**An-Najah National University**

**Faculty of Graduate Studies**

# Prevalence of Antenatal Depression Symptoms in Primary Health Care Centers in Nablus Governorate

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## Dedication

الحمد لله تعالى حمدا كثيرا طيبا الذي منحي القوة النفسية والجسدية والعزم وقوة الإرادة لإنجاز هذه الاطروحة في الوقت المناسب.

اهدي هذا الإنجاز المُشرِف الى من شرفني بحمل اسمه -والدي العزيز على قلبي امد الله بعمره-.

الى نور عيني ومهجة قلبي، الى من كانت دعواتها بلسم لقلبي ولروحي -امي الغالية-.

الى من حمل كل مسؤولياتي ومسؤوليات بيتي حتى اتفرغ لدراستي وانال درجة الشرف والامتياز -زوجي العزيز الغالي-.

الى السند والعضد والساعد -اخواني واخواتي- وخاصة اخي علاء عبد الرحمن الذي لولاه ما حققت هذا الحلم.

الى من غمرتني بحبها وعطفها وكانت بمثابة جدة تغدق بحبها وحنانها دون مقابل -والدة زوجي العزيزة-.

الى من كانت ام ثانية لي ولبناتي، حبيبتي وصديقتي -اخت زوجي منال شقير-.

أخيرا وليس باخرا، الى من احتارت كلماتي لوصف حبي لهم على كل الدعم النفسي الذي قدموه لي خلال هذا المشوار المكلل بالمصاعب حيث اعتمدوا على أنفسهم خاصة بالدراسة، فلذة قلبي زهراتي الأربعة (زاهرة، غزل، منال، ميلا).

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كما أنني أمتن بجزيل العرفان والشكر للدكتور محمد مرعي المشرف الثاني الذي قدم لي الدعم النفسي والتشجيع بالإضافة إلى التوجيه والإرشاد العلمي بشكل مستمر.

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كما أتقدم بجزيل الشكر لكافة أعضاء لجنة المناقشة الموقرين الذين تكبدوا الكثير من العناء في قراءة رسالتي المتواضعة واغنائها بمقترحاتهم القيمة.

وأخيراً وليس باخرا أتقدم بجزيل الشكر والتقدير لكافة الزميلات -خاصة الدكتورة عائشة محيبش في مراكز الرعاية الصحية الأولية بمديرية صحة نابلس- اللواتي أحسنوا استقبالي وعملوا على توفير البيئة المناسبة لجمع البيانات وأشكر كافة المشاركات بالدراسة اللواتي منحني ثقتهن ووقتهن وشاركن بدراستي.

# الإقرار

أنا الموقعة أدناه، مقدمة الرسالة التي تحمل العنوان:

**Prevalence of Antenatal Depression Symptoms in Primary Health Care Centers in Nablus Governorate**

أقر بأنّ ما اشتملت عليه هذه الرسالة إنما هو نتاج جهدي الخاص، باستثناء ما تمت الإشارة إليه حيثما ورد، وأنّ هذه الرسالة كاملة أو أي جزء منها، لم يُقدم من قبل للحصول على أي لقب أو بحث لدى أي مؤسسة بحثية أخرى.

# Declaration

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

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# Table of Contents

# List of Tables

# List of Figures

# List of Abbreviations

| | |
|---|---|
| **AD** | Antenatal Depression |
| **ANC** | Antenatal Care |
| **APH** | Antepartum Hemorrhage |
| **BDI-II** | Second Beck's Depression Inventory |
| **CBT** | Cognitive behavior therapy |
| **D** | Error proportion |
| **DM** | Diabetes Mellites |
| **DSM-IV** | The fifth edition of the Diagnostic and Statistical Manual of Mental Disorder. |
| **DVT** | Deep Vein Thrombosis |
| **ECT** | Electroconvulsive Therapy |
| **EMS** | Emergency Medical Services |
| **ENT** | Ears, Nose and Throat |
| **EPDS** | Edinburgh Postnatal Depression Scale |
| **etc.** | Et cetera |
| **F** | One way ANOVA |
| **GBV** | Gender-Based Violence |
| **GP** | General Practitioner |
| **HTN** | Hypertension |
| **IPT** | Interpersonal Psychotherapy |
| **IPV** | Intimate partner violence |
| **IRB** | Institutional Review Board |
| **IVF** | In vitro fertilization |
| **Km** | Kilometer |
| **Max** | Maximum |
| **MCH Clinic** | Maternal & Child Health Clinic |
| **MDD** | Major Depressive Disorder |
| **Min** | Minimum |
| **MOH** | Ministry of Health |
| **n** | Number |
| **N** | Population size |
| **NGO** | Non-Governmental Organizations |
| **NVP** | Nausea & Vomiting of Pregnancy |

| | |
|---|---|
| **oPt** | occupied Palestinian territory |
| **P** | Population proportion |
| **PA** | Palestinian Authority |
| **PCBS** | Palestinian Central Bureau of Statistics |
| **PHC** | Primary Health Care |
| **PHQ** | Patient Health Questionnaire |
| **PPH** | Postpartum Hemorrhage |
| **SD** | Standard Deviation |
| **SPSS** | Statistical Package for Social Sciences |
| **SSRIs** | Selective Serotonin Reuptake Inhibitors |
| **T** | Independent t-test |
| **TCAs** | Tricyclic Antidepressants |
| **UNRWA** | United Nations Relief and Works Agency |
| **USA** | United States of America |
| **WHO** | World Health Organization |
| **Z** | Confidence level |
| **%** | Percentage |

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## Abstract

**Background:** Antenatal depression is a depression that exists during the mother's pregnancy period. It has major and important negative effects for the well-being and health of mothers, babies and their families. Estimated 10% to 20% of the pregnant women in the world are affected by antenatal depression. Many factors are believed to be linked with antenatal depressive disorders such as past obstetric complications, lack of husband support, previous abortion, financial difficulties and unplanned pregnancy. Moreover, poor or lack antenatal care, chronic medical diseases and past psychiatric disorders have been recorded.

**Aim:** The study aims to determine the prevalence of antenatal depression symptoms in governmental primary health care centers in Nablus governorate.

**Method:** A quantitative, descriptive, cross sectional study design was used in this study. The sample consist of 343 pregnant women. A convenience sampling technique was used in this study. Self-administered questionnaire and Second Beck's Depression Inventory (BDI-II) scale were introduced in the present study for data collection.

**Results:** Most of the study participants living now in the village (62.4%) and the majority of the participants were married (99.4%). The results showed that 63.6% of participants were in the third trimester and 7.3% suffering from complications during this pregnancy. However, 41.1% of the participants were feeling constant stress during pregnancy and some of the participants suffering from family conflicts (16.0%). About one third (32.7%) of participants were exposed to violence from husband. On the other hands, according to the results that there is low score of depression levels among the participants (26.08%) and about half of participants (47.2%) have minimal depression, while 19.8% of them have mild depression, 19.3% of them have moderate depression and 13.7% of them have severe depression. Finally, the results showed that there is relation between depression levels and age group, level of education, place of residency, smoking, a family history, the number of gravidity & parities, suffering from any complications during previous pregnancies and husbands support ($P<0.05$).

**Conclusion:** Depression levels among pregnant women is low score of the minimal depression and few percentages have severe depression. Also, depression levels associated with age, level of education, place of residency, smoking, a family history, the number of gravidity & parities, suffering from any complications during previous pregnancies and husband's support.

**Key words:** Prevalence, antenatal depression, primary health care centers, Nablus governorate, Palestine.

# Chapter One

# Introduction

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## 1.1. Research Overview:

Pregnancy is defined as a well-being period which allows women to feel complete biologically, supported their emotional well-being, caused enjoyment and fulfillment, and at the same time led to a moment of stress and related changes (Murtaja & Thabet, 2017).

The onset of pregnancy can temporarily alter the hormonal balance in women which predispose them to a different form of affective disorders such as depression. Depression is one of the medical and psychological conditions in pregnancy. Maternal depression is often considered to be a predictor of increased incidence of preterm births, miscarriages, retarded fetal growth which can manifest as low birth weight and so on (Okagbue, et al., 2019).

Pregnancy is not considered as a pathological state; however, pregnancy heightens the vulnerability to emotional and psychological condition such as depression. Untreated depression during pregnancy can negatively affect the fetus and mother (Gadanya, Abulfathi, & Ahmad, 2018).

Depression is the fourth leading reason for burden of disease and the world's greatest causes of non- fatal burden accounting for nearly 12% of overall years lived with disability. It is one of the oldest and most common

human diseases. Patients with depression are at least as severely disabled as people with other chronic diseases such as rheumatoid arthritis, Hypertension (HTN) and Diabetes Mellites (DM) (Beyene, Gebremichael, & Gebreselassie, 2020).

Depression and pregnancy have an effect on each other. Pregnancy is an important psychological event, as well as, physiological one. With an increases of persistent life stressors, women can find themselves incapable to deal with the additional pregnancy demands (Thompson & Ajayi, 2016).

Nearly, one out of four women suffered from depression at some point in her life (Beyene, Gebremichael, & Gebreselassie, 2020).

Antenatal depression is a depression that exists during the mother's pregnancy period. It is characterized by symptoms of depression such as impaired sleep or concentration, feelings of guilt or poor self-worth, low energy and changes of appetite, lack of interest in daily tasks and a constant of depressed mood (Mahendran, Puthussery, & Amalan, 2019).

Other symptoms include poor memory, feeling irritable and resentful, feeling inadequate and worthless, numbness and suicidal or abortion thinking. Many women may have negative feelings about pregnancy, especially those living in poverty or already with dependent children. Issues or memories surrounding poor parenting or violence suffered by women may reassert themselves and cause distress. Relationships are

predominantly being under pressure because domestic abuse increases during pregnancy (Thompson & Ajayi, 2016).

During the antenatal phase, the progression of depressive symptoms increases dramatically; also, the clinically significant depressive symptoms are prevalent throughout the second and third trimesters. Many studies have indicated that depressive symptoms are more prevalent during pregnancy than during the postnatal phase (Zegeye, et al., 2018).

In low- and lower-middle-income countries, prevalence of antenatal mental disorders tend to be higher than their prevalence in high-income countries, and there have been significant differences recorded between countries in some regions (Mahendran, Puthussery, & Amalan, 2019).

Antenatal depression prevalence in developed countries is estimated to be 10-15% and 19-25% in economically poorer countries (Thompson & Ajayi, 2016).

The causes of antenatal depression are unknown, but environmental and neurobiological influences together with genetic predisposition are thought to be important factors (Thompson & Ajayi, 2016).

Many factors are believed to be linked with antenatal depressive disorders such as past obstetric complications, lack of husband support, previous abortion, financial difficulties and unplanned pregnancy. Moreover, poor or lack antenatal care, chronic medical diseases and past psychiatric

disorders have been recorded. Antenatal depressive disorders also have been documented that they lead to high repeat spontaneous abortions, postnatal depressive disorders and poor rearing capacity in children. Also, the consequences of unmanaged antenatal depressive disorders are often immune-related illnesses, low social functioning, intrauterine growth retardation, recurrent child diarrheal diseases, impaired postnatal growth and preterm delivery. Furthermore, preterm delivery, low birth weight, substance misuse and poor attendance at antenatal services have all been linked with depressive mood during pregnancy (Zegeye, et al., 2018).

The present research was conducted to determine the prevalence of antenatal depression in government primary health care centers and to identify its risk factors.

### 1.2. Socio-Demographic context:

Palestine is a low-income country with few resources, it is located between east of the Mediterranean Sea and west of Jordan River. Palestine is an occupied country by the Israeli military occupation. Where Israel occupied most of the Palestinian lands and cities in 1948, with the exception of the West Bank and Gaza Strip, which were occupied since1967, and, for Palestinians, travel between the two entities is rendered impossible. Thus, the two communities remain isolated from each other and many families remain split. Now, the occupied Palestinian territory includes the two geographically separate areas of the West Bank and Gaza Strip. The areas

feature several historical cities including East Jerusalem, Bethlehem, Hebron, Jericho, Nablus and Gaza City (WHO, 2006).

With regard to Nablus city, it is a large city within the Palestinian Territories in the northern West Bank in Palestine; lies in a strategic position, it stands at an elevation of around 550 meters above sea level. Nearby cities and towns include Huwara and Aqraba to the south, Beit Furik to the southeast, Tammun to the northeast, Asira ash-Shamaliya to the north and Kafr Qaddum and Tell to the west. Also, it located between Mount Ebal and Mount Gerizim. Nablus city enjoys a significant strategic location links north with the south as it is located in the main road conjunction extends from Nazareth to Jenin in the north to Hebron in the south, and from Jafa in the west to Jericho in the East. The city is 69 km distance from Jerusalem and 42 km distance from the Mediterranean Sea with 35,16 longitude and 32,13 latitudes (An Najah National University, 2020).

In 2020, according to the Palestinian Central Bureau of Statistics (PCBS) Estimated, the population of Palestine was 5,101,152 of whom 2.59 million were males compared to 2.50 million females, of which West Bank had 3.05 million inhabitants, and represents 59.9 % of the total population of Palestine, while the population of Gaza Strip was 2.04 million, and represents 40.1% of the total population of Palestine. Regarding to Nablus, the population was 407,754 individuals, which represent 8.0% of the total population of Palestine (Palestinian Central Bureau of Statistics, 2020).

The Palestinian society is a young society. In 2020, the population of the age under 15 years was 38.2% of the total population in Palestine. While the individuals of aged from 15 - 49 years was represent 25.6% of the total population. Also, the individuals of aged from 50 - 64 years was represent 4.2% of the total population. And the individuals of aged 65 years and above were 3.3%. The rate of population natural increase in Palestine was 2.5%. The sex ratio in Palestine was 103.4 males per 100 females, where the male's ratio in the West Bank was 103.9 males per 100 females. The number of females of reproductive age (15 - 49 years) was 1,262,314 which 24.7% of the total population in 2020, in West Bank 766,264 which 25.1% of the total population in West Bank (Palestinian MOH, 2021).

According to the Palestinian Central Bureau of Statistics (PCBS), the local Palestinian population is characterized by high total fertility rates 3.8 births per woman, 3.9 in Gaza Strip and 3.8 in West Bank. And also characterized by large family size, with an average of 5.5 children per family (Awad, 2021).

The number of unemployed in Palestine was 343,800 in 2019, distributed as 215,100 in Gaza Strip and 128,700 in the West Bank. The unemployment rate in West Bank was 15%. In addition, the unemployment rate for males in Palestine was 21% compared with 41% for females. There is a large gap in the labour force participation rate between males and females. About 7 out of 10 of males are participated in the labor force,

compared with about 2 out of 10 of females (Palestinian Central Bureau of Statistics, 2020).

The percentage of female-headed households in Palestine was 10.6% in 2017, 11.2% in the West Bank and 9.5% in Gaza Strip. Fifth of the persons in Palestine got married at an early age (less than 18 years) in 2016. Where the early marriage reached to 20.5% among females and 1.0% among males of the total married population in Palestine; the rate was 19.9% out of the total married population in West Bank end 2016 (Palestinian Central Bureau of Statistics, 2019).

Despite the rise in literacy rates among females over the last decade, the gap is still in favor of males by 3.0%, female literacy rates were 95.6% compared to 98.6% for male literacy in the year 2017. PCBS data showed that male enrollment in high schools was 5.06%, compared to female enrollment which was 4.08% for the year 2015-2017 (Palestinian Central Bureau of Statistics, 2019).

### 1.3. Palestinian primary health care context:

The number of MoH primary health care centers in Palestine increased from 203 at the end of 1994 to 475 in 2020, an increase of 134%. The Ministry of Health classifies primary health care centers in four levels in addition to mobile clinics. Primary health care (PHC) centers in MoH, offer a range of health services, 282 centers provide family planning services, 234 provide specialized services (such as Dermatology clinics, Pediatrics,

Diabetic, Psychiatry, Pulmonology, Gynecology, Orthopedic, ENT, Communicable and Non- Communicable disease, and Endocrinology), 40 provide oral and dental health services, and 200 provide laboratory services. The high-risk pregnancy service is available in 78 clinics, while mammography is provided at 12 clinics and X-ray service in 17 centers in West Bank. Also, it provides several services such as mother & child health care, immunization, health education, First aid, GP medical care, Gynecology and obstetrics, and emergency medical services (EMS) (Palestinian MOH, 2021).

In 2020, there were 2,012,524 visitors to primary health care centers. where the total number of pregnant visits to PHC centers was 97,360. The total number of pregnant women registered (first visit) in the MOH PHC centers was 28,547, with coverage of 37.4% of pregnant women; the average visit rate for pregnant women to the centers during pregnancy was 3.4 visits. In addition, 5,310 pregnant women were referred to high risk pregnancy clinics which constituted 18.6% of total pregnant women registered in different MoH MCH clinics, while total visits to high-risk pregnancy centers amounted to 24,965 during the same period. Also, the total number of visits by mothers to maternal and child centers in 2020 were 10,252 visits per physician at 13.4% of the reported live births and 52,429 visits per nurse at 68.6% of reported live births (Palestinian MOH, 2021).

## 1.4. Community mental health context:

Despite Palestine being subjected to Israeli military rule since 1967, the Israeli Mental Health Law has not been applied to the West Bank and Gaza Strip. Therefore, there were no laws in which mental health is practiced in Palestine. The Palestinians were in dire need of mental and psychological health care in light of the Israeli war, unemployment, displacement, and destruction of the infrastructure (Giacaman , et al., 2010).

Anecdotal evidence from many mental health sources leads to the conclusion that the high levels of acute and chronic stress in the occupied Palestinian territory, due to the socio-political situation, render the entire Palestinian population more vulnerable to mental health problems and, in particular, to a higher incidence of symptoms of anxiety and/or depression amongst the general population. Recent studies in the occupied Palestinian territory have shown that the stressors present in everyday Palestinian life due to the Israeli occupation (severe restrictions on freedom of movement, unemployment, lack of access to education and healthcare, etc.) seriously impact on personal, familial and community functioning (WHO, 2006).

In 2002, the first situation analysis undertaken by WHO in West Bank and Gaza revealed no mental health policy and a lack of public mental health services. The mental health system was still more hospital-based than community-based. Psychiatric hospitals in Bethlehem and Gaza were still the main assets to mental health care, while community mental health

provision was extremely patchy and rooted in a traditional and biomedical-oriented approach. Services were fragmented, under-developed, poorly resourced and, in many areas, no services were available. Mental health human resources were extremely scarce, and existing staff were over-worked, burnt out, poorly trained and demotivated. The public were unaware of the nature of mental illness, had misconceived views and held very stigmatizing and fixed beliefs surrounding mental illness. There was a lack of knowledge of mental health at primary health care level, no referral system or cooperation between different parts of the public health sectors or between the public health sector and the private sector or Non-Governmental Organizations (NGO) sectors. Some non-governmental organizations were, indeed, providing good mental health services but in an uncoordinated way; therefore, these fragmented good practices were not able to influence the general mental health system and actually were leaving untouched the culture of public sector services (WHO, 2006).

Due to the social structure of Palestinian society, and its emphasis on the extended family, even the severely mentally ill tend to remain in the family environment and are cared for by relatives. This may in part account for a relatively low occupancy level in psychiatric hospitals. It also reinforces the need to strengthen community-based outpatient services, as well as to build support systems for the families of those suffering from mental health problems (WHO, 2006).

Currently, mental health services are providing in Palestine through 16 specialized mental and community health clinics (Palestinian MOH, 2021).

The Mental health services are lack human and infrastructure resources because no specific budget directed for mental health services in the occupied Palestinian territory (oPt). An estimate of 2 % of the Palestinian Authority (PA) health care expenditures is used for mental health (WHO, 2014). Most mental health services are limited and depended on externally funded programs (Marie, Hannigan, & Jones, 2016).

In 2020, there were 2,093 new patients registered in the various mental health centers in the West Bank, with rate of 76.0 per 100,000 population. The distribution of new psychiatric cases registered in mental health and community centers by gender showed 1,187 males which represents 56.7% of the total registered new cases, and 906 females which represents 42.3% of the total registered new cases. The age distribution showed that the largest number of these cases was distributed in the 25-49 age group, amounting to 822 cases and represents 39.3% of the total recorded new cases. The total number of visitors to community mental health centers in West Bank was 84,852. In addition, mood (affective) disorders - including depression - was 13,378 of new visitors, it was second after schizophrenia (28,782 visitors) (Palestinian MOH, 2021).

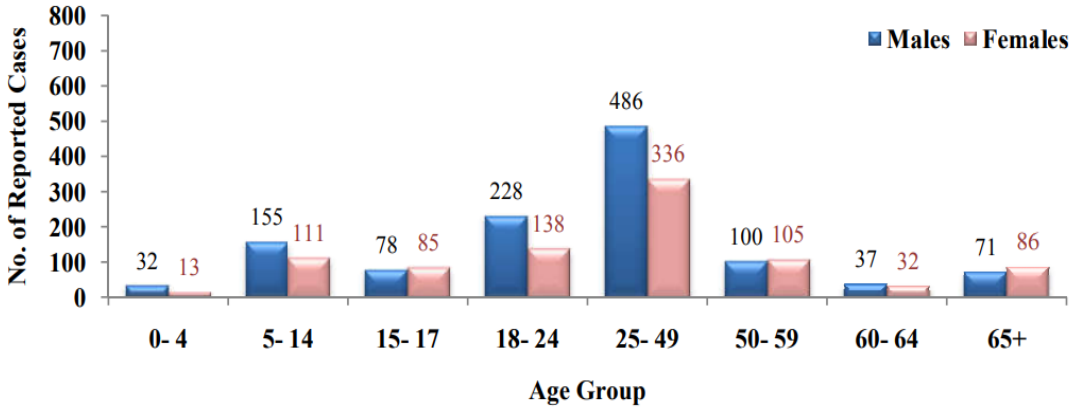


**Figure (1.1): Distribution of New Reported Psychiatric Cases by Sex & Age Groups in West Bank, Palestine (Palestinian MOH, 2021).**

## 1.5. Antenatal depression in Palestine:

In Palestine, according to a study conducting by Al-Tel & Abu Iznait in 2017, the incidence rates of different level of antenatal depression were 59.5% in the West Bank. They reported that 34% were a mild level of depression, 17.2% were a moderate level of depression, and 2.1% were a severe level of depression (Abu- Iznait & Al -Tell, 2017).

While, in 2017, according to a study conducting by Murtaja & Thabet in Gaza, the incidence rate of mild symptoms of depression was 23.3%, moderate symptoms were 33.3% and 18.5% were reported severe depression symptoms (Murtaja & Thabet, 2017).

Palestinian studies and reports have pointed to the fact that several factors are associated with an increased risk of developing antenatal depression, the most important of which are patriarchal traditions and gender biases inherent in Palestinian culture with a preference for male children,

unplanned pregnancy exposes (Qandil, Jabr, Wagler, & Collin, 2016). Besides, the presence of fetal defects, labour pains, lack of a support person, exposure to violence from husband, increase in the number of gravidae and births (Abu- Iznait & Al -Tell, 2017). Accommodation in the camp refugee, low income and low educated level (Murtaja & Thabet, 2017) and increased the high-risk pregnancy rate increased from 17.5% in 2018 to 19.5% in 2019 of the total Palestinian pregnant women (Palestinian MOH, 2021).

Moreover, regarding to Gender-Based Violence (GBV), the rate of GBV increased by 117% compared to the cases reported in 2017. 84.5% of the cases were married women. The husband was the perpetrator in 62.8% of GBV reported cases (Palestinian MOH, 2021). The husband was the cause of sexual violence in 57.1% of pregnant women who reported a moderate degree of depression (Abu- Iznait & Al -Tell, 2017). While 42.0% of reported GBV cases were psychological violence, followed and 39.9% of cases reported compound violence, which led to an increase in the percentage of women suffering mental disorders, from 42.6% in 2018 to 43.6% in 2019. Especially with the increasing times of conflicts in the region (Palestinian MOH, 2021).

Also, pregnancy heightens the vulnerability to emotional and psychological condition such as depression (Gadanya, Abulfathi, & Ahmad, 2018).

All of this are considered as risks factors for antenatal depression in Palestine.

In addition, the results of a Palestinian study showed that the healthcare system in Palestine continues faced specific challenges linked to occupation and political conflict (Hamdana & Defever, 2002). This led to an increased gap in the continuity and quality of health and psychological services across the antenatal period and increased restrictions on health care access due to political conflict (Abdul Rahim, et al., 2009).

Finally, despite its significant, adverse effects on the wellbeing and health of families, babies, women and society in general, the issue still unrecognized in several regions and countries around the world (Mahendran, Puthussery, & Amalan, 2019). Little attention has been given to the consequences and existence of either family medical practice, psychiatric, obstetrical or mental health services (Beyene, Gebremichael, & Gebreselassie, 2020).

## 1.6. Problem Statement:

Depression is one of the main global contributors to diseases burden, affecting about 322 million people around the world and it considered a leading cause for suicide (Beyene, Gebremichael, & Gebreselassie, 2020).

Most maternal depression studies have concentrated on postnatal depression. However, antenatal depression, is the most common

psychiatric disease during pregnancy and it is considered important for public health, for three reasons: First, during pregnancy, the burden of depression is high. Second, the most potent risk factors for post-natal depression were depression and anxiety during pregnancy. Third, untreated depression is related to a number of negative antenatal effects, involving, poor growth in the first year of life, preterm birth, as well as low birth weight "babies of depressed mothers are between 2 - 3 times greater likelihood to be of low birth weight" (Pereira, Lovisi, Pilowsky, Lima, & Legay, 2009).

Estimated 10% to 20% of the pregnant women in the world are affected by antenatal depression. Pregnancy has traditionally been regarded as a time protective against occurrence of depression; thus, little attention has been given to the consequences and existence of either family medical practice, psychiatric, obstetrical or mental health services (Beyene, Gebremichael, & Gebreselassie, 2020).

Antenatal depression is considered a severe mental health disorder that can have a negative effect on women's lives. Depressive disorders are not only widespread and chronic among women all over the world but also it is one of the main causes of disability (Beyene, Gebremichael, & Gebreselassie, 2020).

Antenatal depression has significant and negative impacts on the well-being and health of mothers, children, and their families. A variety of

complications are more likely to occur during pregnancy, including a higher risk of poor fetal development, premature birth, miscarriage, nausea and vomiting in women with antenatal depression. Also untreated antenatal depression itself is a significant contributor to the development postnatal depression, therefor the women with antenatal depression are at greater risk of experiencing other psychological disorders such as panic, anxiety and bipolar disorders. Despite its significant negative impacts on the well-being and health of the family, babies, women and society in general, this issue is still not recognized in many regions and countries around the world due to the lack of accurate prevalence rates (Mahendran, Puthussery, & Amalan, 2019).

The antenatal depression contemplated now to be a worldwide public health concern because of its seriousness, recurrence and chronic nature as well as its detrimental impacts on women's health and children's development (Zegeye, et al., 2018).

Although it is a major public health concern, there is no studies about this disease in governmental health care centers in Westbank. On the other hand, there is a study conducted in the health centers of the United Nations Relief and Works Agency for Refugees by Abu Zneit in 2017.

Since the lack of information and limited attention to the disorder may worsen the effects of the problem and may restrict the action to be taken. And considering the potential negative effects of depression in pregnant

women; studies on the prevalence, causes and risk factors related to antenatal depression are required.

### 1.7. Significant:

The early identification of symptoms may facilitate timely treatment and keep the disease from worsening and deteriorating. Also, the early detection of antenatal depression can improve pregnancy outcomes and may act as an early predictor of postnatal depression.

In addition, early detection of maternal depression and the associated causes can also be an important method for minimizing maternal mortality and morbidity related to antenatal depression so that early screening of antenatal depression will enhance the capacity to identify the level of antenatal depression and improves treatment that ensures optimal health outcomes.

The outcomes of this research will help policymakers and program managers devise effective strategies for reducing antenatal depression in Palestine and will be taken into consideration in taking appropriate steps and measurements to minimize maternal mortality and morbidity.

Moreover, the results of the study will be an important source of information for health care providers and researchers when conducting additional investigation in related topics in Palestine.

This research would also include relevant and useful information for health workers to determine the prevalence and level of antenatal depression and associated factors that lead health workers to provide comprehensive professionally antenatal care, to remain alert for related factors, and provide psychological support throughout the antenatal phase.

## 1.8. Aims of the study:

### 1.8.1. General aim:

The general objective of this study is to determine the prevalence of antenatal depression symptoms in government primary health care centers in Nablus governorate.

### 1.8.2. Specific aims:

- To determine the level of antenatal depression symptoms among pregnant women in government primary health care centers in Nablus governorate.
- To recognize the most common risk factors for antenatal depression symptoms in pregnant women in government primary health care centers in Nablus governorate.
- To identify the association between the risk factors and level of antenatal depression among pregnant women in government primary health care centers in Nablus governorate.

## 1.9. Research questions:

- What is the prevalence of antenatal depression symptoms in government primary health care centers in the Nablus governorate?
- What is the level of antenatal depression symptoms among pregnant women in governmental primary health care centers in the Nablus governorate?
- What are the most prevalent risk factors of antenatal depression symptoms among pregnant women in government primary health care centers in Nablus governorate?
- What is the association between the risk factors and level of antenatal depression among pregnant women in government primary health care centers in Nablus governorate?

## 1.10.Null Hypotheses:

- There is no relationship between the prevalence of antenatal depression and the risk factors of antenatal depression symptoms among pregnant women in governmental primary health care centers in the Nablus governorate, at the level p-value $\leq 0.05$.
- There is no relationship between the level of antenatal depression and the risk factors of antenatal depression among pregnant women in governmental primary health care centers in the Nablus governorate, at the level p-value $\leq 0.05$.
- There is no relationship between sociodemographic factors and antenatal depression among pregnant women in the Nablus governorate, at the level p-value $\leq 0.05$.

- There is no relationship between health history and antenatal depression among pregnant women in the Nablus governorate, at the level p-value ≤ 0.05.
- There is no relationship between obstetric characteristics and antenatal depression among pregnant women in the Nablus governorate, at the level p-value ≤ 0.05.
- There is no relationship between complications during pregnancy and antenatal depression among pregnant women in the Nablus governorate, at the level p-value ≤ 0.05.
- There is no relationship between emotional support during pregnancy and antenatal depression among pregnant women in the Nablus governorate, at the level p-value ≤ 0.05.
- There is no relationship between stressful life events during this pregnancy and antenatal depression among pregnant women in the Nablus governorate, at the level p-value ≤ 0.05.

## 1.11.Conceptual framework:

Based on the review of the available literature, the researcher established the conceptual framework. The conceptual framework is the map that directs the design & achievement of the study, and to summarize and clarify the study's variables, also it used to guide the research process and make the findings more significant and relevant.

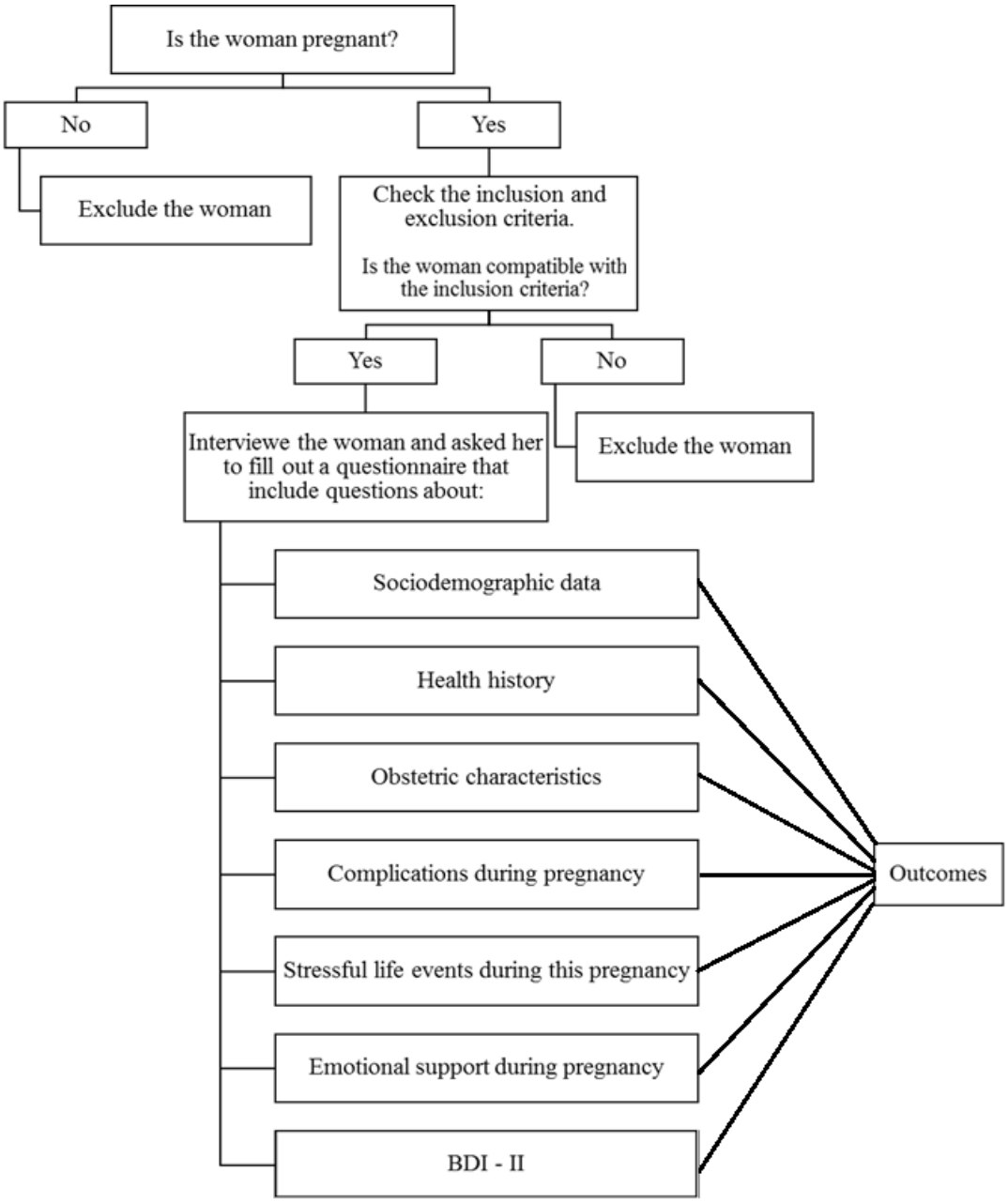


**Figure (1.2): Conceptual framework that developed by researcher.**

## 1.12.Conceptual and operational definition of the study variables:

Dependent variable: Antenatal Depression.

Independent variables: Age of mother, level of education, residential area, economic status & nature of the work, marital condition, polygamous

husband, conflicts in the family, violence against pregnant women, loss of social support "such as loss support of husband or community", smoking history "such as cigarettes or hookah", antenatal follow-up, obstetric factors such as "unwanted or unplanned pregnancy, gender of the fetus, pregnancy trimesters, complications associated with pregnancy, primigravida, multigravida, etc.", history of stillbirth, history of abortions, and history of mental or psychiatric diseases.

**Table (1.1): Conceptual and operational definition of the study variables.**

| Variable | Conceptual definitions | Operational definition | |
|---|---|---|---|
| Antenatal Depression | The fifth edition of the Diagnostic and Statistical Manual of Mental Disorder (DSM-IV) defines antenatal depression as Major Depressive Disorder (MDD), which mostly associated with environmental and genetic factors (American Psychiatric Association, 2013) that affect a pregnant woman, and makes her feel sad all the time for weeks or months throughout pregnancy, and can be a precursor to postpartum depression if not properly treated. The disorder can range from mild to severe and it can affect women in various ways (Tommy's PregnancyHub, 2018). | This question is answered according to BDI-II scale | |
| | | 0–13 | Non or Minimal depression. |
| | | 14–19 | Mild depression. |
| | | 20–28 | Moderate depression. |
| | | 29–63 | Severe depression. |
| Polygamous husband | Polygamous: It is defined as a marriage to more than one spouse at a time (Mabaso, Malope, & Simbayi , 2018). | This question is answered by choosing yes or no. | |
| Violence against pregnant women | The term violence against women means any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or private life (Department of Social Services, Australian Government, 2020). | This question is answered by choosing yes or no. If yes, specify:<br>• Emotional violence.<br>• Physical violence.<br>• Sexual violence. | |

| | | |
|---|---|---|
| Antenatal follow-up | Antenatal follow-up or antenatal care: It is the care that women get from health professionals during their pregnancy to make sure that she and her baby are as best as possible (National Health Service, 2020). | This question is answered by choosing yes or no. |
| Unplanned pregnancy | Unplanned pregnancy is a pregnancy that is either unwanted, such as the pregnancy occurred when no children or no more children were desired. Also, the pregnancy is mistimed, such as the pregnancy occurred earlier than desired (National Center for Chronic Disease Prevention and Health Promotion, 2021). | This question is answered by choosing yes or no. |
| Pregnancy trimesters | First trimester: From the first week to the thirteenth week.<br>Second trimester: From the fourteenth week to the twenty-eighth week.<br>Third trimester: From the twenty-ninth week until the end of pregnancy.<br>(University of California San Francisco, 2020) | This question is answered by selecting one of the following:<br>• First trimester.<br>• Second trimester.<br>• Third trimester. |
| Gravidity | Gravidity is defined as the number of times that a woman has been pregnant (Tidy, 2019). | This question is answered by selecting one of the following:<br>• First one<br>• 2-3<br>• 4-5<br>• 6 or more |
| Parity | Parity is defined as the number of times that she has given birth to a fetus with a gestational age of 24 weeks or more, regardless of whether the child was born alive or was stillborn (Tidy, 2019). | This question is answered by selecting one of the following:<br>• 0<br>• 1-3<br>• 4-5<br>• 6 and more |
| History of stillbirth | A stillbirth is when a fetus dies after the mother's 20th week of pregnancy. The baby may have died in the uterus weeks or hours before labor. Rarely, the baby may die during labor. Although prenatal care has drastically improved over the years, the reality is stillbirths still happen and often go unexplained (Cleveland Clinic medical professional, 2020). | This question is answered by choosing yes or no. |
| History of abortions | An abortion is a loss of pregnancy due to the premature exit of the products of conception (the fetus, fetal membranes, and placenta) | This question is answered by selecting |

| | | |
|---|---|---|
| | from the uterus due to any cause. An abortion may occur spontaneously (termed a miscarriage) or may be medically induced (Marks, 2021). | the number of abortions.<br>• 0<br>• 1<br>• 2<br>• More than 2. |
| History of mental or psychiatric diseases | A mental disorder, also called a mental illness or psychiatric disorders are health conditions involving changes in emotion, thinking or behavior (or a combination of these). Mental illnesses are associated with distress and/or problems functioning in social, work or family activities (Parekh, 2018). | This question is answered by choosing yes or no. |

# Chapter Two

# Theoretical and Literature Review

# Chapter Two

# Theoretical and literature review

## Theoretical review for antenatal depression:

### 2.1. Signs and symptoms:

In general, it is characterized by symptoms of depression such as impaired sleep or concentration, feelings of guilt or poor self-worth, low energy and changes of appetite, lack of interest in daily tasks and a constant of depressed mood (Mahendran, Puthussery, & Amalan, 2019). Other symptoms include poor memory, feeling irritable and resentful, feeling inadequate and worthless, numbness and suicidal or abortion thinking (Thompson & Ajayi, 2016).

Other common signs and symptoms included Feelings “such as feeling depressed or extremely sad most of the day nearly every day, feeling irritable or angry, feeling very guilty or worthless, feeling hopeless, feeling overwhelmed, not enjoying the baby; and not interested in or able to enjoy activities that she used to enjoy”; Behaviors “such as sleeping a lot more or less than usual, eating a lot more or less than usual, and withdrawing from family, friends and social contact”; Physical Symptoms “such as crying for no apparent reason, feeling restless, having little energy, having difficulty concentrating or making decisions, and having physical symptoms like headaches or upset stomach”; and Thoughts “such as having

thoughts that she is a ‘bad’ or ‘terrible’ mother and having frightening thoughts including harming herself and/or the baby, or even suicidal thoughts” (Haring, Smith, Bodnar, & Ryan, 2011).

## 2.2. Causes:

There are many causes that may contribute or cause depression during pregnancy, including: The physical situation of the family leads to extreme pressure on the lady and herself, especially if there are other children; Tired pregnancy symptoms can also affect mental health, as well as hormonal changes; Fear of new responsibility, especially if the woman is going to be a mother for the first time; Changes in relationships with life partner, or lack of self-confidence; Worrying - if the family already has children - about how they will be affected by the new baby; Complications in pre-pregnancy or childbirth are an important cause of pregnancy depression; and Previous infertility or abortion, it is normal for a woman to be worried about pregnancy if she finds it difficult to conceive before, or has had an abortion before (Sedky, 2019).

## 2.3. Risk factors:

Anyone can become depressed during pregnancy, though some people are more vulnerable. The most common risk factors for antenatal depression, including: Previous history of depression, Little or no exercise, Not having a partner, A history of abuse or trauma, Abuse by a partner, feeling out of control, Smoking, using certain drugs, such as opioids, Sleep problems,

Immune system problems, having an unintended pregnancy, and not having a job (Legg & Villines, 2019).

In addition, many factors are believed to be linked with antenatal depressive disorders such as past obstetric complications, lack of husband support, previous abortion, financial difficulties and unplanned pregnancy. Moreover, poor or lack antenatal care, chronic medical diseases and past psychiatric disorders have been recorded. Antenatal depressive disorders also have been documented that they lead to high repeat spontaneous abortions, postnatal depressive disorders and poor rearing capacity in children. Also, the consequences of unmanaged antenatal depressive disorders are often immune-related illnesses, low social functioning, intrauterine growth retardation, recurrent child diarrheal diseases, impaired postnatal growth and preterm delivery. Furthermore, preterm delivery, low birth weight, substance misuse and poor attendance at antenatal services have all been linked with depressive mood during pregnancy (Zegeye, et al., 2018).

## 2.4. Assessment and Diagnosis:

Simple screening questions can be used at regular intervals during pregnancy. It is beneficial, but not always possible, to assess a woman with a history of mental health disorders before she conceives. This allows any anticipated treatment to be planned with respect to using the safest and most effective options (The Best Practice Advocacy Centre, 2010).

## 2.5. Depression DSM-5 Diagnostic Criteria

A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

Note: Do not include symptoms that are clearly attributable to another medical condition.

1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad, empty, hopeless) or observation made by others (e.g., appears tearful).
2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day.
3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day.
4. Insomnia or hypersomnia nearly every day.
5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).
6. Fatigue or loss of energy nearly every day.

7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
8. Diminished ability to think or concentrate, or indecisiveness, nearly every day.
9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

B. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The episode is not attributable to the physiological effects of a substance or to another medical condition.

Note: Criteria A–C represent a major depressive episode.

Note: Responses to a significant loss (e.g., bereavement, financial ruin, losses from a natural disaster, a serious medical illness or disability) may include the feelings of intense sadness, rumination about the loss, insomnia, poor appetite, and weight loss noted in Criterion A, which may resemble a depressive episode. Although such symptoms may be understandable or considered appropriate to the loss, the presence of a major depressive episode in addition to the normal response to a significant loss should also be carefully considered. This decision inevitably requires the exercise of

clinical judgment based on the individual's history and the cultural norms for the expression of distress in the context of loss.

D. The occurrence of the major depressive episode is not better explained by schizoaffective disorder, schizophrenia, schizophreniform disorder, delusional disorder, or other specified and unspecified schizophrenia spectrum and other psychotic disorders.

E. There has never been a manic episode or a hypomanic episode.

Note: This exclusion does not apply if all of the manic-like or hypomanic-like episodes are substance-induced or are attributable to the physiological effects of another medical condition. (American Psychiatric Association, 2013).

## 2.6. Treatment:

### a) Psychological treatment

Psychotherapy is recommended for any woman suffering from antenatal depression, as it is an effective way for the mother to express her feelings in her own words. Specifically, Cognitive Behavioral Therapy effectively helps decrease symptoms of antenatal depression (Li, et al., 2020). Familial support may also play a role in helping with the emotional aspects of antenatal depression (Hu, et al., 2019).

There are two specific types of psychological therapy that have been proven to be effective for depression.

- Cognitive behavior therapy (CBT)

Cognitive behavior therapy can help to identify the negative thinking that is likely to be affecting mood (feelings) and behavior. When a woman is depressed, they see life in a negative way – as it reflects the way that they are generally feeling about themselves and/or life in general. The cognitive aspect of this treatment is, therefore, about helping to identify this negative thinking style, and begin to challenge negative thoughts by looking at the evidence for them and rationalizing them. The behavioral aspect of this treatment for depression may involve doing things that was avoided or no longer doing. When woman depressed, she often doesn't gain interest or pleasure out of things that they used to do, and so often stop doing these things – which takes even more pleasure out of life, can make she feel more isolated and robs her of the feeling of satisfaction when she achieves something. Therefore, often treatment also involves setting small goals and, although they may seem hard to do at first, but they will become easier and give the opportunity to experience pleasure again – thus playing an important role in recovery (Centre of Perinatal Excellence, 2021).

– Interpersonal Psychotherapy (IPT)

As depression may be associated with past losses and/or changes, this type of therapy can assist woman to resolve these losses, changes or manage conflicts which may be contributing to her experience of depression (Centre of Perinatal Excellence, 2021).

**b) Exercise Therapy**

Studies suggest that forms of exercise can help with depressive symptoms both before and after birth, but not prevent it entirely. Exercise options that have been studied to help reduce symptoms: Yoga, Walking, Stretching, and Aerobic exercise (Daley, et al., 2015).

**c) Medical treatment**

– <u>Antidepressant medications</u>

Antidepressant medications are most commonly used for the treatment of depression. There are antidepressants that are safe to use during pregnancy, as they are not associated with any birth defects. Unlike the earlier antidepressants, the medications that are available now are not only safe, but also effective and not addictive. Taking antidepressants can also help protect against potential negative impacts of depression on developing baby. The National Perinatal Mental Health Guideline identifies two types of antidepressant medication that can be used in pregnancy, namely selective serotonin reuptake inhibitors (SSRIs) and tricyclic antidepressants (TCAs) (Centre of Perinatal Excellence, 2021).

There are several kinds of antidepressants. Most affect chemicals in the brain called neurotransmitters, but each kind does it in a different way. And each has risks and benefits during pregnancy. Antidepressants that may be used during pregnancy include:

- ✓ Serotonin reuptake inhibitors (also called SSRIs). SSRIs are the most commonly prescribed antidepressant medicines. SSRIs that may be used during pregnancy include citalopram (Celexa®), fluoxetine (Prozac®) and sertraline (Zoloft®).
- ✓ Serotonin and norepinephrine reuptake inhibitors (also called SNRIs), like duloxetine (Cymbalta®) and venlafaxine (Effexor XR®).
- ✓ Tricyclic antidepressants (also called TCAs), like nortriptyline (Pamelor®).
- ✓ Bupropion (Wellbutrin®).

(March of Dimes organization, 2019).

– <u>Electroconvulsive therapy (ECT)</u>

This type of treatment is only used in pregnancy for the treatment of severe depression when other treatments are not having any effect and the risk of not treating symptoms (such as suicidal thoughts) outweighs the risk of the treatment itself. As this is a very specialist treatment, it can only be prescribed by an antenatal psychiatrist who generally performs the treatment alongside obstetrician and a specialist obstetric anesthetist. Together, the specialist team work to ensure the close monitoring of

woman and unborn baby. The risks to the woman and baby from the treatment are low and, in many cases, is a life-saving treatment for women with severe depression in pregnancy (Centre of Perinatal Excellence, 2021).

## 2.7. Complications:

Antenatal depression is associated with increased risk of: Miscarriage; Preterm delivery; Increased pregnancy symptoms, pain relief in labour and worse obstetric outcome; Higher incidence of lower birth weight, caesarean section but not infant mortality; Attempted/completed suicide; Possible longer-term cognitive, emotional and behavioral difficulties in offspring; and Relationship and family break-up (Knott & Cox, 2016).

In addition, Maternal depression has been associated with various detrimental health concerns for both the baby and the mother. Babies born to women with untreated depression are at risk of prematurity, low birth weight, and intrauterine growth restriction. The negative consequences of untreated maternal depression might also affect childhood development. Higher impulsivity, maladaptive social interactions, and cognitive, behavioral, and emotional difficulties have been shown to occur. The adverse outcomes of untreated maternal depression might also be detrimental to the mother. Importantly, pregnant women with depression are more at risk of developing postpartum depression and suicidality. Increased hospital admissions and pregnancy complications such as

preeclampsia have also been linked to untreated maternal depression. It has also been shown that pregnant women with depression are more likely to engage in high-risk health behavior. Some examples include smoking, illicit substance and alcohol abuse, and poor nutrition. To prevent this behavior, antidepressant treatment might be needed (Chan, Natekar, Einarson, & Koren, 2014).

## B. Literature review:

Through a review of previous studies; the researcher reviewed the studies that dealt with the prevalence of Antenatal depression in health care centers, at the local, regional and international levels.

The review of literature was carried out based on all accessible literature such as: books, theses, published research papers, systematic reviews, journal articles and websites. The researcher reviewed and looked at the prevalence of antenatal depression, signs & symptoms, risk factors, causes, diagnosis, classification and disorder management.

The researcher was used both Medical and Psychiatric Research Sources (CINAHL, PsycINFO, PubMed and Google Scholar), to pick related studies and articles on this subject, in single or combined phrases, with the following main words: prenatal/antenatal depression; prenatal/antenatal depression in Palestine; depression during pregnancy; causes of prenatal/antenatal depression; and risk factors for prenatal/antenatal depression. Further consideration was given to the related papers cited in

the references of selected articles for inclusion in the literature review. Original literatures have been involved if they have been written and published in English language. Moreover, after cross-referencing the various sources and removing duplicates and irrelevant documents, the literatures documents were chosen. In addition, the studies were omitted whether the risk factors examined, the periods of assessments, the measures used and the statistical analysis were not explicitly defined, or if they had explored risk factors for depression in the postnatal stage and it was not possible to ascertain if the risk factors were unambiguously relevant to the antenatal stage.

In regards to the causes of major depression in the general population, the scientific literature is detailed and systematic. Nevertheless, the evidence on depression predictors in women during the pre and postnatal stages is rare (Silva, et al., 2010).

There are no firm estimates of antenatal depression and no consensus on appropriate screening tools around the world. The prevalence rates are likely to differ among studies and countries due to choose of measures and sociocultural determinants. Studies have used either screening measures or structured interview schedules to confirm the diagnosis.

Many research has reported the risks of not detecting and treating antenatal depression. In addition to impacting psychological wellbeing, the antenatal

depressive symptoms are often linked with an elevated of obstetrics risk (Silva, et al., 2010).

According to a recent systematic review of cohort studies, the antenatal depression prevalence was 14%, compared to a 10.5% pooled prevalence of postnatal depression.

Furthermore, in a study of pregnant women in an urban community in Pakistan showed that 18% of the women were anxious and/or depressed. Also, in a study conducted in Malaysia, the prevalence of anxiety and depression disorders among antenatal mothers using diagnostic clinical interview were 9.1% and 8.6%, respectively (Murtaja & Thabet, 2017).

There is a study that was done by Kaiyo-Utete et.al in Harare, the Republic of Zimbabwe. The study was done between January to April 2018. It aims to investigate the prevalence and relevant factors of antenatal depression among pregnant women. The sample size was including 375 pregnant women, the study tool was electronic questionnaire form and structured clinical interview for DSM-IV to measure antenatal depression. Statistical tests were performed to identify the relationship between antenatal depression and characteristics of the participants. The findings showed that 23.5% of participants were depressed. Antenatal depression was related to a chronic sickness diagnosed throughout this pregnancy, not having somebody to speak to once feeling inundated with life. Women who have witnessed violence from her partner were 2.5 times a lot of doubtless to

possess antenatal depression than those who didn't. Those women who experienced had an unfavorable life event in the past year were twice as likely to have antenatal depression as those who don't had such event. However, being married or cohabiting with the father of the child lowered the risk of experiencing an antenatal depression (Kaiyo-Utete, et al., 2020).

In addition, there was analytical cross-sectional study conducted by Mansour Ghanaie M et.al. It aimed to identify the prevalence and factors related to depression, with focus on fetal sex. The study tool was a questionnaire including three parts: demographic data, obstetric factors and Beck Depression Scale. The prevalence of depression was determined to be 27.4% in 500 pregnant women. mother's job condition, children number same sex of fetus with previous children, length of notice from fetus sex, depression history in the family, spousal satisfaction, and stressful event were factors correlated with depression in pregnancy and were determined as the most potent variables influencing the occurrence of antenatal depression. And it showed that there was significant relationship between depression during pregnancy and "the same gender of fetus with previous child and duration of knowledge of fetal sex" (Ghanaie, Solimani, kazemnejad, Samadi.Sophi, & Asgari.Galebin, 2019).

At the same way, there was a prospective, observational, longitudinal study conducted by Bozzo et.al in 2011 to determine whether Nausea & vomiting of pregnancy (NVP) is associated with depression in women with no history of depression prior to pregnancy. In which data were analyzed

obtained from 57 women. It was observed no association between depressive symptoms and Nausea & vomiting of pregnancy (NVP) (Bozzo, Einarson, Koren, & Einarson, 2011).

Another study was performed by Manikkam & Burns, to determine the prevalence and risk factors associated with antenatal depressive symptoms in a KwaZulu-Natal population. The Edinburgh Postnatal Depression Scale and a socio-demographic questionnaire in English and isiZulu were administered to 387 antenatal outpatients at King Edward VIII Hospital in Durban. It showed \that of the participants, 149 (38.5%) suffered from depression and 38.3% had thought of harming themselves in the preceding 7 days. Risk factors for depression included HIV seropositivity, a prior history of depression, recent thoughts of self-harm, single marital status and unplanned pregnancy (Manikkam & Burns, 2012).

Besides, there is a study was performed by Arora & Aeri. The goal was to determine the depression burden and the risk factors related to it in pregnant Indian women. And showed that the prevalence of AD was found to be ranging from 9.18% to 65.0% in northern, western, and southern part of India. The factors such as unemployment, advancing pregnancy and age, male gender preference, abortion history, unplanned pregnancy, multigravidity, lower/lower-middle socioeconomic status, poor education status of women, bad relations with in-laws, and demand for dowry were significant predictors for AD (Arora & Aeri, 2019).

Likewise, a study done by Ayano, Tesfaw, & Shumet, and aimed to systematically summarize the current evidence for antenatal depression epidemiology in Ethiopia. Studies investigating the prevalence and related causes of antenatal depression from 3 electronic datasets (SCOPUS, EMBASE, and PubMed) have been systematically reviewed and meta-analyzed by the researchers. It showed that the pooled prevalence of antenatal depression in Ethiopia was 21.28%. A high risk of developing antenatal depression for pregnant women were linked to having a prior depression history, complications during pregnancy, stillbirth history, no antenatal care follow-up, irregular antenatal care follow-up, and not satisfied by antenatal care follow-up. The researchers also observed that the risk of experiencing antenatal depression was greater for women suffering from partner violence during pregnancy, medium or low social support, food insecurity, and those who were between the ages of 20-90 years old, house wives and farmers (Ayano, Tesfaw, & Shumet, 2019).

In the same way, to synthesize logical data about the prevalence and possible risk factors of antenatal depression in Ethiopia. There was a study performed by Getinet, et al. In which the research team explored multiple databases to find published studies with evidence on the prevalence of antenatal depression. Nine papers were subsequently used for the prevalence of synthesis, of which four research were chosen for the study of the impact of unplanned pregnancy on antenatal depression. For the 5 researches chosen, which used BDI, the cumulative prevalence of antenatal

depression was 25.33. The other 4 researches that also used other diagnostic tools (1 PHQ and 3 EPDS) had the prevalence decreased to 23.56, and the cumulative impact of unplanned pregnancy on antenatal depression was 1.93. Variables like age, marital condition, level of income, employment, social support, conflict, mother age during pregnancy, complication during to pregnancy, unplanned pregnancy, antenatal follow-up and history of the previous mental disorder were related to antenatal depression (Getinet, et al., 2018).

Additionally, there was a study conducted by Mirieri, Mweu, & Olenja, to recognize determinants of antenatal depression among women visiting a referral facility in Mombasa County, Kenya, at the antenatal clinic. In which the only risk factors (significant determinants) for antenatal depression in this setting were marital condition, employment, lack of social support and domestic violence (Mirieri, Mweu, & Olenja, 2020).

Furthermore, to study the prevalence of depression during pregnancy and its associated obstetric risk factors among pregnant women attending routine antenatal checkup; there is a cross-sectional observational survey done by Ajinkya, Jadhav, & Srivastava, and showed that prevalence of depression during pregnancy was found to be 9.18% based upon BDI, and it was significantly associated with several obstetric risk factors like gravidity, unplanned pregnancy, history of abortions, and a history of obstetric complications, both present and past (Ajinkya, Jadhav, & Srivastava, 2013).

As well as, a community based- cross sectional study was conducted by Belete, Assega, Abajobir, Belay, & Tariku, to assess the antenatal depression prevalence and factors related to it among pregnant women in Aneded woreda, Northwest Ethiopia. And found that the prevalence of antenatal depression was 15.20%. Urban residence, marital status of being unmarried, occupation of being government employee and merchant, prim gravid, not attend antenatal care (ANC) follow up, intimate partner violence, unplanned pregnancy, and substance use were significantly factoring (Belete, Assega, Abajobir, Belay, & Tariku, 2019).

Moreover, Tuksanawes, Kaewkiattikun, & Kerdcharoen, were conduct a cross-sectional study of 402 pregnant women to discover the prevalence, associated factors, and predictive factors of depression in pregnant women living in an urban area. The prevalence of depressive symptoms in pregnant women in an urban zone was 18.9% among a total of 402 pregnant women. Symptoms of depression in pregnant women were strongly linked to substance abuse, low family income, financial insufficiency, marital and family conflict, divorce, extended family, history of previous complications in pregnancy, history of previous abortion, The essential variables that predict depression in pregnant women were family conflict and extended marital (Tuksanawes, Kaewkiattikun, & Kerdcharoen, 2020).

While Zegeye, et al., indicated that the progression of depressive symptoms increases dramatically during the antenatal phase; also, the

clinically significant depressive symptoms are prevalent throughout the second and third trimesters (Zegeye, et al., 2018).

Also, a study performed by Sheeba, et al. to assess the prevalence of antenatal depression and its associated risk factors among pregnant women in Bangalore, Southern India, showed that the proportion of respondents who screened positive for antenatal depression was 35.7%. Presence of domestic violence was found to impose a five times higher and highly significant risk of developing antenatal depression among the respondents (Sheeba, et al., 2019).

As well as, in a systematic review examining mental health diseases of African women living in Africa, the polygamous relations, separated/divorced, specifically single and marital status in general have been reported as a risk factors of antenatal depression (Sawyer, Ayers, & Smith, 2010).

While a descriptive cross-sectional study was conducted by Al-Azri et.al, at Muscat, Oman. The study was conducted between January and November 2014. It aims to investigate the prevalence of antenatal depression and the risk factors that related to its progression among Omani women. The survey includes a total of 959 pregnant women≥ 32 gestational weeks who visited one of 12 local primary health care centers at random basis. The research instrument was the Arabic form of the validated Edinburgh Postnatal Depression Scale (EPDS) self-administered

questionnaire for assessing and measure antenatal depression. The findings demonstrated that the prevalence of antenatal depression among the Omani women surveyed was (24.3%). Bivariate analysis results showed a significantly associated between antenatal depression with marital conflict, unplanned pregnancies, and history of depression in the family (Al-Azri, et al., 2016).

Also, there is a study conducted by Al Hejji, Al Khudhair, Al Musaileem, & Al Eithan, it was aimed to measure the prevalence and associated risk factors of antenatal depression (AD) among women attending antenatal clinics at primary care centers in the Ministry of Health in Al-Ahsa, Saudi Arabia. It found that the prevalence of AD among pregnant women in Al-Ahsa is 31.9%. The researchers found a significant association between AD and factors such as difficulty in sleeping, having a smoker husband, having one previous pregnancy, and having postabortion psychological complications (Al-Hejji, Al-Khudhair, Al-Musaileem, & Al-Eithan, 2019).

Moreover, a study that was done by Murtaja and Thabet in 2017 at Gaza Strip, Palestine. It aims to examine the levels of depression and anxiety for pregnant women who presenting primary healthcare clinics. Four hundred women attending primary healthcare centers for antenatal care, with 60% of the participants attending in government clinics, and 40% going to the UNRWA clinic in the Near East, the study tool was Beck Depression Scale and Socio-Demographic characteristics questionnaire. Statistical tests "such as independent t-test and One-way ANOVA" were used to examine

the differences in depression among pregnant women based on sociodemographic variables. The results showed that women who attended UNRWA clinics reported a higher incidence of depression than those who attended governmental clinics. At the same time, women living in refugee camps were comparatively more depressed than those living in a city or a village, and uneducated women reported a greater incidence of depression relative to the other groups. women with more than 8 children were more depressed than those with 5-7 children, and 4 and a smaller number of children. finally, results were showed that one-third of the women reported moderate depression 33.3%, and 23.3% mild symptoms of depression, and18.5% had a more severe form of depression (Murtaja & Thabet, 2017).

At the same way, a cross-sectional, quantitative descriptive study, was conducted by Abu-Iznait & Al -Tell in antenatal centers at 9 refugee camps in the West Bank, Palestine. The study was conducted between April to June 2016. It aims to investigate the prevalence of anxiety and depression for pregnant women and the relevant factors. The sample size was including 327 pregnant women who were randomly chosen, the study tool was (PHQ-9) Scale to measure the degree of depression. The principal results indicated that the pervasiveness of depression among pregnant women was high (59.5%) in the refuge. The pregnant women revealed the various levels of depression as follows: 34% of participants experiencing from mild depression, 17.2% experiencing from moderate depression, 6.1% experiencing from moderate to severe depression, and 2.1%

experiencing from severe depression. It concluded that the most important factors related to antenatal depression are participants age and gravity number (Abu- Iznait & Al -Tell, 2017).

**Summary:**

It became noticeable that the studies agreed on a range of outcomes, such as many studies support that depression are the most prevalent psychiatric diseases during pregnancy with an estimated prevalence ranging from 4% to 25%; Also, the prevalence of antenatal depression is higher in low income countries compared to high income countries; Moreover, the prevalence of antenatal depression is increase among women with family conflicts, loss of support, unwanted pregnancy, complications associated with pregnancy, primigravida, multigravida, history of abortions, and history of mental or psychiatric diseases; finally, the results of the researches in both Palestinian studies agreed that the prevalence of antenatal depression among pregnant women in Palestine, especially in the camps, was higher than it was in city or village, whether in the West Bank or Gaza Strip, and the reason for this may be due to the harsh conditions experienced by Palestinian women in camps in the West Bank and Gaza Strip.

While previous studies are differed in several issues such as the prevalence of antenatal depression is different among Palestinian women on the one hand, and Arab and international women on the other hand, as the rate in

Palestinian studies was higher than Arab and international studies; Also, there is a large difference in the sample size between Arab studies on the one hand and international and Palestinian studies on the other hand, as the sample size in Arab studies was much higher than the sample size of international and Palestinian studies; and there was a difference in the study tool between all the studies reviewed.

# Chapter Three

# Methodology

# Chapter Three

# Methodology

## 3.1. Research Design:

A quantitative, descriptive, cross sectional study design was used in this study.

As the descriptive statistics are often used to illustrate the basic characteristics of the research data. It provides brief summaries about the measures and the sample; Also, it forms the base of nearly every quantitative data analysis, along with simple graphics analysis (Trochim, 2020).

While the cross-sectional study is one of the kinds of research designs, that include looking at data from a population at a single point in time. This method was used to make inferences about possible relationships and to gather preliminary data to support further research and experimentation (Cherry, 2019).

## 3.2. Study Population:

The target group was all pregnant women who attended to the government antenatal clinics in Nablus until 30th of April 2021. Their number is 3149 pregnant, according to the Palestinian Ministry of Health.

Thirty-eight pregnant women were excluded, in which 37 women were excluded because of their pregnancy In Vitro Fertilization (IVF), and one pregnant woman was excluded because her age was less than 16 years. Therefore, the target population number during the study period is 3111.

### 3.3. Study Setting:

This study was performed in Nablus at governmental primary health care clinics affiliated with the Palestinian Ministry of Health. These clinics are: Balata, Almakhfia, Ras Al Ain, Beit Furik, Hawara, Asira ash-Shamaliya, An-Nassariya, Sebastia, Beta, Burqa, Jamma'in, Deir Sharaf, Qabalan, As-Sawiya, Al Naqoura, Bizzariya, Burin, Beit Imrin, Beit Iba, Bayt Dajan, Central care clinic, Talfit, Rujeib, Deir al-Hatab, Sarra, Azmut, Awarta, Urif, Einabus, Qaryout, Talluza, Aqraba, Qusra, Qusin, Majdal Bani Fadil, Yasid, Yatma, Tell, Al-Badhan, Duma, Salim, Al-Lubban ash-Sharqiya, Asira al-Qibliya and Osarin.

### 3.4. Study Period:

The study was beginning in March 2021, after receiving approval from the Institutional Review Board (IRB) of An-Najah National University and approval from the Research Ethics Committee of the Palestinian Ministry of Health. The pilot study was conducted between 1-15 May 2021. Data collection was started in 19 May 2021, to 19 July 2021. Data was entry on 25 July 2021. Also, data analysis, reviewing of literature and writing the study was continued until end of August 2021.

### 3.5. Sample Size:

It was included 343 pregnant women, and calculated by two methods:

First: By an online sample size calculator (Annex 1). It is accessible on website "Select Statistical Services"; and it used to calculate the accurate sample size (Select Statistical Services Limited, 2020).

Second: By Stephen Thompson Equation. Which use the following formula for the sample size:

$$n = \frac{N \times p(1-p)}{\left[\left[N-1 \times \left(d^2 \div z^2\right)\right] + p(1-p)\right]}$$

Where, n: Sample size; N: Population size; z: Confidence level at 95% = (1.96); d: Error proportion = (0.05); and p: Population proportion (expressed as a decimal) = 0.50 (Thompson S. K., 2012).

### 3.6. Sampling Technique:

A convenience sampling technique was used in this study. It is often referred to as availability sampling, which considered one of the types of non-probability sampling method that focuses on collection of the data from members of the population that are conveniently available to participate in study. The researcher chose this technique because it has several advantages, including: Simplicity of sampling and the ease of research; Helpful for pilot studies and for hypothesis generation; Data

collection can be facilitated in short duration of time; and Cheapest to implement that alternative sampling methods (Dudovskiy, 2020).

### 3.7. Inclusion & Exclusion Criteria:

**Inclusion Criteria:**

- All Pregnant women in Nablus governorate, who had a spontaneous pregnancy.
- Pregnant women who were attending routine antenatal care in governmental primary health care centers in Nablus governorate.
- Pregnant women who aged 16 years and over.
- Pregnant women who resident in the research area.
- Pregnant women who were available at the study period.
- Pregnant women who had the ability to read, write, and use mobile phones or laptops.

**Exclusion Criteria:**

- Pregnant women who didn’t have a spontaneous pregnancy (such as having IVF).
- Pregnant women who didn’t attending routine antenatal care in governmental primary health care centers in Nablus governorate.
- Pregnant women who didn’t resident in the research area.
- Pregnant women who refuse participation in this study.
- Pregnant women who not interested to participate in this study.
- Pregnant women who were on treatment for mental disorders.

- Pregnant women who aged under 16 years.

### 3.8. Study Tool:

In order to meet the aims of the study, self-administered questionnaire (Annex 2) was introduced in the present study for data collection. It was prepared with the assistance of the supervisor of the researcher, and with collaboration of mental-health experts, after seeing, reading of many questions and questionnaires from different related previous literatures and studies.

The questionnaire was composed of many sections, including questions about: age group, level of education, residential area, employment & income, marital condition, family type, number of family members, having a polygamous husband , conflicts in the family, violence against pregnant women, loss of social support, smoking history, suffering from medical diseases, gravidities, parities, history of abortions, number of male children, number of female children, antenatal follow-up, unwanted or unplanned pregnancy, gender of the fetus, pregnancy trimesters, complications associated with pregnancy, history of stillbirth, history of abortions, history of mental or psychiatric diseases and levels of antenatal depression.

Antenatal depression was measured and assessed by using second Beck's Depression Inventory (BDI-II) scale because it is the most appropriate scales for the objectives of the study. Where the BDI-II is a brief, self-

report inventory designed to measure the severity of depressive symptomatology. It is consisting of 21 items, each with 4-point Likert-type response scale. A score ranging from 0 (absence of symptom) to 3 (severe manifestation of symptom) was allocated to each answer, showing the severity of the symptom. Depression severity is graded based on the overall score; in a normal community sample, BDI-II score 0–13 indicated "non or minimal depression", 14–19 "mild depression", 20–28 "moderate depression", and 29–63 "severe depression". Guidance on using this test, Age ranges from 13 through 80 years. The examiner is to circle and rate each statement according to their feelings over the last two weeks. The reading level of the BDI-II is 5th to 6th-grade level and may be read aloud if needed. The BDI-II is quick and easy to administer, takes 5-10 minutes to complete, and can be administered individually (mental health matters website, 2021).

Arabic version of BDI-II scale was translated by Dr. Gharib Abdel Fattah Gharib (Professor and Head of the Department of Mental Health - College of Education - Al-Azhar University). With regard to approval of the use of BDI-II scale, it has been obtained formally from Dr. Gharib through connecting with him on social media (Annex 3).

### 3.9. Validity and Reliability of questionnaire:

The questionnaire was submitted and sent to a panel of academics and professionals with qualifications and expertise in mental health,

gynecologists and midwives fields to evaluate whether the questionnaire used is scientifically accurate or not, and to know if the questionnaire is reasonably well structured to analyze the factors & variables and to examine the relationships; to provide judgment and suggestions on the appropriateness of the questionnaire; and to evaluate and decide if the questions are important and related to the goals of the study.

All feedbacks and amendments to the questionnaire were considered. Moreover, a pilot study was carried out prior to data collection starts.

Regarding to BDI-II being a universal scale, it considered a valid depression screening tool in primary health care centers, because it has already been tested for its reliability and validity. In Palestinian Society, the Arabic form of the scale was also validated. The BDI-II showed a strong internal consistency, with coefficients alpha of 0.86 and 0.80 for non-psychiatric and psychiatric groups respectively (Murtaja & Thabet, 2017).

In this study, the reliability of BDI-II was measured by calculating the Cronbach’s Alpha coefficient. Table 3.1 shows the values of Cronbach's Alpha for BDI-II domain of participants. The values of Cronbach's Alpha were 0.883 which indicates good reliability of the entire questionnaire.

**Table (3.1) :Reliability of the research for BDI-II domain.**

| No. | Domains | No. of item | Cronbach's Alpha |
|---|---|---|---|
| 1. | BDI-II domain | 21 | 0.883 |

### 3.10. Pilot Study:

A pilot study is considered one of the most significant phases of a research project (Abu Hassan, Schattner, & Mazza, 2006).

A pilot analysis was carried out on 10% of the sample size (34 participants) as a pre-test prior to the begin the actual data collection, in order to provide feedback on the questionnaire; check the questionnaire's reliability & validity; to estimate response rate; to assess the actual time required to complete the questionnaire; to identify topic recruitment; to know areas of vagueness; to identify language weaknesses; and to gain evident opinion on the questionnaire in order to avoid question ambiguity & length.

All of them (34 participants) were from different age groups, levels of education, and living area. A comprehensive overview about the study and its purposes was provided to all of them prior collecting the data.

The researcher found acceptance by the participants when distributing the questionnaire to them – response rate was 100%-. The data collection time was not long -only less than 10 minutes- and it was appropriate as it agreed with the period of their waiting for their turn to see the doctor. The participants were reported that the questions were clear and simple, and the they did not report any ambiguity in the questionnaire.

Those respondents were added to the total participants because there is no significant amendment after piloting the questionnaire.

### 3.11.Data Collection:

Data collection was started in 19 May 2021, to 19 July 2021 by the researcher from antenatal care departments at governmental primary health care clinics affiliated with the Palestinian Ministry of Health in Nablus governorate. Participants were asked to fill out the self-reported questionnaire that include questions about their socio-demographic data, health history, obstetric characteristics, violence during pregnancy, pregnancy-related complications, stress during pregnancy, emotional support during pregnancy and other life events. In addition, the researcher used antenatal depression questionnaire "BDI-II" to collect the data, where it includes structured and standardized questions about antenatal depression and its scoring scale.

The researcher was started data collection by introducing himself to the participants, and establish a trust relationship with them. Then the participants were presented to full directions and clarification about the study, its goals, and the significance of providing actual answers. An appropriate environment was created by providing a separate room for data collection. The data collection was taking place at suitable time, with adheres to all ethical considerations.

### 3.12.Statistical Analysis:

The researcher reviewed each questionnaire for completeness and consistency. Data was processed, coded, entered, cleaned, interpreted, and analyzed using Statistical Package for Social Sciences (SPSS V25.0).

Frequency tables that show baseline characteristics by number (n) and percentage (%) in categorical data such as age group, level of education, marital status, the husband is polygamous, place of residency, family type, number of family members, family income and employment, health history, obstetric characteristics, complications during pregnancy and stressful life events during this pregnancy. After test normality by normality criteria in numerical data, normally distributed quantitative data was described by mean ± standard deviation (SD) such as depression levels. Moreover, t-test or one-way ANOVA test to compare means of numeric variables are done when required to analyze data (e.g., compare mean of depression levels among sociodemographic data, health history, obstetric characteristics, complications during pregnancy and stressful life events during this pregnancy).

### 3.13.Ethical Consideration:

The researcher was committed to all research ethics and general ethical principles.

The study followed the World Medical Association Declaration of Helsinki Ethical Principles for Medical Research on Humans (World Medical Association, 2013).

IRB approval was obtained from An-Najah National University (Annex 4). Also, a permission letter (Research ethics committee approval) from the Palestinian Ministry of Health was also obtained to allow the researcher to collect data (Annex 5). Furthermore, each participant gave a written informed consent to the researcher in order to fill in the questionnaire (Annex 6).

Participation in the study was voluntarily; all obtained data and information were kept confidential and were not used by anybody else.

Participants were given the right to interrupt or stop the study at any moment.

The names of the participants were not mentioned.

Respondents were informed of the research's objectives and its significant.

The data was collected in separate room around or next to the antenatal clinics to maintain the participant’s privacy.

# Chapter Four

# Results

# Chapter Four

# Results

## 4.1. Sample distribution according to socio-demographic data.

The present study is a cross-sectional study that included 343 subjects. The socio-demographic characteristics that were studied included age group, level of education, marital status, the husband is polygamous, place of residency, family type, number of family members, family income and employment.

### 4.1.1. Distribution of the study participants according to their place of residency.

Figure 4.1 pointed out that 62.4% of the study participants now living in the village while 35.6% living in the city and only 2.0% living in camp.

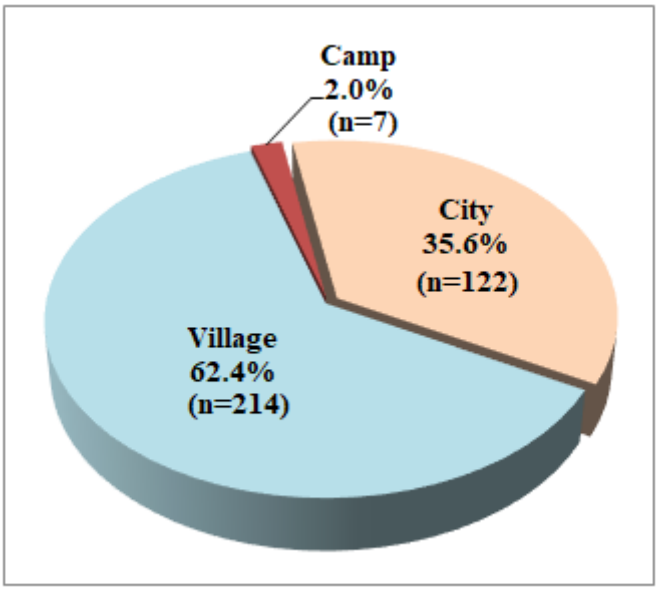


**Figure (4.1): Distribution of the study participants according to their place of residency.**

### 4.1.2. Distribution of the study participants according to their age.

Figure 4.2 illustrated that the highest age groups of the study participants were 16 to 25 years (46.6%) followed by 35.0% of participants aged between 26 to 32 years and 15.5% were aged between 33 to 39 years. The results showed that only 2.9% of the study participants were aged 40 years or more.

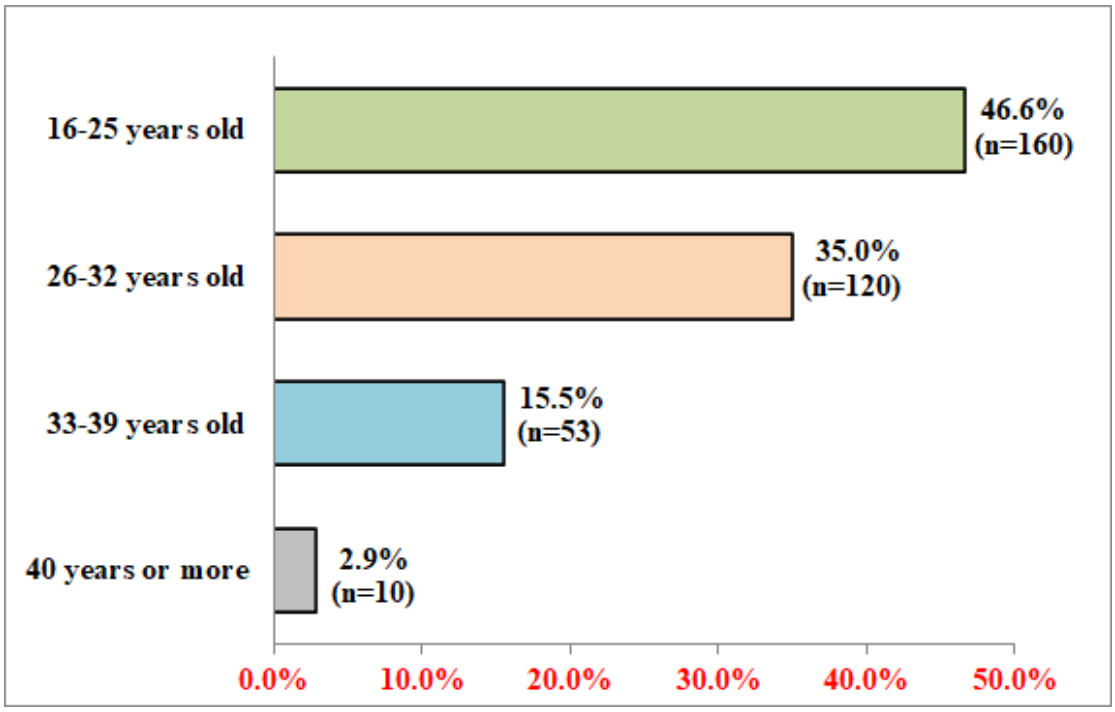


**Figure (4.2): Distribution of study participants according to their age.**

**4.1.3.** Distribution of the study participants according to education **level.**

The distributions of the study participants according to education level showed that the highest group of the study participants was finished the bachelor's degree (36.4%) while only 1.7% of participants have finished the higher than bachelor’s degree and 4.1 % of them have finished the diploma program. Also, the results illustrated that 34.1% of the study participants have finished Tawjihi and 23.6% less than Tawjihi (Figure 4.3).

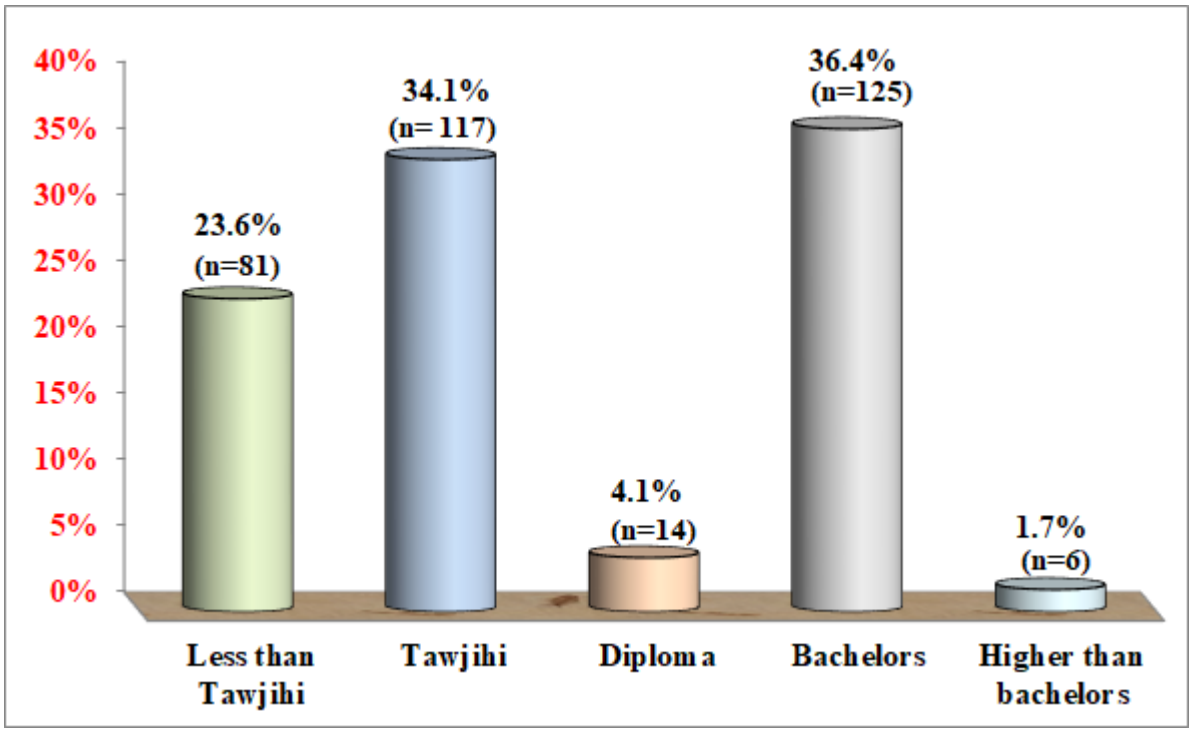


**Figure (4.3): Distribution of study participants according to education levels.**

### 4.1.4. Distribution of the study participants according to their sociodemographic characteristics.

Table 4.1 illustrated that the majority of the study participants were married (99.4%) while only 2 women are divorce (0.6%). The results showed that 5.0% of the study participants their husband is polygamous. And 95.0% living in a nuclear family. The average number of family members was 4.1±2.2 subjects and the results showed that 53.6% of the study participants have income from 1500 to 2000 shekels while 22.2% have income less than 1500 shekels and 24.2% have income more than 3000 shekels. Regarding employment status, the table showed that only 8.2% of the study participants are employed while 91.8% are unemployed.

**Table (4.1): Distribution of the study participants according to their sociodemographic characteristics.**

| Variables | | Frequency (n) | Percentage (%) | Mean±SD |
|---|---|---|---|---|
| **Marital status** | Married | 341 | 99.4% | |
| | Divorce | 2 | 0.6% | |
| **Husband is polygamous** | Yes | 17 | 5.0% | |
| | No | 326 | 95.0% | |
| **Family type** | Nuclear family | 326 | 95.0% | |
| | Extended family | 17 | 5.0% | |
| **Number of family members** | 3 or less | 163 | 47.5% | 4.1±2.2 |
| | More than 3 | 180 | 52.5% | |
| **Family Income (shekels)** | Less than 1500 | 76 | 22.2% | |
| | From 1500 to 3000 | 184 | 53.6% | |
| | More than 3000 shekels | 83 | 24.2% | |
| **Employment status** | Employed | 28 | 8.2% | |
| | Unemployed | 315 | 91.8% | |

## 4.2. Distribution of the study participants according to their health history.

Table 4.2 display the distribution of the study participants according to their health history. The results showed that 22.2% of the study population were smokers (92.1% hookah and 7.9% cigarettes). Regarding suffering from any medical diseases, the results showed that 2.6% of the study participants are suffering from diseases (1 case thyroidectomy, 2 case preeclampsia, 1 case hyperthyroidism, 1 case heart disease & 4 case

diabetes mellitus). The results showed that 3.2% having a family history of previous psychiatric or mental disorders (3 cases Brothers, 1 case daughter, 1 case father, 1 case mother, 1 case sister & 3 cases uncles).

**Table (4.2): Distribution of the study participants according to their health history.**

| Variables | | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Smoker | Yes | 76 | 22.2% |
| | No | 267 | 77.8% |
| If smoker yes, specify | Hookah | 70 | 92.1% |
| | Cigarettes | 6 | 7.9% |
| Suffering from any medical diseases | Yes | 9 | 2.6% |
| | No | 334 | 97.4% |
| If yes, specify | Thyroidectomy | 1 | 11.1% |
| | Preeclampsia | 2 | 22.2% |
| | Hyperthyroidism. | 1 | 11.1% |
| | Heart disease | 1 | 11.1% |
| | Diabetes mellitus (DM) | 4 | 44.4% |
| Having family history of previous psychiatric or mental disorder. | Yes | 11 | 3.2% |
| | No | 332 | 96.8% |
| If having family history of previous psychiatric or mental disorder is yes, specify | Brother | 3 | 27.3% |
| | Daughter | 1 | 9.1% |
| | Father | 1 | 9.1% |
| | Mother | 1 | 9.1% |
| | Sister | 2 | 18.2% |
| | Uncle | 3 | 27.3% |

## 4.3. Distribution of the study participants according to their obstetric characteristics.

Table 4.3 summarized the distribution of the study participants according to their obstetric characteristics. The number of the gravidity including this

pregnancy is 22.4% first one gravidity, 35.6% from 2 to 3 gravidity, 27.4% from 4 to 5 gravidity, and 14.6% have 6 gravidities or more. The frequency of parities is 25.9% no parities, 56.6% from 1 to 3 parities, 15.2% from 4 to 5 parities and 6 & more are 2.3%. Regarding the number of participant's sons and daughters, the results showed that 42.9% not having sons, 29.4% having one son, 19% having two sons, 5.2% having three sons, 3.5% having more than 3 sons while 45.5% not having daughters, 28.9% have one daughter, 16.6% having two daughters, 5.8% having three daughters and 3.2% having more than 3 daughters. The current fetus gender was 32.9% male, 35.3% female, 0.9% Both (the pregnancy twin), and 30.9% Unknown. The table showed that the majority of the study participants were in the third trimester (63.6%), only 0.9% in the first trimester, and 35.6% in the second trimester. Also, it showed that 60.1% of participants were adhering to visit the clinic for an antenatal follow-up while 39.9% were not adhering. Only 2% having a history of stillbirth. The results showed that 69.4% of the study participants haven't had previous abortions, 18.4% have one-time abortions, 6.7% two times abortion, 5.5% have more than 2 times abortions. Generally, 52.2% of study participants were pregnancy planned.

**Table (4.3): Distribution of the study participants according to their obstetric characteristics.**

| Variables | | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Number of your gravidity including this pregnancy | First one | 77 | 22.4% |
| | 2-3 | 122 | 35.6% |
| | 4-5 | 94 | 27.4% |
| | 6 or more | 50 | 14.6% |
| Number of parities | 0 | 89 | 25.9% |
| | 1-3 | 194 | 56.6% |
| | 4-5 | 52 | 15.2% |
| | 6 and more | 8 | 2.3% |
| Number of your sons (male) | 0 (no sons) | 147 | 42.9% |
| | 1 | 101 | 29.4% |
| | 2 | 65 | 19.0% |
| | 3 | 18 | 5.2% |
| | More than 3 | 12 | 3.5% |
| Number of your daughters (females) | 0 (no daughters) | 156 | 45.5% |
| | 1 | 99 | 28.9% |
| | 2 | 57 | 16.6% |
| | 3 | 20 | 5.8% |
| | More than 3 | 11 | 3.2% |
| Current fetus gender | Male | 113 | 32.9% |
| | Female | 121 | 35.3% |
| | Both (the pregnancy twin) | 3 | 0.9% |
| | Unknown | 106 | 30.9% |
| Trimesters of pregnancy | First trimester | 3 | 0.9% |
| | Second trimester | 122 | 35.6% |
| | Third trimester | 218 | 63.6% |
| Adhering to visit the clinic for an antenatal follow-up. | Yes | 206 | 60.1% |
| | No | 137 | 39.9% |
| Having a history of stillbirth. | Yes | 7 | 2.0% |
| | No | 336 | 98.0% |
| | 0 | 238 | 69.4% |

| | | | |
|---|---|---|---|
| Number of your abortions | 1 | 63 | 18.4% |
| | 2 | 23 | 6.7% |
| | More than 2 | 19 | 5.5% |
| Is this pregnancy planned? | Yes | 179 | 52.2% |
| | No | 164 | 47.8% |

### 4.4. Distribution of the study participants according to their complications during pregnancy.

The distribution of the study participants according to their complications during pregnancy displayed in Table 4.4. The results showed that 7.3% of the study participants suffering from complications during this pregnancy (11 preeclampsia (44%), 6 threatened abortion (24%), 4 gestational diabetes (16%), 3 DVT (12%), 1 APH (4%)). The table pointed out 32.4% of the study participants suffering from any complications during previous pregnancies (70 abortions (63.1%), 21 recurrent miscarriages (18.9%), 9 preeclampsia (8.1%), 3 gestational diabetes (2.7%), 3 PPH (2.7%), 3 eclampsia (2.7%), 2 cases preterm birth (1.8%)).

**Table (4.4): Distribution of the study participants according to their complications during pregnancy.**

| Variables | | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Suffering from any complications during this pregnancy | Yes | 25 | 7.3% |
| | No | 318 | 92.7% |
| If suffering from any complications during this pregnancy is yes, specify | Preeclampsia | 11 | 44.0% |
| | Threatened abortion | 6 | 24.0% |
| | Gestational diabetes | 4 | 16.0% |
| | DVT | 3 | 12.0% |

| | | | |
|---|---|---|---|
| | APH | 1 | 4.0% |
| Suffering from any complications during previous pregnancies | Yes | 111 | 32.4% |
| | No | 232 | 67.6% |
| If suffering from any complications during previous pregnancies is yes, specify | Abortion | 70 | 63.1% |
| | Recurrent miscarriage | 21 | 18.9% |
| | Preeclampsia | 9 | 8.1% |
| | Gestational diabetes. | 3 | 2.7% |
| | PPH | 3 | 2.7% |
| | Eclampsia | 3 | 2.7% |
| | Preterm birth | 2 | 1.8% |

**DVT**: Deep vein thrombosis; **APH**: Antepartum hemorrhage & **PPH**: Postpartum hemorrhage.

## 4.5. Distribution of the study participants according to their stressful life events during this pregnancy.

The distribution of the study participants according to their stressful life events during this pregnancy displayed in Table 4.5. The results illustrated that 41.1% of the study participants were feeling constant stress during pregnancy (56 unwanted and unplanned pregnancy (39.7%), 13 family responsibilities (9.2%), 11 morning sickness (7.8%), 11 family problems (7.8%), 9 fear of the fetus (6.4%), 8 do not know (5.7%), 7 fear of abortion (5%), 3 physical fatigue (2.1%), 3 life responsibilities (2.1%), 3 having another child (2.1%), 2 the surrounding environment and constant stress (1.4%), 2 preeclampsia (1.4%), 2 poor economic status (1.4%), 2 the newborn is female (1.4%), 1 vaginal bleeding (0.7%), 1 repeated pregnancy (0.7%), 1 gestational diabetes (0.7%), 1 mother died (0.7%), 1 husband's illness (0.7%)). Also, the results showed that 16% of the study

participants suffering from family conflicts, and 22.4% of the study participants were afraid from partner. Finally, the table showed that 32.7% of the study participants were exposed to violence from husband (97 Emotional violence (86.6%), 12 Physical violence (10.7%) and 3 Sexual violence (2.7%)).

**Table (4.5): Distribution of the study participants according to their stressful life events during this pregnancy.**

| Variables | | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Feeling constant stress during pregnancy. | Yes | 141 | 41.1% |
| | No | 202 | 58.9% |
| If feeling constant stress during pregnancy is yes, specify the cause of stress: | Work | 4 | 2.8% |
| | Vaginal bleeding | 1 | 0.7% |
| | The surrounding environment and constant stress | 2 | 1.4% |
| | Repeated pregnancy | 1 | 0.7% |
| | Preeclampsia | 2 | 1.4% |
| | Poor economic status | 2 | 1.4% |
| | Physical fatigue | 3 | 2.1% |
| | Gestational diabetes | 1 | 0.7% |
| | My mother died | 1 | 0.7% |
| | Morning sickness | 11 | 7.8% |
| | life responsibilities | 3 | 2.1% |
| | I do not know | 8 | 5.7% |
| | Husband's illness | 1 | 0.7% |
| | Having another child | 3 | 2.1% |
| | Fear of the fetus | 9 | 6.4% |
| | Fear of death | 0 | 0.0% |
| | Fear of abortion | 7 | 5.0% |
| | Family responsibilities | 13 | 9.2% |
| | Family problems | 11 | 7.8% |
| | The newborn is female | 2 | 1.4% |

| | | | |
|---|---|---|---|
| | Unwanted and unplanned pregnancy | 56 | 39.7% |
| Suffering from family conflicts | Yes | 55 | 16.0% |
| | No | 288 | 84.0% |
| Afraid from partner | Yes | 77 | 22.4% |
| | No | 266 | 77.6% |
| Exposed to violence from husband | Yes | 112 | 32.7% |
| | No | 231 | 67.3% |
| If exposed to violence from husband is yes, specify | Emotional violence | 97 | 86.6% |
| | Physical violence | 12 | 10.7% |
| | Sexual violence | 3 | 2.7% |

**4.6. Distribution of the study participants according to their emotional support during pregnancy.**

The distribution of the study participants according to their emotional support during pregnancy displayed in Table 4.6. The results showed that 98.3% of the study participants are living with their husband in the same house and 78.4% of participants were supported psychologically during this pregnancy by their husband. However, the results showed that 77.3% of the study participants were supported psychologically during this pregnancy by anyone (other than husband). Clearly, the table showed that the highest one who support the participants psychologically during this pregnancy is the mother (73.2%) followed by sisters (39.6%), mother-in-law (20.8%), girlfriends (12.5%), family members together (9.4%), brothers (8.3%), father (4.2%), husband's family (2.3%), sons (1.1%), sister-in-law (0.8%) and the lowest is the daughter (0.4%).

**Table (4.6): Distribution of the study participants according to their emotional support during pregnancy.**

| Variables | | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Living with husband in the same house | Yes | 337 | 98.3% |
| | No | 6 | 1.7% |
| Husband support you psychologically during this pregnancy. | Yes | 269 | 78.4% |
| | No | 74 | 21.6% |
| Does anyone (other than husband) support you psychologically during this pregnancy? | Yes | 265 | 77.3% |
| | No | 78 | 22.7% |
| **If the anyone support you psychologically during this pregnancy is yes, specify** | | | |
| Mother -in-law (husband's mother) | Yes | 55 | 20.8% |
| | No | 210 | 79.2% |
| Sister-in-law (husband's sisters) | Yes | 2 | 0.8% |
| | No | 263 | 99.2% |
| Sons | Yes | 3 | 1.1% |
| | No | 262 | 98.9% |
| The daughter | Yes | 1 | 0.4% |
| | No | 264 | 99.6% |
| Sisters | Yes | 105 | 39.6% |
| | No | 160 | 60.4% |
| Family members together | Yes | 25 | 9.4% |
| | No | 240 | 90.6% |
| Husband's family | Yes | 6 | 2.3% |
| | No | 259 | 97.7% |
| Girlfriends | Yes | 33 | 12.5% |
| | No | 232 | 87.5% |
| Mother | Yes | 194 | 73.2% |
| | No | 71 | 26.8% |
| Father | Yes | 11 | 4.2% |
| | No | 254 | 95.8% |
| Brothers | Yes | 22 | 8.3% |
| | No | 243 | 91.7% |

## 4.7. Total scores of levels of depression

The distribution of the study participants according to their Total scores of levels of depression is ranked and pointed out in Table 4.7. According to the results, the highest item about levels of depression was the number (16) "Changes in Sleeping Pattern" with a percentage of 42.95%, followed by the question number (20) "Tiredness or Fatigue" with a percentage 41.59%. While the lowest question was the number (9) "Suicidal Thoughts or Wishes" with a percentage of 1.07% followed by the question number (14) "Worthlessness" with percentage of 10.30%. The table showed that total score of levels of depression of the study participants is 16.43 of 63 (26.08%).

**Table (4.7): Total scores of levels of depression.**

| Items | Mean | SD | % Mean | Rank |
|---|---|---|---|---|
| 1. Sadness | 0.78 | 0.78 | 26.14 | 11 |
| 2. Pessimism | 0.75 | 0.95 | 25.07 | 15 |
| 3. Past Failure | 0.32 | 0.69 | 10.59 | 19 |
| 4. Loss of Pleasure | 0.82 | 0.92 | 27.41 | 10 |
| 5. Guilty Feelings | 0.85 | 0.83 | 28.47 | 8 |
| 6. Punishment Feelings | 0.54 | 0.85 | 17.98 | 17 |
| 7. Self-Dislike | 0.35 | 0.80 | 11.76 | 18 |
| 8. Self-Criticalness | 0.97 | 1.08 | 32.36 | 7 |
| 9. Suicidal Thoughts or Wishes | 0.03 | 0.22 | 1.07 | 21 |
| 10. Crying | 1.15 | 1.04 | 38.48 | 3 |
| 11. Agitation | 0.61 | 0.86 | 20.21 | 16 |
| 12. Loss of Interest | 0.78 | 0.88 | 25.85 | 12 |
| 13. Indecisiveness | 0.76 | 0.98 | 25.36 | 14 |
| 14. Worthlessness | 0.31 | 0.68 | 10.30 | 20 |
| 15. Loss of Energy | 1.05 | 0.86 | 35.08 | 6 |
| 16. Changes in Sleeping Pattern | 1.29 | 0.88 | 42.95 | 1 |
| 17. Irritability | 1.096 | 0.93 | 36.54 | 5 |

| | | | | |
|---|---|---|---|---|
| 18. Changes in Appetite | 1.10 | 0.91 | 36.83 | 4 |
| 19. Concentration Difficulty | 0.84 | 0.89 | 28.09 | 9 |
| 20. Tiredness or Fatigue | 1.25 | 0.93 | 41.59 | 2 |
| 21. Loss of Interest in Sex | 0.77 | 0.86 | 25.56 | 13 |
| **Total score** | **16.43** | **10.92** | **26.08** | |

**SD**: standard deviation; **Maximum score** (item=3 & total score = 63).

## 4.8. Distribution of the study participants according to their levels of depression.

Table 4.3 illustrated the distribution of the study participants according to levels of depression. This table showed that 47.2% of the study participants have non or minimal depression while 19.8% of them have mild depression, 19.3% of them have moderate depression and 13.7% of them have severe depression. Finally, the average (SD) of levels of depression was 16.43 (10.92) out of 63 points.

**Table (4.8): Distribution of the study participants according to their levels of depression.**

| Variable and level | n (%) | £Mean± SD | Min | Max |
|---|---|---|---|---|
| **Levels of depression** | | | | |
| Non or minimal depression | 162 (47.2) | 7.70±3.82 | 0 | 13 |
| Mild depression | 68 (19.8) | 16.32±1.66 | 14 | 19 |
| Moderate depression | 66 (19.3) | 23.17±2.45 | 20 | 28 |
| Severe depression | 47 (13.7) | 37.23±6.89 | 29 | 59 |
| **Total** | **343 (100%)** | **16.43±10.92** | **0** | **59** |

**n**: number of subjects; **SD**: standard deviation; **Min**: minimum; **Max**: maximum; £Maximum score of mean = **63 points**; Non or minimal depression = 0-13; Mild depression = 14-19; Moderate depression = 20-28 & Severe depression = 29-63.

## 4.9. Mean difference of depression related to socio-demographic data among the study participants.

Table 4.9 showed the mean difference of depression related to socio-demographic data among the study participants. One-way ANOVA showed that there are statistically significant differences in the mean of depression for age group, level of education, place of residency, family type and number of family members ($P < 0.05$).

Table 4.10 showed that the mean of depression of the age group from 16 to 25 years old is lower statistically significant compared to 26-32 years old group and 33-39 years old group while the mean of depression are no statistically significant differences between others age groups ($P>0.05$). By same away in Table 4.11, Post hoc test showed the mean of depression of less than Tawjihi in education level are higher statistically significant compared to others education levels. However, there are no statistically significant differences in the mean of depression between others education level. Regarding the place of residence, Table 4.12 showed that the mean of depression of the village is lower statistically significant compared to city and camp ($P<0.05$). In contrast, the mean of depression is no statistically significant difference between other places of residence ($P>0.05$). The independent t-test showed that the mean of depression of extended family higher statically significant compared to the nuclear family ($P<0.05$). On the other hand, One-way ANOVA and independent t-

test showed that no statically significant differences in the mean of depression for the other studied variables (P>0.05).

**Table (4.9): The mean difference of depression related to socio-demographic data among the study participants.**

| Variables | | n | £Mean± SD | Statistical test | | |
|---|---|---|---|---|---|---|
| | | | | T | F | P-value |
| Age group | 16-25 years old | 160 | 14.13±10.97 | | 5.653 | **0.001*** |
| | 26-32 years old | 120 | 17.65±9.47 | | | |
| | 33-39 years old | 53 | 20.58±12.24 | | | |
| | Forty years and more | 10 | 16.7±11.84 | | | |
| Level of education | Less than Tawjihi | 81 | 21.38±13.33 | | 6.474 | **0.000*** |
| | Tawjihi | 117 | 15.24±9.5 | | | |
| | Diploma | 14 | 10.79±7.04 | | | |
| | Bachelors | 125 | 15.18±9.98 | | | |
| | Higher than bachelors | 6 | 12.17±6.91 | | | |
| Marital status | Married | 341 | 16.42±10.9 | -0.333 | | 0.739 |
| | Divorce | 2 | 19±19.8 | | | |
| Husband is polygamous | Yes | 17 | 15.47±12.78 | -0.372 | | 0.710 |
| | No | 326 | 16.48±10.84 | | | |
| Place of residency | City | 122 | 17.97±11.63 | | 4.166 | **0.016*** |
| | Village | 214 | 15.3±10.33 | | | |
| | Camp | 7 | 24.14±11.08 | | | |
| Family type | Nuclear family | 326 | 16.11±10.56 | -2.423 | | **0.016*** |
| | Extended family | 17 | 22.65±15.55 | | | |
| Number of family members | 3 or less | 163 | 13.72±9.83 | -4.499 | | **0.000** |
| | More than 3 | 180 | 18.89±11.3 | | | |
| Family Income: | Less than 1500 shekels | 76 | 18.59±12.3 | | 1.921 | 0.148 |
| | From 1500 to 3000 shekels | 184 | 15.79±10.65 | | | |

| | | | | | |
|---|---|---|---|---|---|
| | More than 3000 shekels | 83 | 15.87±10.02 | | |
| Employment: | Employed | 28 | 16.18±11.19 | -0.128 | 0.898 |
| | Unemployed | 315 | 16.45±10.92 | | |

*Significant at P≤0.05; P>0 05: Not significant; **n:** number of subjects; **t**: independent t-test & **F:** One way ANOVA. £Maximum score of mean = 63 points**.**

**Table (4.10): Post Hoc test of mean difference of depression related to their age groups among the study participants.**

| Dependent Variable | | Mean Difference (I-J) | Std. Error | P-value | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Lower Bound |
| 16-25 years old | 26-32 years old | -3.525* | 1.293 | **0.007** | -6.07 | -0.98 |
| | 33-39 years old | -6.460* | 1.697 | **0.000** | -9.80 | -3.12 |
| | Forty years and more | -2.575 | 3.490 | 0.461 | -9.44 | 4.29 |
| 26-32 years old | 16-25 years old | 3.525* | 1.293 | **0.007** | 0.98 | 6.07 |
| | 33-39 years old | -2.935 | 1.766 | 0.097 | -6.41 | 0.54 |
| | Forty years and more | 0.950 | 3.524 | 0.788 | -5.98 | 7.88 |
| 33-39 years old | 16-25 years old | 6.460* | 1.697 | **0.000** | 3.12 | 9.80 |
| | 26-32 years old | 2.935 | 1.766 | 0.097 | -0.54 | 6.41 |
| | Forty years and more | 3.885 | 3.692 | 0.293 | -3.38 | 11.15 |
| Forty years and more | 16-25 years old | 2.575 | 3.490 | 0.461 | -4.29 | 9.44 |
| | 26-32 years old | -0.950 | 3.524 | 0.788 | -7.88 | 5.98 |
| | 33-39 years old | -3.885 | 3.692 | 0.293 | -11.15 | 3.38 |

*. The mean difference is significant at the 0.05 level.

**Table (4.11): Post Hoc test of mean difference of depression related to their education levels among the study participants.**

| Dependent Variable | | Mean Difference (I-J) | Std. Error | P-value | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Lower Bound |
| Less than Tawjihi | Tawjihi | 6.143* | 1.531 | **0.000** | 3.13 | 9.15 |
| | Diploma | 10.597* | 3.065 | **0.001** | 4.57 | 16.63 |
| | Bachelors | 6.207* | 1.511 | **0.000** | 3.24 | 9.18 |
| | Higher than bachelors | 9.216* | 4.481 | **0.040** | 0.40 | 18.03 |
| Tawjihi | Less than Tawjihi | -6.143* | 1.531 | **0.000** | -9.15 | -3.13 |
| | Diploma | 4.454 | 2.995 | 0.138 | -1.44 | 10.34 |
| | Bachelors | 0.063 | 1.362 | 0.963 | -2.62 | 2.74 |
| | Higher than bachelors | 3.073 | 4.433 | 0.489 | -5.65 | 11.79 |
| Diploma | Less than Tawjihi | -10.597* | 3.065 | **0.001** | -16.63 | -4.57 |
| | Tawjihi | -4.454 | 2.995 | 0.138 | -10.34 | 1.44 |
| | Bachelors | -4.390 | 2.985 | 0.142 | -10.26 | 1.48 |
| | Higher than bachelors | -1.381 | 5.168 | 0.789 | -11.55 | 8.78 |
| Bachelors | Less than Tawjihi | -6.207* | 1.511 | **0.000** | -9.18 | -3.24 |
| | Tawjihi | -0.063 | 1.362 | 0.963 | -2.74 | 2.62 |
| | Diploma | 4.390 | 2.985 | 0.142 | -1.48 | 10.26 |
| | Higher than bachelors | 3.009 | 4.426 | 0.497 | -5.70 | 11.72 |
| Higher than bachelors | Less than Tawjihi | -9.216* | 4.481 | **0.040** | -18.03 | -0.40 |
| | Tawjihi | -3.073 | 4.433 | 0.489 | -11.79 | 5.65 |
| | Diploma | 1.381 | 5.168 | 0.789 | -8.78 | 11.55 |
| | Bachelors | -3.009 | 4.426 | 0.497 | -11.72 | 5.70 |

*. The mean difference is significant at the 0.05 level.

**Table (4.12): Post Hoc test of mean difference of depression related to their place of residence among the study participants.**

| Dependent Variable | | Mean Difference (I-J) | Std. Error | P-value | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Lower Bound |
| City | Village | 2.663 | 1.228 | 0.031* | 0.25 | 5.08 |
| | Camp | -6.176 | 4.207 | 0.143 | -14.45 | 2.10 |
| Village | City | -2.663 | 1.228 | 0.031* | -5.08 | -0.25 |
| | Camp | -8.839 | 4.158 | 0.034* | -17.02 | -0.66 |
| Camp | City | 6.176 | 4.207 | 0.143 | -2.10 | 14.45 |
| | Village | 8.839 | 4.158 | 0.034* | 0.66 | 17.02 |
| *. The mean difference is significant at the 0.05 level. | | | | | | |

## 4.10. Mean difference of depression related to health history among the study participants.

The mean difference of depression related to health history among the study participants is displayed in table 4.13. The independent t-test showed that the mean of depression among smokers is higher statically significantly compared to nonsmokers ($P<0.05$). On the other hand, the mean of depression among those who have a family history of previous psychiatric or mental disorder is higher statically significant compared to those who haven't ($P<0.05$). In contrast, the results showed that there is no statically significant in the mean of depression between those suffering from medical diseases compared who haven't medical diseases ($P>0.05$).

**Table (4.13): The mean difference of depression related to health history data among the study participants.**

| Variables | | N | £Mean± SD | Statistical test | |
|---|---|---|---|---|---|
| | | | | t | P-value |
| **Smoker** | Yes | 76 | 19.36±10.63 | 2.668 | 0.008 |
| | No | 267 | 15.6±10.88 | | |
| **Suffering from any medical diseases** | Yes | 9 | 19.22±10.59 | 0.776 | 0.438 |
| | No | 334 | 16.36±10.94 | | |
| **Having a family history of previous psychiatric or mental disorders.** | Yes | 11 | 28.64±14.59 | 3.841 | 0.000 |
| | No | 332 | 16.03±10.57 | | |

## 4.11. Mean difference of depression related to obstetric characteristics among the study participants.

The mean difference of depression related to obstetric characteristics among the study participants is displayed in table 4.14. The statistical test showed that there are statistically significant differences in the mean of depression for the number of participant's gravidity including this pregnancy, number of parties, number of your sons (male), number of daughters (females), number of abortions and pregnancy planned ($P < 0.05$). Table 4.15 showed that the mean of depression of the number of gravidities including this pregnancy group from the first one is lower statistically significant compared to 2-3 times, 4-5 times, and 6 or more, also, 6 or more is higher statistically significant compared to 2-3 times and 4-5 times ($P<0.05$). Table 4.16 showed that the mean of depression among those who haven't parities is lower statistically significant compared to other groups, while 6 or more groups is higher statistically significant of

depression compared to others groups (P<0.05). In contrast, the mean of depression is no statistically significant differences between others parities groups (P>0.05). By same away in Table 4.17, Post hoc test showed the mean of depression of those who haven't sons are lower statistically significant compared to those who have 1 & 2 sons while there are no statistically significant differences in the mean of depression between others groups. Regarding the number of your daughters (females), Table 4.18 showed that depression among those who haven't daughters are lower statistically significant compared to those who have one, two, and more than 3 daughters and who have 3 daughters is lower statistically significant compared to who has more than 3 (P<0.05). Table 4.19 showed that the mean of depression among who haven't abortion is lower statistically significant compared to those who have abortion 2 times (P<0.05) while there are no statistically significant differences in the mean of depression between other groups (P >0.05). The independent t-test showed that the mean of depression among those who pregnancy planned is lower statically significant compared to haven't pregnancy planned (P<0.05). In contrast, the results showed that there is no statically significant in the mean of depression between those who have a history of stillbirth compared to those who haven't a history of stillbirth (P>0.05). Regarding to current fetus gender, there is no statically significant in the mean of depression between participants who have male, female, both (the pregnancy twin), and unknown gender (P>0.05). Also, there is no statically significant in the

mean of depression between participants in first, second or third trimesters of pregnancy (P>0.05). There is no statically significant in the mean of depression between those who adhering to visit the clinic for an antenatal follow-up compared to those who didn't adhering to visit the clinic for an antenatal follow-up (P>0.05).

**Table (4.14): The mean difference of depression related to obstetric characteristics data among the study participants.**

| Variables | | N | £Mean± SD | Statistical test | | |
|---|---|---|---|---|---|---|
| | | | | t | F | P-value |
| Number of your gravidity including this pregnancy | First one | 77 | 12.6±10.21 | | 8.362 | 0.000* |
| | 2-3 | 122 | 16.22±10.52 | | | |
| | 4-5 | 94 | 16.78±9.72 | | | |
| | 6 or more | 50 | 22.2±12.7 | | | |
| Number of parities | 0 | 89 | 12.08±9.9 | | 9.408 | 0.000* |
| | 1-3 | 194 | 17.3±10.97 | | | |
| | 4-5 | 52 | 18.92±9.2 | | | |
| | 6 and more | 8 | 27.5±14.63 | | | |
| Number of your sons (male) | 0 (no sons) | 147 | 14.38±10.46 | | 2.749 | 0.028* |
| | 1 | 101 | 17.14±11.78 | | | |
| | 2 | 65 | 18.77±10.26 | | | |
| | 3 | 18 | 17.89±10.47 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | More than 3 | 12 | 20.75±9.9 | | | |
| Number of your daughters (females) | 0 (no daughters) | 156 | 13.62±10.19 | | 6.264 | 0.000* |
| | 1 | 99 | 18.24±10.27 | | | |
| | 2 | 57 | 19.53±12.27 | | | |
| | 3 | 20 | 16.2±8.34 | | | |
| | More than 3 | 11 | 24.45±13.49 | | | |
| Current fetus gender | Male | 113 | 16.24±10.68 | | 0.818 | 0.485 |
| | Female | 121 | 16.86±10.19 | | | |
| | Both (the pregnancy twin) | 3 | 7±8.89 | | | |
| | Unknown | 106 | 16.42±12 | | | |
| Trimesters of pregnancy | First trimester | 3 | 13.00±1.00 | | 0.223 | 0.800 |
| | Second trimester | 122 | 16.16±10.12 | | | |
| | Third trimester | 218 | 16.63±11.43 | | | |
| Adhering to visit the clinic for an antenatal follow-up. | Yes | 206 | 16.51±11.15 | 0.162 | | 0.871 |
| | No | 137 | 16.31±10.62 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Having a history of stillbirth. | Yes | 7 | 18±3.96 | 0.383 | | 0.702 |
| | No | 336 | 16.4±11.02 | | | |
| Number of abortions. | 0 | 238 | 15.26±9.96 | | 3.773 | 0.011* |
| | 1 | 63 | 18.25±11.54 | | | |
| | 2 | 23 | 18.65±11.81 | | | |
| | More than 2 | 19 | 22.37±16.1 | | | |
| Pregnancy planned | Yes | 179 | 14.48±10.52 | -3.512 | | 0.001* |
| | No | 164 | 18.56±10.99 | | | |

*Significant at P≤0.05; P>0 05: Not significant; **n:** number of subjects; **t**: independent t-test & **F:** One way ANOVA. £Maximum score of mean = 63 points**.**

**Table (4.15): Post Hoc test of mean difference of depression related to their number of gravidities including this pregnancy among the study participants.**

| Number of your gravidity including this pregnancy | | Mean Difference (I-J) | Std. Error | P-value | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Lower Bound |
| First one | 2-3 | -3.62 | 1.54 | 0.019* | -6.07 | -0.98 |
| | 4-5 | -4.18 | 1.63 | 0.011* | -9.8 | -3.12 |
| | 6 or more | -9.60 | 1.92 | 0.000* | -9.44 | 4.29 |
| 2-3 | First one | 3.62 | 1.54 | 0.019* | 0.98 | 6.07 |
| | 4-5 | -0.56 | 1.45 | 0.703 | -6.41 | 0.54 |
| | 6 or more | -5.98 | 1.78 | 0.001* | -5.98 | 7.88 |
| 4-5 | First one | 4.18 | 1.63 | 0.011* | 3.12 | 9.8 |
| | 2-3 | 0.56 | 1.45 | 0.703 | -0.54 | 6.41 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 6 or more | -5.42 | 1.85 | 0.004* | -3.38 | 11.15 |
| 6 or more | First one | 9.60 | 1.92 | 0.000* | -4.29 | 9.44 |
| | 2-3 | 5.98 | 1.78 | 0.001* | -7.88 | 5.98 |
| | 4-5 | 5.42 | 1.85 | 0.004* | -11.15 | 3.38 |
| * The mean difference is significant at the 0.05 level. | | | | | | |

**Table (4.16): Post Hoc test of mean difference of depression related to their number of parities among the study participants.**

| (I) Number of parities: | | Mean Difference (I-J) | Std. Error | P-value | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Lower Bound |
| 0 | 1-3 | -5.225 | 1.35 | 0.000* | -6.07 | -0.98 |
| | 4-5 | -6.844 | 1.84 | 0.000* | -9.8 | -3.12 |
| | 6 and more | -15.421 | 3.89 | 0.000* | -9.44 | 4.29 |
| 1-3 | 0 | 5.225 | 1.35 | 0.000* | 0.98 | 6.07 |
| | 4-5 | -1.62 | 1.65 | 0.326 | -6.41 | 0.54 |
| | 6 and more | -10.196 | 3.80 | 0.008* | -5.98 | 7.88 |
| 4-5 | 0 | 6.844 | 1.84 | 0.000* | 3.12 | 9.8 |
| | 1-3 | 1.62 | 1.65 | 0.326 | -0.54 | 6.41 |
| | 6 and more | -8.577 | 4.00 | 0.033* | -3.38 | 11.15 |
| 6 and more | 0 | 15.421 | 3.89 | 0.000* | -4.29 | 9.44 |
| | 1-3 | 10.196 | 3.80 | 0.008* | -7.88 | 5.98 |
| | 4-5 | 8.577 | 4.00 | 0.033* | -11.15 | 3.38 |
| *. The mean difference is significant at the 0.05 level. | | | | | | |

**Table (4.17): Post Hoc test of mean difference of depression related to their number of sons among the study participants.**

| Number of sons (male) | | Mean Difference (I-J) | Std. Error | P-value | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| 0 (no sons) | 1 | -2.76 | 1.398 | 0.049* | -5.51 | -0.01 |
| | 2 | -4.39 | 1.611 | 0.007* | -7.56 | -1.22 |
| | 3 | -3.51 | 2.700 | 0.195 | -8.82 | 1.80 |
| | More than 3 | -6.37 | 3.247 | 0.051 | -12.76 | 0.02 |
| 1 | 0 (no sons) | 2.76 | 1.398 | 0.049* | 0.01 | 5.51 |
| | 2 | -1.63 | 1.720 | 0.344 | -5.01 | 1.75 |
| | 3 | -0.75 | 2.767 | 0.786 | -6.19 | 4.69 |
| | More than 3 | -3.61 | 3.302 | 0.275 | -10.11 | 2.88 |
| 2 | 0 (no sons) | 4.39 | 1.611 | 0.007* | 1.22 | 7.56 |
| | 1 | 1.63 | 1.720 | 0.344 | -1.75 | 5.01 |
| | 3 | 0.88 | 2.880 | 0.760 | -4.79 | 6.55 |
| | More than 3 | -1.98 | 3.398 | 0.560 | -8.66 | 4.70 |
| 3 | 0 (no sons) | 3.51 | 2.700 | 0.195 | -1.80 | 8.82 |
| | 1 | 0.75 | 2.767 | 0.786 | -4.69 | 6.19 |
| | 2 | -0.88 | 2.880 | 0.760 | -6.55 | 4.79 |
| | More than 3 | -2.86 | 4.030 | 0.478 | -10.79 | 5.07 |
| More than 3 | 0 (no sons) | 6.37 | 3.247 | 0.051 | -0.02 | 12.76 |
| | 1 | 3.61 | 3.302 | 0.275 | -2.88 | 10.11 |
| | 2 | 1.98 | 3.398 | 0.560 | -4.70 | 8.66 |
| | 3 | 2.86 | 4.030 | 0.478 | -5.07 | 10.79 |
| *. The mean difference is significant at the 0.05 level. | | | | | | |

**Table (4.18): Post Hoc test of mean difference of depression related to their number of daughters among the study participants.**

| Number of your daughters (female) | | Mean Difference (I-J) | Std. Error | P-value | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| | 1 | -4.63 | 1.36 | 0.001* | -7.31 | -1.95 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0 (no daughters) | 2 | -5.91 | 1.64 | 0.000* | -9.14 | -2.68 |
| | 3 | -2.59 | 2.52 | 0.305 | -7.54 | 2.37 |
| | More than 3 | -10.84 | 3.31 | 0.001* | -17.35 | -4.33 |
| 1 | 0 (no daughters) | 4.63 | 1.36 | 0.001* | 1.95 | 7.31 |
| | 2 | -1.28 | 1.76 | 0.467 | -4.75 | 2.18 |
| | 3 | 2.04 | 2.60 | 0.433 | -3.07 | 7.16 |
| | More than 3 | -6.21 | 3.37 | 0.066 | -12.84 | .42 |
| 2 | 0 (no daughters) | 5.91 | 1.64 | 0.000* | 2.68 | 9.14 |
| | 1 | 1.28 | 1.76 | 0.467 | -2.18 | 4.75 |
| | 3 | 3.33 | 2.76 | 0.228 | -2.09 | 8.75 |
| | More than 3 | -4.93 | 3.49 | 0.159 | -11.80 | 1.94 |
| 3 | 0 (no daughters) | 2.59 | 2.52 | 0.305 | -2.37 | 7.54 |
| | 1 | -2.04 | 2.60 | 0.433 | -7.16 | 3.07 |
| | 2 | -3.33 | 2.76 | 0.228 | -8.75 | 2.09 |
| | More than 3 | -8.26 | 3.98 | 0.039* | -16.08 | -.43 |
| More than 3 | 0 (no daughters) | 10.84 | 3.31 | 0.001* | 4.33 | 17.35 |
| | 1 | 6.21 | 3.37 | 0.066 | -.42 | 12.84 |
| | 2 | 4.93 | 3.49 | 0.159 | -1.94 | 11.80 |
| | 3 | 8.26 | 3.98 | 0.039* | 0.43 | 16.08 |

*. The mean difference is significant at the 0.05 level.

**Table (4.19): Post Hoc test of mean difference of depression related to their number of abortions among the study participants.**

| Number of abortions | | Mean Difference (I-J) | Std. Error | P-value | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Lower Bound |
| 0 | 1 | -2.99 | 1.53 | 0.051 | -6.07 | -0.98 |
| | 2 | -3.39 | 2.36 | 0.151 | -9.8 | -3.12 |
| | More than 2 | -7.11 | 2.57 | 0.006* | -9.44 | 4.29 |
| 1 | 0 | 2.99 | 1.53 | 0.051 | 0.98 | 6.07 |
| | 2 | -0.40 | 2.63 | 0.880 | -6.41 | 0.54 |
| | More than 2 | -4.11 | 2.83 | 0.146 | -5.98 | 7.88 |
| 2 | 0 | 3.39 | 2.36 | 0.151 | 3.12 | 9.8 |
| | 1 | 0.40 | 2.63 | 0.880 | -0.54 | 6.41 |
| | More than 2 | -3.72 | 3.35 | 0.268 | -3.38 | 11.15 |
| More than 2 | 0 | 7.11 | 2.57 | 0.006* | -4.29 | 9.44 |
| | 1 | 4.11 | 2.83 | 0.146 | -7.88 | 5.98 |
| | 2 | 3.72 | 3.35 | 0.268 | -11.15 | 3.38 |

*. The mean difference is significant at the 0.05 level.

## 4.12.The mean difference of depression related to their complications during pregnancy.

The mean difference of depression related to complications during pregnancy among the study participants is displayed in table 4.20. The independent t-test showed that the mean of depression among those who suffering from any complications during previous pregnancies are higher statically significant compared to those who haven't ($P<0.05$). In contrast, the results showed that there is no statically significant in the mean of depression between those suffering from complications during this pregnancy compared to those who haven't complications during this pregnancy ($P>0.05$).

**Table (4.20): The mean difference of depression related to their complications during pregnancy.**

| Complications during pregnancy | | n | £Mean± SD | Statistical test | |
|---|---|---|---|---|---|
| | | | | t | P-value |
| Suffering from any complications during this pregnancy. | Yes | 25 | 17.48±8.74 | 0.498 | 0.619 |
| | No | 318 | 16.35±11.08 | | |
| Suffering from any complications during previous pregnancies. | Yes | 111 | 19.23±12.37 | 3.335 | 0.001 |
| | No | 232 | 15.09±9.91 | | |

*Significant at P≤0.05; P>0 05: Not significant; **n:** number of subjects; **t**: independent t-test & £Maximum score of mean = 63 points**.**

## 4.13.The mean difference of depression related to their stressful life events during this pregnancy.

The mean difference of depression related to stressful life events during this pregnancy among the study participants pointed out in table 4.21. The statistical test showed that the mean of depression among who feeling constant stress during pregnancy, suffering from family conflicts and afraid from partner are higher statically significant compared to who haven't (P<0.05). In contrast, the results showed that there is no statically significant in the mean of depression between who exposed to violence from husband compared to who not exposed (P>0.05).

**Table (4.21): The mean difference of depression related to their stressful life events during this pregnancy.**

| Stressful life events during this pregnancy | | N | £Mean± SD | Statistical test | |
|---|---|---|---|---|---|
| | | | | t | P-value |
| Feeling constant stress during pregnancy. | Yes | 141 | 21.1±11.37 | 7.069 | 0.000* |
| | No | 202 | 13.17±9.33 | | |
| Suffering from family conflicts | Yes | 55 | 27±12.17 | 8.630 | 0.000* |
| | No | 288 | 14.41±9.43 | | |
| Afraid from partner | Yes | 77 | 23.49±11.5 | 9.322 | 0.000* |
| | No | 266 | 13.01±8.81 | | |
| Exposed to violence from a husband | Yes | 112 | 16.54±10.95 | 1.343 | 0.180 |
| | No | 231 | 10.5±8.02 | | |

*Significant at P≤0.05; P>0 05: Not significant; **n:** number of subjects; **t**: independent t-test & £Maximum score of mean = 63 points**.**

## 4.14.The mean difference of depression related to their emotional support during pregnancy.

The mean difference of depression related to emotional support during pregnancy is illustrated in table 4.22. The statistical test showed that the mean of depression among participants who psychologically supported by husbands during this pregnancy and anyone who supports them psychologically during this pregnancy is lower statically significant compared to those who haven't (P<0.05). In contrast, the results showed that there is no statically significant in the mean of depression between those living with husbands in the same house compared to those not living with husbands (P>0.05).

**Table (4.22): The mean difference of depression related to their emotional support during pregnancy.**

| Emotional support during pregnancy | | N | £Mean± SD | Statistical test | |
|---|---|---|---|---|---|
| | | | | T | P-value |
| Living with husband in the same house | Yes | 337 | 16.54±10.95 | 1.343 | 0.180 |
| | No | 6 | 10.5±8.02 | | |
| Husband supports you psychologically during this pregnancy. | Yes | 269 | 14.89±10.24 | -5.172 | 0.000 |
| | No | 74 | 22.04±11.55 | | |
| Anyone supports you psychologically during this pregnancy. | Yes | 265 | 15.75±10.58 | -2.138 | 0.033 |
| | No | 78 | 18.74±11.82 | | |

*Significant at P≤0.05; P>0 05: Not significant; **n:** number of subjects; **t**: independent t-test &

£Maximum score of mean = 63 points**.**

# Chapter Five

# Discussion

# Chapter Five

# Discussion

## 5.1. Sociodemographic data.

Age Group

The study findings showed that 46.6% of the participants were between 16-25 years old. This result can be justified by relying on the data of the Palestinian Ministry of Health, which states that the Palestinian society is a young society (Palestinian Ministry of Health, 2021), and also because one-fifth of individuals in Palestine got married at an early age (less than 18 years). As the rate of early marriage reached 20.5% among females of the total married population in Palestine (Palestinian Central Bureau of Statistics, 2019). At the same time, the proportion of females of reproductive age is 24.7% of the total population in 2020, and in the West Bank 25.1% of the total population in the West Bank (Palestinian Ministry of Health, 2021).

Also, the results showed that there are statistically significant differences in the mean of depression for the age group ($P < 0.05$). Where the mean of depression of the age group from 16 to 25 years old is lower statistically significant compared to 26-32 years old group and 33-39 years old group while the mean of depression are no statistically significant differences between others age groups ($P>0.05$).

These findings agree with the results of the Palestinian studies like study of (Abu- Iznait & Al -Tell, 2017), which carried out among pregnant women with ages 16 to 40 years old in the West Bank, and showed that the pregnant women who had a severe degree of depression were aged 34-39 years with significant differences; and also it agrees with the study conducted by (Murtaja & Thabet, 2017), in all ages which carried out among pregnant women in Gaza strip which showed that 37.3% of the women were less than 25 years old, 48.5% were between 25 and 35 years old, and 14.3% were aged between 36 years and more.

The results are also consistent with international research such as the results of a systematic review conducted by (Arora & Aeri, 2019) to assess the burden of depression and the risk factors associated with it among Indian pregnant women with an age range of 15–45 years; and the results of systematic review and meta-analysis conducted by (Getinet et al, 2018).

This can be explained according to the results of (Weissman & Olfson, 1995), which showed that the onset of depressive symptoms is most often seen between 20 to 40 years old, which considered the age range when many women become pregnant.

Also, Dadi et al., in 2020 confirmed that the women in childbearing age are at high risk of developing depression and suggested that the antenatal depression is one of the most common mood disorders (Dadi, Miller, Bisetegn, & Mwanri, 2020).

At the same time, although the number of pregnant women of the age group over 40 years in this study converges with their number in the Palestinian study conducted by Abu- Iznait & Al -Tell in 2017 in the camps, but in this study, there was no significant relationship with antenatal depression, contrary to the results of Abu- Iznait & Al -Tell which indicated that 16.7% of participants over the 40 years old had a severe degree of antenatal depression. The reason for this difference may be the pressures and difficulties of life in the camps, which would increase the suffering of pregnant women more than others. This was indicated by Murtaja & Thabet, 2017 in their study on depression among pregnant women in the Gaza Strip, where they indicated that the psychological pressures resulting from living in the camp expose pregnant women to depression more than others who live in villages and cities.

Level of education

The results showed that the mean of depression of less than Tawjihi in education level are higher statistically significant compared to others education levels. However, there are no statistically significant differences in the mean of depression between others education level.

These study results agree with the results of a study conducted by (Murtaja & Thabet, 2017) in Gaza Strip, which showed that uneducated women reported a greater incidence of depression relative to the other groups. Also, agree with a systematic review results conducted by (Arora & Aeri, 2019) which indicated that there is a significant relationship between

antenatal depression and poor education status among Indian pregnant women.

Also, it corresponded with a descriptive cross-sectional survey that conducted by (Thompson & Ajayi, 2016) in Nigeria, by interviewing 314 pregnant women among those attending antenatal clinics, and showed that there were significant associations between antenatal depression and not having formal education.

But it differs from the results of the cross-sectional survey conducted by (Chen, et al., 2019) and found that the education levels were not associated with antenatal depression.

Despite the similarity in the educational level between the number of participants in this study and the number of participants in the study of Abu Iznit and Al-Tal, 2017, where the highest group of participants in this study (36.4%) obtained a bachelor’s degree and the percentage of participants who did not complete the Tawjihi was 23.6%. The same applies to the Abu Iznit and Al-Tal results, where the highest group of participants in the study (30.7%) had completed a bachelor's degree and 25.2% of the participants did not complete the Tawjihi. But in the results of the Abu Iznit and Al-Tal study there was no relationship between educational level and the antenatal depression, this is in contrast to the results of this study, which indicated a strong relationship between educational level - especially lower than Tawjihi- and antenatal depression.

It should be noted, though, that a low educational level is often related to other socioeconomic disadvantages, such as low income (Coll, et al., 2017). Thus, it can also be explained by the fact that these women present low self-esteem and self-efficacy (Benute, et al., 2010), as they may feel inferior both socially and because of their inability to access better paid jobs (Míguez & Vázquez, 2021).

Place of residency

The results of the study showed that 62.4% of the study participants were living in villages, while 35.6% were living in city and only 2.0% were living in camp. This may be explained by the distribution of primary health care centers in Nablus governorate, which were as follows: 4 centers in the city and 40 centers in the villages, and there are no governmental primary health care centers in the camps because the camps have UNRWA clinics.

Also, it showed that the mean of depression of the village is lower statistically significant compared to city and camp ($P<0.05$). In contrast, the mean of depression is no statistically significant difference between other places of residence ($P>0.05$). Thus, the village was less associated with the prevalence of antenatal depression, in contrast to the women living in the camps, where it was most associated with antenatal depression.

The results agree with the results of the two Palestinian studies conducted by (Abu- Iznait & Al -Tell, 2017) in the West Bank and (Murtaja & Thabet, 2017) in the Gaza Strip, which showed that the women living in refugee

camps were comparatively more depressed than those living in a city or a village, and the prevalence of antenatal depression among pregnant women in Palestine, especially in the camps, was higher than it was in city or village, whether in the West Bank or Gaza Strip, and the reason for this may be due to the harsh conditions experienced by Palestinian women in camps in the West Bank and Gaza Strip.

However, the results differ from the results of a study conducted by (França & McManus, 2018) in California and Florida in the United States and the results of a cross-sectional survey conducted by (Chen, et al., 2019) in China, which showed that living in a rural area was significantly associated with antenatal depression. This difference may be due to the social and cultural differences between the Palestinian and international societies and because of the Israeli occupation of the Palestinian territories, which constantly restricts the Palestinians, especially those who live in the camps, leading to increase suffering, psychological stress and depression.

Marital status

The study results showed that there are no statically significant differences between depression levels and marital status ($P>0.05$).

These results are consistent with the results of the study (Abu- Iznait & Al -Tell, 2017), where 99.4% of the participants in each study were married, and at the same time, the percentage of divorced women did not exceed 0.6% of the participants in each study. The explanation for this congruence

may be the cultural and religious similarities in the region that define the relationship between men and women through marriage and social and cultural ties that do not favor or encourage divorce.

This is contrary to the results of the study of (Belete, Assega, Abajobir, Belay, & Tariku, 2019) and the study of (Mossie, Sibhatu, Dargie, & Ayele, 2017), which demonstrated an important relationship between marital status and antenatal depression, where unmarried women were more susceptible for antenatal depression compared to married mothers.

Likewise, the results of the study differ with the results of a systematic review conducted by Sawyer, Ayers, & Smith in 2010 and aimed to examining mental health diseases of African women living in Africa, and showed that the separated/divorced, specifically single and marital status in general have been reported as a risk factors of antenatal depression (Sawyer, Ayers, & Smith, 2010).

Also, it differs with the results of the study conducted by (Tuksanawes, Kaewkiattikun, & Kerdcharoen, 2020) which showed that the Symptoms of depression in pregnant women were strongly linked to divorce.

The relationship between divorce or not having a spouse with antenatal depression in most international studies may explain that unmarried women may experience more loneliness, have less social support, lower self-confidence, and are more likely to live alone, which are often seen as risk factors for depression in pregnant women (Getinet, et al., 2018).

Husband is polygamous

The study results showed that there are no statically significant differences between depression levels and polygamous marriage (P>0.05), where 95% of the study participants their husband is non polygamous, while 5.0% their husband is polygamous.

The results of the study differ with the results of a systematic review conducted by Sawyer, Ayers, & Smith in 2010 and aimed to examining mental health diseases of African women living in Africa, and showed that the polygamous relations have been reported as a risk factor of antenatal depression.

Family type

The findings showed that 95.0% of the study participants are living in a nuclear family, while 5% are living in extended family. Also, the levels of depression for the extended family were statistically higher compared to the nuclear family (P < 0.05).

These results agree with the results of a cross-sectional study conducted by Tuksanawes, Kaewkiattikun, & Kerdcharoen in 2020 in Thailand on 402 pregnant women, and showed that the symptoms of depression in pregnant women were strongly linked to extended family (Tuksanawes, Kaewkiattikun, & Kerdcharoen, 2020).

Similar results have been reported in previous systematic reviews and meta-analyses in Ethiopia which conducted by Zegeye et al in 2018.

While the study results differed from the results of the Turkish study conducted by Senturk et al., 2011, and found that there is no significant difference in antenatal depression between the extended family and the nucleus (Senturk, Abas, Berksun, & Stewart, 2011).

Number of family members

The findings showed that there are statically significant differences between depression levels and number of family members ($P<0.05$), where more than half (52.5%) of the study participants are living in a family with more than 3 members.

These results are agreeing with the results of the study conducted by Murtaja & Thabet in 2017 in Gaza strip, Palestine. This can be explained according to the data of the Palestinian Ministry of Health, which states that the Palestinian community is a young society (Palestinian Ministry of Health, 2021). And according to the Palestinian Central Bureau of Statistics (PCBS), the local Palestinian population is characterized by high total fertility rates 3.8 births per woman, 3.9 in Gaza Strip and 3.8 in West Bank. And also characterized by large family size, with an average of 5.5 children per family.

Family income

The study results showed that there are no statically significant differences between depression levels and family income ($P>0.05$). Where 53.6% of

participants have an income of 1500-3000 NIS which is considered medium.

These results are agreeing with the results of the study (Abu- Iznait & Al -Tell, 2017) which showed that there are no statically significant differences between depression levels and family income, in which 46.6% of participants have an income of 2000-4000 NIS.

This is contrary to the results of the study of (Murtaja & Thabet, 2017), (Tuksanawes, Kaewkiattikun, & Kerdcharoen, 2020), (Getinet, et al., 2018) and (Arora & Aeri, 2019), as all of these studies demonstrated a statistical significant relationship between family income and antenatal depression.

Employment status:

The study results showed that there are no statically significant differences between depression levels and employment status (P>0.05), where 91.8% of the study participants are unemployed, while 8.2% employed.

These results are agreeing with the results of the study conducted by Abu-Iznait & Al -Tell in 2017, which showed that there are no statically significant differences between depression levels and family income, in which 89.3% of participants are unemployed.

This agreement can be explained according to the data of the Palestinian Central Bureau of Statistics, which states that the number of unemployed

in Palestine was 343,800 in 2019, distributed as 215,100 in Gaza Strip and 128,700 in the West Bank. The unemployment rate in West Bank was 15%. In addition, the unemployment rate for males in Palestine women as 21% compared with 41% for females. There is a large gap in the labour force participation rate between males and females. About 7 out of 10 of males are participated in the labor force, compared with about 2 out of 10 of females (Palestinian Central Bureau of Statistics, 2020).

This is contrary to the results of the study of (Mirieri, Mweu, & Olenja, 2020), (Getinet, et al., 2018) and (Arora & Aeri, 2019), as all of these studies demonstrated a statistically significant relationship between employment status and antenatal depression.

## 5.2. Health history.

Smoking:

The study results showed that the mean of depression in smokers are significantly higher compared with non-smokers ($P < 0.05$). Where 22.2% of the study population were smokers (92.1% hookah and 7.9% cigarettes).

These study results agree with the results of a study conducted by Pajulo, Savonlahti, Sourander, Helenius, & Piha, in 2001, which indicated that some depressed pregnant women are interested in smoke cigarettes (Pajulo, Savonlahti, Sourander, Helenius, & Piha, 2001).

At the same way, it agrees with the results of a study conducted by Abuidhail & Abujilban in 2013, which revealed that Jordanian pregnant women who were smokers had a high tendency towards antenatal depressive symptoms (Abuidhail & Abujilban, 2013).

Also, the results agree with the study of (Mbah, Salihu, Dagne, Wilson, & Bruder, 2013), which conducted on 236 pregnant women and showed that there are statistically significant differences in the mean Edinburgh Perinatal Depression Scale (EPDS) scores across non-smokers, passive smokers and active smokers. And demonstrated that the women who are exposed to secondhand smoke are at elevated risk for depressive symptoms during pregnancy.

Conversely, it differs with the results of the cross-sectional survey conducted by Chen et al., in 2019, among 773 pregnant women and indicated that there was no association between smoking and antenatal depression.

Suffering from any Chronic medical diseases:

The results showed that 97.4% of the study participants didn't suffer from any medical diseases, while 2.6% are suffering from diseases (1 case thyroidectomy, 2 case preeclampsia, 1 case hyperthyroidism, 1 case heart disease & 4 case diabetes mellitus). Also, it showed that there is no statically significant in the mean of depression between those suffering from medical diseases compared who haven't medical diseases ($P>0.05$).

This could be because of most of the participants were young women of young age groups, so their health would be better than those of older age groups, as the participants above the age of 40 did not exceed 2.9%.

The results of the study differ from the results of a study conducted by Kaiyo-Utete et.al in Zimbabwe in 2020, which showed that antenatal depression was associated with having a chronic illness diagnosed throughout pregnancy.

Also, the study results differ from the results of a study carried out by Zegeye, et al., in 2018 and indicated that there is significance relationship between antenatal depression and chronic medical diseases.

Having family history of previous psychiatric or mental disorder:

The results showed that 3.2% having a family history of previous psychiatric or mental disorders (3 cases Brothers, 1 case daughter, 1 case father, 1 case mother, 1 case sister & 3 cases uncles), while 96.8% don't have a family history of previous mental or psychiatric disorders. And the mean of depression among those who have a family history of previous psychiatric or mental disorder is higher statically significant compared to those who haven't ($P<0.05$).

This may be due to the extent of mental illness is being significantly under-reported in Palestine due to lack of awareness of the Palestinian community about mental illnesses, and rejection of the mentally ill, because mental & psychiatric illness carries a stigma (Afana, Qouta, & El Sarraj, 2004).

The results of the study agree with the results of the Arabic cross-sectional descriptive study conducted in 2016 in Muscat, Oman by Al-Azri et al, which showed a significant association between antenatal depression and a family history of depression.

As well as the results agree with the results of the African study conducted by Getinet et al in 2018 and indicated an important association between a previous history of mental disorder and antenatal depression.

### 5.3. Obstetric characteristics.

The number of participant's gravidity including this pregnancy

The results showed that the number of the gravidity including this pregnancy is 22.4% first one gravidity, 35.6% from 2 to 3 gravidity, 27.4% from 4 to 5 gravidity, and 14.6% have 6 gravidities or more.

The statistical test showed that there are statistically significant differences in the mean of depression for the number of participant's gravidity including this pregnancy ($P < 0.05$). As the mean of depression of the number of gravidities including this pregnancy group from the first one is lower statistically significant compared to 2-3 times, 4-5 times, and 6 or more. Also, 6 or more is higher statistically significant compared to others groups.

Besides, the women who got pregnant 6 or more times were had moderate level of depression while the other groups that got pregnant for less than six times were had non or minimal to mild level of depression.

These findings were in the same line with Palestinian study results conducted by Abu- Iznait & Al -Tell in 2017, which indicated that one of the greatest risk factors for depression in pregnancy was higher numbers of pregnancy.

Also, the results agreed with the results of Arora & Aeri study that conducted in 2019 and indicated that the factors such as multigravidity were significant predictors for antenatal depression.

Furthermore, the results agreed with the results of a cross-sectional observational survey which carried out by Ajinkya, Jadhav, & Srivastava in 2013 and showed that antenatal depression was significantly associated with several obstetric risk factors like gravidity.

But the results differed from the results of a community based- cross sectional study in African, which conducted by Belete, Assega, Abajobir, Belay, & Tariku in 2019 and indicated that antenatal depression related to prim gravid was significantly factoring.

Number of parities including this pregnancy

The results showed that the frequency of parities is 25.9% no parities, 56.6% from 1 to 3 parities, 15.2% from 4 to 5 parities and 6 & more are

2.3%. Also, there are statistically significant differences in the mean of depression for the number of parties ($P < 0.05$); where the mean of depression among those who don't have parities is lower statistically significant compared to other groups, while 6 or more groups is higher statistically significant of depression levels compared to others groups ($P<0.05$). In contrast, the mean of depression is no statistically significant differences between others parities groups ($P>0.05$).

Most studies have found that being multiparous has been associated with an increased risk of antenatal depression. This was confirmed by the results of a cohort study conducted by Coll et al., in 2017 in a Southern Brazilian, among 4130 pregnant women, and showed there is a significant relationship between antenatal depression and high number parity (Coll, et al., 2017). At the same time, confirmed by the cross-sectional study, which conducted by González-Mesa et al., in 2018 among multicultural sample of 514 Turkish & Spanish pregnant women, and showed that there is an association between multiparity and antenatal depression (González-Mesa, et al., 2018).

Moreover, the results agree with the results of the study conducted by Redinger et al. in 2017, and found nulliparity was associated with increased risk of antenatal depression (Redinger, Norris, Pearson, Richter, & Rochat, 2017).

Also, the results correspond with the results of the Palestinian studies conducted by Abu- Iznait & Al -Tell, in 2017 in West Bank, and Murtaja & Thabet in 2017 in Gaza strip, whereas both studies showed that the antenatal depression was clearly significant associated with an increase in the number of births.

One possible explanation is that the stress related to care and parenting experienced by these women may make them more prone to depression with increased numbers of parity (Coll, et al., 2017).

In contrast, it differed from the results of the study conducted by Rehman et al. in 2017, and found that there is no statistically significant between parity and depressive disorder (Rehman, Ahmad, Kaul, & Haque, 2017).

Number of participant's sons and daughters:

The results showed that the mean of depression of those who haven't sons are lower statistically significant compared to those who have 1 & 2 sons while there are no statistically significant differences in the mean of depression between others groups. Also, the depression levels among those who don't have daughters are lower statistically significant compared to those who have one, two, and more than 3 daughters and who have 3 daughters is lower statistically significant compared to who has more than 3 ($P<0.05$).

Abu- Iznait & Al -Tell in 2017 explained and stated that this may be due to the cultural characteristics in the Palestinian society that prefer males

over females, so the researcher noticed that the level of antenatal depression increases as the number of females increases. In the same way, it is possible that this is due to the similarity in the family structure in the Middle East in general and Palestine in particular, which is considered masculism society.

Current fetus gender:

The results showed that the current fetus gender was 32.9% male, 35.3% female, 0.9% Both (the pregnancy twin), and 30.9% Unknown gender. There is no statically significant in the mean of depression between participants who have male, female, both (the pregnancy twin), and unknown gender ($P>0.05$).

The results agreed with the results of Palestinian study conducted by Abu-Iznait & Al -Tell in 2017 and showed that the current fetus gender was 33.4% male, 35% female, 0.3% Both (the pregnancy twin), and 31.3% Unknown gender.

But the results differed from the results of Palestinian studies and reports which have pointed to the fact that several factors are associated with an increased risk of developing antenatal depression, the most important of which are patriarchal traditions and gender biases inherent in Palestinian culture with a preference for male children (Qandil, Jabr, Wagler, & Collin, 2016).

Trimesters of pregnancy:

The results showed that the majority of the study participants were in the third trimester (63.6%), only 0.9% in the first trimester, and 35.6% in the second trimester. there is no statically significant in the mean of depression between participants in first, second or third trimesters of pregnancy (P>0.05).

The results are almost similar to the results of the Abu- Iznait & Al-Tell study, which showed that the highest percentage of pregnant women participating where in the study in the third trimester of pregnancy 42.9%.

Also, it agreed with the results of the study conducted by Al-Azri et.al, in Muscat, Oman, which indicated that the prevalence of pregnancy depression was in the third trimester of pregnancy (Al-Azri, et al., 2016).

Moreover, the results agreed with the results of the study conducted by Zegeye et al in 2018 in Ethiopia, and indicated that the prevalence of clinically significant depressive symptoms was during the second and third trimesters of pregnancy.

Furthermore, it agreed with the results of the study conducted by Rehman et al., in 2017 in India and confirmed that the symptoms of antenatal depression are more common in the second and third trimesters of pregnancy.

This agreement could be due to the increased concern of pregnant women about the upcoming birth and the health of their fetus, which increases the

prevalence of prenatal depression symptoms in the last trimester of pregnancy.

Adhering to visit the clinic for an antenatal follow-up.

The results showed that 60.1% of participants were adhering to visit the clinic for an antenatal follow-up while 39.9% were not adhering. There is no statically significant in the mean of depression between those who adhering to visit the clinic for an antenatal follow-up compared to those who didn't adhering to visit the clinic for an antenatal follow-up ($P>0.05$).

The results differed from the results of (Zegeye, et al., 2018), (Ayano, Tesfaw, & Shumet, 2019) and (Getinet, et al., 2018), as all of them linked the risk of developing of antenatal depression among pregnant women with the lack of follow-up of antenatal care, or irregular follow-up of antenatal care.

Having a history of stillbirth.

The results showed that only 2% having a history of stillbirth, and there is no statically significant in the mean of depression between those who having a history of stillbirth compared to those who haven't a history of stillbirth ($P>0.05$).

These results differed from the results of the study conducted by Ayano, Tesfaw, & Shumet, in Ethiopia, which indicated that a high risk of developing antenatal depression for pregnant women were linked to having a stillbirth history (Ayano, Tesfaw, & Shumet, 2019).

The number of your abortions.

The results showed that 69.4% of the study participants haven't had previous abortions, 18.4% have one-time abortions, 6.7% two times abortion, 5.5% have more than 2 times abortions. Also, the mean of depression among who don't have abortion is lower statistically significant compared to those who have abortion 2 times ($P<0.05$) while there are no statistically significant differences in the mean of depression between other groups ($P >0.05$).

These results agree with the results of a cross-sectional study conducted by Tuksanawes, Kaewkiattikun, & Kerdcharoen in 2020 and indicated that the symptoms of depression in pregnant women were strongly linked to the history of previous abortion.

Furthermore, it agrees with cross-sectional observational survey carried out by Ajinkya, Jadhav, & Srivastava in 2013 and showed that the antenatal depression was significantly associated with several obstetric risk factors like history of abortions.

Besides, it agrees with (Arora & Aeri, 2019) study results in India indicated a significant association between history of abortion and antenatal depression.

Is this pregnancy planned?

The results showed that 52.2% of study participants were pregnancy planned. And the independent t-test showed that the mean of depression

among those who pregnancy planned is lower statically significant compared to haven't pregnancy planned ($P<0.05$).

The results agree with the results of Palestinian studies and reports which have pointed to the fact that several factors are associated with an increased risk of developing antenatal depression, including unplanned pregnancy exposes (Qandil, Jabr, Wagler, & Collin, 2016).

Also, the results agreed with the results of the study conducted by Al-Azri, et al in 2016, among Omani pregnant women, which showed a significant association between antenatal depression and unplanned pregnancies.

At the same way, it corresponds with study results performed by Getinet, et al. in 2018 in Ethiopia, and indicated that unplanned pregnancy was related to antenatal depression. As well as, with a community based- the cross-sectional study conducted by Belete, Assega, Abajobir, Belay, & Tariku, in Ethiopia, which found that there is significantly relationship between unplanned pregnancy and prevalence of antenatal depression. Furthermore, with cross-sectional observational survey was done by Ajinkya, Jadhav, & Srivastava, in 2013 and showed that antenatal depression was significantly associated with several obstetric risk factors like unplanned pregnancy. Besides, with Arora & Aeri study results in 2019 in India indicated a significant association between unplanned pregnancy and antenatal depression. And with another study performed by

Manikkam & Burns, in 2012 and showed that one of the risk factors for depression was unplanned pregnancy.

Finally, the results agree with the results of the study conducted by onzález-Mesa, et al., in 2018 and showed that some sociocultural features like unplanned pregnancies become important vulnerability factors.

### 5.4. Pregnancy-related complications.

The results showed that 7.3% of the study participants suffering from complications during this pregnancy (11 preeclampsia (44%), 6 threatened abortion (24%), 4 gestational diabetes (16%), 3 DVT (12%), 1 APH (4%)).

Regarding to complications during this pregnancy, the results showed that there is no statically significant in the mean of depression between those suffering from complications during this pregnancy compared to those who haven't complications during this pregnancy ($P>0.05$).

The results differed from the results of the studies conducted by Biaggi et al in 2016 and Ajinkya, Jadhav, & Srivastava in 2013, which showed that there was a statically significant association between antenatal depression and complications during this pregnancy.

Regarding to complications during previous pregnancies, the results pointed out 32.4% of the study participants were suffered from complications during previous pregnancies (70 abortions (63.1%), 21 recurrent miscarriages (18.9%), 9 preeclampsia (8.1%), 3 gestational

diabetes (2.7%), 3 PPH (2.7%), 3 eclampsia (2.7%), 2 cases preterm birth (1.8%)). The mean of depression among those who suffered from complications during previous pregnancies are higher statically significant compared to those who haven't ($P<0.05$).

The results agree with the results of a study conducted by Biaggi et al in 2016 and showed that the most relevant factors associated with antenatal depression were past pregnancy complications. At the same way it agrees with the results of the studies conducted by Tuksanawes, Kaewkiattikun, & Kerdcharoen, in 2020; Ayano, Tesfaw, & Shumet in 2019; and Ajinkya, Jadhav, & Srivastava in 2013, which confirms that antenatal depression is significant associated with past obstetric complications.

### 5.5. Stressful life events during this pregnancy.

Feeling constant stress during pregnancy.

The results illustrated that 41.1% of the study participants were feeling constant stress during pregnancy (56 unwanted and unplanned pregnancy (39.7%), 13 family responsibilities (9.2%), 11 morning sickness (7.8%), 11 family problems (7.8%), 9 fear of the fetus (6.4%), 8 do not know (5.7%), 7 fear of abortion (5%), 3 physical fatigue (2.1%), 3 life responsibilities (2.1%), 3 having another child (2.1%), 2 the surrounding environment and constant stress (1.4%), 2 preeclampsia (1.4%), 2 poor economic status (1.4%), 2 the newborn is female (1.4%), 1 vaginal

bleeding (0.7%), 1 repeated pregnancy (0.7%), 1 gestational diabetes (0.7%), 1 mother died (0.7%), 1 husband's illness (0.7%)).

The statistical test showed that the mean of depression among who feeling constant stress during pregnancy are higher statically significant compared to who don’t feeling (P<0.05).

The results of the study agree with the results of analytical cross-sectional study conducted by Ghanaie et al in 2019, which indicated that there is a correlation between a stressful life event with depression in pregnancy and were determined as one of the most potent variables influencing the occurrence of antenatal depression. As well as, with the results of a study conducted in 2020 by Kaiyo-Utete et.al in Zimbabwe, in which the women who experienced had an unfavorable life event in the past year were twice as likely to have antenatal depression as those who don't have such an event.

Suffering from family conflicts.

The results showed that 16% of the study participants suffering from family conflicts, and the mean of depression among who suffering from family conflicts are higher statically significant compared to who don’t suffering (P<0.05).

These results agree with the results of the studies conducted by Tuksanawes, Kaewkiattikun, & Kerdcharoen in 2020; Arora & Aeri in 2019; Rehman et al., in 2017; Mirieri, Mweu, & Olenja., in 2020 and

Sheeba, et al., in 2019, which recognized the significant association between family conflicts and antenatal depression.

Afraid from partner.

The results showed that 22.4% of the study participants were afraid of partners, and the mean of depression among who afraid from partner are higher statically significant compared to who don't afraid ($P<0.05$).

The results agreed with the results of the descriptive cross-sectional study, which conducted by Al-Azri et.al, at Muscat, Oman, in 2016 and supported that there is a significant association between antenatal depression with marital conflict.

Also, agreed with the results of a study carried out by Tuksanawes, Kaewkiattikun, & Kerdcharoen in 2020 and indicated a strong relationship between symptoms of depression in pregnant women and marital conflict.

Exposed to violence from husband

The results showed that 32.7% of the study participants were exposed to violence from husband (97 Emotional violence (86.6%), 12 Physical violence (10.7%) and 3 Sexual violence (2.7%)), but there is no statically significant in the mean of depression between who exposed to violence from husband compared to who not exposed ($P>0.05$).

The results differed from the results of Shamu et al., in Africa in 2011, which stated that the prevalence of Intimate partner violence (IPV) among

pregnant women in Africa is one of the highest reported globally, and it showed that the prevalence of Intimate Partner Violence (IPV) against pregnant women differs across populations globally with rates reported to range from 2% to 57% in a meta-analysis review that included 13 studies conducted between 2000 and 2010 in African Studies. They reported prevalence rates of intimate partner physical violence (22.5% to 40%) in four studies, (2.7%–26.5%.) for sexual abuse in the six studies and (24.8%; 41% and 49%) for emotional violence by an intimate partner in three studies (Shamu, Abrahams, Temmerman, Musekiwa, & Zarowsky, 2011).

Also, the results of the study differed from the results of study conducted by Belete, Assega, Abajobir, Belay, & Tariku, in 2019 to assess the antenatal depression prevalence and factors related to it among pregnant women in Aneded woreda, Northwest Ethiopia. Where they indicated that intimate partner violence was significantly factoring for predict antenatal depression.

At the same way, it differed from the results of study conducted by González-Mesa et al., in 2018 and showed that the Turkish women scored significantly higher with antenatal depression perceiving poor support from the partner.

Besides, it differed from the results of study conducted by Biaggi et al., in 2016 and showed that the most relevant factors associated with antenatal

depression was lack of partner or of social support; history of abuse or of domestic violence.

Also, it differed from the results of study conducted by Ayano, Tesfaw, & Shumet in 2019, in which the researchers observed that the risk of experiencing antenatal depression was greater for women suffering from partner violence during pregnancy.

Finally, it differed from the results of study conducted by Kaiyo-Utete et.al in 2020 in Zimbabwe and indicated that the women who have witnessed violence from their partner were 2.5 times a lot of doubtless to possess prenatal depression than those who didn't.

### 5.6. Emotional support during pregnancy.

Living with husband in the same house. And Husband support her psychologically during this pregnancy.

The results showed that 98.3% of the study participants are living with their husband in the same house and 78.4% of participants were supported psychologically during this pregnancy by their husband. And the mean of depression among participants who psychologically supported by husbands during this pregnancy is lower statically significant compared to those who didn’t supported ($P<0.05$). There is no statically significant in the mean of depression between those living with husbands in the same house compared to those not living with husbands ($P>0.05$).

The results differ from the results of González-Mesa, et al., in 2018 among a multicultural sample of 514 Turkish and Spanish pregnant women, and showed that some sociocultural features like poor support from the partner, become important factors for antenatal depression.

At the same way, it with the results of Zegeye et al study in 2018, which indicated that there is a relationship between lack of husband support and antenatal depressive disorders.

Also, differ from the results of a study done by Kaiyo-Utete et.al in Zimbabwe in 2020, which indicated that the married or cohabiting with the father of the child lowered the risk of experiencing antenatal depression.

Anyone (other than your husband) supports participants psychologically during this pregnancy.

The results showed that 77.3% of the study participants were supported psychologically during this pregnancy by anyone (other than husband), and the highest one who support the participants psychologically during this pregnancy is the mother (73.2%) followed by sisters (39.6%), mother-in-law (20.8%), girlfriends (12.5%), family members together (9.4%), brothers (8.3%), father (4.2%), husband's family (2.3%), sons (1.1%), sister-in-law (0.8%) and the lowest is the daughter (0.4%). While the mean of depression among participants who psychologically supported by anyone during this pregnancy is lower statically significant compared to those who didn’t supported ($P<0.05$).

The results agreed with the results of Rehman et al., in 2017, which supported that the women with good relationship with in laws had significantly less depression compared to those who had bad relationship with in laws.

Also, it agreed with the results of Arora & Aeri, in 2019 in India, which showed that the bad relations with in-laws was significant predictors for antenatal depression.

At the same way, it agreed with the results of Ayano, Tesfaw, & Shumet, in 2019, which showed that the risk of experiencing antenatal depression was greater for women suffering from medium or low social support.

### 5.7. Prevalence of antenatal depression:

The results of the study showed that the prevalence (total score) of levels of antenatal depression was 26.08%.

This high percentage exceeds the global prevalence of pregnancy depression, which was 10-20% (Beyene, Gebremichael, & Gebreselassie, 2020).

The results of the study are nearly similar to the results of study conducted by Al-Azri et.al, in 2014, in Muscat, Oman, and showed that the prevalence rate of antenatal depression was 24.3% among 959 pregnant women.

Also, the results agreed with the results of study conducted by Al Hejji, Al Khudhair, Al Musaileem, & Al Eithan, in 2019 among 357 pregnant women attending antenatal clinics at primary care centers in the Ministry of Health in Saudi Arabia, and showed that the prevalence rate of antenatal depression 31.9%.

In contrast, the results differ with the prevalence of antenatal depression in developed countries such as Malaysia, where the prevalence of antenatal depression did not exceed 8.6% (Murtaja & Thabet, 2017).

Also, it differs with the prevalence of antenatal depression in USA in 2016, where the prevalence of major antenatal depression was 6.1%, and the prevalence of mild antenatal depression was 16.6% (Ashley, Harper, Arms-Chavez, & LoBello, 2016).

Thus, the prevalence of antenatal depression in Palestine is close to that of low-income countries where it was 19-25% and higher than in developed countries which were it was 10-15% (Thompson & Ajayi, 2016).

These results were confirmed by the results of a study conducted by Mahendran, Puthussery, Amalan, in 2019, and showed that the prevalence of antenatal mental disorders in low-income and lower-middle-income countries tends to be higher than in other countries high income.

Also, it was confirmed in 2009, by the results of cross-sectional study conducted by Pereira, Lovisi, Pilowsky, Lima, & Legay, in Brazil among

331 pregnant women attending a public primary health service over a one-year period. Which found that the overall prevalence of antenatal depression was 13% for high-income countries, compared to 28.4% for lower-income countries (Pereira, Lovisi, Pilowsky, Lima, & Legay, 2009).

On the other hand, the results on the study illustrate that 47.2% of the study participants have non or minimal depression while 19.8% of them have mild depression, 19.3% of them have moderate depression and 13.7% of them have severe depression.

The results agree with the results of Abu-Iznait & Al Tell in 2017 which showed that the different levels of antenatal depression among 327 Palestinian pregnant women in antenatal care centers at 9 refugee camps in the West Bank were two-thirds of pregnant women, and 59.5% of participants have depression symptoms with various level (34% had mild depression, 17.2% had moderate depression, 6.1% had moderate to severe depression, and 2.1% had severe depression).

Also, it agrees with the results of the study of Murtaja and Thabet in 2017, which conducted in Gaza Strip, Palestine, and showed that 25% of the pregnant women did not report depression, 33.3% of the women reported moderate depression, and 23.3% reported mild symptoms of depression, and 18.5% had a severe depression.

This high prevalence of antenatal depression in Palestine can be explained according to the results of report conducted by the World Health

Organization in 2006 on mental health care in Palestine and indicated that occupied Palestinian territory is a low-income country with few resources, and the Palestinians are exposed to high levels of acute and chronic stress, and the socio-political situation render the Palestinians more vulnerable to mental health problems and, in particular, to a higher prevalence of depression symptoms. Also, the stressors present in everyday of Palestinian life due to the Israeli occupation (severe restrictions on freedom of movement, unemployment, lack of access to education and healthcare, etc.) seriously impact personal, familial and community functioning (WHO, 2006).

Moreover, WHO indicated that there was a lack of knowledge of mental health at primary health care level, no referral system or cooperation between different parts of the public health sectors or between the public health sector and the private sector or NGO sectors. Also, because there is no clear mental health policy, and there is a lack of public mental health services, the mental health system is still hospital-based rather than community mental health care as it is very incomplete and rooted in a traditional biomedical-oriented approach. The services provided were fragmented, underdeveloped, with few resources, and in many centers and regions no mental health services were available. In addition, human resources for mental health are very scarce, and current employees are overworked, overburdened, poorly trained and lack enthusiasm (WHO, 2006).

Besides, the Mental health services are lack human and infrastructure resources because no specific budget directed for mental health services in the (oPt). An estimate of 2 % of the Palestinian Authority (PA) health care expenditures is used for mental health (WHO, 2014). Most mental health services are limited and depended on externally funded programs (Marie, Hannigan, & Jones, 2016).

Further that, the unemployment rate in the West Bank has risen to 15%, and it is worth noting that the unemployment rate among Palestinian women has reached 41% (Palestinian Central Bureau of Statistics, 2020).

Palestinian studies and reports have pointed to the fact that several factors are associated with an increased risk of developing antenatal depression, the most important of which are patriarchal traditions and gender biases inherent in Palestinian culture with a preference for male children, unplanned pregnancy exposes (Qandil, Jabr, Wagler, & Collin, 2016). Besides, the presence of fetal defects, labour pains, lack of a support person, exposure to violence from husband, increase in the number of gravidae and births (Abu- Iznait & Al -Tell, 2017). Living in the camp refugee, low income and low educated level (Murtaja & Thabet, 2017). And increased the high-risk pregnancy rate increased from 17.5% in 2018 to 19.5% in 2019 of the total Palestinian pregnant women (Palestinian MOH, 2021).

Moreover, the rate of gender-based violence (GBV) increased by 117% compared to the cases reported in 2017. Whereas around 84.5% of cases were married women. The husband was the perpetrator in 62.8% of GBV reported cases (Palestinian MOH, 2021). Also, 57.1% of pregnant women who had moderate level of depression reported experiencing sexual violence from their husbands (Abu- Iznait & Al -Tell, 2017). While 42.0% of reported GBV cases were psychological violence, followed with 39.9% of cases reported compound violence, which led to an increase in the percentage of women suffering mental disorders, from 42.6% in 2018 to 43.6% in 2019. Especially with the increasing times of conflicts in the region (Palestinian MOH, 2021).

# Chapter Six

# Conclusion and Recommendations

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# Conclusion and Recommendations

## 6.1. Conclusion:

- Most of the study participants now living in the village (62.4%) and the highest age groups of the study participants were 16 to 25 years while the highest group of the study participants was finished the bachelor's degree. The majority of the study participants were married (99.4%) and the average number of family members was 4 subjects.
- The Most study participants have the 2 to 5 gravidity and 1 to 3 parities while the results showed that 42.9% not having sons.
- The majority of study participants were in the third trimester and haven’t had previous abortions while 60.1% of the study participants have adhering to visit the clinic for an antenatal follow-up.
- The results showed that 7.3% of the study participants suffering from complications during this pregnancy. However, most complications were preeclampsia and threatened abortion.
- The current study illustrated that 41.1% of the study participants were feeling constant stress during pregnancy. On the other hand, the most are unwanted and unplanned pregnancy, family responsibilities and morning sickness and family problems. Also, the results showed that some of the study participants suffering from family conflicts (16.0%).

Finally, the results showed that about one third (32.7%) of the study participants were exposed to violence from husband.

- The results showed that most of the study participants are living with their husband in the same house (98.3%) and the husband was supported psychologically during this pregnancy. However, the results showed that majority of the study participants was supported psychologically during this pregnancy by others and highest one supported psychologically during this pregnancy is the mother.
- According to the results that there is low score of depression levels among the participants is (26.08%) and Changes in Sleeping Pattern is the highest item about levels of depression while Suicidal Thoughts or Wishes is the lowest items.
- The results showed that about half of participants (47.2%) of the study participants have minimal depression while 19.8% of them have mild depression, 19.3% of them have moderate depression and 13.7% of them have severe depression .
- There is relation between depression levels and age group, level of education, place of residency.
- The mean of depression among smokers is higher significantly compared to nonsmokers. Also, the mean of depression among those who have a family history of previous psychiatric or mental disorder is higher statically significant compared to those who haven’t.

- There are significant differences in the mean of depression for the number of gravidities including this pregnancy, number of parties, number of sons (male), number of daughters (females), number of abortions and pregnancy planned.
- The mean of depression of the number of gravidities including this pregnancy group from the first one is lower statistically significant compared to 2-3 times, 4-5 times, and 6 or more. Also, 6 or more is higher statistically significant compared to 2-3 times and 4-5 times.
- The mean of depression among those who haven't parities is lower significantly compared to other groups while 6 or more groups is higher statistically significant of depression levels compared to others groups.
- The results showed that the mean of depression among those who suffering from any complications during previous pregnancies are higher statically significant compared to those who haven't.
- The current study showed that the mean of depression among who feeling constant stress during pregnancy, suffering from family conflicts and afraid from partner are higher statically significant compared to who haven't.
- The statistical test showed that the mean of depression among participant who was supported psychologically by her husbands during this pregnancy and participant who was supported psychologically by anyone during this pregnancy is lower statically significant compared to those who haven't.

## 6.2. Recommendations:

- The researcher recommends the Palestinian Ministry of Health to adopt BDI-II as a tool for early detection of antenatal depression in all government primary health care clinics, and apply it routinely during each visit to the pregnant woman, so that the necessary measures are taken immediately to prevent further complications that may result from antenatal depression.
- The researcher recommends employing community mental health nurses in all antenatal clinics to enhance the mental health of pregnant women through the promotion of psychotherapy.
- The researcher recommends the necessity of providing more midwives in primary health care clinics to promote regular health education programs for pregnant women and to enable midwives to intensify home visits to pregnant women to determine the needs of pregnant women and work to support them during pregnancy.
- Enhancing the presence of a supportive person from the family by motivating his participation in providing psychological care for the pregnant woman through family programs that support the participation of the family or any supportive person for the pregnant woman to deal with and support her during her pregnancy.
- The researcher encourages conducting more research on antenatal depression among pregnant women in Palestine.

- The researcher encourages decision-makers to shed light on the symptoms of antenatal depression and the importance of early detection by supporting health awareness and education programs in primary health care centers and through various media and social media.

## 6.3. Strong points and Limitations of the study:

### 6.3.1. Strong points:

- The subject of the study enriches and enhances the researcher's ability to deal with pregnant women from the psychological aspect and helps her in early detection of symptoms of pregnancy depression, prevention of these symptoms and limiting its complications.
- The diversity of specializations of the supervisors of the thesis played an essential role in enriching the researcher with valuable observations, especially that one of them is a mental health specialist and the other is a specialist in the field of scientific research.
- Ease of access by the researcher to information, reports and statistics about the records of pregnant women in the Palestinian Ministry of Health, because she is an employee with them and had previous experience on the subject.
- The relationship of fellowship and mutual respect that existed previously with employees in primary health care clinics helped the researcher in facilitating data collection from various centers.

- The presence of many colleagues in the work environment of the researcher from various disciplines such as (doctors specializing in mental health; doctors specializing in obstetrics, gynecology and antenatal care; nursing; midwives; and mental health nursing) and the researcher benefited from their experiences before and during the start of the research.

### 6.3.2. Limitations of the study:

During conducting this study, researcher faced several constraints and limitations, including:

- The study required a lot of time, effort and money due to the geographical distribution of primary health care clinics in Nablus Governorate.
- Difficulty reaching some primary health care centers located on the outskirts of Nablus governorate due to the lack of transportation.
- Repeated closures of primary health care centers to limit the spread of the COVID-19 pandemic.
- Delay in data collection due to the doctors, nurses and midwives' strike for more than two months.

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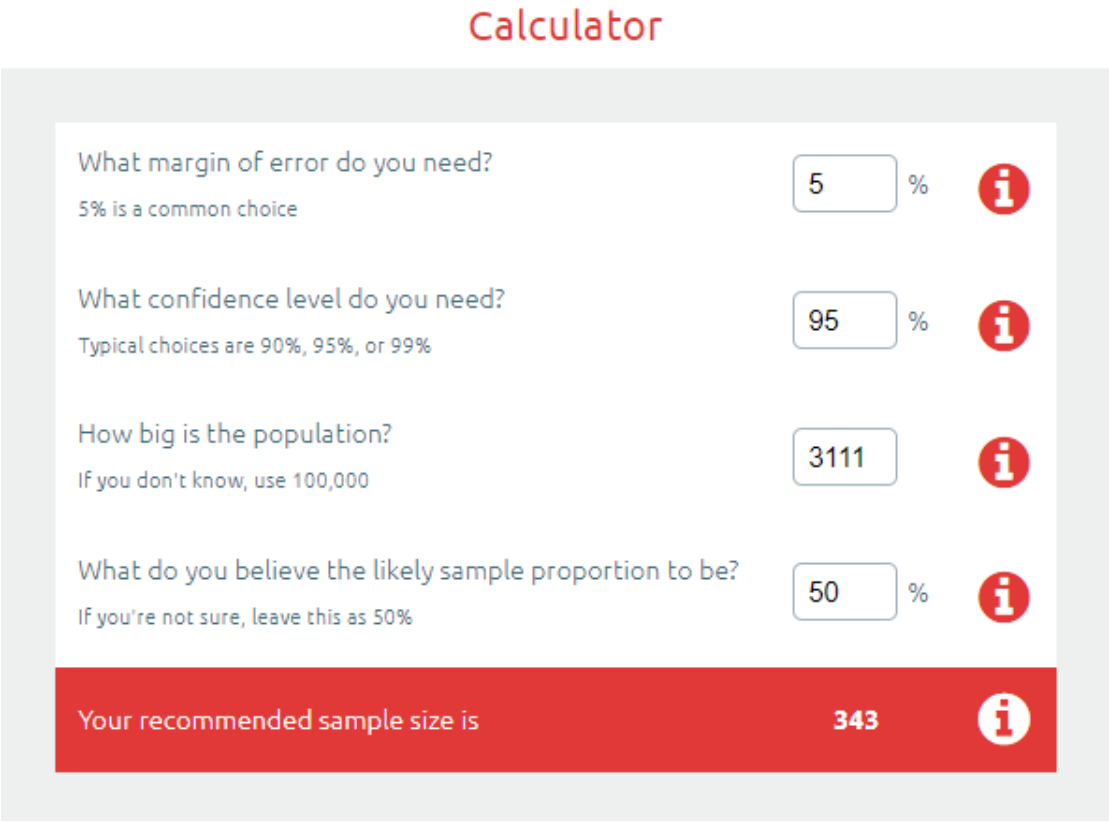
# Annexes

## Annex 1: Online sample size calculator.




**Source:** (Select Statistical Services Limited, 2020).

## Annex 2: Self-administered questionnaire.

**An-Najah National University**
**Faculty of Graduate Studies**
**Master of Community Mental Health**

**Questionnaire about:**

# Prevalence of antenatal depression symptoms in governmental primary health care centers in Nablus governorate.

**Prepared by:**

Sawsan Saeed Abd Al Rahman.

**Supervised by:**

Dr. Jamal Qaddumi.

Dr. Mohammad Marie.

**Sociodemographic data.**

**Patient Name: ……**

- **Age group:**
  - 16-25 years old.
  - 26-32 years old.
  - 33-39 years old.
  - Forty years and more.
- **Level of education:**
  - Less than Tawjihi.
  - Tawjihi.
  - Diploma.
  - Bachelors.
  - Higher than bachelors.
- **Marital status:**
  - Married.
  - Divorce.
  - Widow.
- **Husband is polygamous.**
  - Yes.
  - No.
- **Place of residency:**
  - City.
  - Village.
  - Camp.
- **Family type:**
  - Nuclear family *(consisting of parents and dependent children)*.
  - Extended family *(consisting of parents like father, mother, and their children, aunts, uncles, grandparents, and cousins, all living in the same household)*.
- **Number of family members: …….**
- **Family Income:**
  - Less than 1500 shekels.
  - From 1500 to 3000 shekels.
  - More than 3000 shekels.
- **Employment:**
  - Employed.
  - Unemployed.

## Health history.

- **Are you smoker?**
  - ☐ Yes.
  - ☐ No.

**If yes, specify:**

- ☐ Cigarettes.
- ☐ Hookah.

- **Suffering from any medical diseases.**
  - ☐ Yes.
  - ☐ No.

**If yes, specify:** .....

- **Having family history of previous psychiatric or mental disorder.**
  - ☐ Yes.
  - ☐ No.

**If yes, specify:** .....

## Obstetric characteristics.

- **The number of your gravidity including this pregnancy**

☐ First one
☐ 2-3
☐ 4-5
☐ 6 or more

- **Number of parities:**
  - ☐ 0
  - ☐ 1-3
  - ☐ 4-5
  - ☐ 6 and more
- **Number of your sons (male):**
  - ☐ 0 (no sons).
  - ☐ 1
  - ☐ 2
  - ☐ 3
  - ☐ More than 3.
- **Number of your daughters (females):**
  - ☐ 0 (no daughters).
  - ☐ 1
  - ☐ 2
  - ☐ 3
  - ☐ More than 3.

- **Current fetus gender:**
  - Male.
  - Female.
  - Both (if the pregnancy is a twin).
  - Unknown.
- **Trimesters of pregnancy:**
  - First trimester (from the first week to the thirteenth week).
  - Second trimester (from the fourteenth week to the twenty-eighth week).
  - Third trimester (from the twenty-ninth week until the end of pregnancy).
- **Adhering to visit the clinic for an antenatal follow-up.**
  - Yes.
  - No.
- **Having a history of stillbirth.**
  - Yes.
  - No.
- **The number of your abortions.**
  - 0
  - 1
  - 2
  - More than 2.
- **Is this pregnancy planned?**
  - Yes.
  - No.

**<u>Complications during pregnancy.</u>**

- **Suffering from any complications during this pregnancy.**
  - Yes.
  - No.

  **If yes, specify.....**
- **Suffering from any complications during previous pregnancies.**
  - Yes.
  - No.

  **If yes, specify:** .....

**<u>Stressful life events during this pregnancy.</u>**

- **Feeling constant stress during pregnancy.**
  - Yes.
  - No.

  **If yes, specify the cause of stress:** .....

- **Suffering from family conflicts.**
  - Yes.
  - No.
- **Afraid from partner.**
  - Yes.
  - No.

- **Exposed to violence from husband**
  - Yes.
  - No.

  **If yes, specify:**
  - Emotional violence.
  - Physical violence.
  - Sexual violence.

**<u>Emotional support during pregnancy.</u>**

- **Living with your husband in the same house.**
  - Yes.
  - No.
- **Husband support you psychologically during this pregnancy.**
  - Yes.
  - No.
- **Anyone (other than your husband) supports you psychologically during this pregnancy.**
  - Yes.
  - No.

  **If the answer is yes, specify (mother - sister - brother - friend - others):**
  .....……

# BDI - II

Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully. And then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 Changes in Appetite).

**1. Sadness**
0. I do not feel sad.
1. I feel sad much of the time.
2. I am sad all the time.
3. I am so sad or unhappy that I can't stand it.

**2. Pessimism**
0. I am not discouraged about my future.
1. I feel more discouraged about my future than I used to.
2. I do not expect things to work out for me.
3. I feel my future is hopeless and will only get worse.

**3. Past Failure**
0. I do not feel like a failure.
1. I have failed more than I should have.
2. As I look back, I see a lot of failures.
3. I feel I am a total failure as a person.

**4. Loss of Pleasure**
0. I get as much pleasure as I ever did from the things I enjoy.
1. I don't enjoy things as much as I used to.
2. I get very little pleasure from the things I used to enjoy.
3. I can't get any pleasure from the things I used to enjoy.

**5. Guilty Feelings**
0. I don't feel particularly guilty.
1. I feel guilty over many things I have done or should have done.
2. I feel quite guilty most of the time.
3. I feel guilty all of the time.

**6. Punishment Feelings**
0. I don't feel I am being punished.
1. I feel I may be punished.
2. I expect to be punished.
3. I feel I am being punished.

**7. Self-Dislike**
0. I feel the same about myself as ever.
1. I have lost confidence in myself.

2. I am disappointed in myself.
3. I dislike myself.

**8. Self-Criticalness**
0. I don't criticize or blame myself more than usual.
1. I am more critical of myself than I used to be.
2. I criticize myself for all of my faults.
3. I blame myself for everything bad that happens.

**9. Suicidal Thoughts or Wishes**
0. I don't have any thoughts of killing myself.
1. I have thoughts of killing myself, but I would not carry them out.
2. I would like to kill myself.
3. I would kill myself if I had the chance.

**10. Crying**
0. I don't cry any more than I used to.
1. I cry more than I used to.
2. I cry over every little thing.
3. I feel like crying, but I can't.

**11. Agitation**
0. I am no more restless or wound up than usual.
1. I feel more restless or wound up than usual.
2. I am so restless or agitated, it's hard to stay still.
3. I am so restless or agitated that I have to keep moving or doing something.

**12. Loss of Interest**
0. I have not lost interest in other people or activities.
1. I am less interested in other people or things than before.
2. I have lost most of my interest in other people or things.
3. It's hard to get interested in anything.

**13. Indecisiveness**
0. I make decisions about as well as ever.
1. I find it more difficult to make decisions than usual.
2. I have much greater difficulty in making decisions than I used to.
3. I have trouble making any decisions.

**14. Worthlessness**
0. I do not feel I am worthless.
1. I don't consider myself as worthwhile and useful as I used to.
2. I feel more worthless as compared to others.
3. I feel utterly worthless.

**15. Loss of Energy**
0. I have as much energy as ever.
1. I have less energy than I used to have.

2. I don't have enough energy to do very much.
3. I don't have enough energy to do anything.

**16. Changes in Sleeping Pattern**

0. I have not experienced any change in my sleeping.
1a I sleep somewhat more than usual.
1b I sleep somewhat less than usual.
2a I sleep a lot more than usual.
2b I sleep a lot less than usual.
3a I sleep most of the day.
3b I wake up 1-2 hours early and can't get back to sleep.

**17. Irritability**

0. I am not more irritable than usual.
1. I am more irritable than usual.
2. I am much more irritable than usual.
3. I am irritable all the time.

**18. Changes in Appetite**

0. I have not experienced any change in my appetite.
1a My appetite is somewhat less than usual.
1b My appetite is somewhat greater than usual.
2a My appetite is much less than before.
2b My appetite is much greater than usual.
3a I have no appetite at all.
3b I crave food all the time.

**19. Concentration Difficulty**

0. I can concentrate as well as ever.
1. I can't concentrate as well as usual.
2. It's hard to keep my mind on anything for very long.
3. I find I can't concentrate on anything.

**20. Tiredness or Fatigue**

0. I am no more tired or fatigued than usual.
1. I get more tired or fatigued more easily than usual.
2. I am too tired or fatigued to do a lot of the things I used to do.
3. I am too tired or fatigued to do most of the things I used to do.

**21. Loss of Interest in Sex**

0. I have not noticed any recent change in my interest in sex.
1. I am less interested in sex than I used to be.
2. I am much less interested in sex now.
3. I have lost interest in sex completely.

**Source:** (Beck, 1996).

**Total Score:_____**

**Interpreting the second beck depression inventory (BDI - II):**

| **Total Score** | **Levels of Depression** |
|---|---|
| 0–13 | Non or Minimal depression. |
| 14–19 | Mild depression. |
| 20–28 | Moderate depression. |
| 29–63 | Severe depression. |

**جامعة النجاح الوطنية**

**كلية الدراسات العليا**

**ماجستير الصحة النفسية المجتمعية**

**<u>استبانة بعنوان:</u>**

# انتشار اكتئاب ما قبل الولادة في مراكز الرعاية الصحية الأولية الحكومية في محافظة نابلس.

**اعداد:**

سوسن سعيد عبد الرحمن

**اشراف:**

الدكتور جمال القدومي

الدكتور محمد مرعي

**البيانات الاجتماعية والديموغرافية.**

- **الاسم:** .....
- **العمر:**
  - 16-25 سنة.
  - 26-32 سنة.
  - 28 - 32 سنة.
  - 33 - 39 سنة.
  - أربعون سنة فأكثر.
- **مستوى التعليم:**
  - أقل من التوجيهي.
  - التوجيهي.
  - شهادة دبلوم.
  - البكالوريوس.
  - أعلى من البكالوريوس.
- **الحالة الزوجية:**
  - متزوجة.
  - مطلقة.
  - أرملة.
- **زوجك متعدد الزوجات؟**
  - نعم.
  - لا.
- **مكان الاقامة:**
  - مدينة.
  - قرية.
  - مخيم.
- **نوع الأسرة:**
  - أسرة نووية.
  - أسرة ممتدة.
- **عدد أفراد الأسرة:** .....

❖ **دخل العائلة:**

- □ اقل من 1500 شيكل.
- □ من 1500 إلى 3000 شيكل.
- □ أكثر من 3000 شيكل.

❖ **العمل:**

- □ أعمل.
- □ لا أعمل.

**<u>التاريخ الصحي.</u>**

❖ **هل أنت مدخنة؟**

- □ نعم.
- □ لا.

**إذا كانت الإجابة نعم، حددي:**

- □ سجائر.
- □ أرجيلة.

❖ **المعاناة من أي أمراض طبية.**

- □ نعم.
- □ لا.

**إذا كانت الإجابة نعم، حددي:** .....

❖ **وجود تاريخ سابق في الاضطرابات النفسية أو العقلية لأفراد العائلة.**

- □ نعم.
- □ لا.

**إذا كانت الإجابة نعم، حددي:** .....

**<u>خصائص الولادة.</u>**

❖ **عدد مرات الحمل:**

- □ الحمل الأول
- □ 2-3
- □ 4-5

- 6 او أكثر

❖ **عدد مرات الولادة:**

- 0
- 1-3
- 4-5
- 6 او أكثر.

❖ **عدد الأطفال الذكور:**

- 0
- 1
- 2
- 3
- أكثر من 3

❖ **عدد الأطفال الإناث:**

- **0**
- **1**
- **2**
- **3**
- أكثر من 3

❖ **جنس الجنين الحالي:**

- ذكر.
- انثى.
- كلاهما (إذا كان الحمل توأمًا).
- غير معروف.

❖ **ثلث الحمل:**

- الثلث الأول (من الأسبوع الأول حتى الأسبوع الثالث عشر).
- الثلث الثاني (من الأسبوع الرابع عشر إلى الأسبوع الثامن والعشرين).
- الثلث الثالث (من الأسبوع التاسع والعشرين حتى نهاية الحمل).

❖ **الالتزام بزيارة العيادة لمتابعة الحمل.**

□ نعم.

□ لا.

❖ **وجود تجربة سابقة لولادة جنين ميت.**

□ نعم.

□ لا.

❖ **عدد مرات الإجهاض.**

□ 0

□ 1

□ 2

□ أكثر من 2

❖ **هل هذا الحمل مخطط له؟**

□ نعم.

□ لا.

**المضاعفات المرتبطة بالحمل.**

❖ **المعاناة من أي مضاعفات خلال هذا الحمل.**

□ نعم.

□ لا.

**إذا كانت الإجابة نعم، حددي:** .....

❖ **المعاناة من أي مضاعفات أثناء حالات الحمل السابقة؟**

□ نعم.

□ لا.

**إذا كانت الإجابة نعم، حددي:** .....

**الضغط النفسي أثناء هذا الحمل.**

❖ **الشعور بضغط نفسي مستمر أثناء الحمل**

□ نعم.

□ لا.

**إذا كانت الإجابة نعم، فحددي سبب الضغط النفسي: .....**

- **المعاناة من صراعات عائلية؟**
  - نعم.
  - لا.
- **الخوف من الزوج**
  - **نعم**
  - **لا**
- **التعرض للعنف من الزوج.**
  - نعم.
  - لا.
- **إذا كانت الإجابة نعم، حددي: .....**
  - عنف عاطفي.
  - عنف جسدي.
  - عنف جنسي.

**<u>الدعم النفسي أثناء الحمل.</u>**

- **هل تعيشين مع زوجك في نفس المنزل؟**
  - نعم.
  - لا.
- **هل يدعمك زوجك نفسيا خلال هذا الحمل؟**
  - نعم.
  - لا.
- **هل يقوم أحد (غير زوجك) بدعمك نفسياً أثناء هذا الحمل؟**
  - نعم.
  - لا.

**إذا كانت الإجابة نعم، فحددي (الأم – الأخت – الأخ – الصديق – غيرهم):**

.....

## قائمة آرون ت. بيك وآخرون الثانية للاكتئاب.

## BDI-II

ظهرت عام 1996.

ترجمة الدكتور / غريب عبد الفتاح غريب

(أستاذ ورئيس قسم الصحة النفسية – كلية التربية – جامعة الأزهر)

**توجيهات**

تتضمن هذه الورقة 21 مجموعة من العبارات. الرجا أن تقرأ كل مجموعة من العبارات بعناية، ثم اختار من كل مجموعة عبارة واحدة والتي تصف بطريقة أفضل الطريقة التي تشعر بها خلال الأسبوعين الأخيرين بما في ذلك اليوم. ضع دائرة حول الرقم جوار العبارة التي اخترتها. ولو بدا لك أن أكثر من عبارة في مجموعة العبارات تنطبق عليك بطريقة متساوية، ضع دائرة حول أعلى رقم في هذه المجموع. وتأكد أنك لا تختار أكثر من عبارة في أي مجموعة بما في ذلك المجموعة 16 (تغيرات في نمط النوم) أو المجموعة 18 (تغيرات في الشهية).

| | | |
|---|---|---|
| 1 | الحزن | 0- لا أشعر بالحزن. |
| | | 1- أشعر بالحزن أغلب الوقت. |
| | | 2- أنا حزين طول الوقت. |
| | | 3- أنا حزين أو غير سعيد لدرجة لا أستطيع تحملها. |
| 2 | التشاؤم | 0- لم تفتر همتي فيما يتعلق بمستقبلي. |
| | | 1- أشعر بفتور الهمة فيما يتعلق بمستقبلي بطريقة أكبر مما اعتدت. |
| | | 2- لا أتوقع أن تسير الأمور بشكل جيد بالنسبة لي. |
| | | 3- أشعر بأن لا أمل لي في المستقبل وأنه سوف يزداد سوءا. |
| 3 | الفشل السابق. | 0- لا أشعر بأني شخص فاشل. |
| | | 1- لقد فشلت أكثر مما ينبغي. |
| | | 2- كلما نظرت الى الوراء أرى الكثير من الفشل. |
| | | 3- أشعر بأني شخص فاشل تماما. |
| 4 | فقدان الاستمتاع. | 0- أستمتع بالأشياء بنفس قدر استمتاعي بها من قبل. |
| | | 1- لا أستمتع بأشياء بنفس القدر الذي اعتدت عليه. |
| | | 2- أحصل على قدر قليل جداً من الاستمتاع من الأشياء التي اعتدت أن استمتع بها. |

| | | |
|---|---|---|
| | | 3- لا أستطيع الحصول على أي استمتاع من الأشياء التي اعتدت الاستمتاع بها. |
| 5 | مشاعر الاثم (تأنيب الضمير) | 0- لا أشعر بالإثم (تأنيب الضمير). |
| | | 1- أشعر بالإثم (تأنيب الضمير) عن العديد من الأشياء التي قمت بها أو أشياء كان يجب أن أقوم بها ولم أقم بها. |
| | | 2- أشعر بالإثم (تأنيب الضمير) أغلب الوقت. |
| | | 3- أشعر بالإثم (تأنيب الضمير) طول الوقت. |
| 6 | مشاعر العقاب. | 0- لا أشعر بأنه يقع على عقاب. |
| | | 1- أشعر بأنه ربما يقع على عقاب. |
| | | 2- أتوقع أن يقع على عقاب. |
| | | 3- أشعر بأنه يقع على عقاب. |
| 7 | عدم حب الذات. | 0- شعوري نحو نفسي كما هو. |
| | | 1- فقدت الثقة في نفسي. |
| | | 2- خاب رجائي في نفسي. |
| | | 3- لا أحب نفسي. |
| 8 | نقد الذات. | 0- لا أنتقد ولا ألوم نفسي أكثر من المعتاد. |
| | | 1- أنتقد نفسي أكثر مما اعتدت. |
| | | 2- أنتقد نفسي على كل أخطائي. |
| | | 3- ألوم نفسي على كل ما يحدث من أشياء سيئة. |
| 9 | الأفكار أو الرغبات الانتحارية. | 0- ليس لدي أي أفكار للانتحار. |
| | | 1- لدي أفكار للانتحار ولكن لا يمكنني تنفيذها. |
| | | 2- أريد أن أنتحر. |
| | | 3- قد أنتحر لو سنحت لي الفرصة. |
| 10 | البكاء. | 0- لا أبكي أكثر مما اعتدت. |
| | | 1- ابكي أكثر مما اعتدت. |
| | | 2- أبكي بكثرة من أي شيء بسيط. |
| | | 3- أشعر بالرغبة في البكاء ولكني لا أستطيع. |
| 11 | التهيج والاستثارة. | 0- لست أكثر تهيجا أو استثارة عن المعتاد. |
| | | 1- أشعر بالتهيج والاستثارة أكثر من المعتاد. |
| | | 2- أهتاج أو استثار لدرجة أنه من الصعب على البقاء بدون حركة. |
| | | 3- أهتاج أو استثار لدرجة تدفعني للحركة أو فعل شيء ما. |
| | | 0- لم أفقد الاهتمام بالآخرين أو بالأنشطة. |

| | | |
|---|---|---|
| 12 | فقدان الاهتمام. | 1- أهتم بالآخرين أو بالأمور أقل من قبل. |
| | | 2- فقدت أغلب اهتمامي بالآخرين والأمور الأخرى. |
| | | 3- من الصعب أن اهتم بأي شيء. |
| 13 | التردد. | 0- اتخذ القرارات بنفس كفاءتي المعتادة. |
| | | 1- أجد صعوبة أكثر من المعتاد في اتخاذ القرارات. |
| | | 2- لدي صعوبة أكثر بكثير مما اعتدت في اتخاذ القرارات. |
| | | 3- لدي مشكلة اتخاذ أي قرارات. |
| 14 | انعدام القيمة. | 0- لا أشعر بأنني عديم القيمة. |
| | | 1- لا أعتبر نفسي ذو قيمة وذو نفع كما اعتدت أن أكون. |
| | | 2- أشعر بأنني عديم القيمة بالمقارنة بالآخرين. |
| | | 3- أشعر بأنني عديم القيمة تماما. |
| 15 | فقدان الطاقة. | 0- لدي نفس القدر من الطاقة كالمعتاد. |
| | | 1- لدي قدر من الطاقة أقل مما اعتدت. |
| | | 2- ليس لدي طاقة كافية لعمل الكثير من الأشياء. |
| | | 3- ليس لدي طاقة كافية لعمل أي شيء. |
| 16 | تغيرات في نظام النوم. | 0 – لم يحدث أي تغيير في نمط (نظام) نومي. |
| | | 1 أ –أنام أكثر من المعتاد الى حد ما. |
| | | 1 ب – أنام أقل من المعتاد الى حد ما. |
| | | 2 أ – أنام أكثر من المعتاد بشكل كبير. |
| | | 2 ب – أنام أقل من المعتاد بشكل كبير. |
| | | 3 أ – أنام أغلب اليوم. |
| | | 3 ب – أستيقظ من نومي مبكرا ساعة أو ساعتان، ولا أستطيع أن أعود للنوم مرة أخرى. |
| 17 | القابلية للغضب أو الانزعاج | 0- قابليتي للغضب أو الانزعاج لم تتغير عن المعتاد. |
| | | 1- قابليتي للغضب أو الانزعاج أكبر من المعتاد. |
| | | 2- قابليتي للغضب أو الانزعاج أكبر بكثير من المعتاد. |
| | | 3- لدي قابلية للغضب أو الانزعاج طول الوقت. |
| 18 | تغيرات في الشهية. | 0 – لم يحدث أي تغيير في شهيتي. |
| | | 1 أ – شهيتي أقل من المعتاد الى حد ما. |
| | | 1 ب – شهيتي أكبر من المعتاد الى حد ما. |
| | | 2 أ – شهيتي أقل كثيرا من المعتاد. |
| | | 2 ب – شهيتي أكبر كثيرا من المعتاد. |

| | | |
|---|---|---|
| | | 3 أ – ليست لي شهية على الاطلاق |
| | | 3 ب – لدي رغبة قوية للطعام طول الوقت. |
| 19 | صعوبة التركيز. | 0- أستطيع التركيز بكفاءتي المعتادة. |
| | | 1- لا أستطيع التركيز بنفس الكفاءة المعتادة. |
| | | 2- من الصعب عليّ أن أركز عقلي على أي شيء لمدة طويلة. |
| | | 3- أجد نفسي غير قادر على التركيز على أي شيء. |
| 20 | الإرهاق أو الاجهاد. | 0- لست أكثر إرهاقا أو اجهادا من المعتاد. |
| | | 1- أصاب بالإرهاق أو الإجهاد بسهولة أكثر من المعتاد. |
| | | 2- يعوقني الإرهاق أو الإجهاد عن عمل الكثير من الأشياء التي اعتدت عليها. |
| | | 3- أنا مرهق أو مجهد جدا لعمل أغلب الأشياء التي اعتدت عليها. |
| 21 | فقدان الاهتمام بالجنس. | 0- لم ألاحظ أي تغير في اهتمامي بالجنس حديثاً. |
| | | 1- أنا أقل اهتماماً بالجنس مما اعتدت. |
| | | 2- أنا أقل اهتماماً بالجنس الآن بدرجة كبيرة. |
| | | 3- فقدت الاهتمام بالجنس تماماً. |

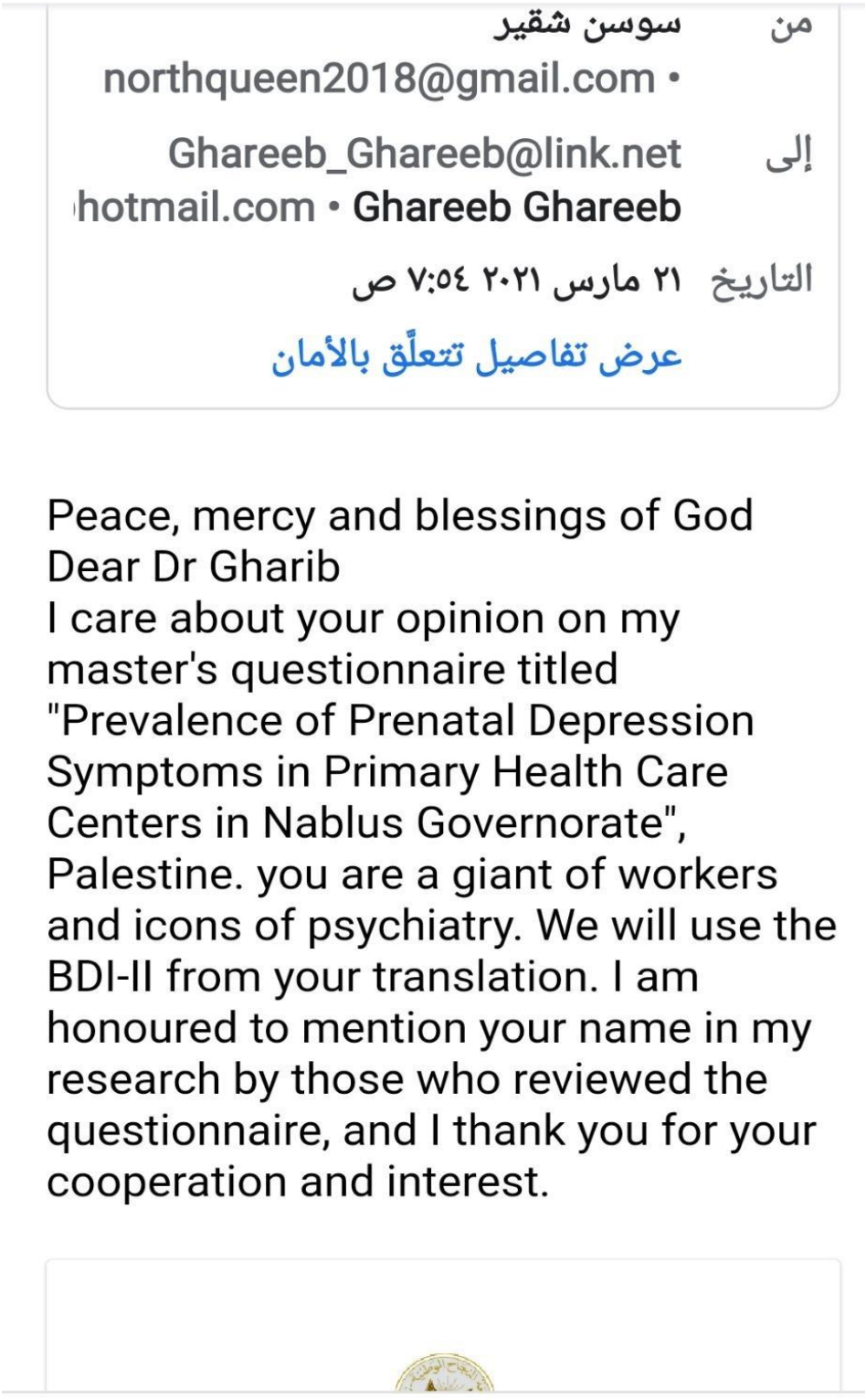
**مجموع النقاط:**_____

**تفسير مقياس بيك الثاني للاكتئاب (BDI – II):**

| | |
|---|---|
| 13-0 | لا يوجد اكتئاب أو اكتئاب بالحد الأدنى. |
| 19-14 | اكتئاب قليل |
| 28-20 | اكتئاب متوسط |
| 63-29 | اكتئاب شديد |

المصدر: (Gharib, 2000).

**Annex 3: Approval of the use of Arabic version of BDI-II scale from Dr. Gharib.**



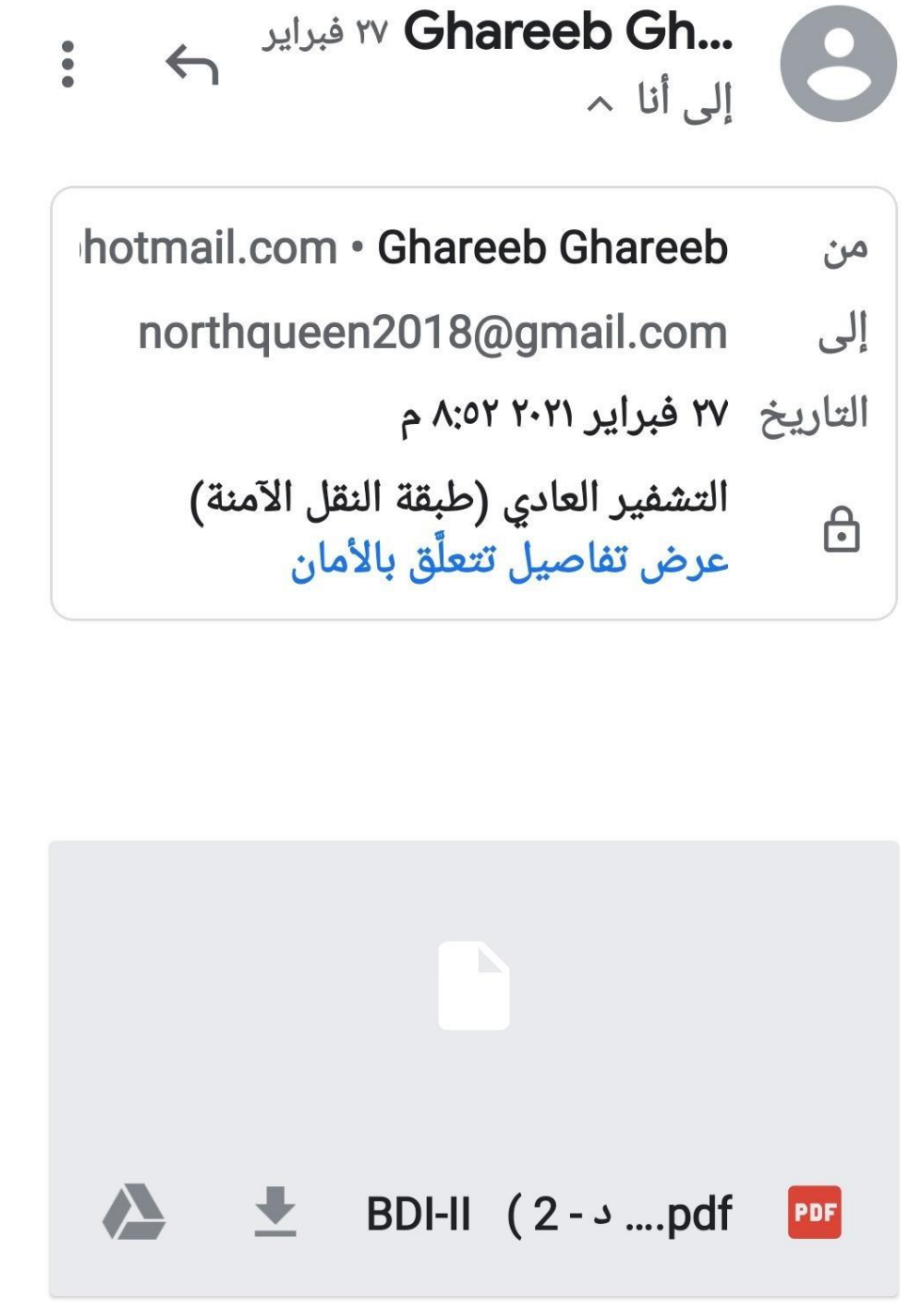
من سوسن شقير
northqueen2018@gmail.com •

إلى Ghareeb_Ghareeb@link.net
hotmail.com • Ghareeb Ghareeb

التاريخ ٢١ مارس ٢٠٢١ ٧:٥٤ ص

عرض تفاصيل تتعلّق بالأمان

Peace, mercy and blessings of God
Dear Dr Gharib
I care about your opinion on my master's questionnaire titled "Prevalence of Prenatal Depression Symptoms in Primary Health Care Centers in Nablus Governorate", Palestine. you are a giant of workers and icons of psychiatry. We will use the BDI-II from your translation. I am honoured to mention your name in my research by those who reviewed the questionnaire, and I thank you for your cooperation and interest.


Ghareeb Gh... ٢٧ فبراير
إلى أنا
من hotmail.com • Ghareeb Ghareeb
إلى northqueen2018@gmail.com
التاريخ ٢٧ فبراير ٢٠٢١ ٨:٥٢ م
التشفير العادي (طبقة النقل الآمنة)
عرض تفاصيل تتعلّق بالأمان
BDI-II ( 2 - د ....pdf
PDF



BDI-II P. 2

بهدف التفرقة بين الزيادة والنقصان فى السلوك والدافعية إذا ما اختار المفحوص الاختيار الأعلى ، فإن وجود الزيادة أو النقصان فى أى من العرضين لابد من ملاحظته كلينيكيا من قبل الباحث وذلك للأغراض التشخيصية .

**المواصفات السيكومترية لمقياس بك الثانى للاكتئاب BDI-II فى البيئات الأجنبية:-**

على الرغم من حداثة مقياس بك الثانى للاكتئاب ، وأنه لم يمض على نشره أكثر من أربع سنوات ، فأنه قد تم نشر العشرات من الدراسات فى التراث النفسى الأجنبى والتى تناولت المواصفات السيكومترية للمقياس .

# Annex 4: IRB approval.

An-Najah National University
Faculty of medicine Sciences Health
Institutional Review Board

جامعة النجاح الوطنية
كلية الطب وعلوم الصحة
لـجنـة اخلاقيات الـبحث العلمي

**Ref: Mas.*2021/6***

**IRB Approval Letter**

**Study Title:**

***"Prevalence of antenatal depression symptoms among pregnant women attending primary health care centers in Nablus governorate"***

**Submitted by:**
*Sawsan Saeed Shqair.*

**Supervisor:**
Jamal Qadoumi, Mohammad Marie

**Date Approved:**
2nd March 2021

Your Study Title ***"Prevalence of antenatal depression symptoms among pregnant women attending primary health care centers in Nablus governorate "*** viewed by An-Najah National University IRB committee and was approved on 2nd March 2021

**Hasan Fitian, MD**

IRB

**IRB Committee Chairman**

**An-Najah National University**

# Annex 5: Permission letter from the Palestinian Ministry of Health.

State of Palestine
Ministry of Health
General Directorate of Education in
Health and Scientific Research

دولة فلسطين
وزارة الصحة
الإدارة العامة للتعليم الصحي
والبحث العلمي

الرقم: ٢٠٢١/٤٤٣/١٦٢
التاريخ: ٢٠٢١/٣/٢٢

Ref.: .....
Date:.....

**الأخ مدير عام الادارة العامة للرعاية الصحية الأولية المحترم،،،**

**تحية واحترام،،**

**الموضـــوع: تسهيل مهمة بحث**

يرجى التكرم بتسهيل مهمة الطالبة: **سوسن سعيد عبد الكريم شقير، ماجستير الصحة النفسية المجتمعية- جامعة النجاح**، لعمل بحث بعنوان:

**" انتشار اعراض اكتئاب ما قبل الولادة في مراكز الرعاية الصحية الأولية في محافظة نابلس "**

حيث ستقوم الطالبة بجمع معلومات من خلال تعبئة استبانة من المرضى (بعد أخذ موافقتهن) ،

مع العلم أن مشرف الدراسة: د. جمال القدومي ود. محمد مرعي.

وذلك في: **مراكز الرعاية الصحية الأولية في مديرية صحة نابلس**

على أن يتم الالتزام بجميع تعليمات وإجراءات الوقاية الصادرة عن وزارة الصحة بخصوص جائحة كورونا، وتحت طائلة المسؤولية.

على ان يتم تزويدنا بنسخة من نتائج البحث والتعهد بعدم النشر.

**مع الاحترام،،**

**د. عبد الله القواسمي**
**مدير التعليم الصحي والبحث العلمي**

**نسخة: مشرف الدراسة المحترم/ جامعة النجاح**

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ص.ب. 14
تلفاكس: 09-2333901

## Annex 6: Informed consent.

# نموذج الموافقة

**عزيزي/تي المُشارِك/ة:**

أنا الطالبة سوسن سعيد عبد الرحمن، أدرس ماجستير الصحة النفسية المجتمعية بكلية الدراسات العليا، في جامعة النجاح الوطنية.

أقوم بإعداد دراسة بعنوان:

" انتشار أعراض اكتئاب ما قبل الولادة في مراكز الرعاية الصحية الأولية في محافظة نابلس ".

"Prevalence of antenatal depression symptoms in primary health care centers in Nablus governorate".

باعتباره متطلب للتخرج والحصول على درجة الماجستير، وتم اختيارك بناءً على مطابقتك لشروط العينة.

تهدف الدراسة إلى تحديد مدى انتشار أعراض اكتئاب ما قبل الولادة في مراكز الرعاية الصحية الأولية الحكومية في محافظة نابلس.

أشكر لك مشاركتك في هذه الدراسة، وفي حال أنّ الموعد غير مناسب الرجاء تحديد موعد آخر يناسبكم.

مشاركتك طوعية، ويمكنك رفض المشاركة أو الإجابة عن أي سؤال، وأرغب أنْ أؤكد لك أنّ المعلومات ستكون سرية ولن تستخدم إلا لغرض البحث العلمي، لذا أرجو أن تكون الإجابات دقيقة.

قبل البدء، هل تود/ين الاستفسار حول أي شيء عن الدراسة وهل من الممكن أن نبدأ المقابلة؟

(  ) نعم

(  ) لا

**توقيع المشارك:**

## أشكرك على حسن تعاونك

جامعة النجاح الوطنية
كلية الدراسات العليا

# انتشار أعراض اكتئاب ما قبل الولادة في مراكز الرعاية الصحية الأولية في محافظة نابلس

إعداد
سوسن سعيد عبد الرحمن

إشراف
د. جمال القدومي
د. محمد مرعي

قدمت هذه الأطروحة استكمالا لمتطلبات الحصول على درجة الماجستير في تمريض الصحة النفسية المجتمعية، بكلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس- فلسطين.
2021

**انتشار أعراض اكتئاب ما قبل الولادة في مراكز الرعاية الصحية الأولية في محافظة نابلس**

**إعداد**

**سوسن سعيد عبد الرحمن**

**إشراف**

**د. جمال القدومي**

**د. محمد مرعي**

## الملخص

**الخلفية:** اكتئاب ما قبل الولادة هو اكتئاب يحدث أثناء فترة حمل الأم. لها آثار سلبية كبيرة ومهمة على رفاهية وصحة الأمهات والأطفال وأسرهم. تشير التقديرات إلى أن 10٪ إلى 20٪ من النساء الحوامل في العالم يتأثرن باكتئاب ما قبل الولادة. يُعتقد أن العديد من العوامل مرتبطة باضطرابات اكتئاب ما قبل الولادة مثل مضاعفات الولادة السابقة، ونقص دعم الزوج، والإجهاض السابق، والصعوبات المالية، والحمل غير المخطط له. علاوة على ذلك، تم تسجيل ضعف أو نقص الرعاية السابقة للولادة، والأمراض الطبية المزمنة والاضطرابات النفسية السابقة.

**الهدف:** الهدف العام من هذا البحث هو تحديد مدى انتشار أعراض اكتئاب ما قبل الولادة في مراكز الرعاية الصحية الأولية الحكومية في محافظة نابلس.

المنهجية: تم استخدام تصميم دراسة مقطعية كمية وصفية، في هذه الدراسة. تتكون العينة من 343 سيدة حامل. تم استخدام تقنية أخذ العينات الملائم لأخذ. تم تقديم استبيان ذاتي التعبئة لجمع البيانات.

**النتائج:** أثبتت النتائج أن معظم المشاركين في الدراسة يعيشون الآن في القرية (62.4٪) وغالبية المشاركين في الدراسة كانوا متزوجين (99.4٪). أظهرت النتائج أن غالبية المشاركين في الدراسة كانوا في الثلث الثالث من الحمل (63.6٪) و7.3٪ يعانون من مضاعفات أثناء هذا الحمل. ومع ذلك، فإن 41.1٪ من المشاركين في الدراسة كانوا يشعرون بضغوطات نفسية مستمرة أثناء الحمل

وكان بعض المشاركين في الدراسة يعانون من صراعات عائلية (16.0٪). حوالي ثلث (32.7٪) من المشاركات في الدراسة تعرضن للعنف من الزوج. من ناحية أخرى، وفقًا للنتائج التي تشير إلى وجود درجة منخفضة من مستويات الاكتئاب بين المشاركين هي (26.08٪) وحوالي نصف المشاركين (47.2٪) من المشاركين في الدراسة لديهم حد أدنى من الاكتئاب بينما 19.8٪ منهم يعانون من اكتئاب خفيف، 19.3٪ منهم يعانون من اكتئاب متوسط و13.7٪ منهم يعانون من اكتئاب حاد. أخيرًا، أظهرت النتائج أن هناك علاقة بين مستويات الاكتئاب والفئة العمرية، ومستوى التعليم، ومكان الإقامة، والتدخين، والتاريخ العائلي، وعدد الجاذبية والتكافؤ، والمعاناة من أي مضاعفات أثناء الحمل السابق ودعم الزوج ($P < 0.05$).

**الخلاصة:** أظهرت النتائج أن درجة مستويات الاكتئاب بين النساء الحوامل منخفضة ونسب قليلة يعانون من الاكتئاب الحاد. أيضا، مستويات الاكتئاب ترتبط بالعمر، ومستوى التعليم، ومكان الإقامة، والتدخين، والتاريخ العائلي، وعدد الجاذبية والتكافؤ، والمعاناة من أي مضاعفات أثناء الحمل السابق ودعم الزوج.

**الكلمات المفتاحية:** الانتشار، اكتئاب ما قبل الولادة، مراكز الرعاية الصحية الأولية، محافظة نابلس، فلسطين.