة بالولادة القيصرية في مدينة جنين ،فلسطين2015،

دراسة وصفية

اعداد

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اشراف

د. إيمان الشاويش

الملخص

1.خلفية

بدءا من عام 2010 حتى عام 2015 نسبة العمليات القيصرية في فلسطين بحالة تزايد مستمر، والتي تجاوزت توصيات منظمة الصحة العالمية حيث يجب أن تكون النسبة ما بين 10-15% ولادة قيصرية، مع عدم وجود اي استثناء لأية دولة حول العالم.

2.هدف الدراسة

الهدف من الدراسة هو استكشاف العوامل المسببة للولادة القيصرية في مدينة جنين للعام 2015-2016. وعلاوة على ذلك، فإن الدراسة تهدف إلى تحديد حالة حديثي الولادة للولادات القيصرية.

3.المنهجية

أجري المسح الكمي للنساء حديثات الولادة في كل من أقسام الولادة القيصرية و أقسام الولادات الطبيعية من ثلاثة مستشفيات في مدينة جنين ، باستخدام استبيان موحد. وقد شاركت في الدراسة 300 مشاركة، 150 حالة ولادة قيصرية و 150 حالة ولادة طبيعية ، و قد تم مقابلة المشاركات وجها لوجه.

4.تصميم الدراسة

تم إجراء دراسة وصفية من أجل معرفة عوامل الخطر التي قد تتسبب بالولادة القيصرية في مدينة جنين، في الفترة ما بين 8/ فبراير/2016 و حتى 8/ ابريل/2016 .

5. النتائج

من العوامل المسببة للولادة القيصرية في مدينة جنين 2016-1015 والتي كان معامل الارتباط لها ($P>0.05$)، زيادة الوزن قبل الحمل، فقر الدم، النزيف خلال الحمل، المستوى التعليمي وتناول حبوب تثبيت الحمل، ارتفاع ضغط الدم، تسمم الحمل، ولادة قيصرية سابقة، استخدام اللولب كوسيلة لمنع حمل، كبر محيط رأس الطفل حديث الولادة، الإقامة في قرية. و أما العوامل التي تقلل من الولادة القيصرية هي زيادة عدد مرات زيارة الأمهات الحوامل للأطباء و / أو عيادة متابعة الحمل، و ممارسة الأم للرياضة في فترة ما قبل الحمل، بالإضافة لتناول الأعشاب الطبية الآمنة خلال الحمل.

6. الخلاصة

إن تعميم نتائج الدراسة الحالية على العيادات و العاملين في قطاع الصحة قد يساهم في تقليل و/أو الوقاية من الولادات القيصرية عن طريق الحفاظ على الوزن الطبيعي خلال و قبل الحمل وضرورة الالتزام بحمية غذائية للوقاية من ارتفاع ضغط الدم و سكري الحمل بالإضافة لأهمية ممارسة الرياضة. كما أبرزت نتائج الدراسة أهمية الالتزام بمتابعة الطبي و مواعيد العيادات.

