

**An-Najah National University**

**Faculty of Graduate Studies**

**Anxiety and Depression, and their Associated Factors among  
pregnant women in Palestinian refugee camps - west bank**

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

**2017**

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## **Acknowledgement**

I would like to express my love and gratitude to my family for their support and endless love.

I would like also to thank An- Najah National University, and our faculty of graduate studies . Furthermore thanks go to Dr. Sabrina Russo, the coordinator of our master program, the faculty of nursing represented by Dr. Aida Al Qaisi, and my great thanks to my supervisor Dr. Mariam Al Tell for her assistance and guidance with this paper.

Finally, I would like to thank the team of UNRWA clinics .

## الإقرار

أنا الموقعة أدناه مقدمة الرسالة التي تحمل العنوان :

### **Anxiety and Depression, and their Associated Factors among Pregnant Women**

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

### **Declaration**

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

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**Date:**

التاريخ:

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**List of abbreviation**

AAS Antepartum anxiety symptoms

ADS Antepartum depressive symptoms

UNRWA United Nations Relief and Works Agency for Palestine Refugees  
in the Near East

WHO World Health Organization

IRB Institutional review board

**Anxiety and Depression, and their Associated Factors among pregnant  
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**Abstract**

Pregnancy is a time of physical and mental health changes that can include feelings of joy and hope. However, pregnancy can also be a stressful period featuring increase prevalence of anxiety and depression.

— **The aim** of the study : is to find out the prevalence rate of depression and anxiety among pregnant women and the related associated factors during the period of study

**Method:** A Quantitative descriptive approach was adopted to conduct the study and data was collected during two months from end of April until end of June in (2016) from antenatal clinics in 9 refugee camps in the West Bank. The sample consisted of (327) pregnant women, who were selected through random sampling, (GAD-7) used to measure the level of anxiety, and depression (PHQ-9) Depression Scale.

**Results:** Results showed that prevalence of depression among pregnant women was high (59.5%) (n=194) of pregnant women reported various degree of depression as follows: (34%) (n=111) of women reporting mild

depression, (17.2%) (n=56) moderate depression, (6.1%) (n=20) moderate to severe depression, and (2.1%) (n=7) severe depression.

The prevalence of anxiety was also high in comparison to a global result, (60.1 %)(n=196) of pregnant women had different degree of anxiety as follows : mild anxiety according to scales was (30.7%) (n=100), moderate anxiety (17.5%) (n=57), and severe anxiety was (12%) (n=39).

**Conclusion:** Anxiety and depression during pregnancy are major health problems among reproductive aged women. Findings suggest the need for assessment of the risk for prenatal anxiety and symptoms of depression during each antenatal visit and to take measures immediately to prevent and manage them. The findings also suggest a need to study depression and anxiety in more detail by qualitative research.

# **Chapter one**

## **1.1 Introduction**

Depression and anxiety are common psychological health problem across the world whose consequences include poor functioning and unhappiness in individuals (Calık et al., 2013).

Psychiatric problems during pregnancy are a public health concern. The World Health Organization (WHO, 2008) listed depression as one of the most burdensome diseases globally. Researchers at the WHO predict that depression will be in the top causes of morbidity by year (2030) (WHO, 2008). Depression is common during pregnancy with studies showing that (18.4%) of mothers reported having experienced symptoms of depression during pregnancy, and ( 12.7%) reported a major depressive episode (Gavin et al., 2005). In addition, assessments of the occurrence of anxiety disorders during pregnancy range from (12.2%) to (39%). Panic disorder and obsessive-compulsive disorder are three times more likely to occur in pregnant women while generalized anxiety disorder and anxiety disorder due to medical condition were found to be twice as likely during pregnancy than in the general population (Adewuya et al., 2006), (Goodman et al. 2014).

Anxiety and depression in pregnancy are both under-diagnosed and under-treated, (Bowen & Muhajarine, 2006). Co-morbidity of anxiety and depression is a critical condition because the consequences of co-morbid

anxiety and depression on neonates have been found to be more severe than either condition alone (Field et al., 2010).

The risks related to anxiety and depression in pregnant women cannot be ignored as they include significant costs to fetal neurodevelopment and childhood outcomes (Dunkel & Tanner, 2012).

Complications in pregnancy such as preeclampsia, preterm delivery and operative deliveries are also linked to antenatal depression (Kurki et al., 2000). Anxiety and depression during pregnancy have long-term risk effects on the cognitive and emotional health of their children and are linked to physical disorders such as asthma and coronary disease (Shahhosseini et al., 2015). The children of mothers with reported anxiety during pregnancy have also been found to be (1.39) times more likely to experience co-morbid anxiety and depression by the age of (18). (Capron et al., 2015).

Anxiety may innately intensify during pregnancy, with parents reporting feelings of fear of labor (Delmore et al., 2000) and a small increase in maternal antenatal anxiety and stress has been suggested as being advantageous for child development (DiPietro et al., 2013).

Studies on antenatal depression and anxiety among pregnant women in developing countries are limited in number. WHO (2002), estimated that depressive disorders will be the second leading cause of disease burden by (2020) globally.

Anxiety and depression during pregnancy impact a mother's current and future well-being and also may adversely impact her children's mental and physical health during the stage of growth and development as well as the well being of future generations (Kieling et al., 2011). Antenatal depression and depression post-partum may have both short and long-term effects on infants and children (Kleiber & Dimidjian., 2014).

## **1.2 Background**

Discusses in general the main psychological problems that this study aims to investigate in pregnant woman including definition of the issues in general and how they specifically relate to pregnancy as well as their prevalence.

## **1.3 Anxiety and depression**

### **1.3.1 Anxiety**

Generalized Anxiety Disorder “Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance), the individual finds it difficult to control the worry, the anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms having been present for more days than not for the past 6 months): Note: Only one item required in children.

1. Restlessness, feeling keyed up or on edge.
2. Being easily fatigued.
3. Difficulty concentrating or mind going blank.
4. Irritability.
5. Muscle

tension. 6. Sleep disturbance (difficulty falling or staying asleep, or restless, unsatisfying sleep).” Diagnostic and Statistical Manual of Mental Disorders (DSM, 2013)

Sapolsky (2004) made a connection between anxiety and stress, in a study in which the researchers prepared the participant to expect a stressful event and found that their reaction to a stressful event induced physiological symptoms such as increased heart rate and an increase in the stress hormones, epinephrine and cortisol. These results are called adaptive symptoms and help body to notice, prepare for, predict, and plan for future interaction with stressors. However, studies have found that substantial levels of anxiety can negatively impact the well-being of an individual. Significant anxiety levels were found to be associated with lower cognitive performance, can distort perceptions time and space, and can impair learning (Kring et al., 2007).

Diagnosis of an anxiety disorder depends on the severity, frequency, and impairment. Generalized Anxiety Disorder is one specific anxiety disorder. Generalized Anxiety Disorder is a chronic psychological disorder, featuring excessive anxiety and worry concerning a wide range of activities or events and which may cause significant distress and impairment to daily life (Kring et al., 2007). Given the pervasive nature of Generalized Anxiety Disorder, it unsurprisingly has come to be seen as trait anxiety (Carr & McNulty, 2006). Anxiety and stress are linked directly to pregnancy and may be experienced by both pregnant women and partners.



### 1.3.2 Antenatal anxiety

Anxiety and worry are common human experiences and it has been found that nearly all new mothers will experience anxiety. This can manifest as physical symptoms such as an elevated heart rate, behavioral response, and/or impacting a person's thought process such as thoughts of infant health or labor (Kleiman & Wenzel, 2011).

Historically, psychologists have treated anxiety as an internal signal that serves to protect by alerting to potential danger and initiate a response (Kleiman & Wenzel, 2011). The fight or flight response associated with anxiety is generally considered to be a innate reaction to hostile triggers, and can be understood as an adaptive, primal instinct which is fundamental to our survival (Craske & Barlow, 2006). Barlow (2002) refers to anxiety as "*the shadow of intelligence*" and suggests that when used successfully, anxiety assists in avoiding threats or harm.

Differentiating between natural anxiety and anxiety levels that indicate a more serious anxiety disorder can prove difficult (Kleiman & Wenzel, 2011). Wenzel (2011) suggested a certain level of anxiety during pregnancy is typical and may motivate women to seek a better understanding about the source of their anxiety in addition to learning ways to care for themselves and their unborn children and preparing for the future. However, anxiety turns to be problematic when it encroaches on a significant proportion of a woman's life, inhibiting her ability to fulfill major responsibilities and hindering her capacity for self-care. White, Ross,

et al (2005) suggested that pregnancy can impact a woman's ability to maintain life balance as a result of the biochemical and physical changes that occur with pregnancy, and so these changes challenge woman's biological and mental systems , which might be usually beneficial as the body prepares for childbearing , or compounding issues such as a pre-existing illness with the additional stress of pregnancy can be more difficult to manage ( Ross., et al 2005). Most researchers and clinicians agree that changes in mood, including periods of depression and anxiety, during pregnancy are caused by a combination of biological and psychosocial influences (Fox. et al 2009).

It is essential to recognize and manage pregnancy-related worry or anxiety at its onset as left untreated, it increases the likelihood of the development of more severe anxiety or an anxiety disorder in the postnatal period, such as Obsessive Compulsive Disorder or Generalized Anxiety Disorder (Wenzel, 2011).

Furthermore, higher than average levels of anxiety during pregnancy has been connected to negative expectations of motherhood and difficulties adapting to its demands, as well as the development of other types of distress, particularly postnatal depression (Khan, el 2010). Postnatal depression alters the interaction and attachment between mother (and sometimes father) and baby, which can have a substantial influence on the childhood development , it has been shown that children of women with postnatal depression have an elevated risk of developing depression,

emotional and antisocial disorders, as well as deficiencies in cognitive, motor, and social development (Khan et al., 2010).

The mother's psychological health during pregnancy is associated with fetal neurological and behavioral performance, infants with difficult temperaments, developmental delays, and other emotional and behavioral problems in children (Grant et al., 2008).

### **1.3.3 Depression**

Major depressive disorder “ characterized by discrete episodes of at least 2 weeks’ duration (although most episodes last considerably longer) with at least one of two symptoms, either depressed mood or loss of interest or pleasure, and involving changes in affect, cognition, and neurovegetative functioning. While the diagnosis can be based on a single episode, in general the disorder is a recurrent one associated with interepisode remissions in the majority of cases ”. ( Diagnostic and Statistical Manual of Mental Disorders ( DSM -7 , 2013).

### **1.3.4 Antenatal depression**

Antenatal depression is a category of depression that occurs during pregnancy (Milgrom & Gemmill, 2014). Depression is the most common psychiatric disorder during pregnancy with (14.2%) of pregnant women reporting symptoms of depression (Kieling et al., 2011). However according to Nunes & Phipps., 2013, there is robust evidence suggesting that pregnancy is a vulnerable stage for women in which many hormonal and

physical changes occur. Antenatal depression risk factors include limited emotional support, significant stress, weight, gender of infant, stress caused by infant abnormalities, apprehension about labor related pain, maternal substance use and trauma. While these factors are associated with the onset of depression, they are limited to the label of risk factors, as no direct cause is known (Nunes & Phipps, 2013).

Expectant mothers experiencing depression report emotional distress, sleep disturbances, fatigue and diminished concentration. These symptoms have been shown to have a substantial adverse impact on mental and physical health of mothers as well as on the well-being and health of their baby, particularly if these symptoms were persistent and untreated (Ross et al., 2005).

## **1.4 Prevalence of anxiety and depression**

- **Prevalence of depression in developed and developing countries**

Prevalence of prenatal depression is estimated to be (10–15%) in developed nations and (19–25%) in developing countries (NICE, 2009).

- **International prevalence of depression and anxiety**

In Brazil, depression was reported by (15%) of pregnant women in the study and was found to be more common during the second trimester of pregnancy. (Monica et al., 2016)

In New Zealand, of individuals diagnosed with any mood disorder, (49.6%) also reported an anxiety disorder (Oakley-Brown, et al, 2006). Anxiety and depressive disorders are widespread in both men and women and are frequently co-morbid. In their study of middle-aged twins, (Wetherell et al., 2001) reported a high correlation of ( $r=.84$ ) between anxiety and depression. There are no studies on anxiety and depression during pregnancy that focus on Palestine.

Gourountiel (2015), conducted a study in Greece in which they examined the prevalence of anxiety and depression in low-risk pregnant women. The study concluded that about (50%) of pregnant women experienced symptoms of depression.

- **Prevalence of antenatal depression in Arab countries**

Al-Azri (2016) conducted a study in Oman on antenatal depression finding that (24%) of women reported symptoms.

- **Prevalence of depression and anxiety in Palestine**

No previous studies conducted among Palestinian pregnant women

## **1.5 Problem statement**

Pregnancy is a vulnerable stage for many women for various reasons, like changes in her body, hormonal changes, worry about fetus sex, or from abnormality in the fetus, and afraid from labor pain or cesarean delivery . As noticed from my experience as a midwife working

with pregnant women, at both hospitals and primary health care centers pregnant women are at an increased risk to become depressed and anxious during pregnancy due to up mentioned changes, and if the symptoms of the depression and anxiety are not detected at early stages and treated they may lead to more complications.

More over and according to my information there were no researches conducted in Palestine in these issues anxiety and depression among pregnant women, and just few studies about this topic conducted at Arab countries

## **1.6 Significant of study**

This study can be utilized by health care practitioners to aid in screening for depression and anxiety during pregnancy, as a guide to early detection during pregnancy to prevent unfavorable prognosis.

Thus the results of this study might assist the ministry of health to develop policies to ensure the holistic care of women considering psychological health as well as physical health during pregnancy.

The most significant outcome of this thesis will be to offer health care professionals, particularly local practitioners, vital information concerning the needs of pregnant women.

### **1.7 Aim of the study**

Aimed at identifying the prevalence rate of depression and anxiety among pregnant women and the related associated factors during the period of study

### **1.8 The objectives of this research study were to**

1. To determine the prevalence of depression among
2. To determine the prevalence of anxiety among pregnant women during the period of study.
3. To identify associated factors for depression during pregnancy.
4. To identify associated factors for anxiety during pregnancy.

### **1.9 Research questions**

1. What is the prevalence of depression among pregnant women during the period of study?
2. What is the prevalence of anxiety among pregnant women during the period of study?
3. What factors are associated with depression during pregnancy?
4. What factors are associated with anxiety during pregnancy?

### **1.10 Hypothesis**

1. There is a relationship between depression and number of gravidity?
2. There is a relationship between anxiety and number of gravidity ?
3. There is a relationship between depression and number of parity?
4. There is a relationship between anxiety and number of parity?
5. There is a relationship between presence of supportive person for pregnant women and depression?
6. There is a relationship between presence of supportive person for pregnant women and anxiety?
7. There is a relationship between exposure to violence from husband and depression among pregnant women?
8. There is a relationship between exposure to violence from husband and anxiety among pregnant women?



## **Chapter two**

### **2.1 Literature review**

### **2.2 Introduction**

This chapter reviewed the literature and studies related to the topics addressed in this research; anxiety, depression and associated factors among pregnant women.

Women are more prone to experience depression during pregnancy than at other stages in their life, likely due to their altered hormonal state, the prevalence of major antenatal depression ranging from (10%) to (19%), depending on the population studied and the stage in pregnancy (Bennett et al, 2008).

Pregnancy anxiety has been investigated via self-report instruments that used questionnaire designs that were developed explicitly to capture anxiety and depression in pregnancy. There are at least (15) different pregnancy-specific stress and anxiety metrics in the literature (Alderdice, Lynn, & Lobel, 2012).

In general, anxiety is classified as mood disorder characterized by an unpleasant feeling, more specifically the symptoms of anxiety typically involve subjective feelings fear along with the physical symptoms such as palpitations of the heart and tension (Weiten, 2004). A response to stress prompts many physical responses, such as tachycardia and increased adrenaline, noradrenalin and cortisol. These physical symptoms may be

adaptive, helping us to notice and plan for threats in the future. However, a high level of anxiety will negatively affect all aspects of bodily well being. It has been found that high levels of anxiety can decrease cognitive performance, alter individual perceptions, and can alter learning abilities (Kring, 2007).

Depression can be incapacitating to the point where the depressive individual can no longer function in daily life , absence from employment or school is commonplace, for a severely depressed individual often does not have enough strength or incentive to get out of bed. Many depressives will describe his or her disorder as feeling like having a large and heavy weight on him or her. Frequently that substantial weight is an accumulation of stressors (Beck, 1998).

Depression prevents creativity, functionality, happiness, reduces quality of life, and leads to loss of employment, and alters satisfaction felt by the depressive (Aktas, 2015). Physically, depression causes sluggishness, speech is often noticeably slow, and motor skills are delayed (Comer, 1992). Depression may additionally have other physical symptoms that include headaches or other complaints that have no medical explanation. Depression also affects cognitive performance such as causing confusion, impairing decision-making and memory (Schwartz 1992).

Depression among the mental health problems that occur in pregnant women. Depression is a critical issue that should be carefully managed and treated. Diagnosis and treatment of depression should commence early

because it has an adverse effect on the wellbeing of the pregnant women, which could pave the way for postpartum depression and increases the risk for a suicide attempt (Sahsivar, 2008)

A systemic review study denoted that the unemployed, poor, the physically impaired, young individuals, teenagers, and women are more likely to develop depression than the general population, with women being twice as likely than men to develop depression (Apaydin el , 2016).

Woelfel (1986) found that females are more likely than males to seek psychologists and psychiatrists. The study also found that women are more likely to be diagnosed with depression than men, as depression may be an extension of the stereotype that women are weaker.

Depression and anxiety in pregnancy are not only dangerous for the pregnant woman, but can have substantial impacts on birth outcomes. Depressive and anxiety disorders during pregnancy have been significantly related with premature contractions, planned cesarean deliveries , longer labor period and preeclampsia . (Andersson et al., 2004).

Children of depressive mothers may also experience stunted cognitive development, emotional issues and difficulty concentrating, irritability, weak interaction between mother and child and fear in dealing with life events is common, children of anxious mothers have also been found to be at an increased risk for serious illness, such as shortness of breath, asthma and coronary disease, during different life phases (Shahhosseini et al., 2015).

## 2.3 Studies in Asia

Lee (2009) conducted a study in Hong Kong that aimed to determine the prevalence of antenatal anxiety and depression through the various phases of pregnancy, risk factors that present at each stage, and the connection between prenatal depression and anxiety and postpartum depression. The study found that younger women, those who were pregnant for the first time, and those with a history of smoking were ( 2.33) times more likely to have antenatal anxiety. Also women with less education had significantly higher antenatal anxiety and depression.

Niloufer (2012) conducted a study in tertiary hospital in Pakistan that aimed to establish the occurrence of antepartum anxiety and/or depression amongst pregnant women. The results show that about (70%) of pregnant women were having either anxiety and/or depression.

A study by Kang (2016) in China was aimed at assessing the rate of antenatal anxiety and the associated factors among pregnant women. The results revealed that anemia, pregnancy hypertension, general life dissatisfaction, a low level of education, and expectation of a normal delivery were the risk factors for anxiety among pregnant women.

Study in Navi Mumbai, India, were aimed to assess the prevalence of antenatal depression and its associated obstetric risk factors among pregnant women who routinely attended an antenatal healthcare clinic. The results indicated that the overall prevalence of antenatal depression was 9.18%, and it was significantly linked to many obstetric risk factors like

unplanned pregnancy, gravidity, history of abortions, and pregnancy complications, both contemporary and historical. (Ajinkya et al., 2013)

A study by Girija, et al (2015) in India aimed to determine the prevalence of antenatal anxiety and its associated factors among pregnant women in each trimester of pregnancy, the progression of anxiety in pregnancy and factors related to it. The results found the highest rate of antenatal anxiety in the third trimester of pregnancy. Women reported high levels of anxiety about birth in the third trimester compared to the other specific concerns of pregnancy addressed, The study also identified age, women in their first pregnancy and familial structure as the most common risk factors of antenatal anxiety.

## **2.4 Studies in Islamic countries**

A study by Karmaliani (2009), in Pakistan aimed to determine the prevalence of depression, anxiety and associated factors among pregnant women in the country. The result showed the highest prevalence in women experiencing physical, sexual and verbal abuse as well as unemployed women and those with lower socio-economic status.

Study in Malaysia aimed at documenting the prevalence and associated risk factors with anxiety, depression, and stress in pregnancy, 299 women were assessed. It was found that the most widespread psychological problems in pregnancy were anxiety (18.8%), depression (6.9%), and stress (4.2%). The study also found that the prevalence of

antenatal anxiety, depression, and stress was 23.6% in the second trimester and 24.7% in third trimester. (Nagandla et al., 2017)

Karacam (2009) descriptive, correlation study in Turkey, which was aimed at determining the prevalence of depression during pregnancy and the risk factors associated with it, found that women are more likely to develop depression in the antenatal period than at other stages of their life, likely because of change in hormonal state.

A study in Turkey in (2008) aimed at assessing the factors that increase the risk of antenatal depression found that the most significant factors were a history of depression, the lower age, low social status and low economic status, exposure to any type of violence either before or during pregnancy, conflict with partner, loneliness, history of abortion, unwanted pregnancies, false ideas about pregnancy, higher number of children, and the absence of support from a partner and/or others (Marakoglu et al., 2008).

According to Hamid's (2008) study in Pakistan, which focused on antenatal anxiety and depression, of pregnant women receiving antenatal care, the rate of antenatal depression ranged from ( 30-70) percent.

## **2.5 Study in Africa**

According to Thompson's (2016) study in Nigeria focusing on the prevalence of depression in pregnancy and associated risk factors in women attending antenatal clinic for routine checkups, the prevalence of

antenatal depression was ( 24.5%) of all pregnant women. It was found to be higher in the first trimester and progress to be slightly lower with second and third trimesters. Various predictors of and risk factors for depression in pregnancy were identified such as attending antenatal care in public facilities, gender based abuse or violence, alcohol use during pregnancy, lower age, pregnancy outside marriage, unwanted pregnancy, lower educational level, history of previous cesarean, preexisting medical conditions, large family size and a large number of children.

## **2.6 Studies in Europe**

According Gourountiel's (2015) study, in Greece investigating the prevalence of anxiety and depression in low risk pregnant women approximately half of pregnant women experienced some symptoms of depression and the majority of pregnant women experience anxiety during pregnancy. These experiences not only affect the woman's wellbeing but also that of her baby. This study also showed that health care professionals, obstetricians, and midwives who deliver care who can recognize the signs and symptoms of depression and anxiety among pregnant women and can help to identify them and implement early treatment.

Upadhyaya's (2016) study in Finland focusing on links between antenatal anxiety and depression using the Edinburgh Postnatal Depression Scale found ( 22%) of pregnant women had anxiety only and (7.2%) had both anxiety and depression. A multivariate model adjusted for maternal age, maternal gestational diabetes, weight before and after pregnancy,

relationship with partner, and smoking before pregnancy. This model showed that larger head circumference at birth was associated with an increased likelihood of experiencing combined anxiety and depression (OR=1.239, 95% CI=, 1.034-1.484, P=0.020) during the third trimester of pregnancy.

Evans (2001) in the UK study mothers' mood through pregnancy and after childbirth and compared the described symptoms of depression at each stage, using Edinburgh postnatal depression scale at 18 and 32 weeks of pregnancy and at 8 weeks and 8 months postpartum. The result indicated that proportion of women above threshold indication probable depressive disorder and depression scores were higher at 32 weeks of pregnancy than 8 weeks postpartum.

Capron et al (2015) conducted across sectional study in the United Kingdom, about prevalence of anxiety in pregnant women was assessed using the Prenatal Anxiety Screening Scale (PASS). The study consisted of (146) pregnant women chosen by convenience sampling method and the results showed that the age of the study population was  $(22.52 \pm 3.04)$  years old, majority were housewives and (43.2) percent were in the third trimester. Of the (146) pregnant women, (22.6) percent of women screened had anxiety. This rate increased for women who experienced their first pregnancy, low parity, and/or previous miscarriage. According to the result, the study recommended highlighting the importance of routine screening for antenatal anxiety during routine checkups.



## **2.7 Studies in USA**

A review study by Field et al (2003) in United States showed a strong relationship between rates of depression and social support during pregnancy with inadequate social support adversely affecting the mental health of the pregnant woman which, in turn, lead to poor eating habits as well as an increase in tobacco, alcohol, and drug use and all of which negatively affect quality of life (Field et al, 2003).

## **2.8 Studies in Australia**

A study conducted by Leigh & Milgrom (2008), focused on explaining which of some previously recognized risk factors are most prognostic of three results: antenatal depression, postnatal depression and parenting stress and the relationship between them. Reactive depression is depression that is triggered “in reaction to” a peripheral incident or circumstance , it is a state of depression that individuals experience in reaction to a major stressor such as a break up or divorce, death of a the same study family member, workplace harassment, or other psychosocial events that cause an individual to respond in a state of depression, such events are referred to as triggers and, because everyone is different, a single stressful event may cause someone to develop depression while another person may not have as severe of a reaction (Leigh & Milgrom.,2008).

## **2.9 Studies in South America**

In research by Coll et al (2017), which aimed of to evaluate the prevalence of and identify risk factors for antenatal depression among Brazilian women , quantitative, descriptive and cross-sectional study was conducted with (219) women in the Alfenas, Brazil , among women studied, (14.8 %) reported having symptoms of depression, a prevalence that increased in the second trimester of pregnancy , and study founded that depression was significantly associated with number of pregnancies, births and children, partner and family support, tobacco use, drug use, history of mental health issues, and history of violence .

According to a study conducted in (2009) in São Paulo, Brazil aimed at assessing the prevalence of common mental disorders among pregnant women, Faisal et al found that obstetric complications, lack of friends in the community, living in a crowded house, lower employment status, and history of previous mental disorders were associated with common mental disorders in Brazil.

## **Chapter three**

### **3.1 Research Methodology**

### **3.2 Introduction**

This chapter describes the methods and techniques used by the researcher including: study design, description of the sample of the study, and the formulation of the study tool, including validity and reliability measures. In addition the chapter includes a description of the procedures used by the researcher in implementing the study and a discussion of the statistical management used in data analysis.

### **3.3 Study design**

A quantitative, cross sectional, descriptive design was used to achieve the aim of study to determine the prevalence of depression and anxiety among pregnant women and associated factors in refugee camps in the West Bank/Palestine.

### **3.4 Study Site and Setting:**

This study was conducted at all UNRWA primary health care centers in three major cities (Nablus, Ramallah, and Hebron), which represent the north, middle and south of West Bank respectively. The data was collected from the following nine camps (Old Askar, New Askar, Balata, Camp No.1, Al Amari, Al Jalazone, Deer Ammar, Al Fawar, and Al Aroub camp).Collected from UNWA clinic due to more commitment pregnant

women in their clinics than other clinics which will be more representative sample, and large number of pregnant women follow in camps antenatal clinics .

### **3.5 Sample and sampling method**

#### **3. 5.1 Population size**

The population of this study consisted of pregnant women who registered at UNRWA antenatal clinics in West Bank refugee camps in 2016. The number of pregnant women registered in all UNRWA antenatal camps clinics in three major cities (Nablus, Ramallah, and Hebron) totaled (2166). Distribution of population number according to each city and camps documented in Table (3.1).

**Table (3.1): distribution of population number according to the city and camps.**

<b>Area</b>	<b>Nablus</b>				<b>Ramallah</b>			<b>Hebron</b>		<b>Total</b>
<b>Population/ city</b>	1098				643			425		2166
<b>Population /Camps</b>	Asker new	Asker old	Camp No1	Balata Camp	Alamari	Aljalazone	Deer Ammar	Al Aruba	Al Fawar	
	<b>87</b>	<b>267</b>	<b>268</b>	<b>476</b>	<b>345</b>	<b>246</b>	<b>52</b>	<b>209</b>	<b>216</b>	2166
<b>Sample size</b>	13	40	40.5	72	52	37	8	31.5	33	327
	165.5				97			64.5		327

### 3.5.2 Sampling and sample size

The sample size was determined to be (327), Sample size participate 326 pregnant women instead of 327, one of them missed.

The sample size was determined to be (327) according to the following equation with (95%) confidence level and (5%) margin error and (50%) response distribution.

$$n = \frac{X^2 * N * P * (1-P)}{(ME^2 * (N-1)) + (X^2 * P * (1-P))}$$

n = sample size

$X^2$  = chi-square for the specified confidence level at 1 degree of freedom

N= Population size

P = population proportion (.50)

ME=desired Margin of Error (expressed as a proportion)

The stratified sampling method was applied utilizing the proportional method to determine the sample size for each city and camp as per table (3.1) and the simple random method (every other women) was used to collect the data from each camp.

### 3.6 Inclusion criteria

- Pregnant women within the age group sixteen years old and above
- follow up at UNRWA camps clinics
- Spontaneous pregnancy

### **3.7 Exclusion criteria**

- Diagnosed previously with depression or anxiety or any other mental illness.

### **3.8 Data Collection Tool**

A self-administered questionnaire was used to collect the data, which composed of three sections (Annex 1):

The first section consisted of 6 parts, which were developed based on a review of existing literature (demographic data, obstetric history, complications during pregnancy, stressful life events during pregnancy, exposure to violence from husbands, and presence of supportive persons)

The second section utilized the “Generalized Anxiety Disorder 7-Item Scale” which was developed by Spitzer, Kroenke, and Lowe (2006) to assess generalized anxiety disorder. The scale consists of 7 items:

1. Feeling nervous, anxious, or on edge
2. Not being able to stop or control worrying
3. Worrying too much about different things
4. Trouble relaxing
5. Being so restless that it is hard to sit still
6. Becoming easily annoyed or irritable

## 7. Feeling afraid as if something awful might happen

These items are then associated with one of 4 Likert scale choices ranging from “not at all” to “nearly every day” and calculated by assigning scores of 0, 1, 2, and 3, to the response categories, with the total scores range from 0 to 21 , like documented in table (3.3).

The third section used the PHQ-9: A New Depression Diagnostic and Severity Measure, The PHQ-9 is the 9-item depression module from the full PHQ, It composed of 9 items as follows:

1. Little interest or pleasure in doing things
2. Feeling down, depressed or hopeless
3. Trouble falling asleep, staying asleep, or sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself - or that you're a failure or have let yourself or your family down
7. Trouble concentrating on things, such as reading the newspaper or watching television
8. Moving or speaking so slowly that other people could have noticed. Or, the opposite being so fidgety or restless that you have been moving around a lot more than usual



9. Thoughts that you would be better off dead or of hurting yourself in some way

Each of these choices is then associated with 4 selections ranged from “not at all” to “nearly every day”, with total score ranging from ( 0 to 27) like documented in table ( 3.2) . ( Kroenke , Spitzer ; 2002)

**Table (3.2): Depression Diagnostic and Severity Measure.**

<b>PHQ-9 Score</b>	<b>Depression severity</b>	<b>Proposed treatment action</b>
0-4	None	None
5-9	Mild	Watchful waiting, repeat PHQ-9 at follow up
10-14	Moderate	Treatment plan, considering counseling follow up and or pharmacotherapy
15-19	Moderate to Severe	Immediate initiation of pharmacotherapy and/ or psychotherapy
20-27	Severe	Immediate initiation of pharmacotherapy and, if severe impairment or poor response to therapy, expedited referral to mental health specialist, to psychotherapy and / or collaborative management

PHQ-9 Scores and Proposed Treatment Actions \* From Kroenke K, Spitzer RL, Psychiatric Annals 2002;32:509-521.

### **3.9 Validity and Reliability**

A translator translated the data collection tools to Arabic, then translated again by another translator to English , and they are available in Arabic version at internet and no need to take permission from author to use it or copy or translation ,and comparing between available Arabic present in internet with form was translated was the same ward and meaning .

Patient Health Questionnaire (PHQ) tool valid and reliable in previous studies , was used in two large studies enrolling 6000 patients (3000 from general internal medicine and family practice clinics and 3000 from obstetrics-gynecology clinics), a self-administered version of the PRIME-MD called the Patient Health Questionnaire (PHQ) was developed and validated. In the past decade, the PHQ in general and the PHQ-9 depression scale in particular have gained increasing use in both research and practice. The original PRIME-MD is now largely of historical interest and seldom used except in a few types of research studies. Given the popularity of the PHQ-9 for assessing and monitoring depression severity, a new 7-item anxiety scale using a response set similar to the PHQ-9 was initially developed to diagnose generalized anxiety disorder (hence its name, the GAD-7) and validated in 2740 primary care patients. (manual instructions for Patient Health Questionnaire (PHQ) and GAD-7 measure)

Content validity was used, by doing pilot study in (5%) (n=17) of pregnant women in two camps in Nablus city old and new asker camps antenatal clinic and during set with each pregnant women I asked them : how you saw data collection tool ? it's clear ? it's easy ? proper for our culture ? its long or not?, pregnant women filled data collection tool by them self-administered and each one alone and in private room and if anyone want to ask question was read like it without explain , all of them said its clear, easy, proper to our culture ,not long.

and finally the tool was reviewed by an expert clinical psychologist and psychotherapist, and two mental health PhDs from An Najah National University to ensure the relevance of questionnaire to subject under study.

### **3.10 Pilot Study**

A pilot study was conducted on ( 5%) of the sample size, (n=17) of pregnant women in two camps in Nablus city old and new asker camps antenatal clinic , and it was excluded from sample size. It was conducted to determine the clarity of the questionnaire and to estimate the time necessary for the data collection.

The reliability scale (Alpha Cronbach) for the depression scale and the anxiety scale were computed, with a result of was (0.83) for the depression scale, and (0.90) for the anxiety scale.

The Pearson Correlation Coefficients of both depression and anxiety scales and their total levels were computed to assess the validity of the scale. The correlation coefficient was (0.92) between the depression scale and the total level, and (0.96) between the anxiety scale and the total level. These values indicate that these sections are acceptably valid.

### **3.11 Field Work**

After getting the approval from UNRWA, several visits were conducted in which the aim and objectives of study were explained to the supervisor of the clinics.

The data was collected over the span of two months from end of April to end of June, 2016 during the duty UNRWA camps clinics, from Monday to Saturday.

The study purpose was explained by myself in Nablus and Ramallah camps to each pregnant woman . In Hebron camps clinics, midwives who worked there were trained , each one of pregnant women consented to participate before starting to fill in the data collection tool. The data collection tool was distributed and taken by my self (researcher) in nablus and ramallah . In Hebron camps clinics , midwives who worked there were trained to collect data and I follow up the camps clinics in hebron every week to assess the progress process of data collection. A list of file number for each pregnant women was written in separate paper and saved in order to avoid repeating the same pregnant woman more than once.

### **3.12 Ethical considerations and accessibility**

The study follows the World Medical Association Declaration of Helsinki Ethical Principles for Medical Research on Humans (World Medical Association, 2013). The study also gained IRB approval from An Najah National University (Annex 2). Permission to access the clinics from UNRWA was obtained from the head office (Annex 3).

A consent form with data collection tool (Annex 1) was used to ensure the informed consent of pregnant women participating in the study after a full verbal explanation about confidentiality and their right to withdraw at any time during the completion of the questionnaire.

### **3.13 Statistical methods and data analysis**

After completing data collection, the researcher digitally coded the data and conducted statistical analysis using the Statistical Package for Social Science (SPSS). The participants' responses were converted to the 4-Likert scale by recoding the answers to numeric values. The recoding was conducted as follows: three points were given for 'nearly every day' answers, two points were given for 'more than half the days' answers, one point was given for 'several days', and zero points were given for 'not at all' answers. Additionally for yes or no questions, the answers 'yes' recoded to two points and 'no' to one point.

The statistical analyses were performed by the SPSS software.

Statistical measures calculated were:

1. Frequencies and percentages used for sociodemographic data, obstetric history, complications during pregnancy, stressful life events during pregnancy, exposure to violence from husbands, and presence of supportive persons, Pregnant women with Generalized Anxiety Disorder according to (GAD -7) scale , and pregnant women with depression according to (PHQ-9) scale.
2. Chronbach alpha coefficient to calculate the reliability of data collection tool.

3. Chi square-test were used to test the differences between anxiety and depression among pregnant women. A P-value  $\leq 0.05$  was considered statistically significant in the analysis of the data.
4. Cross tabulation was used to analyzing the relationship between two category variables, which have been organized in tables.

### **3.14 Independent Variables in this study**

number of parity, number of gravity, presence of supportive person for her, and exposure to any type of violence from her husband during current pregnancy .

### **3.15 Dependent variables in this study**

Anxiety and depression during pregnancy.

### **3.16 Conceptual definition of the Key Terms**

Pregnancy: The state of women who conceived and passed through the physiological state before childbirth; and the period is divided into first, second and third trimesters (Cox et al., 1987).

Antenatal care : Antenatal care is the routine health control of presumed healthy pregnant women without symptoms (screening), in order to diagnose diseases or complicating obstetric conditions without symptoms , and to provide information about lifestyle, pregnancy and delivery (NICE, 2010).

**Table (3.3): conceptual and operational definition.**

Variables	Conceptual definitions	Operational definition	
Anxiety (Generalized Anxiety Disorder )	Generalized Anxiety Disorder “Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance) ,he individual finds it difficult to control the worry , the anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms having been present for more days than not for the past 6 months): Note: Only one item required in children. 1. Restlessness, feeling keyed up or on edge. 2. Being easily fatigued. 3. Difficulty concentrating or mind going blank. 4. Irritability. 5. Muscle tension. 6. Sleep disturbance (difficulty falling or staying asleep, or restless, unsatisfying sleep).” ( Diagnostic and Statistical Manual of Mental Disorders (5th E) DSM -35 , 2013).	0-4	Minimal
		5-9	Mild
		10-14	Moderate anxiety
		15-21	Severe anxiety
Depression (Major depressive disorder)	“ Major depressive disorder is characterized by discrete episodes of at least 2 weeks’ duration (although most episodes last considerably longer) with at least one of two symptoms, either depressed mood or loss of interest or pleasure, and involving changes in effect, cognition, and neurovegetative functioning. While the diagnosis can be based on a single episode, in general the disorder is a recurrent one associated with interepisode remissions in the majority of cases ”. ( Diagnostic and Statistical Manual of Mental Disorders (5th E) DSM -35 , 2013).	1-4	Non
		5-9	Mild
		10-14	Moderate
		15-19	Moderate to Severe
		20-27	Severe
Age	Age: “ the length of time during which a being or thing has existed; length of life or existence to the time spoken. OR a period of human life, measured by years from birth, usually marked by a certain stage or degree of mental or physical development and involving legal responsibility and capacity ” (Dictionary, 2017).	This type of question is within an age range	
		16-21 years old	
		22-27 years old	
		28-33 years old	
		34-39 years old	
		≥ 40 years old	
Gravidity	Gravity: “the state of being pregnant , the period from conception to birth when a women carries a developing fetus in her	This type of question is answered by circling one of	

	uterus” (Vocabulary dictionary)	options mentioned.
		One
		Two
		Three
		Four
		More than four
Parity	Parity “Parity, or "para" indicates the number of pregnancies reaching <u>viable gestational age</u> (including live births and stillbirths). The number of fetuses does not determine the parity. Twin pregnancy carried to viable gestational age is counted as one.” (Gary, 2005)	This type of question is answered by circling one of options mentioned.
		No one
		1-2 times
		3-4 times
		5 or more
Presence of supportive person	Supportive person: “anything that supports, or embraces and holds person up is supportive. It can be physically supportive, like a girdle that holds belly in, or emotionally supportive like a loving family or solid network of friends. A parent paying for a child's college bills is supportive financially. Things can be supportive, too — posts holding up a building are supportive. Being supportive is a good thing .” ( Vocabulary dictionary)	This type of question is answered by circling one of options mentioned
		Presence of supporting person
		No one
		Mother
		Husband
		Friend
		Another (open to write others provide support during current pregnancy )
Exposure to violence from husband	“Violence: Any abusive, violent, coercive, forceful, or threatening act or word inflicted by one member of a family or household on another can constitute domestic violence” (free dictionary, 2017).	Yes or No question
		Type of violence exposure from her husband
		Emotional violence
		Physical violence
		Sexual abuse
Infant sex	Infant sex: “ The state of being male or female (typically used with reference to social and cultural differences rather than biological ones) ” (Oxford Dictionaries, 2017)	Are you afraid of your husband or anyone else?
		This type of question is answered by circling one of options mentioned
		Male
		Female
		Male and female (not for single fetus)
		Don't know



Trimesters of pregnancy	Trimesters of pregnancy : “Pregnancy has three trimesters, each of which is marked by specific fetal developments. A pregnancy is considered full-term at 40 weeks; First Trimester (0 to 13 Weeks), Second Trimester (14 to 26 Weeks), Third Trimester (27 to 40 Weeks) .” (Cox et al.1987).	By ask pregnant women about last menstrual period (LMP) and according to it , calculated her gestational age to define at any trimester she.
		First trimester
		Second trimester
		Third trimester

## Chapter four

### 4.1 Results

Number of pregnant women participate in this study =326 pregnant women

**Table (4.1): Distribution of percentage of pregnant women regarding to sociodemographic data.**

Variable	Category	No.	%
Age	(16-21)	58	17.8
	(22-27)	146	44.8
	(28-33)	84	25.8
	(34-39)	32	9.8
	( ≥ 40 )	6	1.8
	Total	326	100
Marital status	Married	324	99.4
	Widow	2	0.6
	Total	326	100
Place Of Residency	City	103	31.6
	Village	49	15
	Camp	174	53.4
	Total	326	100
Level of Education	Less than Tawjihi	82	25.2
	Tawjihi	94	28.8
	Diploma	44	13.5
	Bachelors	100	30.7
	Higher than bachelors	6	1.8
	Total	326	100
Family Income	Less than 2000 shekels	151	46.3
	2000 -4000 shekels	152	46.6
	More than 4000 shekels	23	7.1
	Total	326	100
Employment	Employed	35	10.7
	Unemployed	291	89.3
	Total	326	100

Table (4.1) showed that (44.8%) (n=146) of the pregnant women were from the age group (22-27) years old and (99.4%) (n=324) of them were married. It also showed that (53.4%) (n=174) of them were living at

the camps and (30.7%) (n=100) of them have bachelor's degree, (46.6%) (n=152) of them had an income level per month between (2000-4000) NIS and (89.3%) (n=291) were unemployed.

**Table (4.2): Distribution of percentage of pregnant women regarding to Obstetric characteristics.**

Variable	Category	No.	%
<b>Number parity</b>	None	94	28.8
	(1-2)	148	45.4
	(3-4)	59	18.1
	$\geq 5$	25	7.7
	Total	326	100
<b>Number of sons (males)</b>	None	149	45.7
	1	101	31
	2	46	14.1
	3	30	9.2
	Total	326	100
<b>Number of daughters (females)</b>	None	164	50.3
	1	95	29.1
	2	39	12
	3	28	8.6
	Total	326	100
<b>Number of abortions</b>	None	222	68.1
	1	62	19
	2	29	8.9
	$> 2$	13	4
	Total	326	100
<b>Number of gravidity</b>	One	98	30.1
	Two	79	24.2
	Three	58	17.8
	Four	42	12.9
	$> 4$	49	15
	Total	326	100
<b>Fetus Gender</b>	Male	109	33.4
	Female	114	35
	Male and female (not for single fetus)	1	0.3
	Don't know	102	31.3
	Total	326	100
<b>trimesters of pregnancy</b>	1st trimester	69	21.2
	2nd trimester	117	35.9
	3rd trimester	140	42.9
	Total	326	100

Table (4.2) indicates that (45.4%) (n=148) of pregnant women had (1-2) children, (31%) (n=146) have one male child and (29.1%) (n=95) have one female child. It also indicates that (68.1%) (n=222) of them have no history of abortion. The table also showed that (30.1%) (n=98) of pregnant women this pregnancy was the first one for them (33.4%) (n=109) of women were pregnant with a male fetus. Finally, (42.9%)(n=140) of them were in their third trimester.

**Table (4.3): Distribution of percentage of pregnant women regarding to their complications during pregnancy.**

Statement	Answer					
	Yes		No		Total	
	No.	%	No.	%	No.	%
Complication during previous pregnancies	58	17.8	268	82.2	326	100
Complications in current pregnancy	64	19.6	262	80.4	326	100
Planning for current pregnancy	185	56.7	141	43.3	326	100

Table (4.3) shows that (17.8%) (n=58) of pregnant women complained of complications in previous pregnancies and (19.6%) (n=64) of them complained of complications in their current pregnancy. It also showed that (56.7%) (n=185) of them planned for their current pregnancy.

**Table (4.4): Distribution of percentage of pregnant women regarding the stressful life events.**

Statement	Answer					
	Yes		No		Total	
	No.	%	No.	%	No.	%
Living with her husband	324	99.4	2	0.6	326	100
Loss of her employment during this pregnancy	18	5.5	308	94.5	326	100
Loss of any of supporting person during this pregnancy	8	2.5	318	97.5	326	100

Table (4.4) shows that (99.4%) (n=324) of pregnant women were living with their husband, and (2.5%) eight of them lost their supporting person during their current pregnancy. It also indicated that (5.5%) (n=18) lost their job during their current pregnancy.

**Table (4.5): Distribution of percentage of pregnant women regarding supporting person.**

<b>Presence of supporting person</b>	<b>No.</b>	<b>%</b>
<b>No one</b>	26	8
<b>Mother</b>	134	41.1
<b>Husband</b>	132	40.5
<b>Friend</b>	15	4.6
<b>Another</b>	19	5.8
<b>Total</b>	326	100

Table (4.5) indicated that (41.1%) (n=134) of pregnant women considered their mothers as their supporting person and (40.5%) (n=132) of them considered their husband as a supporting person.

**Table (4.6): Distribution of percentage of pregnant women regarding to type violence from their husbands during this pregnancy .**

<b>Type of violence</b>	<b>Yes</b>		<b>No</b>		<b>Total</b>	
	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>	<b>No.</b>	<b>%</b>
<b>Emotional violence</b>	56	17.2	270	82.8	326	100
<b>Physical violence</b>	21	6.4	305	93.6	326	100
<b>Sexual abuse</b>	7	2.1	319	97.9	326	100
<b>Are you afraid of your husband or any one</b>	17	5.2	309	94.8	326	100

Table( 4.6) shows that (17.2%) (n=56) of pregnant women reported that they had been exposed to emotional violence and( 6.4%)(n=21) were exposed to physical violence during their current pregnancy.

**Table (4.7): Distribution of percentage of pregnant women regarding to degrees of depression.**

Degree of depression	No.	%
No - minimal depression	132	40.5
Mild	111	34.0
Moderate	56	17.2
Moderate to Severe	20	6.1
Severe	7	2.1
Total	326	100

Table (4.7) shows that (59.5%) (n= 194) of pregnant women reported various degrees of depression as follows: (34%) (n=111) reported having mild depression, (17.2) (n=56) reported having moderate depression, (6.1%) (n=20) reported having a moderate to severe degree of depression, and (2.1%) seven of them reported having a severe degree of depression.

**Table (4.8): Distribution of percentage of pregnant women regarding to degrees of Anxiety.**

Degree of anxiety	No.	%
None	130	39.9
Mild	100	30.7
Moderate	57	17.5
Severe	39	12.0
Total	326	100

Table (4.8) shows that (39.9%) (n=130) of pregnant women did not have anxiety and the remainder had differing degrees of anxiety as follows: (30.7%) (100) reported having a mild degree, (17.5%) (n=57) reported having a moderate degree and (12%) (n=39) reported having severe degree.

Degree of anxiety	Number of gravidity											
	1		2		3		4		> 4		Total	
	No	%	No.	%	No	%	No	%	No	%	No.	%
<b>None</b>	40	40.8	37	46.8	19	32.8	18	42.9	16	32.7	130	39.9
<b>Mild</b>	32	32.7	22	27.8	17	29.3	12	28.6	17	34.7	100	30.7
<b>Moderate</b>	19	19.4	15	19.0	11	19.0	5	11.9	7	14.3	57	17.5
<b>Severe</b>	7	7.1	5	6.3	11	19.0	7	16.7	9	18.4	39	12.0
<b>Total</b>	98	100	79	100.0	58	100.0	42	100.0	49	100.0	326	100.0

Chi-Square=13.383 ; P-Value=0.342

Degree of Depression	Presence of Supportive Person											
	No one		Mother		Husband		Friend		Another		Total	
	No	%	No	%	No	%	No	%	No	%	No	%
None	11	42.3	54	40.3	60	45.5	1	6.7	6	31.6	132	40.5
Mild	9	34.6	51	38.1	38	28.8	5	33.3	8	42.1	111	34.0
Moderate	3	11.5	19	14.2	24	18.2	6	40.0	4	21.1	56	17.2
Moderate to Severe	1	3.8	8	6.0	8	6.1	3	20.0	0	.0	20	6.1
Severe	2	7.7	2	1.5	2	1.5	0	.0	1	5.3	7	2.1
Total	26	100	134	100.0	132	100.0	15	100.0	19	100.0	326	100.0
Chi-Square=24.997 ; P-Value=0.070												

**Table (4.12) Distribution of percentage of pregnant women according to the degree of anxiety in relation to presence of supportive person.**

Degree of Anxiety	Presence of Supportive Person											
	No one		Mother		Husband		Friend		Another		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<b>None</b>	13	50.0	52	38.8	59	44.7	1	6.7	5	26.3	130	39.9
<b>Mild</b>	4	15.4	44	32.8	39	29.5	5	33.3	8	42.1	100	30.7
<b>Moderate</b>	3	11.5	26	19.4	20	15.2	5	33.3	3	15.8	57	17.5
<b>Severe</b>	6	23.1	12	9.0	14	10.6	4	26.7	3	15.8	39	12.0
<b>Total</b>	26	100.0	134	100.0	132	100.0	15	100.0	19	100.0	326	100.0
Chi-Square=20.746 ; P-Value=0.043												



Table (4.12) shows that (12%) (n=39) of pregnant women who reported having a severe degree of anxiety, (26.7%) four of them considered their supportive person to be their friends, and (23.1%) six of them had no supportive person with significant differences (P-value  $0.043 < 0.05$ ).

**Table (4.13) Distribution of percentage of pregnant women according to the degree of depression in relation to number of parity.**

Number of parity	None		Mild		Moderate		Moderate to Severe		Severe		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<b>None</b>	43	45.7	33	35.1	13	13.8	5	5.3	0	0.0	94	100.0
<b>(1-2)</b>	60	40.5	54	36.5	24	16.2	7	4.7	3	2.0	148	100.0
<b>(3-4)</b>	22	37.3	19	32.2	10	16.9	6	10.2	2	3.4	59	100.0
<b>≥ 5</b>	7	28.0	5	20.0	9	36.0	2	8.0	2	8.0	25	100.0
<b>Total</b>	132	40.5	111	34.0	56	17.2	20	6.1	7	2.1	326	100.0
Chi-Square= 18.128 ; P-Value=0.112												

Table (4.13) shows that of the (2.1%) seven of pregnant women who reported severe depression, (8%) two of them have five or more children. Additionally, of the (6.1%) (n=20) pregnant women who reported having moderate to severe depression, (10.2%) six of them have (3-4) children without significant differences (P-value  $0.112 > 0.05$ ).

**Table (4.14) Distribution of percentage of pregnant women according to the degree of anxiety in relation to number of parity.**

Number of parity	None		Mild		Moderate		Severe		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>None</b>	41	43.6	28	29.8	18	19.1	7	7.4	94	100.0
<b>(1-2)</b>	62	41.9	45	30.4	28	18.9	13	8.8	148	100.0
<b>(3-4)</b>	22	37.3	19	32.2	7	11.9	11	18.6	59	100.0
<b>≥ 5</b>	5	20.0	8	32.0	4	16.0	8	32.0	25	100.0
<b>Total</b>	130	39.9	100	30.7	57	17.5	39	12.0	326	100.0
Chi-Square= 18.008 ; P-Value=0.035										

Table (4.14) shows that (32%) eight of pregnant women who have a severe degree of anxiety have a number of parity of (5 or more), and (43.6%) (n=41) of those with a number of parity of zero did not have anxiety with significant differences (P-value  $0.035 < 0.05$ )

**Table (4.15): Distribution of percentage of pregnant women according to the degree of depression in relation to presence of emotional violence from husband.**

Presence of emotional violence from husband	Degree of depression											
	None		Mild		Moderate		Moderate to Severe		Severe		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Yes	20	35.7	18	32.1	14	25.0	3	5.4	1	1.8	56	100.0
No	112	41.5	93	34.4	42	15.6	17	6.3	6	2.2	270	100.0
Total	132	40.5	111	34.0	56	17.2	20	6.1	7	2.1	326	100.0

Chi-Square= 2.969 ; P-Value=0.563

Table (4.15) shows that (35.7%) of pregnant women did not report any degree of depression in relation to exposure to emotional violence from their husband, and (32.1%) of the women reported having a mild degree of depression and having been exposed to violence from their husband without significant differences ( $P\text{-value}=0.563 > 0.05$ ).

**Table (4.16) Distribution of percentage of pregnant women according to the degree of anxiety in relation to presence of emotional violence from husband.**

Presence of emotional violence from husband	Degree of Anxiety									
	None		Mild		Moderate		Severe		Total	
	No	%	No.	%	No.	%	No.	%	No.	%
Yes	17	30.4	19	33.9	15	26.8	5	8.9	56	100.0
No	11	41.9	81	30.0	42	15.6	34	12.6	270	100.0
	3									
Total	13	39.9	100	30.7	57	17.5	39	12.0	326	100.0
	0									
Chi-Square=5.636 ; P-Value=0.131										

Table (4.16) shows that (12.6%) ( $n=34$ ) of pregnant women reported severe degree of anxiety were not exposed to emotional violence from their husband, and 26.8% of the women who had a moderate degree of anxiety and were exposed to violence from their husband without significant differences ( $P\text{-value}= 0.131 > 0.05$ ).

**Table (4.17): Distribution of percentage of pregnant women according to the degree of depression in relation to presence of physical violence from husband.**

Presence of physical violence from husband	Degree of Depression											
	None		Mild		Moderate		Moderate to Severe		Severe		Total	
	No.	%	No.	%	No	%	No	%	No	%	No.	%
Yes	8	38.1	6	28.6	6	28.6	0	0.0	1	4.8	21	100.0
No	124	40.7	105	34.4	50	16.4	20	6.6	6	2.0	305	100.0
Total	132	40.5	111	34.0	56	17.2	20	6.1	7	2.1	326	100.0

Chi-Square= 4.018 ; P-Value=0.404

Table (4.17) shows that (4.8%) one of pregnant women reported severe depression were also exposed to physical violence from their husband, and (28.6%) six of the women reported a moderate and (28.6%) six mild degree of depression as well as an exposure to violence from their husband without significant differences ( $P\text{-value} = 0.404 > 0.05$ ).

**Table (4.18) Distribution of percentage of pregnant women according to the degree of anxiety in relation to presence of physical violence from husband.**

Presence of physical violence from husband	Anxiety									
	None		Mild		Moderate		Severe		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Yes	7	33.3	7	33.3	5	23.8	2	9.5	21	100.0
No	123	40.3	93	30.5	52	17.0	37	12.1	305	100.0
Total	130	39.9	100	30.7	57	17.5	39	12.0	326	100.0
Chi-Square=0.918 ; P-Value=0.821										

Table (4.18) shows that (12.1%) ( $n=37$ ) of pregnant women who reported having severe anxiety were not exposed to physical violence from their husband, and that (23.8%) five of the women who had a moderate degree of anxiety were exposed to violence from their husband without significant differences ( $P\text{-value} = 0.821 > 0.05$ ).

Table (4.19) shows that (2.2%) seven of pregnant women who had severe depression were not exposed to sexual violence from their husband and that (57.1%) four of those with moderate depression were exposed to sexual violence from husband without significant differences (P-value= 0.074 > 0.05).

**Table (4.20): Distribution of percentage of pregnant women according to the degree of anxiety in relation to presence of sexual violence from husband .**

Presence of sexual violence from husband	<b>Anxiety</b>									
	None		Mild		Moderate		Severe		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>Yes</b>	0	0.0	3	42.9	3	42.9	1	14.3	7	100.0
<b>No</b>	130	40.8	97	30.4	54	16.9	38	11.9	319	100.0
<b>Total</b>	130	39.9	100	30.7	57	17.5	39	12.0	326	100.0
Chi-Square=5.865 ; P-Value=0.118										

Table (4.20) shows that (14.3%) one of pregnant women who reported having a severe degree of anxiety were exposed to sexual violence from their husband and (42.9%) three of the women who had moderate and mild anxiety were exposed to sexual violence from husband without significant differences (P-value= 0.118 > 0.05).

### 4.3 Other results finding

**Table (4.21): Distribution of percentage of pregnant women according to the degree of depression in relation to age.**

Degree of depression	Age											
	(16-21)		(22-27)		(28-33)		(34-39)		≥ 40		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
None	31	53.4	55	37.7	33	39.3	11	34.4	2	33.3	132	40.5
Mild	21	36.2	49	33.6	30	35.7	10	31.3	1	16.7	111	34.0
Moderate	5	8.6	29	19.9	12	14.3	8	25.0	2	33.3	56	17.2
Moderate to Severe	0	.0	10	6.8	7	8.3	2	6.3	1	16.7	20	6.1
Severe	1	1.7	3	2.1	2	2.4	1	3.1	0	.0	7	2.1
Total	58	100.0	146	100.0	84	100.0	32	100.0	6	100.0	326	100.0
Chi-Square=5.730 ; P-Value=0.017												



Table (4.21) shows that (3.1%) one of pregnant women who reported severe depression were aged (34-39) and (16.7%) one of the women having a moderate to severe degree of depression were (equal or above 40 years) old with significant differences ( $P\text{-value} = 0.017 < 0.05$ ).

**Table (4.22): Distribution of percentage of pregnant women according to the degree of anxiety in relation to age.**

Degree of anxiety	Age											
	(16-21)		(22-27)		(28-33)		(34-39)		$\geq 40$		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<b>None</b>	32	55.2	56	38.4	29	34.5	12	37.5	1	16.7	130	39.9
<b>Mild</b>	13	22.4	47	32.2	29	34.5	9	28.1	2	33.3	100	30.7
<b>Moderate</b>	7	12.1	29	19.9	15	17.9	5	15.6	1	16.7	57	17.5
<b>Severe</b>	6	10.3	14	9.6	11	13.1	6	18.8	2	33.3	39	12.0
<b>Total</b>	58	100.0	146	100.0	84	100.0	32	100.0	6	100.0	326	100.0
Chi-Square=5.621 ; P-Value=0.018												

Table (4.22) shows that (33.3 %) two of pregnant women who have severe anxiety were (equal or over 40) and (19.9%) ( $n=29$ ) of the women had moderate depression were aged (22-27) with significant differences ( $P\text{-value} = 0.018 < 0.05$ ).

**Table (4.23): Distribution of percentage of pregnant women according to the degree of depression in relation to infant gender.**

Degree of depression	Infant/s Gender									
	Male		Female		Male and Female (not for single fetus )		Didn't know		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
None	50	45.9	43	37.7	0	.0	39	38.2	132	40.5
Mild	31	28.4	45	39.5	0	.0	35	34.3	111	34.0
Moderate	19	17.4	15	13.2	1	100.0	21	20.6	56	17.2
Moderate to Severe	6	5.5	10	8.8	0	.0	4	3.9	20	6.1
Severe	3	2.8	1	.9	0	.0	3	2.9	7	2.1
Total	109	100.0	114	100.0	1	100.0	102	100.0	326	100.0
Chi-Square=13.226 ; P-Value=0.353										

Table (4.23) shows that (2.9%) three of pregnant women who had severe depression did not know their infant's gender, and (8.8%) ten of the women who had moderate to severe depression knew that their infant's gender was female without significant differences ( $P\text{-value} = 0.353 > 0.05$ ).

**Table (4.24): Distribution of percentage of pregnant women according to the degree of anxiety in relation to infant gender.**

Degree of anxiety	Infant's Gender									
	Male		Female		Male and Female (not for single fetus)		unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
None	45	41.3	43	37.7	0	.0	42	41.2	130	39.9
Mild	40	36.7	35	30.7	0	.0	25	24.5	100	30.7
Moderate	11	10.1	25	21.9	0	.0	21	20.6	57	17.5
Severe	13	11.9	11	9.6	1	100.0	14	13.7	39	12.0
Total	109	100.0	114	100.0	1	100.0	102	100.0	326	100.0
Chi-Square=16.175 ; P-Value=0.063										

Table (4.24) shows that (13.7%) ( $n=14$ ) of pregnant women who reported having a severe degree of anxiety did not know their infant's gender, and (21.9%) ( $n=25$ ) of the women who had moderate anxiety were

pregnant with females without significant differences ( $P\text{-value} = 0.063 > 0.05$ ).

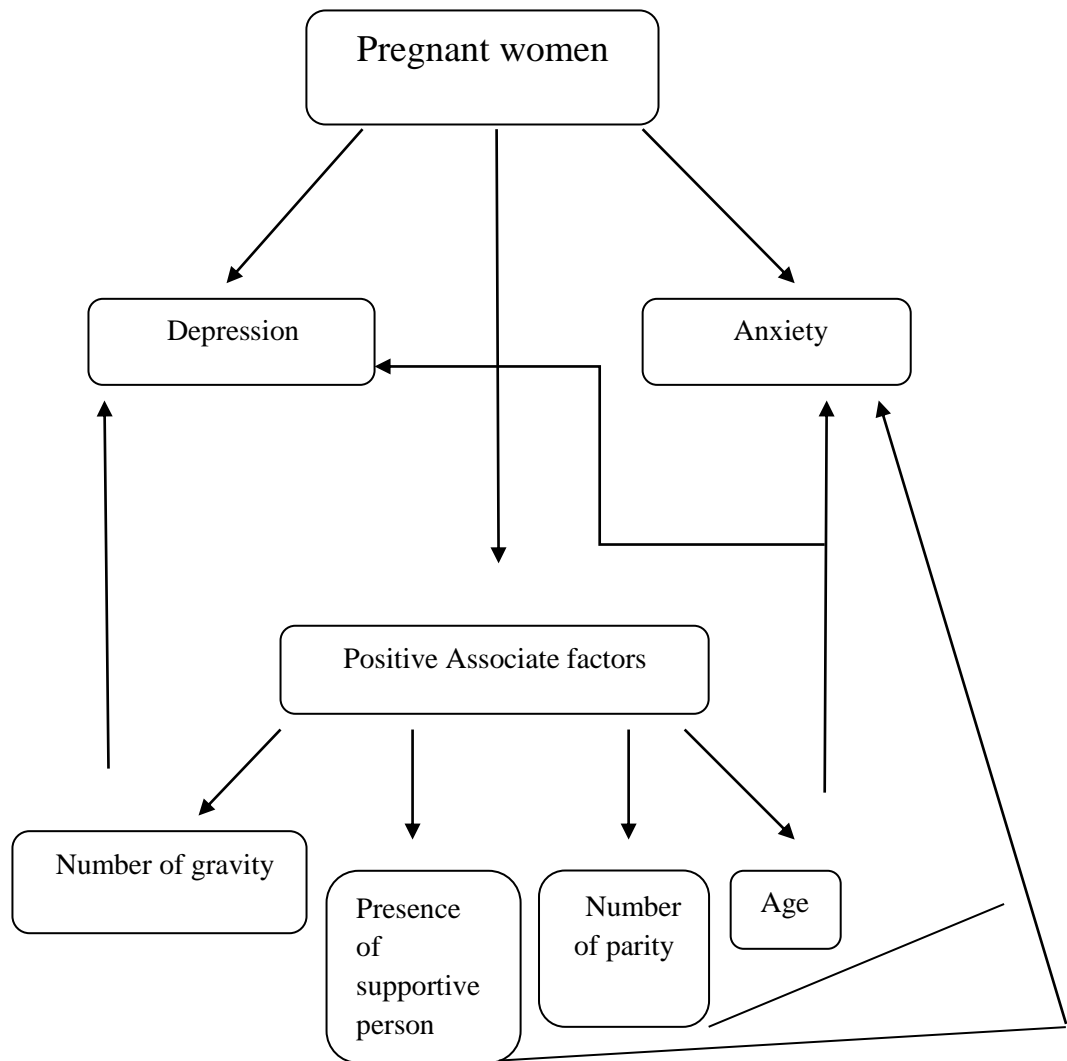
## **4.4 Conceptual framework**

### **Introduction:**

Polit and Beck (2004) defined conceptual framework as “theories, which deal with abstraction (concept) that are assembled by virtue of their relevance to a common theme” (p: 115). The definition describes an understanding of the phenomenon of interest and reflects the assumption and philosophic views of the model’s designer (Polit and Beck, 2004).

### **The Study Conceptual Framework**

Figure (4.1) showed study’s conceptual framework. The conceptual framework developed for the study is based on the title of the study, previous literature review, and the factors related to anxiety and depression among pregnant women.



**Figure (4.1):** showed study's conceptual framework developed by researcher in this study.

Figure (4.1) showed conceptual frame work developed by researcher in this study, which any pregnant women can develop anxiety during her current pregnancy which due to significant associated factors founded at this study as follow with anxiety:( age, number of parity , presence of supportive person); and or can develop depression during current pregnancy due to significant associated factors founded at this study with depression : age , number of gravity .

## Chapter five

### 5.1 Discussion

The purpose of this chapter is to discuss the findings presented chapter four in relation to the existing literature. Subsequently, the strengths and limitations of this study and the implications of this research on nursing practice, education, research, health services, and policy will be presented.

#### Obstetric characteristic

The result (table 4.2) showed that less than one fourth (18%) of the pregnant women in the study had experienced complications in previous pregnancies, about (20%) reported complications in the current pregnancy, and around (57%) of them planned for current pregnancy. These results are different from retrospective comparative cohort study study conducted in United States, of pregnant women aged 15-49 years using de-identified medical and pharmacy claims from the Truven Health MarketScan Commercial Claims and Encounters database incurred between January 1, 2007 and December 31, 2011. The total healthcare costs are reported (adjusted to 2011 dollars) from the date of the first pregnancy-related claim through to 3 months post-delivery and these costs were compared to matched controls of non-pregnant women. Pregnancy-related complications were categorized, and the incremental costs associated with each complication were estimated using multivariate analyses, by Law et al. (2015) which focused on the prevalence of complications and healthcare

costs during pregnancy ,this study showed that a total of (47%) of the women in the study had at least one pregnancy complication. These differences might be related to women's perception regarding complications with women from the study in the West Bank including just serious and danger conditions. In addition, it may be problematic for a woman to decide which symptoms are typical and which abnormal. These complications during pregnancy may include physical and mental disorders that affect the health of the mother or the baby.

### **Stressful life events during this pregnancy**

Results (Table 4.4) indicated a very low level of stressful life events during this pregnancy as almost all (99.4%) of pregnant women live with their partner in the same home. Also less than one tenth (6%) of the participants lost their job during the current pregnancy, and less than one twentieth (2.5%) lost their support system during this pregnancy. It has been shown that there are many stressful life events that increase the risk of depression during pregnancy including exposure to violence before and during pregnancy, and the disharmony between spouses, living alone, and having had a miscarriage in the past (Marakoglu & Sahsivar, 2008).

### **Exposure to violence from husband during current pregnancy**

The results (table 4.6) indicated that one third of the women were exposed to at least one of type of violence during current pregnancy with (2.1%) reporting sexual abuse, (over 5%) reporting being afraid of their partners or someone else, (6.4%) experienced physical violence, and

slightly less than one fifth (17.2%) reported emotional violence. These results were in line with several international studies. In a study by the WHO on women's health and domestic violence against women found the prevalence of physical intimate partner violence in pregnancy to range between ( 1%) in a Japanese city to (28%) in a Peruvian province, with the majority of sites ranging between (4%) and (12%), (Garcia, et al. 2015).

In addition, an analysis of the Demographic and Health Surveys and the International Violence discovered that intimate partner violence during pregnancy occurred at a rate that was between (2%) in Australia, Denmark, Cambodia and Philippines to (13.5%) in Uganda, (Devries, et al. 2010). Other global clinical studies have found the most frequent occurrence of violence was in Egypt (32%), followed by India (28%), Saudi Arabia (21%) and Mexico (11%), (Campbell et al. 2004). Shamu, et al. (2013) pointed to a review of clinical studies from Africa which reported prevalence rates of (23–40%) for physical violence, (3–27%) for sexual abuse and (25–49%) for emotional violence by an intimate partner in the antenatal stage. Moreover, Thanaanowan (2008) found that intimate partner violence during pregnancy was linked to detrimental health outcomes as well as fatalities in some cases for the pregnant woman and her baby due to the direct strain of abuse on a woman's body. The study also indicated that there were physiological effects of stress due to either current or past abuse on fetal growth and development.

## **Depression**

The results (table 4.7) indicated that roughly two thirds of pregnant women (59.5) have depression symptoms to various degrees with (34%) reporting mild symptoms of depression, (17.2%) experiencing moderate depression, (6.1%) reporting moderate to severe depression, and (2.1%) having severe depression symptoms. These results were in agreement with the results of the (2015) study by Songul, which was conducted in the Hospital of Trabzon and showed that (46.2%) of the pregnant women did not report any symptoms of depression whereas (34.59%) of the participants reported mild, (13.91%) moderate, and (4.89%) severe levels of depression.

Moreover, various studies have reported a high prevalence of antenatal depression with some singular variations; Hamid (2008) indicated that the rate of maternal depression was (30-70%) of pregnant women receiving prenatal care in California. Faisal-Cury (2009) found the rate to be was (39.5 %) in Tanzania. The rate of depression in two Cape Town peri-urban settlements was (39 %) (Hartley, 2011) and was (56%) in Jamaica (Wissart, 2015). A relatively low rate was documented in Brazil (20.2 %) (Manikkam, 2012) and in rural Bangladesh (18 %) (Nasreen, et al. 2011). These discrepancies in prevalence might be due to differences in populations, research methods, study designs and/or different measurement tools. In addition the socio-demographic and economic differences might



also account for these differences along with differences in cultural and ethnicity and the availability of supportive system.

The results (table 4.9) exhibited that there were statistically significant differences at level of ( $\alpha=0.05$ ) in degree of depression in relation to number of gravidity. The results also showed that (5.2 %) of pregnant women who have three gravidity had a severe degree of depression and (12.1%) of them had moderate to severe depression with significant differences ( $P\text{-value}=0.022<0.05$ ). These findings were in the same line with study by Lancaster et al (2010), which indicated that one of the greatest risk factors for depression in pregnancy was higher number of existing children.

The results (table 4.11) showed that (7.7%) of women who reported having no support system reported having severe depression without significant differences ( $P\text{-value } 0.070>0.05$ ). This result showed that there was no significant relationship between depression and support, but also showed that depression levels increased when support came from friends rather than from the mother or from the husband. This may be related to women relying more on the support from their husband than anyone else. These findings were in the same line with Holden et al (1989) which found that social support and visiting interventions have successful outcomes in improving the mental health of depressed mothers and also with Elsenbruch et al (2007), which found that lack of support is risk factor for stress during pregnancy and has effects on pregnancy outcomes

supportive person in our culture may be them self make stress for pregnant women and control in pregnant women which give to her all the time directions when she can go to hospital in her movement in her style for example : in eating movement and the supportive person sometimes differ if she pregnant in male not like pregnant in female first pregnancy not like second one so supportive person need to given to them plan in how to deal with pregnant women in proper way .

The results ( table 4.13) showed that of the (2.1%) pregnant women who have severe depression, (8%) of them had five or more children. Additionally, of the (6.1%) pregnant women who have moderate to severe depression, (10.2%) of them have (3-4) children without significant differences (P-value  $0.112 > 0.05$ ). These finding were in supported by Lancaster *et al.* (2010), in a study which showed that maternal anxiety, life stress, history of depression, lack of social support, medicaid insurance, lower income, lower education, tobacco use, single status, and poor relationship quality were associated with a greater likelihood of ante partum depressive.

The result (table 4.15) showed that (35.7%) of pregnant women in the study did not reported any degree of depression in relation to exposure to emotional abuse from their husband, while (32.1%) of those who were victims of emotional abuse reported a mild degree of depression without significant differences (P-value= $0.563 > 0.05$ ). This association is in line with Lancaster *et al.* (2010) and King (2010) both of which showed that

intimate partner male violence was associated with symptoms of depression affect women.

The result ( table 4.17) showed that 4.8% of pregnant women who were exposed to physical violence experienced severe depression while 28.6% of them reported a moderate and mild degree of depression without significant differences ( $P\text{-value} = 0.404 > 0.05$ ). This association concurs with Cohen (2006), who found that physical violence affects pregnant women increasing the likelihood of experiencing symptoms of depression and affect the infant's externalization behavior. Campbell (2004) also found that violence during pregnancy is frequent and may negatively affect both the woman's physical and mental health.

The result (table 4.19) showed that (2.2%) of pregnant women experienced severe degrees of depression and were not exposed to sexual violence from their husband, while (57.1%) of the women had a moderate degree of anxiety and were exposed to sexual violence from their husband without significant differences ( $P\text{-value} = 0.074 > 0.05$ ). This association agrees with Bailey (2010), which found 10% of violence against woman in the world was sexual in nature and had an effect on mental health and behavioral tendencies.

The result (table 4.21) showed that (3.1%) of pregnant women who have a severe degree of depression and are aged (34-39) years and that (16.7%) of the participants have a moderately severe degree of depression and are over (40 years) old with significant differences ( $P\text{-value} = 0.017 <$

0.05). According to Weissman (1995), depressive symptoms are most often seen between 20 and 40 years old, the age range when many women become pregnant. Depression in older woman is more likely due to diseases such as hypertension or diabetes mellitus.

The result ( table 4.23) showed that (2.9%) of pregnant women have a severe degree of depression and did not know their infant's gender and that (8.8%) of those with a moderate to severe degree of depression were also pregnant with a girl without significant differences ( $P\text{-value} = 0.353 > 0.05$ ). that explain in our culture as Palestinian infant gender can affect pregnant women causing them to develop symptoms of depression our society prefer to get pregnant in male fetus so if pregnant in female may the community and her family will enter the pregnant women in depressive symptoms . Zeitlin (2002) found that the proportion of male infants is higher among preterm births and this pattern is evident in different populations.

### **Anxiety**

The findings (table 4.8) showed that (30.7%) of the pregnant women studied have a mild degree of anxiety, (17.5%) have a moderate degree and (12%) have a severe degree. These results were consistent with a Brazilian study that found a high prevalence of antenatal anxiety (Caroline R.F, 2015). In contrast, studies from developed Asian countries have reported a lower prevalence of anxieties. For instance, a study by Thiagayson in (2012) on a sample of Singaporean women who were admitted to hospital

during pregnancy showed that (12.5%) of them suffered from anxiety disorders.

Weisberg's study (2012) was consistent with this study result in finding that during pregnancy women typically experience an increase in worries relating to the health of their baby, their own health, financial matters, childcare, and parenting. They also frequently experience pregnancy-related upsurges in bodily and somatic symptoms, such as fatigue, muscle tension, reduced concentration, sleep problems, irritability, and restlessness. These symptoms may lead physicians to overlook a clinical diagnosis of Generalized anxiety disorder, assuming that these indicators are merely linked to pregnancy itself. Generalized anxiety disorder is also a highly co-morbid disorder, particularly with major depressive disorder. Several analyses have reported high co-morbidity rates, varying between (15%) and (69%) (Gabilondo et al., 2010).

The result (table 4.10 ) showed that (19%) of pregnant women who have three gravidity have a severe degree of anxiety and a moderate degree of anxiety, respectively without significant differences ( $P\text{-value } 0.342 > 0.05$ ).

This result is not consistent with studies that suggest older women and multipara are less anxious and more experience at dealing with anxiety associated with pregnancy and parenting (Arch, 2013). Also in many studies, nulliparous women have had higher anxiety rates than multiparas

mothers (Alipour et al., 2012, Laursen et al., 2009, Körükcü et al., 2010, Lynn et al., 2011).

The result (table 4.12) showed that (12%) of pregnant women had a severe degree of anxiety. (26.7%) of those women reported that their supportive person was a friend, and (23.1%) reported having no supportive person with significant differences ( $P\text{-value} 0.043 < 0.05$ ). This association is in line with Peter et al (2017) who found that perceived social support seems to be a protective factor against anxiety disorders in pregnant adolescents.

The result table (4.16) showed that (42%) of pregnant women who were not exposed to emotional violence from husband had no anxiety compared with (30%) for women who were exposed to emotional violence from husband without significant differences ( $P\text{-value} = 0.131 > 0.05$ ). Also, (table 4.20) showed that (14.3%) of pregnant women who were exposed to sexual violence from their husband reported levels of severe anxiety and (42.9%) of them had moderate or mild degree of anxiety without significant differences ( $P\text{-value} = 0.118 > 0.05$ ). There are several mechanisms may explain the partner's influence on health during pregnancy. Support from a partner during pregnancy may contribute to unmeasured mediators, like healthier behaviors or improve antenatal care. It is also may be related to the fact that a partner's provision of support and involvement in the pregnancy is associated with protective factors like more maternal personal resources (Dunkel Schetter, 2011). This result is

consistent with Davila & Kashy's (2009) study that concluded that less violence and more secure attachment styles with partners and more integration into social networks lead to higher quality relationships, more positive expectations and less anxiety.

(Table 4.22) showed that (33.3%) of pregnant women who have severe degree of anxiety were equal or over (40 years) old while (19.9%) of the women have a moderate degree of anxiety within (22-27) age range with significant differences ( $P\text{-value} = 0.018 < 0.05$ ), this may be due to women get pregnant in higher age more anxious than younger age and became worry about fetal abnormality due to her age . This result contradicts Arch's (2013) study and Rubertsson et al.'s (2014) study, which found that younger pregnant women experienced more anxiety than older women.

(Table 4.24) shows that (13.7%) of pregnant women who had a severe degree of depression did not know their infant's gender, and (21.9%) of those who had moderate to severe degree of depression were pregnant with girls without significant differences ( $P\text{-value} = 0.063 > 0.05$ ). This result is consistent with a study by Qiao YX. et al (2009) that indicated maternal anxiety was increased in mothers whose infant's gender was female.

The results (table 4.23), indicated that there is an effect of infant gender on depression with an increase in mild depression in women whose infant was female or the gender was unknown.

That explain our culture in Palestine society to get pregnant of female /girl fetus, its source of anxiety .

Our result is consistent with previous studies that found that the impact of maternal depressive symptoms might be stronger if the gender of the child is female (Beeghly et al., 2012; Grace, Evindar, & Stewart, 2013; Weinberg et al., 2001).

The result (table 4.24) showed a high prevalence of anxiety during the third trimester. This may be explained by the fact that it is the final stage before labor and women are more physically encumbered by pregnancy may begin to fear birth. Previous studies (Faisal-Cury and Rossi Menezes, 2007 and García Rico et al., 2010) have also reported higher anxiety scores among pregnant women. It has been reported that women with high general anxiety tend to have more pregnancy-specific anxiety (Alipour et al., 2012, Arch, 2013 and Hall et al., 2012). Previous studies on pregnancy related anxiety among low risk pregnant women also reported marked increase of anxiety in third trimester (Alipour et al., 2012, Hall et al., 2012, Huizink et al., 2004, Körükcü et al., 2010, Laursen et al., 2009, Lynn et al., 2011 and Reck et al., 2013).



## 5.2 Conclusion

(40.5%) of pregnant women who participated in this study do not have **depression** according to scale PHQ-9, (59.5%) of pregnant women who participated in this study have depression according to scale PHQ-9 distributed in these degree .

- (34%) have mild depression
- (17.2%) have moderate depression
- (6.1%) have moderate to severe depression
- (2.1%) have severe depression.

(39.9%) of pregnant women who participated in this study do not have **Anxiety** according to scale GAD-7 , (60.1%) of pregnant women who participated in this study have anxiety according to scale GAD-7 distributed in these degree .

- (30.7%) have mild anxiety
- (17.5%) have moderate anxiety
- ( 12%) have severe anxiety.

### **Significant associated factors founded at study:**

Significant associated factors with **anxiety** during pregnancy

- Number of parity

- Presence of supportive person
- Age

Significant associated factors with **depression** during pregnancy

- Number of gravity
- Age

### **5.3 Recommendation**

- Develop assessment tool for pregnant women, to early detect antenatal anxiety, and depression, during each antenatal visit ,and to take measures immediately, to prevent and manage further crisis, and complication. And adopt this policy in each antenatal clinic
- Make regular health education classes and programs for pregnant women about all their needs to help pregnant women in her pregnancy
- Promotion of family support for pregnant woman, by put program for supportive person to deal with pregnant women
- More researches about antenatal depression and anxiety among pregnant women in more details by qualitative research
- Do another studies about mental health issues for pregnant women

## 5.4 Strength of the study

- Study topic related to my work as a midwife worked with pregnant women and choose this topic from my experience with them
- Supervisor in my thesis have experience in this topic
- Data collection was simple random
- Study site was in north , middle and south of west banks , all Nablus , Ramallah , and Hebron camps
- Data collection tool previous valid and reliable and used in obstetric field
- Data collection tool reviewed by experts one psychologist and psychotherapist and two mental health PhD nursing
- Important and interesting study subject
- Clear research questions , and hypothesis .
- Very good way of organization conceptual and operational definitions
- Comprehensive literature review
- Correct reading of result
- Discussion section :very good job in comparing results with internal results

### **5.5 Limitation of the study**

- A study required a lot of time, effort and money due to large study sample, and distributed in north, middle, and south of west bank.
- Data collection tool self-administered so pregnant women can't explain of what she full she should to follow data collection tool
- Some pregnant women may be ashamed to full some questions in clear way even she is in private room and there is top of privacy due to cultural issues

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## Annex 1

## جامعة النجاح الوطنية



## كلية الدراسات العليا

## ماجستير تمرير الصحة النفسية والمجتمعية

## نموذج موافقة للدخول في الدراسة

انا الطالبة آلاء محمد ابو ازنيط طالبة ماجستير في برنامج تمرير الصحة النفسية والمجتمعية في جامعة

النجاح الوطنية وتشرف على دراستي الدكتورة مريم الطل

أعمل دراسة ( رسالة الماجستير ) تدرج تحت عنوان القلق , والاكتئاب , والعوامل المصاحبة لهما لدى السيدات

الحوامل في مخيمات اللاجئين الفلسطينيين / الضفة الغربية

الهدف من هذه الدراسة هو ايجاد نسبة القلق والاكتئاب لدى السيدات الحوامل والعوامل المصاحبة لهما في

الضفة الغربية -فلسطين حيث ستم تعبئة هذا الاستبيان من السيدات الحوامل في الثلث الأخير من الحمل

اللواتي يراجعن في عيادات الوكالة في الضفة الغربية ويحق لكل مشاركة الرفض لدخول الدراسة او الانسحاب

في أي وقت من الدراسة وهذه الاستبيانات والمعلومات فقط لغرض الدراسة وسيتم الحفاظ على السرية التامة

والتخلص من هذه الاستبيانات فور الانتهاء من الدراسة ولا يوجد أي اذى على المشاركة واشكر مشاركتكم

توقيع موافقة المشاركة .....

## ادوات القياس لجمع المعلومات

1. المعلومات الديموغرافية الاجتماعية

## (1) عمرك بالسنوات

- أ- 16-21
- ب- 22-27
- ت- 28-33
- ث- 34-39
- ج- 40 سنة او اكثر

## (2) الحالة الاجتماعية

- أ- متزوجة
- ب- ارملة

## (3) مكان السكن

- أ- مدينة
- ب- قرية
- ت- مخيم

## (4) المستوى التعليمي

- أ- اقل من توجيهي
- ب- توجيهي
- ت- دبلوم
- ث- بكالوريوس
- ج- اعلى من بكالوريوس

## (5) دخل الاسرة خلال الشهر الواحد

- أ- اقل من 2000 شقل
- ب- 2000-4000 شقل
- ت- اكثر من 4000 شقل

## (6) الوظيفة

- أ- تعمل
- ب- لا تعمل

## II. الخصائص النسائية

### (1) عدد الولادات لديك

- أ- لا يوجد
- ب- 1-2
- ت- 3-4
- ث- 5 او اكثر

### (2) عدد اولادك في البيت ( الذكور ).

- أ- لا يوجد
- ب- واحد
- ت- اثنان
- ث- ثلاثة
- ج- اكثر من ثلاثة

### (3) عدد بناتك في البيت ( الإناث ).

- أ- لا يوجد
- ب- واحد
- ت- اثنتان
- ث- ثلاثة
- ج- اكثر من ثلاثة

### (4) عدد الإجهاضات لديك

- أ- لا يوجد
- ب- 1
- ت- 2
- ث- اكثر من 2

(5) عدد حمولاتك تشمل الحمل الحالي :

أ- اول واحد

ب- 2

ت- 3

ث- 4

ج- اكثر من 4

(6) جنس الجنين لدى حملك الحالي

أ- ذكر

ب- انثى

ت- كلاهما ( انثى وذكر اذا كان توأم )

ث- غير معروف

من فضلك كتابة تاريخ اخر دورة لديك : -----.

(7) في أي ثلث انتي في الحمل ؟

أ- الثلث الاول (الأسبوع الأول - الأسبوع الثالث عشر )

ب- الثلث الثاني (الأسبوع الرابع عشر - الاسبوع الثامن والعشرون )

ت- الثلث الثالث ( الأسبوع التاسع والعشرون - حتى اخر الحمل )

### III. مضاعفات خلال الحمل

(1) هل عانيت من مضاعفات خلال الحمولات السابقة؟

أ- نعم

ب- لا

(2) هل عانيت من مضاعفات خل الحمل الحالي ؟

أ- نعم

ب- لا

(3) هل هذا الحمل مخطط له؟

أ- نعم

ب- لا



#### IV. مواقف تدعو للتوتر في حياتك

لا	نعم	1. هل تعيشين أنت وزوجك في نفس البيت ؟
لا	نعم	2. اذا كنت تعملين هل فقدت وظيفتك خلال هذا الحمل ؟
لا	نعم	3. هل فقدت أي شخص كان يقدم لك الدعم خلال هذا الحمل ؟

#### V. الشخص الذي يقدم لك الدعم

أ- لا احد

ب- امك

ت- زوجك

ث- صديق

ج- غير ذلك

#### VI. في حالة التعرض للعنف من قبل الزوج خلال هذا الحمل حددي نوع العنف : ( بإمكانك وضع اكثر من خيار )

لا	نعم	1. عنف عاطفي
لا	نعم	2. عنف جسدي
لا	نعم	3. عنف جنسي
لا	نعم	4. هال انت خائفة من زوجك ؟ أو أي شخص اخر ؟

#### VII. مقياس الاكتئاب

خلال آخر أسبوعين، كم مرة اشتكيت من الأمور التالية؟				
أبداً (0)	عدة أيام (1)	أكثر من نصف الأيام (2)	كل يوم تقريباً (3)	
				1. قلة الاهتمام أو الاستمتاع بعمل الأشياء.
				2. الشعور بالاكتئاب أو اليأس أو فقدان الامل ....؟
				3. مشاكل في النوم أو البقاء نائماً أو النوم كثيراً؟
				4. الشعور بالتعب أو انعدام الطاقة؟
				5. انعدام الشهية أو المبالغة في الأكل؟
				6. الشعور بشكل سيء عن نفسك، أو أنك فاشل، أو خذلان نفسك أو عائلتك؟
				7. مشاكل في التركيز على الأشياء مثل قراءة الجريدة أو مشاهدة التلفزيون؟

				8. التحرك أو التكلم ببطء شديد بحيث يلاحظ الآخرون ذلك؟ أو بالعكس، الشعور بالممل أو القلق بحيث تتحرك أكثر من المعتاد؟
				9. الأفكار مثل من الأفضل لو تكون ميتاً أو تؤذي نفسك بطريقة من الطرق؟

### VIII. مقياس اضطراب القلق العام

خلال آخر أسبوعين، كم مرة اشتكيت من الأمور التالية؟				
أبداً (0)	عدة أيام (1)	أكثر من نصف الأيام (2)	كل يوم تقريباً (3)	
				1. الشعور بالعصبية أو القلق أو التوتر؟
				2. عدم القدرة على التوقف عن القلق أو السيطرة عليه؟
				3. القلق كثيراً حول أشياء مختلفة؟
				4. مشاكل في الاسترخاء؟
				5. الشعور بالانزعاج الى درجة وجود صعوبة في الجلوس ثابتاً؟
				6. أن تنزعج أو تنثار بسهولة؟
				7. الشعور بالخوف كما لو أن شيئاً فظيماً على وشك الحدوث؟

## نموذج موافقة للدخول في الدراسة

انا الطالبة آلاء محمد ابو ازنيط طالبة ماجستير تمرىض الصحة النفسية والمجتمعية في جامعة

النجاح الوطنية وتشرف على دراستي الدكتورة مريم الطل

اعمل دراسة ( رسالة الماجستير ) تتدرج تحت عنوان:

القلق والاكتئاب والعوامل المصاحبة لهما لدى السيدات الحوامل في مخيمات اللاجئين الفلسطينيين

الهدف من هذه الدراسة هو ايجاد نسبة القلق والاكتئاب لدى السيدات الحوامل والعوامل المصاحبة

لهما في الضفة الغربية -فلسطين حيث سيتم تعبئة هذا الاستبيان من السيدات الحوامل في التلث

الأخير من الحمل اللواتي يراجعن في عيادات الوكالة في الضفة الغربية ويحق لكل مشاركة

الرفض لدخول الدراسة او الانسحاب في أي وقت من الدراسة وهذه الاستبيانات و المعلومات

فقط لغرض الدراسة وسيتم الحفاظ على السرية التامة والتخلص من هذه الاستبيانات فور الانتهاء

من الدراسة ولا يوجد أي اذى على المشاركة واشكر مشاركتكم .

توقيع موافقة المشاركة :

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## Data collections tools

### I. Socio demographic data :

- 1) your age in years :
  - a. 16-21
  - b. 22-27
  - c. 28-33
  - d. 34-39
  - e. Over 40 years
  
- 2) Marital status
  - a. Married
  - b. Widow
  
- 3) Place of residency
  - a. City
  - b. Village
  - c. Camp
  
- 4) Level of education
  - a. Less than tawjihi
  - b. Tawjihi
  - c. Diploma
  - d. Bachelors
  - e. More than bachelors
  
- 5) Family income/month
  - a. Less than 2000 shekels
  - b. 2000 -4000 shekels
  - c. More than 4000 shekels
  
- 6) Employment
  - a. Employed
  - b. Unemployed

**II. Obstetric characteristic**

- 7) Number of parity
  - a. No one
  - b. 1-2
  - c. 4-6
  - d. More than 6
  
- 8) Number of your daughters ( females ) you have
  - a. Zero no daughters
  - b. One
  - c. Two
  - d. Three
  - e. More than three
  
- 9) Number of your sons (male) you have
  - a. Zero no sons
  - b. One
  - c. Two
  - d. Three
  - e. More than three
  
- 10) gender of your infant/s pregnant
  - a. male
  - b. female
  - c. male and female (not for single fetus )
  - d. unknown
  
- 11) Number of your gravidity including this pregnancy
  - a. First one
  - b. 2
  - c. 3
  - d. 4
  - e. More than 4 pregnancies
  
- 12) Number of your abortions
  - a. Zero
  - b. 1
  - c. 2
  - d. More than 2

❖ Please write your last menstrual period if sure -----

At any trimester you are

- a. First trimester
- b. Second trimester
- c. Third trimester

### III. Complications during pregnancy

1. Do you have complications during this pregnancy
  - a. Yes
  - b. No
2. Do you complained from complication during previous pregnancies
  - a. Yes
  - b. No
3. This pregnancy was planned
  - a. Yes
  - b. No

### IV. Stressful life events during this pregnancy

1) Do you live with you your partner in the same house ?	YES	NO
2) If you were employed you lose your job during this pregnancy ?	YES	NO
3) Loss of any of support system during this pregnancy ?	YES	NO

### V. person help or support you:

- a. No one
- b. Your mother
- c. Your husband
- d. Your friend
- e. Another

### VI. Exposure to violence from your partner during this pregnancy

1) Emotional violence	YES	NO
2) Physical violence	YES	NO
3) Sexual abuse	YES	NO
4) Are you afraid of your partner or any one	YES	NO

**Scales****VII. First Scale PHQ Depression Module for both Diagnostic and Severity Purposes .**

Over the <u>last 2 weeks</u> , how often have you been bothered by any of the following				
	Not at all (0)	Several days (1)	More than half The days (2)	Nearly every day (3)
a. Little interest or pleasure in doing things?.....				
b. Feeling down, depressed, or hopeless?.....				
c. Trouble falling or staying asleep, or sleeping too much?				
d. Feeling tired or having little energy?.....				
e. Poor appetite or overeating?.....				
f. Feeling bad about yourself — or that you are a failure or have let yourself or your family down?.....				
g. Trouble concentrating on things, such as reading the newspaper or watching television? .....				
h. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual?.....				
i. Thoughts that you would be better off dead or of hurting yourself in some way? .....				

**VIII. Second Scale Generalized Anxiety Disorder 7– item (GAD-7) scale**

Over the last 2 weeks , how often have you been bothered by the following problems ?				
	Not at all (0)	Several days (1)	More than half The days (2)	Nearly every day (3)
1. Feeling nervous , anxious , or on edge .				
2. Not being able to stop or control worrying .				
3. Worrying too much about different things .				
4. Trouble relaxing .				
5. Being so restless that it's hard to sit still .				
6. Becoming easily annoyed or irritable .				
7. Feeling afraid as if something awful might happen .				



## Annex 2

<p><b>An-Najah National University</b></p> <p>Faculty of Medicine &amp; Health Sciences</p> <p>Department Of Graduate Studies</p>		<p><b>جامعة النجاح الوطنية</b></p> <p>كلية الطب وعلوم الصحة</p> <p>دائرة الدراسات العليا</p>
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**IRB Approval letter**

**Study title:**  
Anxiety , depression and related associated factors among pregnant women.

**Submitted by:**  
Alaa , M , Abu-Iznait

**Date Reviewed:**  
May 11,2015

**Date approved:**  
May 19, 2015

Your study titled, "Anxiety , depression and related associated factors among pregnant women" with archived number 46/May/2015 , Was reviewed by An-Najah National University IRB committee & approved on May 19, 2015.

**Hasan Fitian , MD**



IRB Committee Chairman,  
An-Najah National University



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*An-Najah*  
*National University*  
Faculty of Medicine



جامعة  
النجاح الوطنية  
كلية الطب و علوم الصحة

حضرة د. اميه خمائش / مدير عيادات الوكالة

**الموضوع : برنامج ماجستير تمرير الصحة النفسية والمجتمعية**

كتاب بخصوص جمع المعلومات من عيادات الوكالة في مدن رام الله ونابلس والخليل للطلبة الاء محمد ابوازنيط التي تم الموافقة عليه من قبلكم مسبقا

نريد بعض الاستفسارات بخصوص رسالة الطلبة التي وهي بعنوان القلق والاكتئاب والعوامل المصاحبة لهما لدى السيدات الحوامل هي المعلومات التي تريدها الطلبة :

- اسماء وعدد عيادات الوكالة في كل من المدن التالية : رام الله ، نابلس ، الخليل
- عدد السيدات الحوامل اللواتي يراجعن في عيادات الوكالة (لفحص الحوامل) في كل من عيادات المدن المذكورة اعلاه

وذلك بغرض تحديد العينة لدراسة الماجستير .

وشكرا لكم

د. سابيننا روسو

منسق برنامج ماجستير تمرير الصحة النفسية و المجتمعية

**An-Najah  
National University**  
Faculty of Graduate Studies



**جامعة  
النجاح الوطنية**  
كلية الدراسات العليا

التاريخ : 2016/2/22م

السيد د. أمية خمّاش المحترم  
مدير عام الصحة في عيادات وكالة الغوث لتفصيل اللاجئين  
الضفة الغربية

تحية طيبة و بعد ...

الموضوع : تسجيل مهمة الطالبة / الاء محمد احمد ابو الزنيط، رقم تسجيل (11155357)،  
تخصص تمرير الصحة النفسية والمجتمعية

يرجى من حضرتكم تسجيل مهمة الطالبة / الاء محمد احمد ابو الزنيط، رقم تسجيل 11356907، تخصص  
ماجستير تمرير الصحة النفسية والمجتمعية، في كلية الدراسات العليا، وهي بصدد اعداد الأطروحة الخاصة بـ  
والتي عنوانها:

**'Anxiety Depression and their Associated Factors Among Pregnant Women '**

وستقوم بتوزيع استبيان خاصه بالمشروع على السيدات الحوامل واخذ معلومات من السجلات  
وعدد الحوامل في عيادات وكالة الغوث في الضفة الغربية الخاصه بفحص الحوامل وذلك في الفتره  
الواقعه ما بين : 2016/3/1 - 2016/12/1 تحت اشراف د. مريم الطلح .

شاكرين لكم حسن تعاونكم الدائم معنا

مع وافر الاحترام ...

عميد كلية الدراسات العليا

  
د. احمد الرمحي



فلسطين، نابلس، ص.ب 70707 هاتف: 2345115، 2345114، 2345113 (09) 972 \* فاكسيل: 2342907 (09) 972

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جامعة النجاح الوطنية

كلية الدراسات العليا

القلق، والاكتئاب، والعوامل المصاحبة لهما لدى السيدات الحوامل في مخيمات  
اللاجئين الفلسطينيين - الضفة الغربية

إعداد

الاء محمد ابوازنيط

إشراف

د مريم الطل

قدمت هذه الأطروحة استكمالاً لمتطلبات الحصول على درجة الماجستير لتخصص تمريض  
الصحة النفسية المجتمعية بكلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس - فلسطين.

2017

ب

القلق، والاكتئاب، والعوامل المصاحبة لهما لدى السيدات الحوامل في مخيمات اللاجئين

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الملخص

الحمل يمكن أن يكون وقتاً لتغيير الصحة البدنية والعقلية، غالباً ما تكون مشاعر السعادة والأمل مرافقة للحمل. ومع ذلك، يمكن أن يكون الحمل تجربة مرهقة، والتي تتميز بزيادة في القلق ومشاعر الاكتئاب.

وكان الهدف من الدراسة هو "معرفة معدل انتشار الاكتئاب والقلق بين النساء الحوامل والعوامل المرتبطة في مخيمات اللاجئين الفلسطينيين / الضفة الغربية.

### المنهج البحثي

تم اعتماد منهج وصفي كمي لجمع البيانات خلال الشهرين من نهاية نيسان إلى نهاية حزيران 2016 في عيادات الأونروا، وتم اختيار 326 من الحوامل من خلال أسلوب أخذ العينات الهادف من عيادات رعاية الحمل في 9 مخيمات في الضفة الغربية متمثلة في مخيمات مدينة نابلس وتمثل شمال الضفة الغربية ، مخيمات مدينة رام الله وتمثل وسط الضفة الغربية ، ومخيمات مدينة الخليل وتمثل جنوب الضفة الغربية . تم استخدام موازين موحدة لقياس مستوى القلق (GAD-7)، والاكتئاب مقياس الصحة العالمية للمريض رقم 9 للاكتئاب (PHQ-9).

## النتائج

أشارت النتائج إلى أن انتشار الاكتئاب بين النساء الحوامل كان مرتفعاً، وكان الاكتئاب الخفيف وفقاً للمقاييس (34%)، والاكتئاب المعتدل (17.2%)، والاكتئاب الشديد إلى حد ما (6.1%)، وكان الاكتئاب الحاد (2.1%). كما كان انتشار القلق مرتفعاً بالمقارنة مع النتيجة العالمية، والقلق الخفيف وفقاً لمقاييس كان (30.7%)، والقلق المعتدل (17.5%)، وكان القلق الحاد (12%).

**الاستنتاج:** القلق والاكتئاب أثناء الحمل هي المشكلة الصحية الرئيسية بين النساء في سن الإنجاب. وتشير النتائج إلى الحاجة إلى تقييم مخاطر القلق قبل الولادة وأعراض الاكتئاب أثناء كل زيارة قبل الولادة واتخاذ تدابير على الفور لمنعها وإدارتها ودراسة الاكتئاب والقلق في مزيد من التفاصيل عن طريق البحث النوعي.

