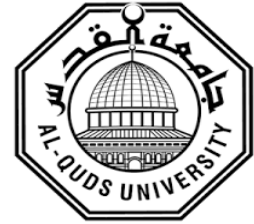


**Deanship of Graduate Studies
Al-Quds University**



**The prevalence of acute stress disorder after emergency
caesarean section among women in Ramallah area**

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M.Sc.Thesis

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**The prevalence of acute stress disorder after emergency
caesarean section in Ramallah area**

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**A thesis submitted in Partial fulfillment of requirements
for the degree of Master of School of Public Health/
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Al-Quds University
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The prevalence of acute stress disorder after emergency caesarean section among women in Ramallah area

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Jerusalem-Palestine

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Dedication

*Every challenging work needs an effort I dedicate my
humble effort to my beloved parents who have been always a
source*

of encouragement and support

To my wonderful and loving Husband and Sons

Nabeel

Nadeem & Tareq

Thank you for your patience, support and love

during my journey

I dedicate my thesis to those who I don't know and will read

it

Remember always there is another chance

Declaration

I certify that this thesis submitted for the degree of master is a result of my own research, except where otherwise acknowledged, and that this thesis has been submitted for a higher degree to any other university or institution.

Signed

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Date: 12 / 12 /2017

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Abstract

Background: Birth by caesarean section is an emotional experience and not just a medical procedure (Erlichman, 1999), and the percentage of caesareans is rising all over the world (Verdult, 2009). Also, it may cause psychological problems such as, depression, acute stress reaction, and post traumatic stress disorder, (Mutryn, 1993) and women who had an emergency caesarean reported more symptoms of acute stress disorder both within the first few days after birth, and at one month postpartum. (Ryding et al. 1998).

Aim: To assess the prevalence of acute stress reaction after emergency caesarean section among women who delivered in 3 major hospitals in Ramallah area.

Method: A cross sectional design was utilized to achieve this purpose. The data was collected between March/2015 months until June/2015. The study population was a sample of (n=330) women aged between 15-44 years old who gave birth by emergency caesarean section in three major hospitals in Ramallah area (Ramallah Governmental Hospital, Red Crescent Hospital and Arab Care Hospital). Data was collected by using self-administrated questionnaires, including socio demographic, obstetric and medical history sheet, previous mental and psychological problems, and Acute Stress Disorder Scale (ASDS) (Bryant, 2000), Statistical analysis was performed using the statistical package for social sciences (SPSS), version 18.0 and were analyzed by using parametric test such as frequency, T –test, ANOVA test, and regression analysis.

Findings: Analysis of participants characteristics showed that the age groups were ranged between 15 to 44 years old, and (48.8%) of the participants aged between 25-34 years old, more than half of the participants (59.1%) were from villages, the majority of the participants (98.2%) were married, (45.%) had university half of them 50.6% were under the Palestinian poverty

line. The current study showed that prevalence of acute stress disorder among women after emergency caesarean section in 3 major hospitals (Ramallah Governmental H Hospital, Red Crescent Hospital, and Arab Care Hospital) was 21.2%.

Further, the findings showed that independent variables including profession, economic status, number of normal deliverers, social support, having problems in the maternity ward, history of medical disease, and fear from caesarean section had significant relationship with ASD at P-value less than (0.05). The regression analysis revealed statistically significant relationships between acute stress reaction after emergency caesarean section and independent variables, such as (complications after emergency cesarean section, social support, problems in the maternity ward, having a medical disease, and fear from emergency caesarean section.). On other hand, the regression analysis did not find statistically significant relationships between acute stress reaction after emergency caesarean section and independent variables, such as (age, place of residence, marital status, educational level, profession, monthly income), parity, number of normal deliverers, number of previous (CS), having previous psychological problems, and having previous traumatic life events.

Conclusion: The current study assessed the prevalence of acute stress disorder after emergency caesarean section among a group of women who attended three major hospitals in Ramallah area (Ramallah Governmental Hospital, Red crescent Hospital, and Arab Care Hospital), The study findings showed that prevalence of acute stress disorder was 21.2%. This is considered high in comparison with other studies in literature review which may indicate the need for further interventions by mental health professionals and policy makers.

نسبة انتشار اضطراب التوتر النفسي الحاد بعد العمليات القيصرية الطارئة عند مجموعة من النساء في بعض مستشفيات منطقة رام الله.

اعداد الطالبه: شاديه صوفان

اشراف: دكتورة منى حميد

خلفية الرسالة:

الولادة بعملية قيصرية ليست مجرد إجراء طبي بل أيضا تجربه نفسيه و عاطفيه للمرأة الحامل ، و من الملاحظ ارتفاع نسبة العمليات القيصرية في جميع أنحاء العالم، كما ان الولاده بواسطه العمليه القيصريه قد يؤدي الى ظهور اعراض بعض الاضطرابات النفسية، مثل الاكتئاب، اضطراب التوتر النفسي الحاد، واضطراب ما بعد الصدمة ، كما تعتبر العمليات القيصرية الطارئة منها من اهم الاسباب لظهور هذه الاضطرابات النفسيه ، فالنساء اللواتي خضعن للعمليات القيصرية الطارئة كن اكثر عرضة لظهور اعراض اضطراب التوتر النفسي الحاد في الأيام القليلة الأولى حتى شهر واحد ما بعد الولادة.

الهدف:

مقياس نسبة انتشار اضطراب التوتر النفسي الحاد بعد العمليات القيصرية الطارئة عند مجموعه من النساء في بعض مستشفيات منطقة مدينه رام الله الحكوميه والخاصه.

منهجيته الدراسه:

استخدمت الدراسه المنهج الكمي المقطعي من اجل تحقيق هذا الهدف، وقد تم جمع البيانات بين شهر ايار/ 2015 وحتى شهرتموز / 2015. عينة الدراسة تتكون من (n= 330) امرأة تتراوح أعمارهن بين 15-44 سنة، أنجن بعملية قيصرية طارئة في ثلاثة مستشفيات رئيسية في منطقة رام الله (مستشفى رام الله الحكومي، مستشفى الهلال الأحمر، مستشفى الرعاية العربية). احتوت الاستبانة على 23 سؤال. و قد تم إجراء التحليل الإحصائي باستخدام الرزم الإحصائية للعلوم الاجتماعية، حيث استخدمت النسخه 18 من هذا البرنامج لقياس العلاقة بين البيانات الديموغرافيه (الشخصيه)، مقياس اضطراب التوتر النفسي الحاد وتم تحليلها عن طريق اختبار التباين الاحادي ، اختبار تي تيست ، واختبار التكرار، الاختبار الارتدادي ، والاختبار الانحداري.

النتائج:

تحليل بيانات المشاركات في الدراسه اشارت الى ان اعمارالمشاركات تراوحت بين 15 و 44 سنه، حيث ان (48.8%) ضمن الفئه العمريه 25 و 34 سنه ، و كان أكثر من نصف المشاركين

(59.1%) من القرى، (98.2%) متزوجات ، و (45%) انهين الدراسه الجامعيه ، نصف المشاركات (50.6%) كن تحت خط الفقر الفلسطيني. وأظهرت الدراسة الحالية أن نسبه انتشار اضطراب التوتر النفسي الحاد بين النساء بعد الولاده بعملية قيصرية طارئة في 3 مستشفيات رئيسية في منطقه رام الله (مستشفى رام الله الحكومي، ومستشفى الهلال الأحمر، ومستشفى الرعاية العربية) 21.2% .

واظهرت النتائج وجود علاقه بين العوامل المستقلة و التوتر النفسي الحاد والتي تشمل في ذلك (المهنة ، والوضع الاقتصادي ، وعدد الولادات الطبيعية ، والدعم الاجتماعي ، وجود مشاكل في جناح الولادة ، ووجود امراض عضويه، والخوف من العملية القيصرية) . و اظهرت نتائج التحليل الانحداري وجود علاقه بين المتغيرات المستقلة مثل (المضاعفات بعد الولادة القيصرية الطارئة، والدعم الاجتماعي، والمشاكل في جناح الولادة، والأمراض العضويه، والخوف من الولادة القيصرية الطارئة) و اضطراب التوتر النفسي الحاد.

من ناحية أخرى، لم يجد تحليل الانحدار علاقات ذات دلالة إحصائية بين التوتر النفسي الحاد بعد العملية القيصرية الطارئة والمتغيرات المستقلة، مثل (العمر ومكان الإقامة، والحالة الاجتماعية والمستوى التعليمي، والمهنة، والدخل الشهري)، ، وعدد الاطفال، و عدد الولادة الطبيعیه السابقه ، وعدد العمليات القيصرية السابقه ، وجود مشاكل نفسية سابقة ، ووجود أحداث صادمة سابقة.

الخلاصه:

وجدت الدراسة الحالية ان نسبه انتشار اضطراب التوتر النفسي الحاد بعد الولادة القيصرية الطارئة بين مجموعة من النساء في مستشفيات حكوميه وخاصه في منطقه رام الله (مستشفى رام الله الحكومي ومستشفى الهلال الأحمر ومستشفى الرعاية العربية) 21.2%. ويعتبر ذلك مرتفعا بالمقارنة مع الدراسات الأخرى، وهذا يشير إلى الحاجة إلى مزيد من التدخلات من قبل المتخصصين في الصحة النفسية.

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Abbreviation

CS	Caesarean Section
EmSC	Emergency caesarean section
EICS	Elective caesarean section
NVD	Normal vaginal delivery
IVD	Instrumental vaginal delivery
Parity	The number of children that the woman has
IVF	In Vitro Fertilization
ASD	Acute Stress Disorder
ASDS	Acute Stress Disorder Scale
ASR	Acute Stress Reaction

DSM- IV	Diagnostic and Statistical Manual of Mental Health, Forth Edition
DSM-V	Diagnostic and Statistical Manual of Mental Health, Fifth Edition
PTSD	Post traumatic Stress Disorder
WHO	World Health Organization
CTG	Cardiotocography
SCI	Stress coping inventory
APA	American psychiatric association
CBT	Cognitive behavior therapy
EMDR	Eye movement desensitization and reprocessing
IES	Impact of event scale
SPSS	Statistical package for Social Science

PCBS	Palestinian Central Bureau of Statistics
SOC	Sense of coherence
W-DEQ	Wijma_delivery expectancy/Experience questionnaire
SCL	Symptom checklist
SD	Standard deviation
SOGC	The Society of obstetricians and gynecologists of Canada

Chapter One

Introduction

Chapter One

1.1 Introduction:

Cesarean delivery is defined as the delivery of a fetus through a surgical incision through the abdominal wall (laparotomy) and uterine wall (hysterotomy) (Gunningham et al. 2014). **It can be a life saving procedure, but it puts women at increased risk for medical complications in a subsequent pregnancy and birth (Rageth, 1999).**

Caesarean section (CS) is recommended when vaginal delivery might pose a risk to the mother or to the baby (Gunningham et al. 2014). Prolonged labor or failure to progress (dystocia), apparent fetal distress, apparent maternal distress, complications (pre-eclampsia, active herpes), catastrophes such as cord prolapse or uterine rupture, multiple births, abnormal presentation (breech or transverse positions), failed induction of labor, failed instrumental delivery, the baby is too large (macrosomia), placental problems (placenta praevia, placental abruption or placental accreta), contracted pelvis, two previous caesarean section, HIV disease, maternal request with no obstetric indication are the indication for caesarean section (Panay et al. 2008).

Because cesarean delivery involves major surgery and anesthesia, there are some disadvantages compared to vaginal delivery. For example it is associated with a higher rate of injury to abdominal organs (bladder, bowel, blood vessels), infections (wound, uterus, urinary tract), and thromboembolic (blood clotting). Also, cesarean surgery particularly can interfere with mother-infant interaction in the delivery room and recovery takes longer than with vaginal delivery. Further, it is associated with a higher risk that the placenta will attach to the uterus abnormally in subsequent pregnancies, which can lead to serious complications,

cutting the uterus to deliver the baby weakens the uterus and increase the risk of uterine rupture in future pregnancy (Bake et al. 2011).

Birth by caesarean is an emotional experience and not just a medical procedure (Erlichman, 1999). **It may cause** psychological problems such as, depression, acute stress reaction, and post traumatic stress disorder (Mutryn, 1993). Also, birth by cesarean can impact self-esteem, mother-infant attachment, spousal relationship, and the new mother's ability to respond to her newborn's needs. The number of caesareans is rising all over the world and non medical reasons play a major role in these rising figures (Verdult, 2009).

The risk can be greater when women had an "emergency" cesarean, had general anesthesia, or were separated from their newborns after the birth (Nicette, 2009). **When comparing women's reactions following uncomplicated vaginal birth, instrumental delivery, and elective caesarean, women who had an emergency caesarean reported more symptoms of post traumatic stress reaction both within the first few days after birth, and at one month postpartum (Ryding et al. 1998). Posttraumatic stress disorder is a much more common psychological response to an unexpected caesarean than expected. Women's feelings of confidence and security on arriving at the hospital quickly change to ones of fear and anxiety when they learn they are going to have a caesarean harmed (Ryding et al. 1998).**

The American Psychiatric Association introduced acute stress disorder (ASD) into DSM-V, to describe acute stress reactions (ASR) that occur in the initial month after exposure to a traumatic event, and before the possibility of diagnosing posttraumatic stress disorder (PTSD), to identify trauma survivors in the acute phase who are high risk for PTSD (DSM-V).

Many women recover fully physically and emotionally from a caesarean birth, others do not. In Palestine little attention has been paid to the psychological impact that an urgent caesarean may have on women's emotional well being and their personal experiences have been at times trivialized, misunderstood, or ignored by the medical community.

This chapter discusses the following topics: problem statement, aim of the study, specific objectives, and limitations of the study.

1.2. Problem statement:

As mentioned previously, cesarean delivery is defined as the delivery of a fetus through a surgical incision through the abdominal wall (laparotomy) and uterine wall (hysterotomy) (Gunningham et al. 1993).

WHO (2010) reported that caesarean section rates are high and continue to rise in developed countries. WHO (1985) stated that, there is no justification for any region to have caesarean section rates higher than 10-15%. Although levels of 10-15% were considered high and acceptable, the average caesarean rates in most developed regions (with the exception of Eastern Europe) exceed 20% (WHO 2010).

Also, according to **World Health report (2010), in the year 2008. A total of 3.18 million additional CS was needed and 6.20 million unnecessary sections were performed in the world. A total of 54 countries had C-section rates below 10% such as African Region which has the lowest rates at 4%. Countries like Ethiopia, Chad, Madagascar and Mali have CS rates of 2%, and Yeman has 1.4 %. Further, 69 countries showed rates above 15% such as Australia and Germany which have CS rate 32%, while the WHO Region of the Americas has rates at 36%, and Brazil has the highest rate at 60%. Moreover, 14 countries had rates between 10% and 15% such as Kuwait (11.2 %), and Qatar (15.9%) (WHO 2010).**

In Palestine, the Palestinian Ministry of Health annual report (2016) revealed that the total number of births in West Bank and Gaza was 125,767, (total number of births in West Bank was 69,308, and 56,459 in Gaza, Cesarean section rate was 22.07% in West Bank, and 17.4% in Gaza Strip. However, there was no formal data in this report about the number of emergency caesarean section performed in West Bank.

It is noticed that in Palestine, there is an increased rate of caesarean section, in general which is considered as a traumatic delivery. For example, table (1-1) showed the total number of births, the total number of (CS), and (CS) rate at Ramallah Governmental Hospital, Red Crescent Hospital and Arab Care Hospital. For example, the findings showed an increase in the rate of caesarean section between the years 2011-2013 in Ramallah Governmental Hospital, and the highest percentage was 23.9% in the year 2013.

Also, it showed a slight decrease in the rate of caesarean section between the years 2011-2013 in Red Crescent Hospital, and the highest rate was 24% in the year 2011. However, these rates are considered high according to WHO recommendation (10-15%).

In addition, the table showed that there was an increase in the caesarean section rate between the years 2011-2013 in Arab Care Hospital in Ramallah, and the highest rate was 34.2% in the year 2013. This might be because private hospitals may perform more (CS) for non-medical reasons such as financial benefits and their fear from complications after normal delivery.

Table (1.1): The number and percentage of births and caesarean at Ramallah Governmental Hospital, Red Crescent Hospital, and Arab Care Hospital (2011 -2013).

Hospital	Year	Total birth	Total (CS)	(CS) Rate
Ramallah Governmental Hospital	2011	4517	968	21.4%
	2012	5952	1082	18.2%
	2013	5932	1301	23.9%
Red Crescent Hospital	2011	2329	521	24%
	2012	2895	680	23.5%
	2013	3008	661	22%
Arab Care Hospital	2011	481	64	26%
	2012	250	25	34%
	2013	101	20	34%

There is no formal statistics about the number of emergency caesarean sections in Palestine, but we were able to get data from the three previous hospitals for (October/ 2014) as shown in table (1-2).

Table (1.2): the number and percentage of births, and emergency caesarean section in Ramallah Governmental Hospital, Red Crescent Hospital and Arab Care Hospital (October/2014).

Hospital	Total birth October /2014	Total caesarean section	Total emergency (CS)	(CS) rate October /2014
Ramallah Governmental Hospital	481	101	64	20.99%
Red Crescent Hospital	250	55	25	22%
Arab Care Hospital	101	35	20	34.7%

It is noticed in the above table that the emergency caesarean section rate is considered high in the three hospitals (20.9 %, 22 %, 34.7 %), in comparison with WHO recommendation (10 -15%).

So the women who experience labor, delivery complications, and caesarean birth can have long lasting effects on personality and psychological problems. As emergency caesarean sections are mostly experienced as traumatic (Verdult, 2009), and women are at an increase risk for postpartum depression and often experience symptoms such as a sad mood, decreased interest in activities, difficulty sleeping, fatigue, worthlessness or excessive guilt, feeling slowed down or agitated, difficulty concentrating, and even thoughts of suicide. In addition, it affects the mother's relationship with her partner, and her relationship with the baby, and they can cause post-traumatic stress

disorder symptoms, such as emotional numbing, distress at reminders of the trauma, avoidance of thoughts and feeling associated with the trauma, inability to recall aspects of the trauma, decreased interest in activities, feeling detached from others, difficulty falling or staying asleep, irritability, difficulty concentrating, and women can dissociate during these events (Amy, 2012).

For example, a study was conducted by Creedy et al. (2000) to determine the incidence of acute trauma symptoms in women as a result of their labor and birth experiences using a prospective longitudinal design. The results of this study revealed that one in three women (33%) identified a traumatic birthing event and reported the presence of at least three trauma symptoms. Twenty-eight women (5.6%) met DSM-IV criteria for acute posttraumatic stress disorder.

In Palestine studies about the psychological impact of caesarean on women are limited; and there is a lack of studies to identify the prevalence of acute stress disorder after emergency caesarean section. Therefore, this study may be the first to assess that. The study may provide important implications for policy makers and obstetricians in the Palestinian Ministry of Health and private hospitals to take actions needed to provide the psychological intervention for the women who may develop acute stress reaction after emergency caesarean section.

1.3. Aim of the study

The aim of the study is to assess the prevalence of acute stress reaction after emergency caesarean section among women who delivered in 3 major hospitals in Ramallah area.

1.4. Specific Objectives of the study

- 1- To assess the prevalence of acute stress disorder after emergency caesarean section among women who delivered in 3 major hospitals in Ramallah area
- 2- To assess the relation between dependent variable; (acute stress reaction) and socio demographic data such as age, social economic status, education level, place of residence, and social support.
- 3- To assess the relation between acute stress reaction and obstetric and medical history.
- 4- To assess the relation between acute stress reaction and past psychological or mental problems.

1.5. Limitation of the study:

- The generalization of the findings of this study might be limited as this study only included 3 hospitals in Ramallah area.
- Data collection depended on self-reported questionnaire so the participants might reluctant to report their symptoms.

Chapter Two

Background and Literature Review

Chapter two

2.1. Section 1: Background:

Cesarean section (CS) was introduced in clinical practice as a lifesaving procedure both for the mother and the baby. Cesarean delivery is defined as the delivery of a fetus through a surgical incision through the abdominal wall (laparotomy) and uterine wall (hysterotomy) (Gunningham et al. 1993).

As other procedures of complexity, its use follows the health care inequity pattern of the world, underuse in low income settings, and adequate or even unnecessary use in middle and high income settings. (WHO 2010) The primary justification for caesarean section is that, it has undoubted benefits for certain complications of pregnancy and birth. Even caesarean sections have become a safe surgical procedure; it remains a major abdominal surgery (Verdult, 2009).

Depending on urgency, CS is categorized as: (Chandrabaran et al. 2012)

- Grade 1- an immediate threat to life of mother or fetus, (e.g. massive abruption with fetal bradycardia).
- Grade 2- there is no immediate but likely compromise to mother (e.g. bleeding) or fetus (pathological CTG).
- Grade 3- there is a need for early delivery for fetal or maternal reason but there is no acute compromise (e.g. planned next day delivery for 34 – week fetus with growth restriction and deterioration Doppler).
- Grade 4- for non-urgent indications where delivery is timed to suit the mother and the health care provider for non-urgent indication

There are different reasons for performing a delivery by caesarean section. The four major indications accounting for greater than 70% of operation are previous caesarean section, dystocia, malpresentation, and suspected acute fetal compromise. Other indication such as multifetal pregnancy, abruption placenta, placenta praevia, fetal disease, and maternal disease, are less common. No list can be truly comprehensive and whatever the indication, the overriding principle is that whenever the risk to the mother and /or fetus from vaginal delivery exceeds that from operative intervention, a caesarean section should be undertaken (Barker et al. 2011).

Distinction can be made between absolute indications and debatable indications. Absolute indications are: cord collapse, real placenta praevia, placenta abruption, a brow presentation, a transverse lie or shoulder presentation, breech presentation cardiac arrest. Debatable indications are previous caesarean, failure to progress, cephalopelvic disproportion, fetal distress, fibroids and ovary cysts, twin birth, and vulnerable babies (premature or small-to-date) (Odent, 2004).

On other hand, caesarean sections have medical risks, such as complications with the anesthesia; complication by infections; post-surgery complications like peritonitis, embolism, pneumonia, infection of the scar, anemia; lower subsequent fertility; damage to the urinary bladder, causing incontinence; complications in breastfeeding; death of the mother and/or baby and more complication in the next pregnancy and birth (Verdult 2009).

Emergency caesarean sections are mostly experienced as traumatic birth, can have long lasting effects on personality (Verdult, 2009). **Rising**

cesarean section (CS) rates are a major public health concern and cause worldwide debates (WHO 2011).

For many years, the (WHO) is warning against the rising caesarean births. The **WHO (1985) recommended of no more than 15% (CS) of all deliveries. The proposed upper limit of 15% is not a target to be achieved but rather a threshold not to be exceeded.** In many high- and middle-income countries the rate is clearly above the recommended rate, such as the US and Italy where the rates of CS are respectively 30.2 % and 37.4%, and in some countries, such as Brazil or Taiwan, caesarean birth rates are up to 60%. In Palestine, according to Palestinian Ministry of Health annual report (2016) revealed that the total number of births in West Bank and Gaza was 125,767, (total number of births in West Bank was 69,308, and 56,459 in Gaza, Cesarean section rate was 22.07 % in West Bank, and 17.4% in Gaza Strip . However, there was no formal data in this report about the number of emergency caesarean section performed in West Bank. **Factors that influence the growing caesarean section rates are, the growing average age on which women get there first baby, the reduction of the average number of children of a fertile woman, better insured woman get more caesarean sections; the higher the socio-economic status of the woman the higher the C-section rate; the growing rates of epidural anesthesia; electronic fetal monitoring giving cause to more ‘false alarms’; more induction of delivery leads to more C-sections; multiple pregnancies as a result of IVF and other artificial reproductive techniques; growing health problems in women such as diabetes and obesity, and more prenatal stress is linked to more birth complications including C-sections Kennare (2003).** Caesarean

section is a necessity, but it is also problematic when the procedure is overly performed (Baldo et al. 2008).

There has been an increased interest in birth trauma. Beck (2004) defines birth trauma as: An event occurring during the labour and delivery process that involves actual or threatened serious injury or death to the mother or her infant. The birthing woman experiences intense fear, helplessness, loss of control, and horror. (p.28) Reid (2011) defined traumatic delivery simply as the woman feeling traumatized by her experience and is fearful of a subsequent birth. Meanwhile in the trauma field there has been growing acceptance that what constitutes trauma is subjective (Miliora, 1998). Woman's perception of the birth may make it traumatic; fear, pain, being out of control, concern for the baby and perceived poor care are some of the factors which give rise to birth trauma (Allen, 1998; Creedy et al, 2000; Beck, 2004).

The risk can be greater when women had an "emergency" cesarean, had general anesthesia, or were separated from their newborns after the birth (Nicette, 2009). When comparing women's reactions following uncomplicated vaginal birth, instrumental delivery, and elective caesarean, women who had an emergency caesarean reported more symptoms of post traumatic stress reaction both within the first few days after birth, and at one month postpartum (Ryding et al. 1998). Posttraumatic stress disorder is a much more common psychological response to an unexpected caesarean than expected. Women's feelings of confidence and security on arriving at the hospital quickly change to ones of fear and anxiety when they learn they are going to have a caesarean harmed (Ryding et al. 1998).

The American Psychiatric Association introduced acute stress disorder (ASD) into DSM-V, to describe acute stress reactions (ASR) that occur in the initial month after exposure to a traumatic event, and before the possibility of diagnosing posttraumatic stress disorder (PTSD), to identify trauma survivors in the acute phase who are high risk for PTSD (DSM-V).

The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5, 2013), lists 5 specific diagnostic criteria for ASD which are as the following:

Criterion A. The person was exposed to one or more of the following situations

- Experienced an event or events that involved a threat of death, actual or threatened serious injury, or actual or threatened physical or sexual violation of himself or herself
- Personally witnessed an event or events that involved the actual or threatened death, serious injury, or physical or sexual violation of others
- Learned of such harm coming to a close relative or close friend
- Or underwent repeated or extreme exposure to aversive details of unnatural death, serious injury, or serious assault or sexual violation of others

Witnessed exposure or exposure to aversive details does not include events that are witnessed only in electronic media, television, video games, movies, or pictures.

Criterion B Presence of nine (or more) of the following symptoms from any of the five categories of intrusion, negative mood, dissociation, avoidance, and arousal, beginning or worsening after the traumatic event(s) occurred:

- **Intrusion Symptoms**

1. Recurrent, involuntary, and intrusive distressing memories of the traumatic event(s).
2. Recurrent distressing dreams in which the content and/or affect of the dream are related to the event(s).
3. Dissociative reactions (e.g., flashbacks) in which the individual feels or acts as if the traumatic event(s) were recurring.
4. Intense or prolonged psychological distress or marked physiological reactions in response to internal or external cues that symbolize or resemble an aspect of the traumatic event(s)

- **Negative Mood**

5. Persistent inability to experience positive emotions

- **Dissociative Symptoms**

6. An altered sense of the reality of one's surroundings or oneself.
7. Inability to remember an important aspect of the traumatic event(s)

- **Avoidance Symptoms**

8. Efforts to avoid distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).
9. Efforts to avoid external reminders that arouse distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

- **Arousal Symptoms**

10. Sleep disturbance.

11. Irritable behavior and angry outbursts (with little or no provocation), typically expressed as verbal or physical aggression toward people or objects.

12. Hypervigilance.

13. Problems with concentration.

14. Exaggerated startle response.

C. Duration of the disturbance (symptoms in Criterion B) is 3 days to 1 month after trauma exposure.

D. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

E. The disturbance is not attributable to the physiological effects of a substance (e.g., medication or alcohol) or another medical condition (e.g., mild traumatic brain injury) and is not.

ASD was introduced into DSM 5, in (2013) in an effort to prospectively characterize the subpopulation of traumatically exposed persons with early symptoms and identify those at risk for the development of PTSD. Those with high levels of symptoms early on, including those with ASD, are at risk of subsequent PTSD; however, some patients with ASD do not develop PTSD, and a proportion of patients develop PTSD without first having met the criteria for ASD (Bett et al. 2013).

According to DSM-5, ASD diagnosis differed from PTSD in terms of its emphasis on acute dissociation and its focus on reactions that occur in the initial month (Bett et al. 2013). DSM-5 consequently dropped the dissociative symptoms requirement, and the ASD diagnosis

no longer requires that each cluster of symptoms are satisfied; to determine the presence of ASD on the basis of 9 symptoms being present (Bryant et al. 2012).

The rate of ASD following a potentially traumatic event varies from as low as 1% in victims of mixed trauma to as high as 59% in sexual assault victims. Victims of violent crime are at the highest risk for ASD; other risk factors include female gender, younger age, lower socioeconomic status, and traumatic experiences of longer duration. Furthermore, the frequency with which ASD develops in individuals exposed to traumatic events depends on both the nature of the event, and the context in which it is assessed, ASD often co-occurs with depression, anxiety disorders, and substance use disorders.

Aside from questions about its ability to predict PTSD, the ASD diagnosis has been subject to a variety of other criticisms. Many mental health professionals have argued that a diagnosis (ASD) should not exist primarily to predict another diagnosis (PTSD), and that distinguishing between two diagnoses largely on the basis of duration of symptoms is not justified. In other words, ASD and PTSD may be more parsimoniously conceptualized as a single disorder that persists beyond one month in only some individuals. It has argued that because most trauma survivors gradually adapt within the first month and never develop PTSD, the ASD diagnosis, which can be made as early as three days after trauma exposure, inappropriately pathologizes short-term reactions that are likely to resolve naturally without intervention. Another major criticism stems from the requirement in the initial DSM-IV, ASD criteria that an individual endorse at least three dissociative symptoms. This requirement was based on the hypothesis that dissociation during or

soon after a traumatic event plays an essential role in impeding emotional processing and hindering adaptation. Because little empirical evidence supports this hypothesis, the dissociative symptoms requirement has engendered substantial controversy, with researchers noting that this criterion rules out an ASD diagnosis in many individuals who go on to develop PTSD (Bryant et al. 2012).

Risk factors for developing ASD following childbirth may include high-levels of obstetric intervention, low-levels of support, inadequate pain relief, loss of control and lack of information as aspects of birth women perceived as traumatic (Olde et al. 2006). Personal risk factors increase susceptibility include previous trauma (Verreault et al. 2012), a history of sexual or physical abuse (Rhodes et al. 1994), mental health difficulties (Soderquist et al. 2006), personality characteristics (Zaers et al. 2003) and nulliparity (Ayres et al. 2009). Appraisals of birth experience are an important factor in the development of post traumatic reaction, including incongruity between expectation and experience (Maggioni et al. 2006) and the role of pre-existing cognitive schemas (Ayres, 2007; Edworthy et al. 2008). Many of these variables fit with models of ASD and PTSD. For example, Ehlers et al. (2000) proposed that prior experiences and beliefs and negative appraisal of the trauma and its sequelae, participate in the development and maintenance of acute stress disorder and PTSD. Ford et al. (2010) found that this model predicted post traumatic symptoms following childbirth at one month postpartum and three months postpartum, with the additional variable of social support.

This chapter will discuss the following topics:

- **The impact of cesarean section and acute stress reaction on women's psychological wellbeing and future pregnancies.**
- Treatment of acute stress disorder
- Studies that assessed ASD after emergency caesarean section:

2.2. The impact of cesarean section and acute stress reaction on women's psychological wellbeing and future pregnancies:

Acute stress reaction is not experienced by all women who had a traumatic birth. In a study conducted by Ayers (2007), women reported their experience as a panic, anger, thoughts of death, mental defeat and dissociation. After birth, women with acute stress reaction reported more painful memories, intrusive thoughts and rumination. However, others tended to focus on the present and benefits, such as their baby, the improvement in their health and the meaning of the birth for others. The processes adopted by the women without post-traumatic stress symptoms showed a tendency to find purpose or meaning in their life (Bulman, 2004).

Also, Allen (1998) highlighted the effect traumatic birth on women's wellbeing. Women felt anger and frustration towards those around them which they were later able to identify as unjustified, leading to self-deprecation and guilt. Women talked about feeling highly aroused, experiencing panic attacks and tearfulness, leading to social avoidance or use of distraction techniques. Such reactions ultimately maintained arousal levels and led to vicious cycles (Ehlers and Clarke, 2000). Participants in Moyzakitis' (2004) study reported an impact on self-image and identity following a traumatic birth; women experienced grief for the loss of the self.

Further, Lemol et al. (2007) assessed subjective birth experience, post-natal emotional support from partner, and obstetric variables. They found high levels of poor psychological adjustment in women who had experienced a traumatic birth; furthermore, this effect was mediated by partner support. Women who found their partners support to be lacking, critical or complaining were more likely to report symptoms of avoidance, intrusion and depression after a traumatic birth. Beck (2006), asked participants to write about the anniversary of their traumatic birth. Women reported an increase in post-traumatic symptoms and talked about experiencing “dread, anxiety, stress, sadness, grief, loss, fear and guilt” (p.385). Leading up to the anniversary. Women in the study did not feel supported or understood in their trauma. Beck suggested that birth trauma is glossed over in all capacities, particularly so at anniversaries where a child’s birthday celebrations take centre stage. Nesca and Dalby (2011) presented a case of a young woman who smothered her infant soon after birth. Assessments concluded an acute stress reaction brought on by traumatic birth led to the tragedy. Eleven months postpartum the woman was deemed to be suffering from PTSD related to traumatic birth.

Unplanned caesarean section which considered as traumatic birth may impact upon relationships. Following birth women are particularly vulnerable and known to require additional emotional and practical support, therefore the effects of traumatic birth on couple relationships and relationships with others are imperative to consider. Allen (1998), Moyzakis (2004), Beck (2004b) and Ayres et al. (2007), found that women who had post traumatic symptoms following a traumatic birth, their relationships became distant and that significant others were unable to empathize with their distress. Many women reported a reduced libido, impacting on the quality of their romantic relationships. There was a

commonality of women feeling so emotionally depleted by the post traumatic symptoms that they were unable to support their partners or engage with their other children. This often extended to wider family and friends whom they felt distanced from, leading to isolation. In some cases, women felt that their negative experiences were not socially acceptable to speak about and this silence isolated them. Nicholls and Ayres (2007) study showed that women's partners reported feeling rejected, helpless and blamed since the traumatic birth. Four men reported clinical symptomatology of PTSD themselves; while this may increase empathy for their partner, it's unclear if this is helpful for the resolution of symptomatology as the individual stress reactions may negatively impact on one-another (Nelson et al. 2002). Social support can mediate the effects of post traumatic symptoms, with higher levels of support thought to increase individual's coping capacity (Solomon et al.1988).

In addition, in a qualitative study by Ayers et al. (2006), the themes of support and strain on the relationship emerged. Even good support offered by partners was reported as just not enough to heal the distress. All participants reported strain on their relationship either as a result of loss of self-esteem because of the birth, loss of sexual intimacy, disagreements about the birth, women blaming men for the events of the birth, and women not giving partners time or attention. Also, sexual dysfunction had an impact on relationships (O'Driscoll, 1994; Allen, 1998; Ayers et al. 2006). Nichols & Ayers (2007) found women avoided sex because either it was a reminder of the trauma; they wanted to protect their battered body; or fear of pregnancy. Also, postpartum psychological difficulties have implications for mothers' responsiveness and attunement to their infant, influencing the attachment with the child and affecting development. In their first few months, an infant is dependent on an attuned and sensitive

caregiver to interpret their behavioural signals to meet their needs and to internalize behavioural and emotional regulation experiences (Davies et al. 2008). A mother's responsiveness to her infant's distress facilitates the process of co-regulation and increases their ability to cope with aversive environmental stimuli (Sroufe, 2000). The quality of the mother-infant dyadic and the formation of the subsequent attachment is therefore a vital aspect of the child's development and well-being (Bowlby, 1988).

Much of the research in the area of attachment and psychopathology of mother postpartum has focused on mother-infant bonding in women experiencing post-natal depression (PND) (Hart et al, 2004, Murray, 2006). One of the main features of on-going trauma is 'avoidance of stimuli' which may trigger reminders of the distressing event (American Psychiatric Association, 2000). The infant may be identified as a constant reminder of the trauma resulting in the mother distancing herself, or perceiving them in a negative light Ballard et al. (1995). explored 4 women's experiences of the first 48 hours following emergency caesarean section as traumatic birth. Two women reported avoiding emotional contact with their infants, stating that contact triggered vivid recollections of the traumatic delivery, one of these women experienced such distancing from her infant; and the authors reported a disorder of attachment to her son. Both women also reported resentment towards their child.

Knapp (2012) presented a case study of a woman who felt constantly anxious regarding the wellbeing of her daughter following her emergency caesarean section, e.g. needing to check she was breathing throughout the night. This profile fits with knowledge of post-traumatic stress reaction where the individual experiences increased levels of arousal and anxiety potentially leading to hyper-vigilance (American Psychiatric Association, 2000). Allen (1998) and Moyzakitis (2004)

reported resentment, detachment, anxiety and hyper-vigilance towards infants in both their samples of women who had experienced a traumatic birth. These were often longitudinal and led to women feeling marginalised and guilty within a society perceived to hold an idealised construct of motherhood.

Ayres (2007) reported women feeling detached from their child following emergency caesarean section. However, participants discussed acting out the mother role and interviews with partners uncovered that they often compensated for the mother's emotional detachment. Therefore, while women may experience difficulties bonding, the consequences for the infant are less clear Eagle et al. (2007), found similar negative feelings from mother to infant following emergency caesarean section. However, in their study they reported that over time, ranging from one to five years, feelings of resentment, detachment and rejection significantly decreased.

In addition, Parfitt et al. (2009) investigated the association between post-natal depression and post-traumatic stress reaction on both the couple's relationship and the parent-infant bond. They found that symptoms of post traumatic stress reaction had a direct negative effect on the parent-infant bond. Findings showed that for parents experiencing high levels of post-traumatic stress reaction and depression symptoms there are associations with a poorer parent-infant bond.

Also, for many mothers, breast feeding was seen as a way of undoing their initial failure and of acquiring the maternal role; an inability to do so because of the trauma their body has suffered was experienced as failure and shame. The significance of breastfeeding was examined in Beck & Watson's (2008) study of the impact of emergency caesarean section on breastfeeding. They found women wanted to prove themselves as mothers and atone for the baby's traumatic arrival. Successful breast feeding was

healing as it helped women to regain self-esteem, confidence and restored faith in their bodies, and for other women breastfeeding was not such a positive experience. For some the physical injuries made it a painful ordeal, whilst trauma to their body sometimes resulted in insufficient milk supply. Frightening flashbacks were reported. For some women, it was another invasion and violation of their body and for some breastfeeding was an empty affair which only drew attention to the detachment they felt from their babies (Field et al, 1990). Also, emergency caesarean section which considered as traumatic birth has an impact of on future pregnancies and birth. Women described feeling of fear, avoidance of future pregnancy and birth, mode of delivery for future birth and future pregnancy as a restorative process. Campbell (2010); Beck & Watson (2010) looked at subsequent childbirth following a traumatic childbirth; they found women described feelings of fear, terror anxiety, panic, dread and denial during their subsequent pregnancy. Women developed strategies such as making detailed plans to rectify things that had gone wrong previously. Some women arranged elective caesarean sections, This desire for elective caesarean sections as a result of previous birth trauma is corroborated in studies by Ryding (1991) as three quarters of the women found a subsequent birth to be a better experience, for some it was healing and empowering; but for some the second birth was not healing because it was also traumatic or because the hurt from the first birth was too huge to forget.

Tokophobia, which is a fear of childbirth as a result of a traumatic birth can occur Hofberg et al. (2000); Beck (2004), and Beck and Watson (2010) reported participants responded to a subsequent pregnancy following a traumatic birth with fear, terror, anxiety, panic, dread and denial; some to the extent that they experienced psychopathological

reactions such as panic attacks and suicidal thoughts. Saisto et al. (1999) analyzed data regarding the first deliveries of women who reported severe tokophobia in their second pregnancies and found an association with previous traumatic birth. Hofberg et al. (2000) conducted a series of 26 case studies of tokophobic women and found that for 14 of these women traumatic birth was the trigger, or each tokophobia was diagnosed based on participant's qualitative descriptions of fear regarding childbirth. Also, Nilsson et al. (2010), interviewed parous pregnant women recruited from a clinic for tokophobia. Women reported that prior to their first birth they had not held substantial fears regarding delivery. All described their previous traumatic birth as the trigger to their current anxieties, and again tokophobia was determined based on women's qualitative accounts of fear of birth. Lundgren, et al. (2012) explored tokophobia in a longitudinal population based study and found that traumatic birth most strongly predicted fear of childbirth during pregnancy and one year post birth. In this study tokophobia was measured using a quantitative questionnaire developed by the researchers. The implications of anxiety during pregnancy had been well researched and provide evidence that tokophobia be taken seriously. As with clinical levels of anxiety, sleeplessness and fatigue, they had been found to affect women with tokophobia. (Hall et al. 2009), and depression had been commonly found to be co-morbid with such anxiety (Martini et al. 2010) as has social isolation and low self-esteem (Nilsson et al. 2009).

During delivery women who experience tokophobia are at increased risk of emergency CS (Nilsson, et al, 2012), increased duration of labour (Adams et al. 2012), higher rates of epidural analgesia and more negative, painful experiences of birth (Haines et al. 2012). They are more likely to feel personal failure regarding the delivery (Nilsson & Lundgren, 2009),

and to continue to feel fearful of childbirth after delivery (Alehagen et al. 2006).

Further, experiential avoidance behaviours in response to traumatic birth include prolonged intervals between births, taking steps to prevent future birth and efforts to control future birth experiences. Fones (1996) presented the case of a woman who nine years post-partum requested tubal ligation to avoid re-experiencing traumatic birth. Allen (1998) also identified traumatic birth impacting on future pregnancy; 13 of 20 participants reported that they would not have any more children, and 8 of these explicitly stated traumatic birth was the reason for this. Of the seven women who did wish to have more children, two stated they would only do so if an ECS was made available. Knapp (2012) presented a case study reported feeling relieved by two miscarriages she had since the traumatic birth. Gottvall and Waldenstrom's (2002) found that women who rated their first birth negatively had fewer subsequent children and longer intervals between births.

Caesarean section on maternal request is presently an area of international debate and has been posed as an ethical dilemma amongst medical communities (Nilstun et al. 2008). However, mortality rates for ECS have been found to be equal to those of vaginal delivery (Wax, 2006). Several physiological benefits to mother and infant have also been documented such as decreased maternal and fetal endocrine stress response (Vogle et al. 2006). Studies investigating psychological aspects of ECS have focused mainly on quantitative measures of satisfaction, and it has been found to be significantly higher than that of natural birth and emergency CS (Schindl et al. 2003; Blomquist et al. 2011).

Thus far relationships and future childbearing have been implicated as key areas which are affected by traumatic birth. It is clear that each of these factors will also affect the wellbeing of the woman (Alcorn et al. (2010); Ayres & Pickering, 2001; Creedy, et al. (2000); Verreault et. al 2012).

2.3. Treatment of acute stress disorder:

The goals of treatment for individuals with a diagnosis of ASD include reducing the severity of ASD symptoms, preventing or treating trauma-related comorbid conditions that may be present or emerge, improving adaptive functioning and restoring a psychological sense of safety and trust, limiting the generalization of the danger experienced as a result of the traumatic situation(s), and protecting against relapse. Patients assessed within hours or days after an acute trauma may present with overwhelming physiological and emotional symptoms (e.g., insomnia, agitation, emotional pain, dissociation). These acutely traumatized individuals may benefit from supportive psychotherapeutic and psychoeducational interventions. Pharmacotherapy may be the first-line intervention for acutely traumatized patients whose degree of distress precludes new verbal learning or nonpharmacological treatment strategies. (Foa et al. 1998) Early after a trauma, once the patient's safety and medical stabilization have been addressed, supportive psychotherapy, psychoeducation, and assistance in obtaining resources such as food and shelter and locating family and friends are useful (Foa et al. 1998).

In summary, effective treatments for the symptoms of ASD or PTSD encompass psychopharmacology, psychotherapy, and psychoeducation and other supportive measures. Combination treatment is widely used and

may offer advantages for some patients. (American Practice Association Guidelines 2010). These treatment approaches were discussed in more details below:

1-Cognitive and behavior therapies:

Cognitive behavior therapy in ASD or PTSD targets the distorted threat appraisal process (in some instances through repeated exposure and in others through techniques focusing on information processing without repeated exposure) in an effort to desensitize the patient to trauma-related triggers. Cognitive behavior therapy targets the distorted threat appraisal process (in some instances through repeated exposure and in others through techniques focusing on information processing without repeated exposure) in an effort to desensitize the patient to trauma-related triggers. (Shawn et al. 2005)

Distinctions may be drawn between psychotherapies that focus principally on aspects of cognitive processing and those that emphasize behavioral techniques. However, aspects of both are frequently combined. A course of cognitive behavior therapy generally begins with education about the symptoms of the disorder, as well as a rationale for asking the patient to recall painful experiences and relaxation training. After the therapist assesses the patient's ability to tolerate within-session anxiety and temporary exacerbations of symptoms, the patient is led through a series of sessions in which the traumatic event and its aftermath are imagined and described, and the patient is asked to focus on the negative affect and arousal until they subside. Reassurance and relaxation exercises aid the patient in progressing through these sessions, and homework assignments allow the patient to practice outside the sessions or while confronting

triggers of anxiety (specific places or activities) in vivo (Harvey et al, 2008).

Stress inoculation training involving breathing exercises, relaxation training, thought stopping, role playing, and cognitive restructuring has also proven effective alone and in combination with prolonged exposure in reducing ASD symptoms (Hembree et al, 2000).

For example, a study was conducted by Bryant et al. (2000) to prevent PTSD by an early provision of cognitive behavior therapy. Specifically, this study indexed the relative efficacy of prolonged exposure and anxiety management in the treatment of acute stress disorder. Sample size included (N=45) civilian trauma survivors with acute stress disorder who were given five sessions of 1) prolonged exposure (N = 14), 2) a combination of prolonged exposure and anxiety management (N = 15), or 3) supportive counseling (N = 16) within 2 weeks of their trauma. 41 trauma survivors were assessed at the 6-month follow-up. Results of the study revealed that fewer patients with prolonged exposure (14%, N = 2 of 14) and prolonged exposure plus anxiety management (20%, N = 3 of 15) than supportive counseling (56%, N = 9 of 16) met the criteria for PTSD after treatment.

There were also fewer cases of PTSD in the prolonged exposure group (15%, N = 2 of 13) and the prolonged exposure plus anxiety management group (23%, N = 3 of 13) than in the supportive counseling group (67%, N = 10 of 15) 6 months after the trauma. Chronic PTSD in the supportive counseling condition was characterized by greater avoidance behaviors than in the prolonged exposure condition or the prolonged exposure plus anxiety management condition. These findings suggest that PTSD can be effectively prevented with an early provision of cognitive behavior therapy

and that prolonged exposure may be the most critical component in the treatment of acute stress disorder.

In addition, in a study was conducted by (Harvy et al, 2010) in which individuals with ASD were randomly assigned to receive either brief cognitive behavioral therapy (CBT) or supportive counseling, those receiving CBT were less likely to develop PTSD and continued to show lower symptom levels up to four years later. This study indicated that the ASD diagnosis has reasonably good positive predictive power, with 50-75% of individuals who meet ASD diagnostic criteria eventually developing PTSD, but poor sensitivity, with fewer than 50% of individuals who meet PTSD diagnostic criteria having previously met criteria for ASD.

2- Eye movement desensitization and reprocessing (EMDR):

EMDR is a form of psychotherapy that includes an exposure-based therapy (with multiple brief, interrupted exposures to traumatic material), eye movement, and recall and verbalization of traumatic memories of an event or events. It therefore combines multiple theoretical perspectives and techniques, including cognitive behavior therapy. Some point to the use of directed eye movements as a feature markedly distinguishing this form of therapy from other cognitive behavior approaches. Others point to the fact that traumatic material need not be verbalized; instead, patients are directed to think about their traumatic experiences without having to discuss them. Like many of the studies of other cognitive behavior and exposure therapies, most of the well-designed EMDR studies have been small, but several meta-analyses have demonstrated efficacy similar to that of other forms of cognitive and behavior therapy (Maxfield et al, 2002).

Studies also suggest that the eye movements are neither necessary nor sufficient to the outcome (Hembree et al. 2003), but these findings remain controversial (Lipke et al, 2003).

3- Psychodynamic psychotherapy:

Psychodynamic psychotherapists employ a mixture of supportive and insight-oriented interventions based on an assessment of the individual patient's symptoms, developmental history, personality, and available social supports as well as an ongoing assessment of the patient's ability to tolerate exploration of the trauma (Gabbard, 2000).

Psychodynamic therapy has, from its beginnings, been concerned with responses to traumatic event. (Grinker et al, 1983) There is an extensive body of research that includes descriptive designs, process-to-outcome correlational studies, and case studies. However, a controlled trial of psychodynamic therapy versus hypnotherapy or desensitization versus no therapy showed all interventions were superior to the control condition (no treatment) in decreasing avoidance and intrusive symptoms (Brom et al, 1989).

The clinical research and narrative-based literatures on psychodynamic psychotherapy outline two major approaches to the treatment of traumatic stress disorders. The first views an individual's defenses and coping skills as a product of his or her biopsychosocial development and focuses on the meaning of the trauma for the individual in terms of prior psychological conflicts and developmental experience and relationships, as well as the particular developmental time of the traumatic occurrence(s). This approach examines the person's overall capacity to cope with memories of traumatic event(s) and their triggers and the coping style he or she uses to manage these memories. The second approach focuses on the effect of

traumatic experience on the individual's prior self-object experiences, overwhelmed self-esteem, altered experience of safety, and loss of self-cohesiveness and self-observing functions and helps the person identify and maintain a functional sense of self in the face of trauma (Gabbard et al, 2000).

Awareness of countertransference is a central component of treatment of traumatic experience in psychodynamic psychotherapy and in other therapies. The therapist's emotional response on hearing the patient describe the traumatic events can either facilitate or disrupt the therapeutic alliance, making ongoing attention to countertransference of particular importance in treating patients with ASD and PTSD (Chertoff, 1997).

4-Psychological debriefing:

Psychological debriefing was developed as an intervention aimed at preventing the development of the negative emotional sequelae of traumatic events, including ASD and PTSD. This staged, semi structured group (or, as often administered, individual) interview and educational process includes education about trauma experiences in general and about the chronological facts of the recently experienced traumatic event and exploration of the emotions associated with the event. Since debriefing has received considerable publicity, it may be expected (or specifically requested) by leaders or managers when a group confronts disaster. In the military, for example, group debriefings have been used as a means for describing normative responses to trauma exposures and educating individuals about pursuing further assistance if symptoms persist or cause significant dysfunction or distress. However, well-controlled studies of

debriefing that have used single-session, individual, and group debriefing have not demonstrated efficacy (Raphael, 2003).

Although some trauma survivors have reported that they experienced such debriefings as helpful, there is no evidence at present that establishes psychological debriefing as effective in preventing PTSD or improving social and occupational functioning. In some settings, it has been shown to increase symptoms (Mayou et al. 2000).

Its use may be most problematic with groups of unknown individuals who have widely varying trauma exposures or when it is administered early after trauma exposure, before safety and decreased arousal are established. Immediately after exposure, persons may not be able to listen attentively, absorb new information, or appreciate the nuances of the demands ahead in a manner that promotes recovery (Suzanna et al. 2001).

Also, in heterogeneous groups, some individuals will be increasing their exposure through group participation and obtain no added support after the group session, thereby potentially increasing their likelihood of later distress (Shalev, 2002).

For patients with ASD, choice of treatment includes consideration of age and gender, presence of comorbid medical and psychiatric illnesses, and propensity for aggression or self-injurious behavior. Other factors that may influence treatment choice include the recency of the precipitating traumatic event; the severity and pattern of symptoms; the presence of particularly distressing target symptoms or symptom clusters; the development of interpersonal or family issues or occupational or work-related problems; preexisting developmental or psychological vulnerabilities, including prior trauma exposure; and the patient's

preferences. When the patient's symptoms do not respond to a plan of treatment, selection of subsequent interventions will depend on clinical judgment, as there are limited data to guide the clinician. It is important to systematically review factors that may contribute to treatment nonresponse, including the specifics of the initial treatment plan and its goals and rationale, the patient's (American Psychiatric Association guideline 2010).

Since patients with a diagnosis of ASD experience a broad and complex range of symptoms, caring for patients with these disorders involves an array of approaches and should include consideration of the biopsychosocial diversity of the patient's clinical presentation (Rehm et al. 2002).

It is also likely that responses to specific treatments may differ depending on the type of trauma experienced (e.g., acute versus ongoing or cumulative, natural disaster versus interpersonal violence, community-wide versus individual traumatic event, presence versus absence of simultaneous physical injury) and the timing of treatment relative to the occurrence of the traumatic event. (American Psychiatric Association guideline 2010).

2.4. Some of the factors that may affect the treatment of ASD:

1-Age

Trauma exposure, and therefore ASD, occurs in individuals of all ages, including infants. For all types of trauma, exposure varies with age (Breslau et al. 1998), peaking in late adolescence. Although findings on the relationship between age and risk for developing ASD are inconsistent, age and developmental stage may be important considerations in treatment, the meaning of the exposure to a traumatic event will differ depending on the developmental stage as well as the extent of any preexisting emotional problems or age-specific concerns of the patient. For example, an injury

that causes a loss of a limb in early adulthood can raise issues of how to establish long-term intimate relations with a disability, while a similar injury late in life may raise fears of dependency, loss of mobility, and needs for care that may not be available in the family. Confrontation with the threat of the loss of one's life will also raise different concerns depending on the time of life. Since these meanings affect the patient in life planning, they should be addressed in psychotherapy or supportive treatment. Advancing age increases the probability of comorbid medical disorders (e.g., hypertension, renal failure, and heart disease) and concomitant medication use that will influence psychopharmacological decisions (Kessler et al. 1999).

2-Gender

Although overall exposure to trauma may be somewhat greater in men than in women (Breslau et al. 2001), men and women differ in the types of traumatic events to which they are most likely to be exposed. (Breslau, 2002) That men are more likely to be exposed to combat and physical violence, whereas women are more likely to be exposed to rape and sexual assault, only partly accounts for the significantly higher lifetime prevalence rates of PTSD among women in the general population as well as the longer duration of PTSD among women. (Breslau, 2002) Differences in trauma exposures between men and women may also affect treatment considerations. Initial assessment after traumatic life event such as sexual assault or rape requires a willingness to listen to the patient with an open mind to obtain necessary medical and investigative information and establish trust. Early attention to the therapeutic alliance may enhance the degree to which support and psychotherapy may be helpful in addressing later difficulties such as sexually transmitted diseases, pregnancy, difficult

contraceptive choices, and feelings of loss of self-esteem, anger, rage, or guilt. (Breslau, 2002).

3-Ethnic and cross-cultural factors

The likelihood of being exposed to traumatic events, as well as the likelihood of receiving a lifetime diagnosis of ASD and PTSD, differs by ethnic group. In general, clinicians who understand the importance of social and cultural dynamics will be sensitive to the need to treat patients with ASD and PTSD in such a manner as to not alienate them from their families and communities. Treatment must be knowledgeable and respectful of the culture, the cultural meaning of symptoms or illness, and cultural values of the patient and the patient's family. Treatment must also recognize that the "cultural context" in which treatment occurs may affect the development of symptoms. Clinicians must be sensitive to the idea that such societal views may also shape treatment response. An individual's culture may be protective and contain a supportive system of values, roles, lifestyles, and knowledge that may buffer some of the effects of traumatic events. (Devries, 1996) Protective influences of culture and social systems occur in part through provision of an acceptable context in which social support can be experienced and the traumatic event interpreted. The social and cultural context has the potential to provide a positive evaluation of the self, as well as to provide social support, both of which buffer the negative effects of stressful events, (e.g., a rape victim may be shunned by family members for having "shamed" them) (Lazarus et al, 2000). In addition, a disruption of social and cultural foundations can result in drastic changes in people's expectations and views of the meaning of life, thus making individuals potentially more vulnerable to traumatic events. Consequently, therapy must be conducted in a manner that does not estrange the individual from his or her family and community. This

emphasizes the need to take ethnic and cultural factors into consideration in developing a plan of therapy with the patient (Kluft et al. 2000).

4-History of previous traumas:

Exposure to previous trauma may modify vulnerability to subsequent trauma (Ballenger et al, 2000), influence the development of PTSD (Ballenger, 2000), and complicate treatment and recovery. Loss—particularly if sudden or unexpected—is also associated with an increased prevalence of PTSD and may also complicate treatment. Although immediate illness may be precipitated by a recent trauma, symptoms of ASD or PTSD (sleep disturbance, irritability, hyperarousal) may in fact be directly related to the more remote traumatic experience(s), including childhood sexual abuse. Psychotherapeutic interventions aimed at integrating traumatic experience and diminishing the effect of intrusive recollections must therefore target not only the precipitating trauma but the remote trauma as well (Zisook et al. 2000).

2.5. Section 2: Literature review:

2.5.1 Studies that assessed ASD after emergency caesarean section:

As mentioned in previous discussion, child birth can be painful experienced, and often associated with feelings of being out of control. Therefore, childbirth may be traumatic for some women. Most women recover quickly post-partum; others appear to have a more difficult time (Reynolds, 1997).

There is limited data on acute stress reactions (ASR) in the first 3 weeks postpartum. However, ASR may have long-term effects, e.g., on a subsequent pregnancy without having manifested as PTSD in the meantime. For example, a cross sectional study was conducted by Stadlmayr et al. (2007) (i) to describe the patterns of ASR after childbirth, (ii) to explore differences between women with normal and traumatogenic ASR, and (iii) to provide data on the early detection of traumatogenic ASR 2 and 3 weeks postpartum. Sample size included 219 women in the first 3 weeks postpartum. Intra-event variables (relationship with caregivers, overall birth experience, and dissociative experiences, as well as obstetric variables) were assessed 48–96 h. postpartum, as were ASR (by means of the Impact-of-Event Scale IES) in weeks 1, 2, and 3 postpartum. The results of the study revealed that normal ASR in week 1 are at a level which in non-obstetric trauma-situations is considered as the upper range of low stress or lower range of medium distress. ASR decline constantly from week 1 to week 3. However, high ASR in week 1 do not drop faster than do low ones, thus indicating a prolonged stress reaction in women with high ASR in week 1. Low ASR (IES-scores<10) and high ASR (IES-scores>20) in week 1 are highly predictive for normal ASR, and traumatogenic ASR in weeks 2 and 3, respectively. Medium ASR

(IES-scores 10–20) in week 1 are of uncertain predictive value for stress reactions in weeks 2 and 3 and have to be re-assessed at that time. Conclusions of study revealed that clinical screening for ASR appears to be helpful in detecting women with a compromised ability to process childbirth-related stress. The association between ASR and long-term development should be further explored. ASR in the first week postpartum should be routinely assessed to establish preventive or supportive treatment for women at risk of developing traumatogenic stress reactions in the following two weeks, which certainly implies long-term sequelae, if not treated appropriately in the first days after childbirth.

Also, a cross sectional study was conducted by Ryding (1998) to assess the psychological impact of emergency cesarean section in comparison with elective cesarean section, instrumental and normal vaginal delivery. The purpose of the study was to compare the psychological reactions of women after emergency cesarean section (EmCS), elective cesarean section (ElCS), instrumental vaginal delivery (ND) and normal vaginal delivery (NVD). The sample size was (EmCS n = 71, ElCS, n = 70, IVD, n = 89, and NVD, n = 96). Data was collected by self-reported questionnaires a few days postpartum and 1 month postpartum. The finding of the study revealed that the EmCS group reported the most negative delivery experience at both times, followed by the IVD group. At a few days postpartum the EmCS group experienced more general mental distress than the NVD group, but not when compared with the ElCS or the IVD groups. At 1 month postpartum the EmCS group showed more symptoms of post-traumatic stress than the ElCS and NVD groups, but not when compared to the IVD group. Results of this study revealed that an unplanned instrumental delivery (EmCS or

IVD) should be regarded as a pointer with respect to possible post-traumatic stress.

Furthermore, a phenomenological study of 53 women was conducted by Ryding et al. (2002) to explore the experiences of emergency cesarean section among group of women. The sample included fifty-three women, and data was collected by interview approximately two days after emergency cesarean section to ascertain whether or not the trauma met the stressor criterion of posttraumatic stress symptoms. A time-spatial model from disaster psychiatry was used to chart the women's thoughts and feelings during consecutive phases of the delivery process. The women's casual attributions of the event were also assessed. The results of the study showed that the feeling of the women after they had arrived at the delivery ward changed from one of confidence and safety to one of fear. The decision to undertake a cesarean section brought a feeling of relief, but this was again replaced by fear as the operation approached. The women's thoughts centered around the impending delivery and operation until after the event, when the newborn baby occupied their attention and happiness predominated. In retrospect, 55% of the women experienced intense fear for their own life or that of their baby. 8% felt very badly treated by the delivery staff and were angry. Almost, all the women had adequate knowledge of the reasons for the emergency cesarean section. One in four blamed themselves to some extent for the event. Conclusion of the study revealed that stressor criterion of DSM IV is applicable to the trauma of emergency cesarean section. Even if and when a new mother is happy to meet her baby, negative feelings, such as fear, guilt, or anger, may dominate her memories of the birth.

Another study was conducted by Todd (2013) to explore mothers' experiences of the impact of traumatic birth. The aim of this phenomenological study was to gain a rich in-depth understanding of the impact of traumatic childbirth. The research questions focused on how participants processed their experience and how it impacted on their lives. The sample size was four women who had experienced a self-defined traumatic birth took part in taped semi-structured interviews. Interpretative phenomenological analysis was chosen as the means of evaluation. The results revealed that mothers experienced feelings of fear, shock and being out of control during the trauma. Coping mechanisms of dissociation and repression were reported. Feelings of failure, anger, inadequacy and depression featured postpartum. The trauma also impacted on marital relationships, mother baby bonding, attachment behavior and decisions about future pregnancies. Post traumatic growth was also a feature of the impact of the impact of traumatic birth bringing childbearing to a premature end for half of the participants. The research showed that the participants employed a number of coping mechanisms in order to protect themselves from the horror of the reality. Dissociation and repression were common features in the aftermath of the trauma. Focusing on their healthy baby allowed the mothers to stay in the present and limit rumination.

Another qualitative study was conducted by Ryding (2010) to explore posttraumatic stress reactions after emergency cesarean section. The study aimed at answering the following questions: Do women experience emergency cesarean section as traumatic? Do women experience any posttraumatic stress reactions or even posttraumatic

stress disorder (PTSD) one to two months after emergency cesarean section? Data collection of the study was twenty-five consecutive women who were interviewed a few days and one to two months after emergency cesarean section. The finding of the study revealed that nineteen (76%) of the 25 women had experienced their delivery by emergency cesarean section as a traumatic event. One to two months postpartum none of these women met all the diagnostic criteria of PTSD. However, 13 women had various forms of posttraumatic stress reactions and in eight cases (33%) symptoms of serious posttraumatic intrusive stress reactions. The results of the study showed that emergency cesarean section was in the majority of the cases experienced as a mental trauma. Although none of the women suffered from PTSD one to two months postpartum, one third had serious posttraumatic intrusive stress reactions.

Another study was conducted by Olde et al. (2005) to assess the empirical basis of prevalence and risk factors of childbirth-related posttraumatic stress symptoms and PTSD in mothers and the relevant literature was critically reviewed. A MEDLINE and PSYCHLIT search using the key words “posttraumatic stress”, “PTSD”, “childbirth” and “traumatic delivery” was performed. A total of 31 articles were selected. The primary inclusion criterion was report of posttraumatic stress symptoms or PTSD specifically related to childbirth. Case studies and quantitative studies on regular childbirth and childbirth by emergency cesarean section were identified. Consistency among studies was found with regard to development of posttraumatic stress symptoms as a consequence of traumatic delivery included emergency caesarean section. Case studies and quantitative studies confirm that childbirth may be experienced as so emotionally intense that it can lead to the development

of posttraumatic stress symptoms or even a PTSD- profile. Among the identified risk factors were a history of psychological problems, trait anxiety, obstetric procedures, negative aspects in staff–mother contact, feelings of loss of control over the situation, and lack of partner support.

Furthermore, a prospective longitudinal study was conducted by Ford et al. (2011) to examine the role of health practitioner support and personal control during birth as predictors of post-traumatic stress reaction symptoms, adjusting for vulnerability factors of prior trauma, depression, control beliefs and birth intervention. It also investigated interactions between support, prior trauma and birth intervention such as instrumental delivery and unplanned caesarean section, and their association with post traumatic reaction symptoms. The sample size included 138 women from UK NHS maternity clinics. Data collection was taken in pregnancy, 3 weeks and 3 months after the birth. Results of the study revealed that support and control during birth were not predictive of postnatal post traumatic reaction symptoms. However, support was predictive of post traumatic reaction symptoms in a subset of women with prior trauma ($\beta = -0.41$, $R^2 = 16\%$) at both 3-weeks and 3-months postpartum. The interaction of birth intervention (instrumental delivery, emergency caesarean section) and support was associated with post traumatic stress reaction; and the relationship between support and acute stress reaction was stronger in women experiencing more obstetric intervention.

Furthermore, a qualitative study was conducted by Yokote, (2008) to investigate the experiences of Japanese women who underwent emergency cesarean sections (c-sections), including their experiences during labor before to the decision for surgery, during surgery, and during

the first postnatal week. Sample size included 11 Japanese women who delivered live babies by emergency c-section at a private maternity hospital were interviewed in a semi-structured manner on the second and seventh postpartum days. Interviews were tape-recorded, and transcripts and participant observation in the postnatal ward assisted the interpretation. Data were analyzed qualitatively and inductively, and eleven women (seven primiparas, four multiparas) participated in the study. The main reasons for surgery were fetal distress (n=9) and arrest of labor (n=2). The time between making the decision to perform surgery and birth ranged from 15 to 69 minutes.

The results of the study revealed that six themes were evident from the women's experiences shock of disappointed expectations, unavoidable fear and responsibility, release from pressure, re-experience of fear and pain, being "saved" by the baby, and getting out of a vicious cycle. Trying labor pain, shock, fear of their babies' or their own deaths, and feeling powerless and guilty contributed to the women's negative feelings about their birth experiences by emergency c-section. After surgery, however, women felt loving toward their babies, who had been born safely as a result of the surgery, and eagerly breast-fed or took care of the infants with midwifery/nursing support. The findings suggested that prenatal childbirth classes need to include information on and discussion of possible emergency c-section and that emotional support from midwives and nursing staff in the operating room/postpartum unit helps to decrease a woman's negative feelings about birth experiences by emergency c-section and enhance her experiences as a mother. In addition, medical staff should be more aware of the birth trauma felt by the expectant mother surrounding emergency c section.

In addition, a qualitative study was conducted by Roux et al. (2014) to explore women's perceptions and experiences of childbirth by unplanned Caesarean section. Sample size included 10 Caucasian women (mean age=28; SD=1.97) explored their lived experiences of childbirth after unplanned caesarean section. Data were analyzed thematically. Phenomenological theory served as a broad framework for the structuring, organizing and categorizing of data. Results revealed that an unplanned caesarean section was identified as a potentially traumatic experience. This was in relation to women's contact with medical personal, as well as the physical, environmental, and emotional aspects of their unplanned caesarean sections. A sense of loss of control was the most significant contributor to women's negative childbirth experiences. Feelings of failure and disappointment were primarily related to unmet expectations and a lack of preparedness. Negative experiences were mediated by attentive care giving, inclusion in decision-making, and support from loved ones.

In addition, a prospective study was conducted by Gamble et al. (2005) to examine the relationship between type of birth and symptoms of acute stress reaction at 72 hours, and 4-6 weeks postpartum. Sample size included 400 Australian women in the last trimester of pregnancy, and were recruited from three public antenatal clinics. Participants were interviewed about birth within 72 hours postpartum and telephone interviews conducted at 4-6 weeks postpartum to assess symptoms of acute stress reaction and psychological trauma. Results showed that women who had an emergency caesarean delivery or operative vaginal delivery were more likely to meet the diagnostic criteria for acute stress reaction and PTSD than women who had an elective caesarean section or

spontaneous vaginal birth. Conclusion of the study provided evidence that the use of obstetric procedures during childbirth significantly contribute to the presence of acute trauma reactions in the postpartum. This study extends the findings of others (Boyce and Todd, 1992; Cartwright, 1979; Creedy et al. 2000; DiMatteo et al. 1993; Fisher et al. 1997; Oakley, 1980; Simkhi, 1991) in identifying the adverse implications of obstetric interventions on the psychological wellbeing of mothers. As 'emergency' intervention rates rise there is a possibility that the incidence of acute trauma reactions will increase.

Another study was conducted by Hillan et al. (1992) to identify maternal infant attachment following caesarean section. Sample size included 50 low-risk primigravidae of normal stature delivered by emergency caesarean section during the course of labour were compared with a closely matched control group of 50 primigravidae delivered vaginally. Data was collected from a number of sources including semi-structured interviews on the 3rd or 4th postnatal day and 6 months after the birth. Results showed that women delivered by emergency caesarean section took significantly longer than those delivered vaginally to feel close to their infants and these differences persisted for several months. Contact between women delivered by caesarean section and their babies was found to be restricted in the 24 hours following caesarean delivery.

In addition, a phenomenological study conducted by Sullivan et al. (2014) to explore the experiences of women who gave birth via an emergency cesarean section (EmCS). Sample size included 10 women from the province of Newfoundland and Labrador, who experienced an EmCS,

were interviewed and their narrative accounts were analyzed using van Manen's hermeneutic phenomenological approach. Analysis of the interview transcriptions revealed six themes: (a) disruption of a "normal" birth; (b) losing control: "given to the healthcare system"; (c) pervasive sense of fear and urgency; (d) being alone without needed support; (e) missing pieces: losing touch with reality; and (f) missing out on feeling like a new mother. The findings of this study enhanced awareness and understanding of the experience of an EmCS and could be used to improve the care of women who undergo an EmCS. *stpartum* counselling after an emergency cesarean

Finally, a preliminary study conducted by Ryding et al. (2010) to examine whether the women's psychological condition during pregnancy correlates with their psychological well-being after EmCS. Sample size included 1981 pregnant women. Data collection was by self reported questionnaires in gestation week 32, a few days and one month after EmCS. (N = 1981) pregnant women completed questionnaires (the predictors) at Time 1. Predictors were operationalized by means of the Wijma-Delivery Expectancy/Experience Questionnaire (W-DEQ vers. A), the Spielberger Trait Anxiety Inventory (STAI) and the Stress Coping Inventory (SCI). Of those women who had an EmCS (N = 97), a selection (N = 40) completed questionnaires (the criterion variables) at Times 2 and 3. The criterion variables were operationalized by means of the W-DEQ vers. B, the Impact of Event Scale (IES), and the Symptom Checklist (SCL). Fear of childbirth (W-DEQ vers. A) was the best overall predictor of the three criterion variables, whereas general anxiety (STAI) was the best predictor of mental distress (SCL) after EmCS. Conclusion of the study showed that, fear of childbirth during late pregnancy, and general

anxiety, is associated with mental distress after a subsequent EmCS. Maternal follow-up after a complicated delivery should perhaps be directed especially to women with a history of serious fear of childbirth and/or other anxiety difficulties during pregnancy.

2.6. Summary:

- Emergency caesarean sections are mostly experienced as traumatic birth, can have long lasting effects on personality. (Verdult, 2009)
Rising cesarean section (CS) rates are a major public health concern and cause worldwide debates. (WHO 2011)
- **Emergency caesarean section may affect women's had psychological and mental health.**
- Acute stress disorder can be a result of emergency caesarean section.
- **Many studies were conducted to assess the psychological impact of delivery, particularly after emergency caesarean section such as, depression anxiety, PTSD and acute stress disorder. In Palestine, there is a lack of studies that assess the prevalence of acute stress disorder after emergency caesarean section.**

Chapter 3

Conceptual Framework

Chapter Three

3.1. Conceptual framework:

Conceptual framework is a tool structured from a set of broad ideas and theories taken from relevant fields of enquiry that help researchers to properly identify the problem they are looking at, guide their inquiry, frame their questions and find suitable literature. Most academic researchers use a conceptual framework at the outset because it helps the researcher to clarify his research question and aims (Smyth, 2004). It can be a visual or written product that is explained either graphically or narrative (Polit et al, 2004; Burns et al. 1999).

Also, conceptual framework has different purposes. It helps researchers to see the variables of the study clearly, it provides researchers with a general framework for data analysis, and it is essential in the preparation of a research proposal using cross sectional design methods. The conceptual framework also summarizes the major dependant and independent variables in the research, and it gives direction to the study (Smyth, 2004).

The major concepts of the current framework focus on acute stress disorder as dependent variable and other variables as independent variables which include the socio-demographic and obstetrical and medical history such as (age, place of residency, social economic status, educational level, profession social support, parity, previous normal delivers, previous caesarean sections, obstetric complications, medical disease and the health professional relationship), and past psychological and mental problems such as (type of psychological problem, help seeking behavior treatment, and previous traumatic life events) as seen in figure (3.1). Each concept will be discussed in more details below.

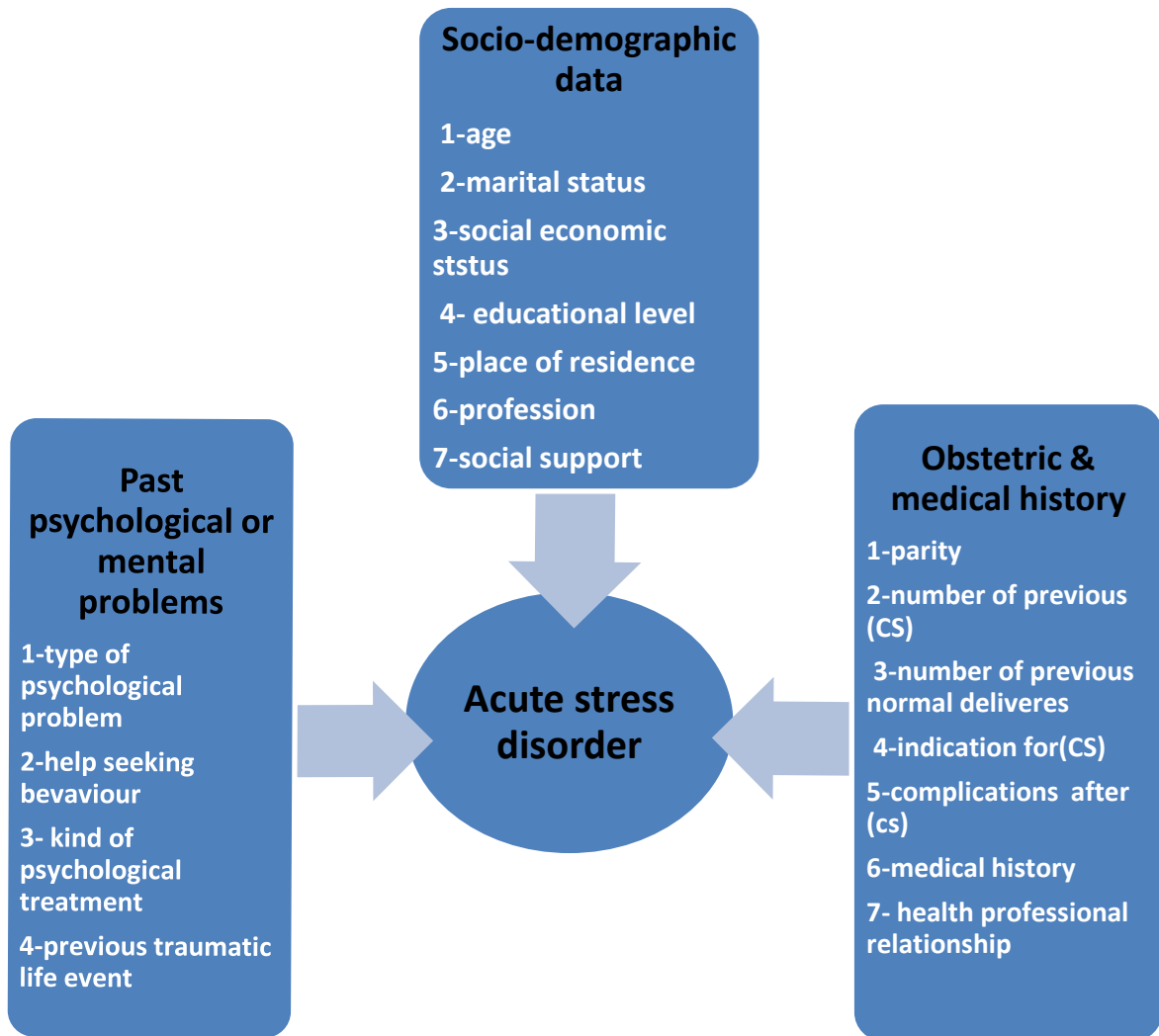


Figure (3.1): Framework of current study including acute stress disorder and dependent variables.

3.2. Dependent variables:

Dependent variables are those that depend on the independent variables. They are the outcome or results of the influence of the independent variables (Creswell, 2009). The dependent variable of this study is Acute stress disorder.

In 1994, DSM-IV introduced the new diagnosis of acute stress disorder (ASD). This diagnosis was established to describe acute stress reactions that occur in the initial month after a trauma, and to identify those acutely traumatized people who will subsequently develop post-traumatic stress disorder (PTSD). DSM-IV decreed that to meet criteria for an ASD diagnosis, one should (a) suffer a traumatic experience, (b) display at least three acute dissociative symptoms, (c) have at least one reexperiencing symptom, (d) display marked avoidance, (e) display marked hyperarousal, and (f) experience these symptoms between two days and four weeks after the trauma (Spiegel et al, 1996). On another hand, in DSM-5 (2013,) the ASD diagnostic criteria were changed substantially DSM-5 consequently dropped the dissociative symptoms requirement, and the DSM-5 ASD diagnostic criteria may have stronger predictive power as a result. ASD assessment is focused primarily on fear-based reactions. The American Psychiatric Association introduced acute stress disorder (ASD) into DSM-V. The person has been exposed to a traumatic event in which both of the following were present: (1) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others.

Acute stress disorder was assessed in the current study by using Acute Stress Disorder Scale (ASDS) (Bryant, 2000). The ASDS is a 19 item self-

report scale with four subscales assessing the four separate symptom clusters; dissociation, re-experiencing, avoidance, and arousal as specified by the DSM-IV. Questions are answered on a five-point Likert scale (1 = not at all, 5 = very much). According to DSM-IV, the ASD symptom clusters are met if the participants endorsed at least one re-experiencing symptom, one avoidance symptom, and one arousal symptom in addition to at least three dissociative symptoms, all indicated by item scores ≥ 3 on the ASDS (Armour et al, 2011; Elklit & Christiansen, 2010).

Although the ASD diagnostic criteria were changed substantially in 2013 with the publication of DSM-5, (Brett et al. 2013), the existing measures of ASD are still useful because the symptom composition is largely unchanged. Scoring of the measures modified because the new definition no longer requires that each cluster of symptoms are satisfied; instead, each measure would need to determine the presence of ASD on the basis of 9 symptoms being present. (Bryant, 2015) These domains and their related questions numbers and components are shown in table (3.1)

Table (3-1) Acute stress disorder scale incorporated within DSM V diagnostic criteria:

<p>Dissociative</p>	<p>Q1 During or after the trauma, did you ever feel numb or distant from your emotion</p> <p>Q2 During or after the trauma, did you ever feel in a daze?</p> <p>Q3 During or after the trauma, did things around you ever feel unreal or dreamlike?</p> <p>Q4 During or after the trauma, did you ever feel distant from your normal self or like you were watching it happen from outside?</p> <p>Q5 Have you been unable to recall important aspects of the trauma?</p>
<p>reexperiencing</p>	<p>Q6 Have memories of the trauma kept entering your mind?</p> <p>Q7 Have you had bad dreams or nightmares about the trauma?</p> <p>Q8 Have you felt as if the trauma was about to happen again?</p> <p>Q9 Do you feel very upset when you are reminded of the trauma?</p>
<p>Avoidance</p> <p>Avoidance</p>	<p>Q10 Have you tried not to think about the trauma?</p> <p>Q11 Have you tried not to talk about the trauma?</p> <p>Q12 Have you tried to avoid situations or people that remind you of the trauma?</p>

	<p>Q13 Have you tried not to feel upset or distressed about the trauma?</p>
Arousal	<p>Q14 Have you had trouble sleeping since the trauma?</p> <p>Q15 Have you felt more irritable since the trauma?</p> <p>Q16 Have you had difficulty concentrating since the trauma?</p> <p>Q17 Have you become more alert to danger since the trauma?</p> <p>Q18 Have you become jumpy since the trauma?</p> <p>Q19 When you are reminded of the trauma, so you sweat or tremble or does your heart beat fast?</p>

3.3. Independent variables:

Independent variables are those that (probably) cause, influence, or affect outcome (Creswell, 2009). The independent variables of this study included demographic data such as (age, social economic status, profession, educational level, place of residence and social support), obstetric and medical history such as (parity, number of previous normal deliveries, number of previous caesarean section, indication for emergency caesarean section, complications after caesarean section, health professional relationship, and medical disease), past psychological and mental problem such as (type of psychological problem, help seeking behavior, treatment, and past traumatic life event). Questions number (1) to (23) in the questionnaire were designed to assess these variables (See appendix B)

3.3.1. Socio-demographic variables:

These variables were presented in section one of the questionnaires (question 1-6) and were studied by Al Soweilem & Elzubier 1998; Munger 2007; Kressin 2007 including the following:

- 1) Age: Which is defined as the completed age in years of the enumerated person, which is the difference between the date of birth and the date of interview. The exact age is the time elapsed between the day of birth and a given day, including parts of a year (*Palestinian Central Bureau of Statistics. 2004*) and question number (1) in the questionnaire assessed this, and the question was what is your age?

- 2) Place of residency: It refers to the name of the locality in which the person spends most of his time during the year (lived there six months and above), irrespective of whether it is the person's same place of existence during the census, or the place in which he works and performs related activities or the place is his original place (*Palestinian Central Bureau of Statistics. 2012*). In the current study, a question number (2) assessed this as the following: Where you live?
 - a. Village
 - b. Camp
 - c. city

- 3) Marital status: It is defined as the status of those 12 years old and over in terms of marriage traditions and laws in the country (*Palestinian Central Bureau of Statistics, 2012*). Marital status in the current study was divided into 3 categories: married, divorce, widow, and question number (3) assessed this as what is your marital status?

- 4) Educational level: It referred to the highest successfully completed educational attainment level, the educational level for persons aged 10 years and over (*Palestinian Central Bureau of Statistics, 2012*). In this study it had 4 categories, and question number (4) assessed this as the following:

what is your educational level?

- 1- Illiterate
- 2- Primary (1- 6 study years)
- 3- Preliminary (6 – 9 study years)
- 4- Secondary school (10 - 12 study years)
- 5- University degree

- 5) Profession: it referred to the current job of the participants in the current study it had 3 categories and question number (5) assessed this as the following:

what is your current job?

- 1-Employe
- 2-Housewife
- 3-Other (mention it.....)

- 6) Economic status: It defined as cash or in kind revenues for individual or household within a period of time; could be a week or a month or a year (*Palestinian Central Bureau of Statistics, 2012*). In the current study it had 4 categories of the monthly income of a family, and question number (6) assessed this as the following:

what is your monthly income?

- 1-Less than 1000 NIS
- 2-1000 to 2000
- 3-more than 2000
- 4-More than 3000 NIS

7) Social support: it was assessed by questions (13) and (14). The questions were as the following:

Q13 Did you receive any psychological support from husband, relatives, and friends after caesarean section? Yes / No.

Q14 Mention the source of psychological support after caesarean section?

3.3.2. Obstetric and medical history:

This section enabled us to quantify the effects of the different aspects of the patient obstetric and medical history on acute stress disorder, and these variables were studied by Stadlmayr et al. (2007); Soderquist et al. (2002); Niegel et al. (2012); Creedy et al. (2000); Ryding et al.(1998); Olde et al. (2005); Edworthy et al. (2008); Tham et al. (2015); Modarres et al. (2012); Ayres et al. (2009), and included as the following:

3.3.2.1. Obstetric history

Obstetric history of the patient: it was assessed through (q7-q13) such as, parity, which defined as the total number of children (Baker et, al 2011), number of previous normal delivers, number of previous caesarean section, indication for emergency caesarean section, complications after emergency caesarean section. Complication was defined as an unanticipated problem that arises and is a result of a procedure, treatment, or illness. A complication was named because it complicates the situation, (Al-Soweilem & Elzubier. 1998)and having problems in the maternity ward were assessed by questions number (15) and (16). The questions were as the following:

Q7: What is your parity (number of children)?

Q8: What is the number of previous normal deliveries?

Q9 : What is the number of previous cesarean section?

Q10: What is the indication for current cesarean section?

Q11: Did you have any complication after emergency cesarean section? Yes/
No

Q12: If the answer was yes what kind of complication did you have?

Q15: Did you have any problem in the maternity ward? Yes / No.

Q16: If the answer was yes what kind of problems?

3.3.2.2. Medical history: It was assessed by question number (17) as the following:

Q17: Do you have any medical disease?

- 1- Diabetes militias
- 2- Cancer
- 3- Heart problems.
- 4- Bronchial asthma
- 5- Other disease (mention it.....)

3.3.3. Past psychological and mental problems:

In the current study it was assessed by questions (18) through (23). Questions indicated if they had any psychological problems, if they received psychotherapy to solve their problems, what kind of psychotherapy treatment they went through, and if they had any previous traumatic life event.

Trauma defines as direct personal experience of an event that involves actual or threatened death or serious injury, threat to one's physical integrity; or witnessing an event that involves the above experience or learning about

unexpected or violent death, serious harm, or threat of death or injury experienced by a family member of close associate. The person's response involved intense fear, helplessness or horror. (DSM 4) These variables were studied by Slade (2000); Olde (2005); Soderquist (2006); Pantlen (2001); Zaers (2008); Wijma (1997); Ayers (2009); The questions were as the following:

Q18: Did you have any psychological problems? Yes/NO

Q19: If the answer was yes what kind of psychological problem did you have?

Q20: Did you seek psychotherapy to solve this problem? Yes/No

Q21: If the answer was yes, what kind of psychotherapy treatment did you receive?

- 1) Medication
- 2) Psychotherapy sessions
- 3) Others (mention it

Q22: Did you have any previous traumatic event? Yes/No

Q23: If the answer was yes what kind of previous traumatic event did you have?

3.4. Summary

- This chapter presented the conceptual framework which was developed based on literature review.

- It consisted of two major concepts: Dependent variable including acute stress disorder, and independent variables including socio-demographic variables such as (age, place of residency, marital status, educational level, profession, social- economic status and social support), previous obstetric and medical history such as (parity, number of normal deliveries, number of previous caesarean section, indication for emergency caesarean section, complication after emergency caesarean section, health professional relationship, and previous psychological and mental problems such as (kind of psychological problem, help seeking behavior treatment , and previous traumatic life event).

Chapter Four

Methodology

Chapter Four

4.1. Introduction:

This study aimed to assess the prevalence of acute stress disorder after emergency caesarean section among women who attended 3 major hospitals in Ramallah area. To achieve this purpose, a cross sectional design was utilized. A proper instrument, data collection method, and data processing and analysis had been followed. This chapter discussed all these issues in addition to other methodological issues in more detail.

4.2. Study design:

There are different types and scientific method of researches that vary in their purpose approach and process. In this study, the quantitative research was utilized particularly cross sectional design.

Quantitative research is a research involving the collection and analysis of numerical data in order to describe phenomena. It is referred to this approach as the traditional or positivist approach. It is commonly used to investigate relationships between two or more variables, and explore cause - and - effect relationships of phenomena of interest. Moreover a quantitative approach involves clearly stated questions, rationally conceived hypotheses, fully developed research procedures, controlling extraneous factors that might interfere with the data collected, using relatively large samples of participants in order to provide meaningful data, and employing data analysis techniques based upon statistical procedures. (Hensly, 2006) The objective of quantitative research is to develop and employ mathematical models, theories and hypotheses, and it is used widely in social science such as psychology, social work, sociology, nursing and political science. (Polit & Beck, 2004)

There are two types of quantitative research: non-experimental and experimental design. Non-experimental research includes two categories: descriptive research and correlation research. (Polit & Beck, 2004)

Descriptive studies such as surveys, case study, and observational, are designed to explore and describe the phenomena in a real life situation and it provides an accurate account of characteristics of particular individuals, situations, or group. Through descriptive studies, the researcher discover new meaning, describes what exist, determines the frequency with which something has occurred, and categories information. The outcome of descriptive research includes a descriptive hypothesis, and there is no manipulation of variables involved. (Burns et al, 1999; Pilot, 2004)

In the current study, a cross sectional design was utilized by using self-reported questionnaire, because it is highly useful for descriptive purposes and it shows both the determining factors and the outcome at the same time. Cross sectional method involves the analysis of data collected from a population, or a representative group at one specific point in time. (creswell, 2009)

4.2.1 Advantages of cross sectional study: (Hensly, 2006).

- Best way to determinate prevalence.
- Cheaper/easier than longitudinal study: no follow-up required.
- Afford good control over the measurement/ascertainment process.
- Often can be accomplished as secondary data analysis, that is, data collected by someone else possibly for another purpose (Hensly, 2006).

4.2.2. Disadvantages of cross sectional study: (Hensly, 2006).

- Difficult to make causal inference.
- The situation may provide differing results if another time-frame had been chosen.
- Prevalence-incidence bias (also called Neyman bias), especially in the case of longer-lasting diseases, any risk factor that results in death will be under-represented among those with the disease.

4.3. Sampling Approach:

In the current study, convenience sampling was utilized. Convenience sampling is a non-probability sampling technique where the subjects are selected because of their convenient accessibility and proximity to the researcher. Furthermore, using convenience sampling not just because it is easy to use, but because it also has other research advantages such as, it allows the researcher to obtain basic data and trends regarding the study without the complications of using a randomized sample. (Hensly 2006)

The most obvious criticism about convenience sampling is sampling bias, and that the sample is not representative of the entire population. This may be the biggest disadvantage when using a convenience sample, and there is limitation for generalization. (Hensly, 2006)

4.3.1 Study population and sampling size:

The study population indicated a sample of women aged between 15-44 years old who gave birth by emergency caesarean section in three major hospitals in Ramallah area (Ramallah Governmental Hospital, Red Crescent Hospital and Arab Care Hospital).

There is no formal statistics that show the number of emergency caesarean section in the three hospitals, so sample was calculated depending on the assumption of the total emergency (CS) on October 2014 multiplying 12 months to the same year in 3 hospitals, and 25% of the total population was taken as seen in table in table (3-5)

Table (4-1) –Assumed number of emergency (CS) in Ramallah Governmental Hospital, Red Crescent Hospital and Arab Care Hospital per year

Hospital	Emergency(CS) October/ 2014	Assumed total number of emergency (CS) per /12 months	Assumed total number of emergency (CS) per/12 months	Sample 25%
Ramallah Governmental Hospital	64	64x12	768	130
Red Crescent Hospital	25	25x12	300	100
Arab care Hospital	20	20x12	240	100
Total			1308	330

The sample size of the study included 25% of the assumed total number of emergency (CS) number per year in three hospitals, which was $(1308 \times 25\%) = 327$ participants.

The final sample size of the study was 330 women, as 130 of them were from Ramallah Governmental Hospital, 100 women were from Red Crescent Hospital,

and 100 women were from Arab Care Hospital. So the response rate was 100%.

4.4 Inclusion and exclusion criteria:

Inclusion criteria:

- 1- Women who gave birth by emergency caesarean section because they have higher rate of acute stress reaction than normal delivery or elective caesarean section
- 2- Women who attended the 3 following hospitals in Ramallah area.
 - Ramallah Governmental Hospital
 - Red Crescent Hospital
 - Arab Care Hospital

4.4.2 Exclusion criteria:

- 1- Women who gave birth by elective caesarean.
- 2- Women with normal vaginal delivery.
- 3- Women with instrumental delivery (vacuum, or forceps delivery).
- 4- Women with mental problems such as severe PTSD, psychosis, schizophrenia and severe depression.

4.5 Study setting:

The study was conducted in Ramallah city in three major hospitals including:

- Ramallah Governmental Hospital
- Red Crescent Hospital
- Arab Care Hospital

4.5.1 Ramallah governmental Hospital:

Ramallah hospital is located near Kadoreh Camp in Ramallah. It was built in 1961 as a small hospital. Now it's the main medical referral center for the West Bank, with 155 beds, treating 20,000 in-patients and 70,000 emergency cases each year. Data indicated that there are about 450 -500 deliveries per month in the hospital so annually approximately between 4500-6000 deliveries. Also, the major obstetrical complications are referred to this hospital from all Ramallah private hospitals because of the lack of neonatal department in these hospitals. Gyno-obstetric department includes 26 beds, and labour room includes 2 bed, and 7 beds for observation. The department is operated by 7 specialists in gynecology, 10 resident doctors and 30 midwives (Ramallah Governmental Hospital 2013).

In October 2014, the total number of births was 481, the total of caesareans section was 101, and the total number of emergency caesarean was 64. So the rate for both emergency and planned caesarean was 20.99% (Ramallah Governmental Hospital 2014).

4.5.2. Arab Care Hospital:

This is a private hospital located in the center of Ramallah. The hospital was established in 1996, and consists of 6 floors including the following laboratory and x-ray, outpatient department, obstetrics& gynecology department, pediatric department, laparoscopy and surgical, medical departments with the cardiac catheterization lab, intensive care unit and operation room. Arab Care Hospital includes 40 beds. Obstetrics& gynecology department includes delivery room with 3 beds, and the department is operated by 4 specialists in gynecology, 4 resident doctors, and 15 midwives (Arab Care Hospital 2013).

In October/2014, the total number of births at Arab Care hospital was 101, the number of caesarean sections was 35, and the emergency caesarean was 20. So rate for both emergency and planned caesarean in this hospital was 34.7 % (Arab Care Hospital 2014).

4.5.3. Red Crescent Hospital:

The hospital was established in 1987, and since that time and because of the conditions of the Palestinian people, the branch administration made a commitment to develop and modernize the hospital so that it can meet the medical needs of the local residents, especially people with low income and social cases. The hospital started as a maternity hospital with 15 beds. Later, two additional floors were added and new wards were introduced; the hospital then became a general hospital that included the following departments:

internal medicine, general surgery, maternity and obstetrics, care for newly born babies, in addition to technical sections, such as the laboratory, x-ray department, pharmacy, emergency ward, and two operation theaters equipped with the most advanced medical equipment.

The area of the hospital is around 4,000 square meters to be added to the new building. The number of beds in the delivery ward from 4 to 10 beds. The department operated by 5 specialists in gynecology, 8 resident doctors, and 15 midwives. There are 175 employees in all wards and sections of the hospital.

In October 2014 the total number of births was 250, the total number of caesarean section was 55, and the total number of emergency caesarean section was 25. So the rate for both emergency and planned caesarean was 22% (Red Crescent Hospital, 2014).

4.6. Instrument of the current study:

Data collection tools which were used in this study were self-administrated questionnaires, including socio demographic, obstetric and medical history sheet, previous mental and psychological problems, and Acute Stress Disorder Scale (ASDS) (Bryant, 2000), as seen in table in table (4.2).

Table (4.2): Instruments of the current study and the numbers of their question.

NO	Instruments	Number of questions in each instrument
1	Socio-demographic data	8 questions
2	Obstetrical, medical and psychological history	15 questions
3	Acute stress disorder scale	19 questions

Each one of the study instrument is discussed in more details as the following:

- Socio-demographic self administrated sheet which was developed for the purpose of this study and it included independent variables such as (age, place of residency, marital status, educational level, economic status, profession, and social support).
- Obstetric, medical and psychological history sheet which was developed for the purpose of this study and it included dependent variables such as (parity, number of previous normal delivers, number of previous caesarean sections, indication for current emergency caesarean section, complication after emergency caesarean section, health professional relationship, and history of medical disease), and psychological history such as (having psychological problem, help seeking behavior, treatment, and previous traumatic life event).
- Acute stress disorder scale which is a 19 item self-report scale with four subscales assessing the four separate symptom clusters; dissociation, re-experiencing, avoidance, and arousal as specified by

the DSM-IV. Questions were answered on a five-point scale (1 = not at all, 5 = very much). (Armour et al, 2011; Elklit & Christiansen 2010; Hansen et al, 2012) .The 19 items that comprise the ASDS as the following: Items 1 to 5 assess dissociative symptoms, while items 6 to 10 assess reexperiencing, items 11 to 14 assess avoidance, and items 15 to 19 assess arousal symptoms (see appendix). The participants were asked to consider each statement as it relates to the way they have felt after emergency caesarean section. There was a five point scale for each item ranging from 1 to 5. According to DSM-V to make a diagnosis of acute stress disorder it required at least 9 items scores ≥ 3 on the ASDS out of 19 items without regard to any particular clusters (Bryant, 2015).

4.7. Reliability and validity:

The two most important and fundamental characteristics of any measurement procedure are reliability and validity. (Burns et al, 1999; Polit et al, 2004; Ruben et al, 2005)

Reliability refers to the stability or consistency of information that is obtained when a measurement is performed more than once. It also can be defined as the degree to which an instrument yields the same data each time it used under the same conditions and with the same subjects (Polgarr et al, 1997).

It is an indicative of the homogeneity of the items in the measure that tap the construct. This can be seen by examining whether the items and the subset of items in the measuring instruments are highly correlated. The most popular test of to measure this is Cronbach Coefficient Alpha, where the higher the coefficient the better the measuring instrument (Sekran, 2000). Cronbach Alpha was developed by Lee Cronbach in 1951 to

provide a measure of the internal consistency of a test or scale; it is expressed as a number between 0 and 1. Cronbach's Alpha coefficient is one of the most common means of estimating the internal consistency of items in a scale. Rubin and Bobbie (2005) indicated that when alpha coefficients level is about 90 or above, the internal consistency reliability is considered to be excellent. When the alpha coefficient level is from 0.80 to 0.89, reliability is considered too good. The acceptable reliability level is 0.7. In the current study internal consistency was utilized; Cronbach Alpha was calculated to measure the reliability by using SPSS and it was found to be 0.94 for the Acute Stress Disorder Scale (Brayant 2000).

It is important to note that reliability is a necessary but not sufficient condition of the test of goodness of a measure. For example, one could very reliably measure a concept establishing high stability and consistency, but it may not be the concept that one set out to measure. That's why we need to discuss the concept of validity (Serkan, 2000).

Validity refers to the adequacy with which the method of measurement is able to measure the issues or phenomena under study (Abramson, 1999). Cook and Campbell (1979) defined validity as the best available approximation to the truth or falsity of given inference, proposition or conclusion. Furthermore, validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration (Ruben et al. 2005).

Validity has four different types presented below:

- Content validity : it assesses whether the measure adequately covers the different aspects of the construct that are specified which will be

used in this study as a group of expert will test the content of the scale (Barker et al. 2002)

- Criterion Validity: a correlation coefficient between scores on a test and scores on a criterion measure or standard, it involves determining the correlation between scores. (Barker et al. 2002)
- Face validity: is similar to content validity and assesses whether the measure looks right on the face of it, that is, that it self-evidently measure what it claims to measure (Barker et al. 2002).
- Construct validity: this tests link between the measure and the underlying theory. If a test constructs validity, you would expect to see a reasonable correlation with test measuring related areas (Shields, 2004).
- Predictive validity: It refers to whether the measurements can predict future events (Pilot et al. 2004).

In the current study, content validity of the questionnaires was examined by a committee of five experts in mental health and public health .Two of them were from Al-Quds University who hold doctoral degree (PHDs) in mental health, and the three of them were psychiatrists working in Ramallah area. No changes were required by them regarding the language or the content. In addition, to achieve the aim of this study, the Acute Stress Disorder Scale was translated into Arabic language by the researcher and a back translation was done by an English translator after doing content validity.

4.8. Data collection process:

After sending a permission letter from Ministry Of Health and to the general directors of three major hospitals in Ramallah area (Ramallah governmental

Hospital, Red Crescent Hospital, and Arab Care Hospital), explaining the purpose of the study, permission was granted on March 2015.

After that, the researcher trained 5 midwives in the three hospitals on how to fill in the questionnaire in order to answer the participants' questions while they fill in the questionnaires. The purpose of the study, the items of the questionnaire, the inclusion and exclusion criteria of the study and ethical considerations were discussed with them.

The researcher and the midwives explained the purpose of the of study to participants who agreed to participate in the study and to fill in the questionnaires by themselves, and 20 of the participants in Ramallah Governmental Hospital and Red Crescent Hospital asked the research assistant to read questionnaires for them, because some of them were illiterate and others were having post-operative complications so they were in pain and could not concentrate as they stated. All of the participants filled in the questionnaire in the third day after operation.

The data collection process started on the first of March/2015 in the three hospitals. In Ramallah Hospital took two months (until May/2015), and in Red Crescent Hospital, it took four months (until June/2015). The medical teams in these two hospitals were very helpful and cooperative which played a crucial role in obtaining a high response rate, but data collection in Arab Care Hospital took seven months, because the number of emergency caesarean section during this period of time was low according to the doctors and midwives who worked in the Maternity Ward. The total number of the questionnaires that were filled in by the presence of the researcher was 120 questionnaires and the rest were filled in by the presence of the midwives (210 questionnaires).

4.9. Statistical analysis:

The data was analyzed by using the statistical package for Social Sciences (SPSS) version 20.0 and the data were normally distributed. The data were checked for entry errors (data clearance). The relationship between socio-demographic data, Acute Stress Disorder Scale (ASDS), were analyzed by using parametric test such as frequency, one way ANOVA and T-test and Pearson correlation test.

4.10. Ethical considerations:

Ethical approval was obtained from Al-Quds University. The participants were provided with the information sheet about the study including the aim of the study; objectives, and they were informed that they had the rights to refuse to participate in the study. Verbal consent form was obtained before the participants filled in the questionnaire.

The general directors of Ramallah Governmental Hospital, Red Crescent Hospital and Arab Care Hospital health were formally approached via an introductory letter which presented information about the proposed study and its purpose. They were asked to give their permission to conduct the study in the maternity ward, and the response was positive. Before starting the survey, the proposal was also submitted to the Public Faculty at Al-Quds University and approval to conduct this study according to the thesis preparation guide of the Faculty of Graduate Studies was obtained.

Confidentiality and privacy were assured for all participants and they were informed that all information would be kept strictly confidential. In addition, data was protected and appropriately stored; all files were stored on computer and were protected by a password and nobody was allowed to access it except

the researcher and the supervisor. No names or codes or any other mechanisms were used to trace responses back to an individual participant.

4.11. Summary:

- A cross-sectional design was utilized in this study.
- The data collection tools used in this study were self-reported questionnaires including socio demographic data sheet, and Acute Stress Disorder Scale.
- The data was processed through SPSS statistical package testing. This was done according to international and local standards of research taking into consideration the ethical and scientific rules and obligations.
- Validity of the questionnaires was examined by a committee of five experts in mental health and public health from Al-Quds University and psychiatrists from Ramallah area. Reliability of the instruments was tested by using Cronbach,s Alpha coefficient and the result was found to be 0.94 for the Acute Stress Disorder Scale.
- The sample size of the study was 330 women whose delivery was performed by emergency caesarean section.
- Different ethical issues including consent forms and confidentiality were discussed.

Chapter Five

Results

Chapter Five

5.1. Introduction:

As mentioned in previous chapter, in order to achieve the main aim of the current study, across sectional study was utilized. The sample size was 330 participants from three major hospitals in Ramallah area, (Ramallah Governmental Hospital, Red Crescent Hospital, and Arab Care Hospital). The participants were selected by using convenience sampling. Also the data was collected by using Acute Stress Disorder Scale (ASDS) (Bryant, 2000).

This chapter presented the findings of the current study as the following:

- Description of the characteristics of the participants.
- The results of Acute Stress Disorder Scale (ASDS)

5.2. The characteristics of the participants:

The baseline data analysis showed that 330 participants answered the ASD questionnaires, 39.4% (n=130) of the participants were from Ramallah Governmental Hospital, 30.3% (n=100) were from Red Crescent Hospital, and 30.3% (n=100) were from Arab Care Hospital. (see table 5.1)

For age group, 34.6% (n=114) of the participants aged from 15 years old to less than 25 years old, 48.8 % (n=161) aged from (25 years old to less than 35 years), 14.5 % (n=48) aged from 35 years old and less than 44 years old, and 2.1% (n=7) of the participants didn't answer the question. (see table 5.1)

In addition, 59.1% (n=195) of the participants were from the villages, 31.2% (n=103) were from the city, and 9.7% (n=32) were from refugee the camps. (see table 5.1)

For marital status, 98.2% (n=323) of the participants were married, 1.2 % (n=4) were divorced, and 0.6% (n=2) were widow. (see table 5.1)

Furthermore, as the age group of the participants ranged from 15-44 years old, the educational level of the participants ranged from illiteracy to university level as shown in figure (5.5). For example, 1.5% (n=5) of the participants were illiterate, 6.7% (n=22) had elementary education, 12.5% (n=41) had preparatory education, 33.4% (n=110) had secondary education, and 45.9% (n=151) had a university education. (see table 5.1)

Also, 14.3 % (n=47) of the participants were employees, 83.0% (n=274) of the participants were housewives, and 1.8 % (n= 6), were students, and 3 participants (0.9%) did not answer the question. (see table 5.1)

In addition, the monthly income of the participants ranged from less than or equal 1000 NIS, to more than 3,000 NIS. For example, 19.7% (n=65) of them reported less than or equal 1000 NIS, 30.9% (n=102) reported more than 1,000 NIS to less than 2000 NIS, 26.7% (n=88) reported more than 2,000 NIS, 21.8% (n=72) reported more than 3.000 NIS, and 0.9% (n=3) of the participants didn't answer the question. (see table 5.1)

Table (5-1) Frequency and percentage of the characteristics of the participants:

		Frequency	%
Hospitals	Ramallah governmental Hospital	130	39.4
	Res Crescents Hospital	100	30.3
	Arab Care Hospital	100	30.3
Age	15 years – 24 years	114	34.6
	25 years – 34 years	161	48.8
	35 years – 44 years	48	14.5
	Missing Value	7	2.1
Place of residency	Village	195	59.1
	City	103	31.2
	Camp	32	9.7
Marital status	Married	323	98.2
	Divorce	4	1.2
	Widow	2	0.6
		Frequency	%
Educational level	Illiterate	5	1.5
	Elementary	22	6.7
	Preparatory	41	12.5
	Secondary	110	33.4
	University	151	45.9

Current Occupation	Employee	47	14.3
	Housewife	274	83
	Students	6	1.8
	Missing Value	3	0.9
Economic status	Less than or equal to 1000 NIS	65	19.7
	1001 –2000 NIS	102	30.9
	More than 2000	88	26.7
	More than 3000 NIS	72	21.8
	Missing Value	3	0.9

Moreover, as seen in table (5.2), the participants were asked if they received any psychological support during their emergency caesarean section, and the majority of participants (93.6%, n=309) reported receiving psychological support, and only 6.4% (n=21) stated that they didn't receive any psychological support. The participants were asked about the source of their psychological support, and 41.5% (n=137) of the participants reported their husbands, 18.8% (n=62) reported their mothers, 7.6% (n=25) reported their sisters, 19.6% (n=65) reported all family members, and 6.4 % (n=21) reported that they didn't have any source of psychological support. (see table 5.2)

Moreover, the participants were asked about their obstetric history such as parity, the number of normal delivers, the number of previous cesarean section, and if they had problems in the maternity ward. Findings showed that parity (the number of children in each family) ranged from 0-10 children,

and 33.0% (n=109) of the participants were prime gravid (had no children), 57.3% (n=189) of them had from 1 to 5 children, 9.4 % (n=31) had between 6 and 10 children, and 0.3%, (n=1) had more than 10 children. (see table 5.2)

Furthermore, the number of normal deliveries of the participants ranged from 0 to more than 10 deliveries. For example the majority of the participants 59.4% (n= 196) had no previous normal delivers, 27.6% (n=91) had 1 or 2 normal delivers, 2.1% (n=7) had normal deliverers between 3 to 6, 10.6% (n=35) had normal delivers between 6 to 10, and 0.3 % (n=1) had more than 10 normal deliveries. (see figure 5.2)

Further, 57.0% (n=188) of the participants had no previous caesarean section, 37.9% (n=125) had 1 to 2 caesarean sections, and 5.1% (n=17) had from 3 to 6 previous caesarean sections. (see figure 5.2)

The causes of caesarean section were classified in to two groups. Causes related to the mother and causes related to the fetus. Results showed that 80% of the causes were related to the mother, and 20 causes were related to the fetus. For example

22.2 % (n=73) of the participants reported previous caesarean, 16.8% (n=55) reported breech presentation, 8.8% (n=29) failure to progress, 13.8% (n=45) reported pre-eclampcia, 19.9% (n=65) fetal distress, 1.5% (n=5) premature labour, 0.6% (n=2) epilepsy, 4.9% (n=16) twins pregnancy, , 0.9% (n=3) in vitro fertilization, 0.9% (n=3) placenta previa, 0.6% (n=2) cord prolapse, and 0.9% (n=3) did not answer the question. (see appendix 3)

In addition, the participants were asked if they suffered from any complications caused by current delivery, and the majority of the participants

83.6%, (n=276) didn't reported any complications, and only 16.4%, (n=54) reported such complications. (see table 5.2)

For example, 6.0% (n=20) of participants had bleeding, 6.6% (n=22) had hypertension, 0.3% (n=1) had bladder injury, 0.3% (n=1) had hypotension, 0.6% (n=2) had severe headache due to spinal anesthesia, 0.6% (n=2) had convulsion due to pre-eclampsia. (see table 5.2)

Also, the participants were asked about their relationship with health professionals, and the majority of them 97.9% (n=323) reported that they did not have any problems, 2.1% (n=7) reported problems. (see table 5.2)

For example, 0.9% (n=3) of the participant stated that the nurses were not caring, and behaved with disrespect, 0.6% (n=2) stated that nurses screamed at them, 0.6% (n=2) claimed that the nurses did not give information about the medical case. (see table 5.2)

For medical history, 94.9% (n=313) of the participants reported that they didn't have any medical disease, 3.6% (n=12) reported medical diseases, and only 1.5%, (n=5) didn't answer the question (see table 5.2)

For example, 2.7% (n=9) had diabetes, 0.9% (n=3) had epilepsy, and 1.5% (n=5) of the participants didn't answer the question. (see table 5.2)

In addition, the participants were asked if they had any psychological problems, and the majority of them 96.7% (n=319) stated that they didn't have any psychological problems, and 3.3% (n=11) reported psychological problems. For example 2.7 % (n=9) indicated that they had depression, and 0.6% (n=2) reported anxiety (see table 5.2). In addition, only 1.5% (n=5) of the participants stated that they received psychological therapy to solve their problems, and 98.5% (n=325) reported that they didn't receive any psychological therapy (see table 5.2)

For the type of psychological treatment, 0.9% (n= 3) of the participants reported taking medication, and 0.6% (n=2) had psychotherapy sessions. (see table 5.2)

Moreover, the participants were asked about previous traumatic life event, and 93.9% (n= 310) of the participants stated that they didn't have previous traumatic life event, and only 6.1% (n=20) had previous traumatic life event. (see table 5.2)

For example, 0.9 % (n=3) stated that the death of their son was a traumatic life event, 1.5% (n=5) reported their father's death, 0.6% (n=2) reported nephew death, 0.3% (n=1) reported divorce, 0.6% (n=2) reported death of their mother, 0.6% (n=2) reported car accident, 0.3% (n=1) reported bullet injury, 0.3% (n=1) reported domestic violence, 0.6% (n=2) reported father marriage and 0.3% (n=1) indicated that she did not want to talk about this .

Furthermore, the majority of the participants (78.5%, n=259) stated that they were afraid from caesarean section, and only 20.9% (n=69) were not afraid, and 0.6% (n=2) did not answer the question. (see table 5.2)

Table (5.2) Frequency and percentage of the medical, obstetric and psychological history of the participants:

		Frequency	%
Having psychological support	Yes	309	93.6
	NO	21	6.4
Source of psychological support	Mother	62	18.8
	Husband	137	41.5
	Sister	25	7.6

	Mother in low	10	3
	All family member	65	19.6
	Doctors and nurses	7	2.1
	None	21	6.4
	Missing	3	0.9
		Frequency	%
Parity	0 times	109	33.9
	1-5 times	189	57.3
	6-10 times	31	9.4
Number of Normal deliveries	0 time	196	59.4
	1 – 2 times	91	27.6
	3 – 6 times	35	10.6
	7 – 10 times	7	2.1
	More than 10 times	1	0.3
Number of Previous Caesarean Section	0 time	188	57
	1 – 2 times	125	37.9
	3 – 6 times	17	5.1
having complications after (CS)	Yes	54	16.4
	No	276	83.6
Type of complications after (CS)	None	276	83.64
	Hypertension	22	6.66
	Bleeding	20	6.06
	Severe headache	2	0.6

	Convulsion	2	0.6
	Bladder injury	1	0.3
	Hypotension	1	0.3
	Missing Value	6	1.82
Having Health professional problems	Yes	323	97.9
	No	7	2.1
Health professional relationship	None	323	97.9
	Not caring and disrespect	3	0.9
	No explaining about the case	2	0.6
	Nurses screaming on patient	2	0.6
Having medical disease	Yes	12	3.6
	No	313	94.9
	Missing Value	5	1.5
What type of medical disease do you have?	None	313	94.9
	Diabetes	9	2.7
	Epilepsy	3	0.9
	Missing Value	5	1.5
Having previous psychological problems	Yes	11	3.3
	No	319	96.7
		Frequency	%
Type of psychological problem	None	319	96.7
	Depression	9	2.7

	Anxiety	2	0.6
		Frequency	%
Having psychological treatment	Yes	5	1.5
	No	325	98.5
Type of psychological treatment	None	325	98.5
	Medication	3	0.9
	Psycho-therapy	2	0.6
having previous traumatic life event	Yes	20	6.1
	No	310	93.9
Fear from Caesarean Section	Yes	259	78.5
	No	69	20.9
	Missing Value	2	0.6

5.3. Acute stress disorder scale results:

Acute stress disorder scale is a 19 item self-report scale which assesses the ASD symptom as specified by the DSM-V. The Acute Stress Disorder Scale indexes the symptoms of traumatic stress in the acute period after traumatic event.

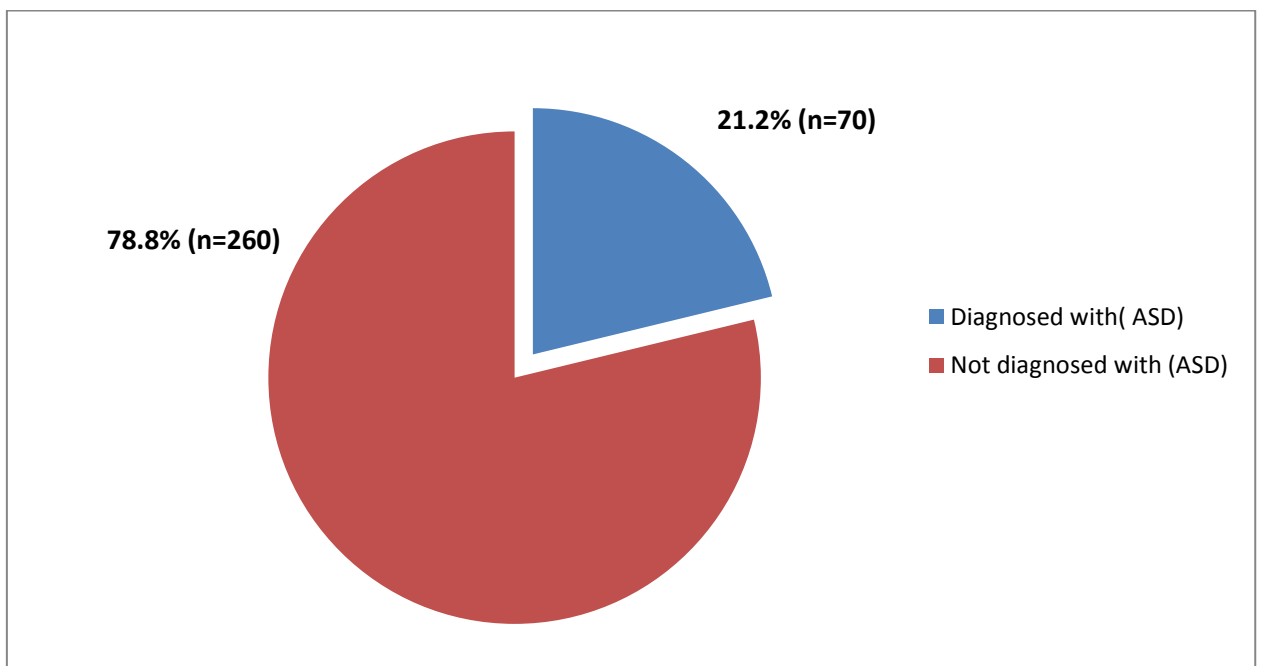
5.3.1. Prevalence of acute stress disorder:

The percentage and the frequency were used to assess the possible diagnosis of acute stress disorder after emergency cesarean section among the participants by endorsement of 9 items of acute stress disorder scale; this

requires scoring at least 3 on 9 or more questions on the ASDS (Bryant, 2015).

The findings showed that 21.2% (n=70) of the participants from the three hospitals had scoring of at least 3 on 9 or more items on the ASDS, and this was an indicative for possible diagnosis of acute stress disorder, and 78.8 % (n=260) did not met the criteria of acute stress disorder. This means that the prevalence of acute stress disorder among the study sampling was 21.2% (see figure 5.1)

Figure (5.1) Prevelence of acute stress disorder:



Also, the participants were asked to consider each statement as it relates to the way they have felt after emergency caesarean section. Questions were answered on a five-point scale (1 = not at all, 5 = very much). Frequency, percentage, mean and standard deviation were used to achieve this purpose.

In general, the findings showed that the participants responses varied as seen in table (5.3)

It was noticed that more than half of the participants answered 12 questions out of 19 questions (not at all), and these questions were (q 3, q 4, q 5,q 6, q7, q 8, q 9, q 11,q12, q16, q 18, q19), and all the questions were answered by more than half of the participants by (not at all, medium, and mild), and less than 25% of the participants answered all the questions by (quite a bit and very much) except q17 which was answered by more than 30% For example, 56.1% (n=184) reported (not at all) if they felt things around them unreal or dream like, 33.1% (n=109) answered (mild and medium), 11.95% (n=48) answered (quite a bit and very much) as shown in table (5.3).

Furthermore, 62.6% (n=206) of the participants answered (not at all) for the question if they ever felt distant from their normal self or if they were watching it happened from outside during or after emergency caesarean section, 29.8% (n=98) reported (mild and medium), 7.6% (n=25) reported (quite a bit and very much).see table (5.3) Also, 68.5% (n=207) stated not at all to the question if they were unable to recall important aspects of the trauma, 23.4% (n=77) of the participants answered (mild and medium), and 8.1% (n=17) of the participants answered (quite a bit and very much).see table (5.3)

In addition, 77.5% (n=256) of the participants reported not at all to the question if they had been jumpy since the emergency cesarean section,17.3% (n=57) of the participants reported (mild and medium), and only 5.1% n=17 of the participants reported (quite a bit and very much).see table (5.3)

Also, 63.6% (n=210) of the participants answered not at all to the question if they tried to avoid situations or people that remind them of the emergency

caesarean section, 17.2% (n=90) of them answered (mild and medium), and only 9% (n=20) of the participants answered (quite a bit or very much). see table (5.3)

Furthermore, 62.7% (n=207) of the participants stated not at all to the question if they had difficulty concentrating since the emergency caesarean section, 29.1% (n=96) of them stated (mild and medium), and only 8.1% (n=17) of the participants stated (quite a bit and very much). see table (5.3)

In addition, 41.6% (n=124) of the participants reported (not at all) for feeling numb or distance from their emotions, 41.0% (n=153) reported (mild and medium), and only 17.3% (n=34) reported (quite a bit and very much).see table (5.3)

Further, 46.8% (n= 154) reported (not at all) for feeling in daze, 40.4% (n=133) reported (mild and medium), and only 15.8% (n=53) reported (quite a bit and very much).see table (5.3)

On the other hand, 39.1% (n=129) of the participants answered not at all to the question if they had become more alert to danger since the emergency cesarean section, 20.6 % (n=100) of them answered (mildly and medium), and 20.3% n=100 of the participants answered (quite a bit and very much). see table (5.3)

Finally, the overall participants ASD results showed that 54.1% (n=181) of the participant answered not at all, 18% (n=59) answered medium, 13.1% (n=43) answered mild, 7.5% (n=25) of them answered quite a bit, and 6.1% (n=20) of the participants answered very much. see table (5.3)

Table (5.3) Participants ASD scale results:

#	Questions	Not at all (1)		Mildly (2)		Medium (3)		Quite a bit (4)		Very much (5)		MEAN	SD
		F	%	F	%	F	%	F	%	F	%		
1.	During or after the trauma, did you ever feel numb or distant from your emotions?	137	41.6	76	23.1	59	17.9	33	10.1	24	7.3	2.18	1.28
2.	During or after the trauma, did you ever feel in a daze?	154	46.8	74	22.5	49	14.9	32	9.7	20	6.1	2.06	1.25
3.	During or after the trauma, did things around you ever feel unreal or dreamlike?	185	56.1	60	18.2	43	13	28	8.5	14	4.2	1.87	1.18
4.	During or after the trauma, did you ever feel distant from your normal self or like you were watching it happen from outside?	206	62.6	67	20.4	31	9.4	14	4.3	11	3.3	1.65	1.4
5.	Have you been unable to recall important aspects of the trauma?	226	68.5	50	15.2	27	8.2	12	3.6	15	4.5	1.61	1.8
6.	Have memories of the trauma kept entering your mind?	166	50.3	66	20	45	13.6	29	8.8	24	7.3	2.03	1.28
7.	Have you had bad dreams or nightmares about the trauma?	213	64.5	60	18.2	34	10.3	12	3.6	11	3.4	1.63	1.03
8.	Have you felt as if the trauma was about to happen again?	203	61.5	59	17.9	34	10.3	20	6.1	14	4.2	1.74	1.13
9.	Do you feel very upset when you are reminded of the trauma?	170	51.5	69	20.9	42	12.7	26	7.9	23	7	1.98	1.26
10.	Have you tried not to think about the trauma?	153	46.4	51	15.5	53	16.1	42	12.7	31	9.4	2.23	1.39
11.	Have you tried not to talk about the trauma?	185	56.4	53	16.2	48	14.6	18	5.5	24	7.3	1.91	1.26
12.	Have you tried to avoid situations or people that remind you of the trauma?	210	63.6	48	14.5	42	12.7	13	3.9	17	5.3	1.72	1.15
13.	Have you tried not to feel upset or distressed about the trauma?	149	45.2	71	21.5	59	17.8	27	8.2	24	7.3	2.11	1.27
14.	Have you had trouble sleeping since the trauma?	146	44.4	65	19.8	52	15.8	35	10.6	31	9.4	2.21	1.36

15.	Have you felt more irritable since the trauma?	157	47.7	65	19.8	51	15.5	30	9.1	26	7.9	2.1	1.31
16.	Have you had difficulty concentrating since the trauma?	207	62.7	55	16.7	41	12.4	14	4.2	13	3.9	1.70	1.09
17.	Have you become more alert to danger since the trauma?	129	39.1	53	16.1	48	14.5	57	17.3	43	13	2.49	1.47
18.	Have you become jumpy since the trauma?	255	77.5	34	10.3	23	7	10	3	7	2.2	1.42	0.91
19.	When you are reminded of the trauma, so you sweat or tremble or does your heart beat fast?	196	59.6	53	16.1	43	13.1	21	6.3	16	4.9	1.81	1.18
Overall results		181	54.1	59	18	43	13.1	25	7.5	20	6.1	2	1.2

5.3.2. The relationship between acute stress disorder and other variables:

In addition, the relationships between independent variable (acute stress disorder), and dependent variables such as socio demographic data (age, place of residency, profession, educational level, economic status, and social support), obstetric and medical history, such as (parity, the number of normal delivery, the number of previous cesarean section, indication for emergency cesarean, complications after emergency cesarean section, and having problems in the maternity ward), and previous psychological and mental problems, such as (previous mental and psychological problem, help seeking behavior, treatment type, and past traumatic life event) had been assessed by using T-test, one way ANOVA test, and logistic regression test. The statistical significance was defined as a P-value of (0.05) as shown in table (5.4).

For example, the analysis revealed a significant relationship between acute stress disorder after emergency caesarean section and profession at P-value

(0.045). The ANOVA-test revealed that the participants who were students (mean=2.85) had more acute stress reaction after emergency caesarean section than employee (mean=1.91), and housewives (mean= 1.86) as shown in table (5.4)

Also, findings showed a significant relationship between acute stress reaction after emergency caesarean section and social economic status at P-value (0.034). ANOVA test revealed that the participants who had income less or equal to 1000 NIS (mean=2.10) had more acute stress reaction after emergency caesarean section than the participants with income group between 1001-2000NIS (mean=1.96), then the participants with and income group between more than 2000 NIS (mean=1.88), and finally participants with monthly income more than 3000 NIS (mean=1.74).see table (5.4)

Moreover, analysis revealed a significant relationship between acute stress reaction after emergency caesarean section and the number of normal deliveries at P-value (0.001). ANOVA test revealed that the participants who had normal deliveries between (7-10) times (mean=2.34) had more acute stress reaction after emergency caesarean section than the participants with more than 10 normal deliverers (mean=1.93), then the participants with (3-6)normal deliveries (mean=1.84), then the participants with (1-2) normal deliveries (mean=1.75), and finally the participants with no previous normal deliverers had the lowest (ASD) (mean =1.00) (see table 5.8) Also, for the relationship between acute stress disorder after emergency caesarean section women and receiving social support, T-test revealed a significant relationship at P-value (0.03) and the participants who didn't receive a social support (mean=2.22) had more acute stress disorder than the participants who received social support (mean=1.89). see table (5.4)

Moreover, T-test showed there was a significant relationship between acute stress reaction and having complications after caesarean section at P-value (0.001). The T-test revealed that the participants who had complications after caesarean section (mean=2.78) had more acute stress reaction than the participants who didn't have any complications after caesarean section (mean=1.75). (see table 5.4)

For the relationship between acute stress reaction after emergency caesarean section and health professional relationship, T-test finding revealed a significant relationship at P-value (0.027), the participants who had problems with health professionals (mean=3.14) had more acute stress reaction after emergency caesarean section than the participants who did not have any problems with the health professionals (mean=1.89). (see table 5.4)

Also, for the relationship between acute stress reaction after emergency caesarean section and having any medical disease, T-test finding showed a significant relationship at P-value (0.040), the participants who had medical diseases (mean=2.43) had more acute stress reaction after emergency caesarean than the participants who did not have any medical disease (mean=1.90). (see table 5.4)

In addition, the relationship between acute stress disorder after emergency caesarean section and the hospital in which participants gave birth demonstrated a significant relationship at P-value (0.047). ANOVA test showed that participants who gave birth in Ramallah governmental hospital had more acute stress disorder (mean=2.18), than the participants in the Red Crescent hospital (mean=2.08), then the participants in Arab Care hospital (mean=1.90). (see table 5.4)

Also, for the relationship between acute stress reaction and fear from caesarean section, T-test finding revealed a significant relationship at P-value (0.001), as the participants who had fear from caesarean section (mean=2.03) had more acute stress reaction than the participants who hadn't any fear from caesarean section (mean=1.53). (see table 5.4)

Finally, ANOVA test and T-test findings revealed no significant relationship between acute stress reaction after emergency caesarean section and age, place of residency, marital status, educational level, parity (number of children), number of previous caesarean section, having previous psychological problems, having psychological treatment, and having previous traumatic life event. (see table 5.4)

Table (5.4) : The relation between acute stress disorder and other independent variables:

Independent variable		mean	SD	P-Value
Age	15 years-24 years	2.02	0.717	0.218
	25 years-34 years	1.86	0.720	
	35 years- 44years	19.1	0.858	
Place of residency	Village	1.96	0.797	0.412
	Camp	1.84	0.593	

	City	1.92	0.783	
Marital status	Married	1.92	0.739	0.421
	Divorce	2.05	0.630	
	Widow	1.26	0.223	
Educational level	Illiterate	2.09	0.74	0.926
	Elementary	1.92	0.753	
	Preparatory	1.99	0.912	
	Secondary	1.88	0.673	
	University	1.92	0.737	
Occupation	Housewives	1.86	0.629	0.045*
	Employee	1.91	0.752	
	Others	2.85	0.706	

Independent variable		Mean	SD	P.value
Economic status	Less than or equal 1000 NIS	2.10	0.919	0.034*
	1001 –2000 NIS	1.96	0.729	
	More than 2000 NIS	1.88	0.585	
	More than 3000 NIS	1.74	0.687	
Parity	0-children	1.94	0.697	0.890
	1-5 children	1.93	0.764	
	6-10 children	1.82	0.772	
	More than 10	1.88	0.654	
Number of normal deliveries	0 times	1.00	0.00	0.001*
	1-2 times	1.75	0.569	
	3-6 times	1.84	0.844	
	7-10 times	2.34	1.014	
	More than 10	1.93	0.719	
Number of previous (CS)	0 times	1.94	0.757	0.890
	1-2 times	1.90	0.731	
	3-6 times	1.89	0.590	
Social support	Yes	1.89	0.731	0.043*

	No	2.22	0.704	
Having medical disease	Yes	2.43	0.901	0.040*
	No	1.90	0.722	

Table (5.4): The relation between acute stress disorder and other independent variables:

Independent variables		Mean	SD	P.value
Having complications after (CS)	Yes	2.78	0.856	0.000*
	No	1.75	0.580	
Having problems with health professionals	Yes	3.14	1.134	0.027*
	No	1.89	0.706	
Having previous psychological problems	Yes	1.65	0.525	0.320
	No	1.93	0.741	
Having psychological treatment to resolve this problem?	yes	2.20	1.390	0.671
	No	1.92	0.727	
Having previous traumatic life	yes	2.03	0.867	0.493

event	No	1.91	0.730	
Fear from caesarean section	Yes	2.03	0.758	0.000*
	No	1.53	0.504	
Hospitals	Ramallah Governmental Hospitals	2.18	0.851	0.047*
	Red Crescent Hospital	2.02	0.785	
	Arab Care Hospital	1.90	0.666	

5.3. Binary Logistic regression test results:

Furthermore, binary regression analysis was done to examine the relation between acute stress reaction after emergency caesarean section and independent variables. The logistic regression analysis of the study revealed that independent variables (profession, number of normal delivery, social support, relation with health professional, having medical disease, and fear from (CS) significantly influence acute stress reaction among participants. On other hand, regression analysis did not find significant relation between acute stress reaction and (CS) complications , and economic status.

For example, analysis showed that the effect of social support was highly significant ($P = 0.002$). The value of Exp (B) for the variable "having social support" was 7.57 which implied a decrease in the odds of 657%. So, the participants who had social support were six times less likely to have acute

stress reaction compared to those who did not have social support. (See table 5.5)

Also, analysis showed that the relationship with health professionals was highly significant (P-value = 0.001). The value of Exp (B) for the variable “the relationship with health professionals” was 0.088 which implied an increase in the odds of 95.8%. So the participants who had problems in their relationship with health professionals were more likely to have acute stress reaction compared to those who did not have any problems. (See table 5.5)

In addition, analysis showed that there was a significant relation between acute stress reaction and having medical disease (P= 0.02). The value of Exp (B) for the variable "having medical disease" was 0.065 which implied an increase in the odds of 93.5%. So, the participants who had medical disease were 93.5% more likely to have acute stress reaction compared to those who did not have any medical disease. (See table 5.5)

Also, analysis showed that there was a significant relation between acute stress reaction and fear from caesarean section (P= 0.005). The value of Exp (B) for the variable “fear from (CS)” was 0.122, which implied an increase in the odds of 87.8%. So, the participants who had fear from caesarean section were 87.8% more likely to have acute stress reaction compared to those who did not have fear from caesarean section. (See table 5.5)

On other hand, regression analysis showed a significant relation between acute stress reaction, and the number of normal delivery (P =0.047). The value of Exp (B) for the variable “1-2 times normal delivery” was 0.333 which implied decrease in the odds of 66.7%. Therefore, the participants with 1-2 normal delivery were 66.7% less likely to have acute stress compared to those who have no previous normal delivery. (see table 5.5)

Finally, regression analysis showed a significant relation between acute stress reaction, and profession ($P = 0.018$). The value of Exp (B) for the variable “students” were 17.41 which implied an increase in the odds of 16 times. Therefore, the participants who were students were 16 times more likely to have acute stress compared to those who were housewives. (see table 5.5)

Table (5.5) Binary Logistic regression results:

									95% C.I for odds ratio EXP(B)	
Independent Variables	categories	B	SE	Wald	df	Sig.	Odds ratio Exp(B)	Odds ratio %	Lower	Upper
Profession	Housewives (ref)			8.074	2	.018				
	Employee	-.351	.546	.413	1	.521	.704	-29.6	0.241	2.053
	Student	2.857	1.210	5.578	1	.018	17.41	1641.3	1.626	186.45
Economic Status	Less or equal 1000 (ref)			2.183	3	.535				

	1001-2000									
		-.768	.538	2.037	1	.153	.464	-53.6	0.162	1.332
	More than 2000	-.547	.550	.990	1	.320	.579	-42.1	0.197	1.700
	More than 3000	-.351	.596	.346	1	.556	.704	-29.6	0.219	2.266
Number of normal deliveries	0 times (ref)			8.066	4	.089				
	1-2 times	-1.099	.553	3.944	1	.047	.333	-66.7	0.113	.986
	3-6 times	.629	.540	1.355	1	.244	1.875	87.5	0.651	5.403
	7-10 times	1.305	1.098	1.413	1	.234	3.687	268.7	0.429	31.695
	More than 10	-17.3	40192	.000	1	1.00	.000		0.000	.
Social support (ref=no)	Yes (1)	-2.024	.657	9.499	1	.002	7.571	-657.1	2.090	27.429
(CS) complications (ref=no)	Yes (1)	1.571	.909	2.985	1	.084	.208	79.2	0.035	1.235
Relationship with health	Yes (1)		.444	51.24	1	.000	.042	95.8	0.017	0.099

professionals (ref=no)										
Having medical disease (ref=no)	Yes (1)	2.726	1.175	5.387	1	.020	.065	93.5	0.007	0.654
Fear from (CS) (ref=no)	Yes 1)	2.104	.742	8.046	1	.005	.122	87.8	0.028	0.522
Constant		6.044	1.611	14.08	1	.000	421.77			

5.5. Summary:

- The findings showed that 21.2% (n=70) of the participants met the criteria of acute stress disorder and 78.8% (n=260) didn't met the criteria of acute stress disorder. The findings showed that the prevalence of acute stress disorder among the study sampling in was 21.2%.
- The study found statistically significant relationships between acute stress disorder and different hospitals, profession (occupation), number of normal deliverers, complications after emergency cesarean section, social support, health professionals relation, having a medical disease, economic states and fear from emergency caesarean section.
- The study did not find statistically significant relationships between acute stress disorder and age group, place of residence, marital status, educational level, number of pregnancies, number of previous caesarean section, previous psychological problems, previous traumatic life events, and seeking psychotherapy.
- Regression analysis did not find statistically significant relationships between acute stress reaction after emergency caesarean section and independent variables, such as (economic status, and complications after emergency cesarean section).
- Regression analysis find statistically significant relationships between acute stress reaction after emergency caesarean section and independent variables, such as (social support, health professionals

relation, having a medical disease, number of normal deliverers, profession (occupation) and fear from emergency caesarean section.)

Chapter six

Discussion

Chapter six

6.1. Introduction:

This chapter discussed the major findings of the current study and the interpretation of its findings in relation to previously conducted studies found in literature review. The participants' characteristics and their responses to the questionnaire items were discussed. Also, the relationship between dependent and independent variables were highlighted by using many statistical analyses tests such as ANOVA test, T-test, and regression test. The results of these statistical tests were discussed in each of the following sections:

- Section one: The characteristics of the participants.
- Section two: Acute stress disorder scale related findings.
- Section three: The relationship between dependent and independent variables related findings
- Section four: limitations and recommendations.

6.2. Section one: The characteristics of the participants:

In the current study, the targeted participants were women (n=330) who delivered by emergency caesarean section in three major hospitals in Ramallah area (Ramallah Governmental Hospital, Red Crescent Hospital, and Arab Care Hospital). (39.4%) of the participants were from Ramallah Governmental Hospital, (30.3%) of them were from Red Crescent Hospital, and (30.3%) of them were from Arab Care Hospital.

As a study age group ranged from 15 to 44 years old, the findings showed that (48.8%) of the participants aged were from 35 to 44 years old, (35.3%)

were aged from 25 to less than 35 years old, and (14.5%) were from 15 years old to less than 25 years old. These results were supported by a study conducted by Horsch et al. (2017) where the aged group of women was ranged between 24 – and 37 years old, and another study conducted by Ayres (2004), the aged group of women were ranged from 18 to 41 years old. In addition another study conducted by Modarres et. al (2012) in Bushehr in Iran where the age group of the women ranged from <20 to > 36 years old , and 8.7% of them were <20 years old, 86.7% aged from 21-36 years and 4.6 % aged >36 years old. This can be explained by the fact that age is the most important factor affecting a woman's chance to conceive and have a healthy child, as women age, their fertility declines. A woman's fertility starts to decline in her early thirties, with the decline speeding up after 35 and at 40 a woman only has a 5% chance of becoming pregnant in any month. SOGC (2017).

For place of residence, more than half of the participants (59.1%) were from the villages, (31.2%) of them were from the city, and (9.7%) of the participants were from the camps. Furthermore, the vast majority of the participants (98.2%) were married and this result is expected because the average age for marriage in Palestine is 25.2 years for males and 20.2 years for females (PCBS, 2010). A study conducted by Sedigheh et.al (2012) showed that 89% of the women were married, 7% were single, and 4% were divorced. Another study conducted by Czarnock et al. (2000) showed that 65.4% of the participants were married, and 26.6% were cohabiting, and 8% were single. As well, nearly less than half of the participants (45.9%) had university education, (33.4%) of them had secondary education, (12.5%) of them had preparatory education, (6.7%) of them had elementary education and only (1.5%) of the participants were illiterate. According to Palestinian Central Bureau of Statistics (2014), the illiteracy rate among individuals in

Palestine is considered low and amounting to 3.7%. A study conducted by Modarres et. al (2012) among a sample of Iranian women, 72% of the participants had university education, 10% had apprenticeship, 3% had secondary education, 10% had middle school, and only 3% had elementary education.

In addition, for the socioeconomic class, findings indicated that the majority of the participants (83.3%) did not work as they were housewives, and 50.2% of the participants were under the Palestinian poverty line, which is defined by the Palestinian Center Bureau of Statistics (PCBS) as a monthly income of less than 2375 NIS (PCBS, 2010). Also, according to Palestinian Bureau of Statistics, the unemployment rate in Palestine reached 33.3% (PCBS, 2010).

For the social support, the majority of the participants (93.6%) reported having a social support during labour and after emergency caesarean section. For the source of the psychological support, (42.4%) of the participants stated their husbands, (19.6%) stated all family numbers, and (19.2%) reported their mothers as their source of psychological support. Solomonat al. (1988) revealed that women who found their partners support to be lacking, critical or complaining were more likely to report symptoms of avoidance, intrusion and acute stress reaction after a traumatic birth. Also, a study conducted by Edmonds et. al (2011) among a group of women aged between 18-49 years old, living in Matlab, Bangladesh, showed that the four most frequently-mentioned types of support were: practical help with routine activities, information/advice, emotional support and assurance, as well as the provision of resources and material goods. Emotional support and assurance refer to the provision of re-assurance and sympathetic listening that result in feelings of comfort and security. Women described emotional support as chatting about their comforts, discomforts, and the progression of their pregnancies

and delivery, the most frequently-mentioned sources of emotional support were mothers, mothers in law, sisters, sisters in law, and husbands.

On other hand, obstetric history of the participants showed that 33.0% of the participants were primigravida, 54.8% of them had from 2 to 5 children 9.4 % had between 6 and 10 children, and 2.7% had more than 10 children. A study conducted by Ford et. al (2010) indicated pregnant women who were recruited from public UK hospital showed that 37.0% of the participants were primigraviada, 49.3% had one child, 10.1% had 2 children, and 3.5% had 3 or more children. In addition, according to Palestinian Central Bureau of Statistics (2010), there is a high proportion of individuals under the age of 18 years (48.25%) This indicated high fertility rates, and the Palestinian woman gives birth to 4.2 children throughout her reproductive life. As expected, the rates will not change significantly during the coming period as the determinants of fertility interlace between levels of social and economic life in the Palestinian society and inter cultural concepts and traditions such as living in extended families. (PCBS. 2010)

Also, the findings showed that majority of the participants (84.2%) didn't reported any complications after emergency caesarean section, and only (16.4%) reported such complications. These results were supported by a study conducted by Dikmen et al. (2016) which found that 14.9 % of the participants had such complications. Also, in the current study, the majority of the participants (97. 3%,) reported that they didn't have any problems with the health professionals during labour , and only (2.7%) reported such problems. A study was conducted by Isbir et.al (2016) showed that 20.7% of the participants were not satisfied with their doctors and midwives in the maternity ward. There is now substantial evidence to suggest that support

from health professionals during birth vaginally or by emergency caesarean section can reduce the impact of traumatic or negative experiences. Ayers (2009) found that support from healthcare professionals was as, or more, important than the events of birth, particularly for women's perception of control during birth. Other studies showed an association between perceived support, greater perceptions of control, and less anxiety during childbirth (Ford, Ayers, Bradley, 2010; Hodnett et al., 2012; Vossbeck-Elsebusch, Freisfeld, & Ehring, 2014; Verreault et al., 2012). Similarly, one meta-analysis found that postpartum ASD symptoms were associated with poor quality of interaction with health care staff, less feelings of control during birth (Grekin, & O'Hara, 2014), and less support during birth (Ayers et al., 2016). Good support and women being satisfied with the support they received from healthcare professionals and their partners are associated with a reduced likelihood of developing ASD symptoms following childbirth (Lemola, Stadlmary, & Grob, 2007; Iles, Slade, & Spiby, 2011). Nurses and midwives should help women to feel a greater sense of control in collaboration with the doctors by encouraging them to be involved in the decisions about labour so that the women's psychological and physical wellbeing is supported.

In addition, in the current study the vast majority of the participants (97.0 %) stated that they didn't have any previous psychological problems and only (3.0%) of them reported psychological problems. For example, (2.7%) of the participants indicated that they had depression, one participant (0.3%) reported anxiety, Moreover, in the current study (94.0%) of the participants stated that they didn't have previous traumatic life event, and only (6.0%) of them had previous traumatic life event. A study conducted by Ayres, 2012 showed higher results than the current study as the prevalence of depression was 14.6%, the prevalence of PTSD was 5.8%, and anxiety was (29.6%).

Ayres (2012) revealed that high rates of affective disorders in pregnancy and after birth highlight two main points: first, it is important to have effective perinatal screening to identify women with psychological needs; second, providing early treatment to women experiencing severe psychological problems is essential to ensure psychological well-being of those women and to prevent chronicity.

Finally, the majority of the participants (79.0%) stated that they were afraid from delivery and caesarean section, and only (21.0%) of them were not afraid, A study conducted by Hollander et al. (2017) showed less percentage than the current study as (49.9%) of the participants had fear for self and the baby during labour vaginally or by cesarean section. The fear from delivery by caesarean section can be explained by the fact that the women were less informed and that the procedures were more unexpected. These constructs of fear, distress and unexpectedness all link with the symptoms of ASD (Foa & Rothbaum, 1989; Joseph et al., 1995; Scott & Stradling, 1992).

6.3. Acute stress disorder scale results:

Childbirth is a normal event in society and considered a positive experience by many women. Therefore, some have questioned childbirth being classed as trauma. Childbirth especially by emergency caesarean section can cause life-threatening complications for women or their baby. Women may have a seemingly “normal” birth but may feel traumatized by aspects such as loss of control, loss of dignity, or the hostile, difficult or disrespectful attitudes of the people around them. (Charuvastra & Cloitre, 2008; Cigoli, Gilli, & Saita, 2006; Creedy et al., 2000; Czarnocka & Slade, 2000; Ford & Ayers, 2009; Lyons, 1998; Maggioni et al., 2006; Soet et al., 2003; Wijma, Soderquist, & Wijma, 1997). Furthermore, a difficult or complicated birth such as emergency caesarean section can lead to the development of ASD if a woman

believes her life or her baby's life is in danger during birth and she feels intense fear, helplessness and horror (American Psychiatric Association, 2000).

Acute stress disorder was assessed in the current study by using Acute Stress Disorder Scale (ASDS) (Bryant, 2000). The ASDS is a 19 item self-report scale with four subscales assessing the four separate symptom clusters; dissociation, re-experiencing, avoidance, and arousal as specified by the DSM-V. The findings showed that 21.2% (n=70) of the participants from the three hospitals (Ramallah Governmental Hospital, Red crescent Hospital, Arab Care Hospital) had scoring at least 3 on 9 or more items on the ASDS, and they met the criteria for acute stress disorder, and 78.8 % (n=260) did not meet the criteria of acute stress disorder. These finding were supported by Ryding, (1998) who revealed that the emergency caesarean section considered the most negative delivery experience and participants who delivered by emergency caesarean section showed more symptoms of post-traumatic stress than the participants with elective caesarean section or normal deliverers. Also, a study conducted by Gokce et. al (2016) showed a higher percentage than the current study as 29% of women in Turkey reported symptoms of ASD, and he indicated that the results might be because acute stress type reactions are part of a normal process of recovery from the stresses of birth. In addition Ryding, (2010) reported higher percentage of ASD than the current study, and he found that nineteen (76%) of the 25 women had experienced their delivery by emergency cesarean section as a traumatic event, 13 (52%) women had various forms of posttraumatic stress reactions and, eight cases (33%) had symptoms of serious posttraumatic intrusive stress reactions. Also, Creedy et al. (2000) found that one in three women (33%) identified a traumatic birthing event and reported the presence of at least three trauma symptoms, and twenty-eight women (5.6%) met DSM-IV criteria for

acute posttraumatic stress disorder. Also, a large study in Norway reported less prevalence of acute stress reaction than the current study as only 1.8% of women had severe ASD following childbirth vaginally or by emergency caesarean section (Garthus-Niegel et al. 2013). Also, a study in Iran found that 20% of women had severe ASD (Modarres et al., 2012), and a meta-analysis of ASD after birth suggested that the average prevalence of birth-related ASD is 3.1% in general population and this increases to 15.7% in high risk samples. The differences in prevalence are likely to be due the cultural context and health care system of the country in which it is studied (Garthus-Niegel et al., 2013; Modarres et al., 2012; Grekin & O'Hara, 2014). Also, women's subjective experience of birth as negative and traumatic is more strongly associated with ASD (Ayers et al. 2014; Boorman et al., 2014; O'Donovan et al., 2014; Andersen et al., 2012; Verreault et al., 2012). It should also be noted that ASD is not only the result of a traumatic birth but that other factors can make women more vulnerable or at risk of developing ASD (Ayers et al. 2016) such as women who develop severe complications in pregnancy and during birth (Grekin & O'Hara, 2014). ASD following childbirth usually arise because of the complications during pregnancy or birth (Andersen et al. 2012; Grekin, & O'Hara, 2014). The high prevalence of ASD may have negative consequences for the emotional well-being of postpartum women and their relationships with their baby and husband/partner (Ayers, Eagle, & Waring, 2006; Parfitt, & Ayers, 2009; Nicholls & Ayers, 2007; Reynolds, 1997). ASD resulting from traumatic birth experiences may affect the mother baby relationship in a number of ways. For example, if the mother associates the baby with the traumatic events in birth she might try to avoid contact with the baby (Reynolds, 1997; Elmir et al., 2010), or alternatively, she may become over-anxious about the baby (Ayers, Eagle, & Waring, 2006; Nicholls & Ayers, 2007). It is therefore important to identify key protective and risk factors for ASD following

childbirth. Although there is an increasing body of research focusing on risk factors for ASD following childbirth, it is not clear whether these are generalizable between cultures (Ayers et al. 2008) because of the available evidence on risk factors comes from Europe, Australia and North America (Grekin, & O'Hara, 2014; Ayers et al. 2016). Therefore, there is a need to conduct a study that assesses these factors among Palestinian women after emergency caesarean section.

6.4. The relationship between acute stress disorder and independent variables.

In the current study, ANOVA and T tests results showed no significant relationships between demographic data such as age, marital status, place of residence and education level and ASD. These results were supported by Ayres et al. (2016) who revealed that, socio-demographic variables were not related to ASD following childbirth vaginally or by caesarean section, and the prenatal variables most strongly associated with ASD. In addition, Ayres et al. (2016) showed that having high expectations about the outcome of birth but low expectations about one's ability to influence that outcome was correlated with ASD after childbirth by emergency caesarean section. Also, a study conducted by Ford et al. (2014) indicated that maternal age, the level of education, the spouses' age, educational level, job, and the family's economic situation did not increase the incidence of ASD following childbirth. Further, Adewuya et al. (2006) showed that the demographic factors did not influence the risk of ASD following childbirth, while Cigoli et al. (2006) suggested that the social and demographic factors were influential features in the occurrence of this disorder. Modarres et al. (2012) indicated that the occurrence of different results could be due to cultural and educational differences among different societies. These differences are crucial in the development of social skills and in how people deal with life issues and manage stressful situations.

Also, the current study findings showed a significant relationship between acute stress reaction after emergency caesarean section and the economic status of the participants at P-value (0.034). ANOVA test revealed that the participants who had income less or equal to 1000 NIS (mean=2.10) had more acute stress reaction after emergency caesarean section than the participants with income between 1001-2000 NIS (mean=1.96), then the income group with more than 2000 NIS (mean=1.88), and finally the participants with monthly income more than 3000 NIS (mean=1.74). The result were supported by Wijma et al. (1997), who found that low socioeconomic status, is associated with a traumatic stress response and acute stress reaction but not with PTSD. However, the regression analysis didn't find a statistically relationship between (ASR) and economic status.

Moreover, T-test showed there is a significant relationship between acute stress reaction and having complications after caesarean sections at P-value less than (0.001). The T-test revealed that the participants who had complications after caesarean section (mean=2.78) had more acute stress reaction than the participants who didn't have any complications after caesarean section (mean=1.75). In addition, regression analysis did not find a significant relationship between acute stress reaction and having complications after caesarean sections at P-value (0.084)

These results were supported by Ford et al. (2012) who found that the relationship between post traumatic reactions was stronger in women due to complications, and they were dissatisfied with their intrapartum care, and more likely to develop acute stress reaction than women who perceived their care to be adequate. Medical intervention appears to be important in conscious appraisal of emergency caesarean section as traumatic, because medical intervention after complications usually indicate emergency situations and consequently more threat to the life of the woman or the baby.

Also, poor coping and low self-efficacy (expectations of control over the outcome), were associated with a severe acute stress reaction after medical complications (Schepper et.al 2016).

For the relationship between acute stress disorder after emergency caesarean section and receiving social support, T-test revealed a significant relationship at P-value (0.03) and the participants who didn't receive a social support (mean=2.22) had more acute stress reaction than the participants who had social support (mean=1.89). Also, the regression analysis showed a significant relationship between (ASD) at P- value (0.002).

These results were supported by Cigoli et al. (2006); Lyons, 1998; Czarnocka et al. (2000); Edworthy et al. (2008); Wijma et al. (1997) who found that higher levels of acute stress disorder symptoms have been associated with low social support, and Lemol et al. (2007) found high levels of poor psychological adjustment in women who had experienced a traumatic birth. Isbir et al. (2016) found a significant relationship between increased fear of birth postpartum and ASD following childbirth; this association was not found when fear of birth was assessed prenatally. Furthermore, social support can mediate the effects of post traumatic reaction by increasing individuals coping capacity (Solomonat et al. 1988), and affects maternal adaptation (Emmanuel et al., 2008). Verreault et al. (2012) noted social support as the most important predictor for ASD symptoms after birth.

In addition, social support is strongly implicated in traumatic stress responses with, for example, anxiety, neuroticism, poor coping, and low self-efficacy for birth (expectations of control over the outcome). For example, low levels of support from the staff or a woman's partner is associated with appraising birth as traumatic and a severe traumatic stress response (Ryding et. al 1997). Whereas in the study conducted by Cohen et al. (2004), this correlation was

not validated, Vossbeck-Elsebusch, Freisfeld et al. (2014), Ayres, (2012) conducted that a few measurement issues are important. First, perceived support is subjective. Some women may expect more support and consequently feel less supported despite receiving similar amounts of support as other women. Second, the retrospective measurement of support makes it difficult to know the direction of causality between support in delivery and postnatal ASD. For example, a woman who appraises birth as traumatic and subsequently feels distressed by her experience may, in retrospect, be more likely to report being unsupported during delivery. Thus future research should take account of how much support women want as well as how much support they receive, and should try and measure support prospectively .

The role of social support for ASR after birth may also be moderated by cultural factors. In Palestine, most women live in extended families and in the Palestinian culture postpartum women are given significant support for 40 days after birth by their family and friends. This support could have increased adaptation to motherhood. There is also evidence that support during the birth may have a greater effect on women's emotional response than the severity of events (Ford & Ayers, 2009).

The analysis revealed a significant relationship between acute stress disorder after emergency caesarean section and profession at P-value (0.045). The ANOVA-test revealed that the participants who were students (mean=2.85) had more acute stress reaction after emergency caesarean section than employee (mean=1.91), and housewives (mean= 1.86). These findings were supported by Mahrokhm, 2013, who revealed that among the various demographic characteristics, mother's occupation presented a significant correlation with acute stress reaction, and the prevalence of acute symptoms following childbirth in the working women was more than that in the housekeepers. Also women who were students (1.8%, n= 6) had more acute

stress reaction, due to the more responsibilities they had which included studying and looking after their houses. This situation could be related to the job stress at work. Mitani et al. (2006) suggested the existence of stress at workplace or the stressor nature of a job. Van Der Ploeg and Kleber (2003) reported the level of support in family environment from the family members and in workplace from the colleagues, as crucial factors for increasing the vulnerability of people to mental disorders including ASD. On other hand, the regression analysis in the current study showed a statistically significant relationship between acute stress reaction and profession at ($P = 0.018$). A study conducted by Cohen et al. (2004) showed that this correlation was not validated.

Findings revealed a statistically significant relationship between acute stress disorder after emergency caesarean section and health professional relationship (lack of midwives and doctors support) at P-value (0.027). The participants who had lack of medical staff support (mean=3.14) had more acute stress reaction after emergency caesarean section than the participants who did not have any problems in the maternity ward (mean=1.89). Also, the regression analysis showed a statistically a significant relationship at P- value (0.000). These results were supported by Ford et al. (2011); Czarnocka et al. (2000); Soet et al. (2003); Creedy et al. (2000); Green et al. (2003); Slade et al. (1993), (Slade et al. (1993). This might be due to the realization that something so appalling can happen and they cannot control their feelings of anger, frustration, anxiety, guilt, because of having problems in the maternity ward such as lack of health practitioner support, uncooperative nurses, lack of information about the case, not caring and disrespect, and screaming on women. Also, Gilutz et al. (2009) stated that it is important for health-care professionals to identify and acknowledge the emotional and physical needs of women who experience a caesarean section. Improving communication

and support antenatal and postnatal may have positive benefits for maternal well-being. Further, (Hollander et.al 2017) revealed that, support from health-practitioners may protect against the development of PTS symptoms or, conversely, a lack of support may contribute to PTS symptoms. To reduce the occurrence of ASD symptoms, health-practitioners should focus on providing support such as being empathetic, being woman-centered, listening and responding to women's communications, searching for ways to make women comfortable, and suggesting new ways of coping. So ASD symptoms after birth may not yet well understood by health care workers, In Palestine further research concerning the influence of midwifery team care factors on developing childbirth related ASD is required.

Moreover, analysis revealed a significant relationship between acute stress reaction after emergency caesarean section and the number of normal deliveries at P-value (0.001). The ANOVA test revealed that the participants who had normal deliveries more than 10 times (mean=2.34) had more acute stress reaction after emergency caesarean section than the participants with (7-10) times of normal deliveries (mean=1.93), then the participants with (3-6) times of normal deliveries (mean=1.84), the participants with (1-2) times of normal delivery (mean=1.75), and finally the participants with no previous normal deliveries (mean =1.00).

The association between increased psychological distress and having previous children may be a reflection of the increased demand on mothers who have to care for both the newborn child and the family at home (Sakri et.al 2002).

Ayers, (2014) found that obstetric variables in pregnancy, such as obstetric history or risk of medical complications, do not appear to be associated with

traumatic stress reaction with the possible exception of parity. Ayers found that nulliparous women were at higher risk of acute stress reaction.

Also, the regression analysis found a statistically a significant relationship between acute stress reaction after emergency caesarean section and the number of normal delivers at P-value =0.047. This finding is supported by Modarres et al. (2012) who found that women with unplanned caesarean births and primiparous women reported less favorable adaptation than and multiparas women.

An intense fear of birth has been found to be a strong predictor of birth-related ASD (Ayres, 2014, Niegel et al. (2014); Salomonsson et al. (2013); Wijma et al. (2002). For the relationship between acute stress reaction and the fear from childbirth and caesarean section, T-test finding revealed a significant relationship at P-value (0.001), so the participants who had fear from caesarean section (mean=2.03) had more acute stress reaction than the participants who hadn't any fear from caesarean section (mean=1.53). Further, the regression analysis revealed a statistically significant relationships at P-value (0.005). These finding were supported by Gokce et al. 2016, who found a significant relationship between increased fear of birth postpartum and post traumatic stress reaction following childbirth vaginally or by emergency caesarean section; this association was not found when fear of birth was assessed prenatally. Another study conducted by Hollander et al. (2017) found that (49.9%) of the participants had fear for self and the baby during labour vaginally or by cesarean section. Also, Isbir et al. (2016) found a significant relationship between increased fear of birth postpartum and ASD following childbirth; this association was not found when fear of birth was assessed prenatally. In addition, Hofberg et al. (2003) found that about 20-78% of pregnant women reported fears associated with the pregnancy and childbirth, and revealed that more intense fear in nulliparous than in parous

women. The fear from delivery by caesarean section can be explained by the fact that the women were less informed and that procedures were more unexpected. These constructs of fear, distress and unexpectedness all link with the symptoms of ASD (Foa & Rothbaum, 1989; Joseph et al., 1995; Scott & Stradling, 1992).

For example, Ryding et al. (2002) explored the experiences of emergency cesarean section among group of women. He revealed that the feeling of the women after they had arrived at the delivery ward changed from one of confidence and safety to one of fear. The decision to undertake a cesarean section brought a feeling of relief, but this was again replaced by fear as the operation approached. The women's thoughts centered around the impending delivery and operation until after the event, when the newborn baby occupied their attention and happiness predominated. In retrospect, 55% of the women experienced intense fear for their own life or the life of their baby, 8% felt very badly treated by the delivery staff and were angry. These findings were supported by (Hofberg et al. 2000; Beck 2004, Hofberg et al. 2000; Beck, 2004, and Beck and Watson, 2010) and they found that the participants responded to current delivery by fear, terror, anxiety, panic, dread and denial; some to the extent that they experienced psychopathological stress reactions.

In addition, for the relationship between acute stress reaction after emergency caesarean section and high risk pregnancy with a history of medical disease, T-test finding showed a significant relationship at P-value (0.040). So the participants who had high risk pregnancy with history of medical diseases (mean=2.43) had more acute stress reaction after emergency caesarean than the participants who didn't have any medical disease (mean=1.90). In addition, the regression analysis showed a statistically significant relationship at P-value (0.02). These results were supported by a study conducted by Söderquist et al. (2006) which indicated that the history of neurological

disease of mothers was an effective factor for development ASD. Also, Ariadna et.al (2009) revealed that high risk pregnancy and antenatal complications are common and highly distressing events that can lead to development of acute stress reaction. Ross et al. (2006) indicated that preeclampsia has also been associated with risk for ASD and PTSD. This might be because the participants with high risk pregnancy may had more anxiety, more worries and more fear for their life's and baby life , and prenatal anxiety considered one of the risk factors for developing ASD. (Ayres et al. 2014)

6.5. Conclusion:

The current study assessed the prevalence of acute stress disorder after emergency caesarean section among a group of women who attended three major hospitals in Ramallah area (Ramallah Governmental Hospital, Red crescent Hospital, and Arab Care Hospital), who were aged between 15-44 years old. The study findings showed that prevalence of acute stress disorder was 21.2%. This is considered high in comparison with other studies in literature review which may indicate the need for further interventions by mental health professionals and policy makers.

Furthermore, ANOVA, and T-test showed a statistically significant relationship between acute stress disorder and different hospitals, profession, economic status, number of normal deliverers, complications after emergency cesarean section, social support, having problems in the maternity ward, having a history of medical disease, and fear from labour and emergency caesarean section. Complications after emergency cesarean section, social support, health professional relationship, having a history of medical disease, and fear from labour and emergency caesarean section. Finally, the study did not find statistically significant relationships between acute stress disorder and demographic data such as (age group, place of residence, marital status)

parity, number of previous caesarean section, previous psychological problems, and previous traumatic life events

The regression analysis revealed statistically significant relationships between acute stress reaction after emergency caesarean section and independent variables, such as (profession, social support, relationship with health professionals, having a medical disease, fear from emergency caesarean section, and the number of normal deliverers). On other hand, the regression analysis did not find statistically significant relationship between acute stress reaction after emergency caesarean section and independent variables, such as (monthly income, complications after (CS)).

6.6. Section four: Limitations and recommendations:

6.6.1. Limitations:

There are many limitations in the current study. For example, this study utilized a cross sectional design, due to the limitation of the available time and scarcity of resources. This makes it difficult to assess accurately the magnitude of effect exerted by each factor or to differentiate precisely whether the interaction between these factors would be advised or antagonistic. Also, this type of design may have limitations in the generalization of the results to a wider population since it measures both the prevalence of the outcomes and the determinants in a population at a point in time or over a short period of time (Horn et al. 2008). Nevertheless, the cross sectional studies are highly useful for descriptive purposes and it is relatively quick, cheap and easy to undertake (Grove & Burns, 2005; Monsen & Horn, 2008).

Also, the data collection for this study was done by using a self-administered questionnaire. So, the reliability of the results may be affected, since the participants may hesitate to express their points of view or they may describe their own thoughts, feelings or behaviors in a spurious way to please the researcher (Mitchell, 2000). Further, convenience sampling was used to select the women from 3 major hospitals in Ramallah area, and this may limit the generalization of findings to other hospitals in Ramallah area and Palestine.

6.6.2. Recommendations for health and mental health professional:

- Regular assessment of acute stress disorder among women after emergency caesarean section should be done in the initial first month in clinics and hospitals, and health workers should be watchful for the presence of acute stress disorder symptoms.
- Offering antenatal educational classes to increase childbirth self-efficacy in the early prenatal period may help women develop realistic expectations about birth and caesarean section particularly urgent, may decrease prevalence of acute stress disorder.
- Nurses and midwives should help women to feel a greater sense of control in collaboration with the doctors by encouraging them to be involved in the decisions about labour so that the women's psychological and physical wellbeing is supported.
- This study showed that women with ASD following childbirth are more likely to report poor psychological adaptation after birth and increased fear of birth. In this respect, postpartum support and intervention could ameliorate the impact of a traumatic birth on women's adaptation and future pregnancies. Similarly, support for

women with severe ASD following birth by mental health professional could be important to help these women adapt more successfully.

- The community of mental health counselors and professionals should focus on the negative thoughts associated with delivery and urgent caesarean section among women during pregnancy, and after delivery in order to decrease anxiety, and fear from delivery by providing psychotherapy such as cognitive behavior therapy.
- Additional psychological support is required from doctors and nurses in primary antenatal care units and in hospitals for women with high risk for emergency caesarean in order to reduce development of ASD such as women with complications after delivery.
- Doctors and midwives in primary antenatal clinics and hospitals should focus on women with high risk for emergency caesarean section, not only medically but also mentally by giving advice and support during pregnancy, and after delivery in order to decrease development of ASD.

6.6.3. Recommendations for policy maker:

- The Palestinian Ministry Of Health may develop a policy for decreasing the prevalence of caesarean section by screening the rate of elective and emergency caesarean in private and governmental hospitals.
- Policy maker should develop training program to increase the knowledge and awareness of gynecologists, obstetrician, midwives, mental health professional and counselors' about acute stress disorder among women after emergency caesarean section in hospitals, and primary care centers.
- Protocol for regular assessment of acute stress disorder should be integrated prenatally and postnatal among women after emergency caesarean section at hospitals, clinics and should be done by health professional
- Integrate acute stress disorder screening for all women in the maternity ward particularly for women after emergency caesarean section.
- Train doctors, midwives, psychologist, and health care professional particularly about acute stress disorder its and assessment.

6.6.4 Recommendations for further research :

- There is a need for further quantitative study to assess acute stress disorder among women after emergency caesarean section in Governmental and private hospitals in Palestine.
- There is a need for future qualitative study to explore acute stress disorder experience among women after emergency caesarean section and its causes.
- There is a need for future quantitative and qualitative study to explore the factors that affect acute stress disorder among women after emergency caesarean section.
- There is a need for further quantitative study to assess PTSD prevalence after one month of delivery among women who have emergency caesarean section.
- There is a need for qualitative study to explore the reasons of high prevalence of acute stress reaction in Ramallah Governmental Hospital.
- There is need for further quantitative research including other independent variables such Apgar score, weight of the baby, and wanted or unwanted pregnancy.

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Appendix (A)

Acute Stress Disorder Scale (ASDS)

Bryant, R., Moulds, M., & Guthrie, R. (2000). Acute Stress Disorder Scale: A self-report measure of Acute Stress Disorder. *Psychological Assessment*, 12(1), 61 - 68.

Did the experience frighten you? Yes No

Please answer each of these questions about how you have felt since the event. Circle one number next to each question to indicate how you have felt.

1 = *Not at all*

2 = *Mildly*

3 = *Medium*

4 = *Quite a bit*

5 = *Very much*

1. During or after the trauma, did you ever feel numb or distant from your emotions?	1	2	3	4	5
2. During or after the trauma, did you ever feel in a daze?	1	2	3	4	5
3. During or after the trauma, did things around you ever feel unreal or dreamlike?	1	2	3	4	5
4. During or after the trauma, did you ever feel distant from your normal self or like you were watching it happen from outside?	1	2	3	4	5
5. Have you been unable to recall important aspects of the trauma?	1	2	3	4	5
6. Have memories of the trauma kept entering your mind?	1	2	3	4	5
7. Have you had bad dreams or nightmares about the trauma?	1	2	3	4	5
8. Have you felt as if the trauma was about to happen again?	1	2	3	4	5
9. Do you feel very upset when you are reminded of the	1	2	3	4	5

trauma?					
10. Have you tried not to think about the trauma?	1	2	3	4	5
11. Have you tried not to talk about the trauma?	1	2	3	4	5
12. Have you tried to avoid situations or people that remind you of the trauma?	1	2	3	4	5
13. Have you tried not to feel upset or distressed about the trauma?	1	2	3	4	5
14. Have you had trouble sleeping since the trauma?	1	2	3	4	5
15. Have you felt more irritable since the trauma?	1	2	3	4	5
16. Have you had difficulty concentrating since the trauma?	1	2	3	4	5
17. Have you become more alert to danger since the trauma?	1	2	3	4	5
18. Have you become jumpy since the trauma?	1	2	3	4	5
19. When you are reminded of the trauma, do you sweat or tremble or does your heart beat fast?	1	2	3	4	5

استبيان قياس شدة الضغط النفسي الحاد

معلومات اجتماعية عامة

1- العمر (بالسنوات) :

2- مكان السكن:

1- قرية

2- مدينة

3- مخيم

1- الحالة الاجتماعية:

1- متزوجة

2- مطلقة

3- ارملة

4- المستوى التعليمي الذي انهيته :

1- غير متعلمة

2- ابتدائي

3- اعدادي

4- ثانوي

5- جامعي

5- العمل الحالي :

1- -موظفة

2- ربة بيت

3- غير ذلك (اذكريه)

6- مستوى الدخل الشهري :

1- اقل او يساوي 1000 شيقل

2- من 1001 - 2000 شيقل

3- اكثر من 2000 شيقل

4- اكثر من 3000 شيقل

7- عدد الاطفال :

- 8- عدد مرات الولادة الطبيعية.....
- 9- عدد مرات العمليات القيصرية في السابق
- 10- ما هو سبب العملية القيصرية الاخيرة؟.....
- 11- هل حدث معك مضاعفات اثناء الولادة الحاليه ؟
- 1- نعم
- 2- لا
- 12- اذا كان الجواب نعم ما هي هذه المضاعفات
- 13- هل تلقيت الدعم من الزوج، الاقارب، أو الاصدقاء اثناء الولاده بالعملية القيصرية؟
- 1- نعم
- 2- لا
- 14- من هو اكثر شخص قام بدعمك اثناء الولاده بالعملية القيصرية؟.....
- 15- اثناء الولاده هل عانيت من اي مشاكل داخل قسم الولاده ؟
- 1- نعم
- 2- لا
- 16- اذا كان الجواب نعم ما هي هذه المشاكل؟.....
- 17- هل يوجد لديك اي مرض جسدي ؟
- 1- سكري
- 2- سرطان
- 3-امراض قلب
- 4- ربو
- 5- امراض اخرى (اذكرها).....
- 18- هل كان لديك مشاكل نفسية في الماضي ؟
- 1- نعم
- 2- لا
- 19- ذا كان الجواب نعم ما هي هذه المشاكل ؟.....
- 20- هل توجهت إلى العلاج النفسي لحل هذه المشكلة؟

1- نعم

2- لا

21- اذا كانت الاجابه نعم ما هو العلاج النفسي الذي تلقيتته؟

1- دواء

2- جلسات علاج نفسي

3- غير ذلك (أذكره)

22- هل حدثت معك احداث صادمه (أزمات) في الماضي؟

1- نعم

2- لا

23- اذا كان الجواب نعم ما هي هذه الاحداث الصادمه؟

.....
.....

مقياس اضطراب التوتر النفسي الحاد

هل شعرت الخوف بسبب التجربة؟ نعم لا

الرجاء الإجابة على جميع الأسئلة التالية حول مشاعرك منذ تلك الحادثة بوضع دائرة حول الرقم المقابل كل سؤال.

1 = لا مطلقا 2 = بسيط 3 = متوسط 4 = كثير 5 = كثير جدا

- 1 هل انتابك شعور بالخدر أو البعد عن عواطفك أثناء (العملية القيصرية) الصدمة أو بعدها؟
5 4 3 2 1
- 2 هل انتابك الشعور بالذهول أثناء (العملية القيصرية) الصدمة أو بعدها؟
5 4 3 2 1
- 3 هل احسست يوما بان الأشياء من حولك غير واقعية أو خيالية أثناء (العملية القيصرية) الصدمة أو بعدها؟
5 4 3 2 1
- 4 هل شعرت يوما بالبعد عن نفسك العادية أو شعرت بانك تشاهدنيها من الخارج أثناء (العملية القيصرية) الصدمة أو بعدها؟
5 4 3 2 1
- 5 هل عجزت يوما عن تذكر جوانب هامة من الصدمة (العملية القيصرية) ؟
5 4 3 2 1
- 6 هل واصلت ذكريات (العملية القيصرية) الصدمة الدخول الى عقلك؟
5 4 3 2 1
- 7 هل كان لديك أحلام سيئة أو كوابيس عن الصدمة (بعد العملية القيصرية) ؟
5 4 3 2 1
- 8 هل شعرت كما لو ان الصدمة (العملية القيصرية) على وشك الحدوث مرة أخرى؟
5 4 3 2 1
- 9 هل تشعرين بالضيق عندما يذكر احد بالصدمة
5 4 3 2 1

(العملية القيسرية) ؟

- 10 هل حاولت عدم التفكير بالصدمة (العملية القيسرية) ؟ 1 2 3 4 5
- 11 هل حاولت عدم التحدث عن الصدمة (بعد العملية القيسرية) ؟ 1 2 3 4 5
- 12 هل حاولت تجنب المواقف أو الأشخاص الذين يذكرك بالصدمة (بعد العملية القيسرية) ؟ 1 2 3 4 5
- 13 هل حاولت عدم الشعور بالضيق أو الانزعاج حيال الصدمة (بعد العملية القيسرية) ؟ 1 2 3 4 5
- 14 هل لديك مشاكل بالنوم منذ وقوع الصدمة (بعد العملية القيسرية) ؟ 1 2 3 4 5
- 15 هل شعرت بتوتر أكثر منذ وقوع الصدمة (بعد العملية القيسرية) ؟ 1 2 3 4 5
- 16 هل لديك مصاعب في التركيز منذ وقوع الصدمة (بعد العملية القيسرية) ؟ 1 2 3 4 5
- 17 هل اصبحت أشد انتباها للأخطار منذ وقوع الصدمة (بعد العملية القيسرية) ؟ 1 2 3 4 5
- 18 هل اصبحت لديك حركات لا ارادية منذ وقوع الصدمة (العملية القيسرية) ؟ 1 2 3 4 5
- 19 عندما تتذكرين الصدمة (العملية القيسرية) ، هل تعرقين أو ترتعشين أو ينبض قلبك بسرعة؟ 1 2 3 4 5

Appendix (B): The distribution of the participants by the indication for caesarean section:

Indication for emergency Caesarean section	Frequency	Percent%
Previous caesarean in labour	73	22.12%
Breech presentation	55	16.67%
Failure to progress	29	8.79%
Preeclampsia	45	13.64%
Suspected big baby	12	3.64%
Fetal distress	63	19.09%
Uncooperative patient	2	0.61%
Premature labour	5	1.52%
Twins one of them still birth	3	0.91%
Still birth	2	0.61%
Previous one (CS)failure to progress	3	0.91%
Decrease fetal movement	10	3.03%
Epilepsy	2	0.61%
Twins	11	3.33%
Face presentation	1	0.30%
(IVF)	3	0.91%

Placenta previa	3	0.91%
Severe hypotension	1	0.30%
Abruption placenta	1	0.30%
Cord prolapsed	2	0.61%
Upon request	1	0.30%
Missing	3	0.91%
Total	330	100.00%