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**Perceived Social Support and Anxiety Symptoms among  
the Palestinian Pregnant Women**

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**Perceived Social Support and Anxiety Symptoms among the  
Palestinian Pregnant Women**

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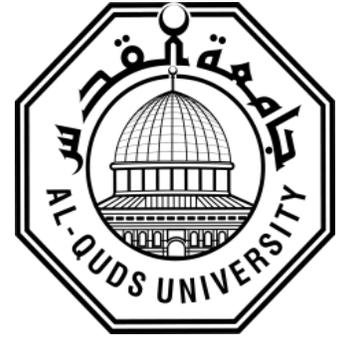
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The Palestinian Pregnant Women**

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## **Dedication**

I dedicate this accomplishment to my father who was a strong advocate for education, and my number one supporter. I express my gratitude and appreciation to all of my family and friends who supported me in carrying out this thesis, especially my dear husband who put a huge effort into ensuring my accomplishment of this degree. With all the love and appreciation

## **Declaration**

I certify that this thesis which is submitted for the degree of master, is the result of my own research, except where otherwise acknowledged, and that this study (or any part of the same) has not been submitted for a higher degree to any other university or institution.

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**Date:** 23/6/2023

## **Acknowledgment**

After thanking and praising God for accomplishing this modest effort, I extend my thanks and gratitude to my supervisor, **Dr. Maha Nahal** for her effort, time, and knowledge that she did not spare. I appreciate her directives, and her patience, to assure accomplishing the best version of this thesis.

I have the honor to thank the members of the committee that will discuss the thesis, and I thank my professors at the College of Public Health, each with his name and title, for the support and scientific assistance they provided during my academic career.

*With all the love and appreciation*

## **Abstract**

**Title of the study: Perceived Social Support and Anxiety symptoms among the Palestinian pregnant women**

**Researcher: Sireen Bshareya**

**Supervisor: Dr. Maha Nahal**

Anxiety during pregnancy may augment pregnancy problems that put a woman and her baby at risk. Pregnancy often exposes women to several physiological and psychological changes that may lead to pregnancy-related anxiety which is known to affect about 13%-15.8% of pregnant women. Social network support is an essential need for pregnant women. It can offer them a sense of connection and belonging, as well as emotional comfort and reassurance, especially when given by family, friends, and caregivers. The aim of the current study is to evaluate the relationship between perceived social support during the antenatal period and the level of anxiety symptoms among pregnant women at Ramallah and Al-Bireh Governorate maternity hospitals, in the West Bank/ Palestine.

A descriptive correlational method was used with a convenient sampling approach that consisted of (305) pregnant women, recruited from four major hospitals located at Ramallah and Al-Bireh Governorate /West Bank/ Palestine. These hospitals are the Palestine Medical Complex, the Palestine Red Crescent Society Hospital, the Arab Care Hospital, and the Istishari Arab Hospital. Data collection was done through the use of three self-reporting questionnaires including the Medical Outcomes Study Social Support

Scale (MOS-SSS), the Pregnancy-Related Anxiety Questionnaire-Revised 2 (PRAQ-R2), and the State-Trait Anxiety Inventory (STA). Data analysis was done by using the Statistical Package for Social Sciences (SPSS-V27).

In the present study, the majority of the mothers (85.9%) reported high levels of perceived social support, with a mean score of  $(4.21 \pm 0.53)$  for the MOS-SSS scale. In regard to the levels of anxiety symptoms, only a small number of the mothers (19.02 %) reported a high level of pregnancy-related anxiety, while the majority showed low to moderate anxiety symptoms on the (PRAQ-R2) scale. Furthermore, 51.8% of the mothers were classified as having low anxiety symptoms on the (SAI) scale. An inverse correlation was found between anxiety symptoms and the number of pregnancies (p-value = 0.013) as well as the number of children (p-value = 0.007). A significant difference was found between employment and the level of anxiety symptoms, for the PRAQ-R2 scale (p-value = 0.005), and for the SAI scale (p-value = 0.015), where employment of the mothers was associated with increased level of anxiety symptoms. Moreover, an inverse correlation was found between perceived social support and anxiety symptoms on the PRAQ scale (p-value < 0.001) and SAI scale (p-value < 0.001). The results of this study will be helpful for psychotherapists to increase the focus on screening pregnant mothers for anxiety symptoms and applying effective strategies to reduce them and to prevent further complication. Future studies should cover different districts in the West Bank, using different measures as well as studying other variables that influence anxiety during pregnancy.

**Keywords:** perceived social support, pregnancy-related anxiety, anxiety symptoms.

## المخلص:

عنوان الدراسة: الدعم الاجتماعي المتصور واعراض القلق لدى النساء الحوامل الفلسطينيات

الباحث: سيرين بشارية

المشرفة: د. مها نحال

قد يؤدي القلق أثناء الحمل إلى تفاقم المشكلات التي ترافق الحمل والتي قد تعرض المرأة وطفلها للخطر. غالبًا ما يعرض الحمل المرأة للعديد من التغيرات الجسدية والنفسية، والتي قد تؤدي إلى القلق المرتبط بالحمل والذي من المعروف أنه يؤثر على حوالي 13% - 15.8% من النساء الحوامل. لذلك، يعد الدعم الاجتماعي حاجة أساسية للحوامل، والذي يمنح الحامل إحساسًا بالارتباط والانتماء، فضلاً عن الراحة والطمأنينة، خاصة عندما يتم تقديمها من قبل العائلة والأصدقاء ومقدمي الرعاية. هدفت هذه الدراسة لفحص العلاقة بين مستوى الدعم الاجتماعي خلال فترة ما قبل الولادة ومدى انتشار أعراض القلق لدى النساء الحوامل في مستشفيات الولادة في رام الله والبيرة في الضفة الغربية / فلسطين.

استخدمت هذه الدراسة المنهج الوصفي الارتباطي، حيث تم اختيار عينة غير احتمالية باستخدام أسلوب العينة المتاحة، لاختيار المشاركات، حيث تكونت عينة الدراسة من (305) من النساء الحوامل، تم اختيارهن من أربعة مستشفيات رئيسية، وهي مجمع فلسطين الطبي، ومستشفى جمعية الهلال الأحمر الفلسطيني، مستشفى الرعاية العربية، والمستشفى الاستشاري العربي من محافظة رام الله والبيرة، في الضفة الغربية/ فلسطين. ومن أجل جمع المعلومات استخدمت الباحثة ثلاثة المقاييس تم تعيبتها ذاتياً من قبل المشاركات، وشملت ادوات الدراسة مقياس الدعم الاجتماعي لدراسة النتائج الطبية (MOS-SSS)، واستبيان القلق المتعلق بالحمل - المنقح 2 (PRAQ-R2)، واستبيان القلق (STAI). وتم تحليل البيانات باستخدام الحزمة الإحصائية للعلوم الاجتماعية (V27-SPSS).

بينت نتائج هذه الدراسة ان غالبية الأمهات (85.9%) عبرن عن مستويات عالية من الدعم الاجتماعي المتصور، بمتوسط درجة (4.21±0.53) لمقياس MOS-SSS. وفيما يتعلق بمستويات أعراض القلق، أبلغ عدد قليل من الأمهات (19.02%) عن مستوى مرتفع من القلق المرتبط بالحمل، في حين أظهرت الأغلبية أعراض قلق منخفضة إلى متوسطة على مقياس (PRAQ-R2). علاوة على ذلك، تم تصنيف 51.8% من الأمهات على أنهم يعانون من أعراض قلق منخفضة على مقياس

(SAI). اشارت النتائج أيضا الى وجود علاقة ذات دلالة بين الحالة الوظيفية ومستوى أعراض القلق، حيث ان الأمهات الموظفات عبرن عن اعراض قلق اعلى من الأمهات غير الموظفات بقيمة (p = 0.015) لمقياس PRAQ-R2 وقيمة (p = 0.005) لمقياس (SAI). و اشارت النتائج أيضا الى وجود علاقة عكسية بين أعراض القلق وعدد حالات الحمل لدى الامهات (القيمة الاحتمالية = 0.013) وكذلك عدد الأطفال (القيمة الاحتمالية = 0.007). وقد أظهرت النتائج ارتباطا سلبيا بين الدعم الاجتماعي المتصور واعراض القلق على مقياس PRAQ (القيمة <math>p < 0.001</math>) ومقياس SAI (القيمة <math>p < 0.001</math>). ان نتائج هذه الدراسة ستكون مفيدة للأطباء والاختصاصيين النفسيين لزيادة التركيز على فحص الأمهات الحوامل فيما يتعلق بمدى وجود اعراض القلق وتطبيق استراتيجيات فعالة للحد منه ومنع المزيد من المضاعفات. توصي الباحثة أن تتم اجراء دراسات المستقبلية في مناطق مختلفة من الضفة الغربية، باستخدام مقاييس مختلفة بالإضافة إلى دراسة المتغيرات الأخرى التي قد تؤثر على القلق أثناء الحمل والتي لم يتم التطرق لها في الدراسة الحالية.

**الكلمات الرئيسية:** الدعم الاجتماعي المتصور، والقلق المرتبط بالحمل، وعلامات القلق.

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## Abbreviations list:

1	MOS-SSS	Medical Outcomes study- social support scale
2	PRAQ-R2	Pregnancy-Related Anxiety Questionnaire- Revised2
3	SAI	Stat Anxiety Inventory
4	WHO	World Health Organization
5	DSM-5	Diagnostic and Statistical Manual of Mental Disorders- Fifth edition
6	APA	American Psychiatric Association
7	PubMed	Searching Engine for National Library of Medicine
8	PsycINFO	Psychological Information Database
9	SPS	Social Provisions Scale
10	HADS	Hospital Anxiety Depression Scale
11	ALSWH	Australian Longitudinal Study on Women's Health
12	CES-D-10	Center for Epidemiological Studies Short Depression Scale
13	GADS	Goldberg Anxiety and Depression Scale
14	MOSS	Medical Outcomes study Social support index
15	EDS	Edinburgh Depression Scale
16	DASS-21	Depression- Anxiety Stress Scale
17	SOS	Significant Other Scale
18	LTE	List if Threatening Experiences
19	SWLS	Satisfaction With Life Scale
20	SAS	Self-Rating Anxiety Scale
21	MSDSS	Multi-Dimensional Scale of perceived social support
22	NuPDQ	Revised Prenatal distress Questionnaire
23	SSQ	Social support Questionner
24	PRAQ	Pregnancy-Related Anxiety Questionner
25	PrAS	Pregnancy-Related Anxiety Scale
26	SF-36	Short Form Survey
27	STAI	State Trait Anxiety Inventory



# **Chapter one**

## **Introduction**

### **1.1 Background**

### **1.2 Problem statement**

### **1.3 Significant of the study**

### **1.4 Aim of the study**

### **1.5 Objectives of the study**

### **1.6 Research questions**

### **1.7 Study boundaries**

### **1.8 Definition of terms**

#### **1.8.1 Scientific definition**

#### **1.8.2 Operational definition**

# **Chapter one**

## **Introduction**

### **1.1 Background**

Pregnancy is often associated with positive emotions such as love, joy, nurturing, and the perception of the child as a gift (leight et al., 2010). However, women may experience mood swings throughout their pregnancy and feel easily irritated and tearful. Moreover, they might have serious changes in their emotional and mental health status, such as severe anxiety, depression, and disturbances in their mental health status (Dunn et al., 2012). Therefore, early identification, treatment, and prevention of antenatal anxiety are important to preserve the emotional health and well-being of the mother and child (Atif et al., 2020).

Anxiety symptoms are common during the antenatal period, with an estimated incidence ranging from 13–15% among women who are pregnant (Henderson et al., 2013). Unfortunately, antenatal anxiety is often not sufficiently differentiated by healthcare providers, despite its harmful effects on the mother and the child.

Obstetricians often consider it as a natural and adaptive response that a pregnant woman could experience when she feels unsafe or threatened. They stated that screening pregnant women for anxiety should not be done as a routine and only 20% of them follow a protocol for anxiety screening during the antenatal period (Coleman et al., 2008).

Previous studies reported that many pregnant women are troubled by anxiety, worries, and fears about antenatal tests, and the health and safety of their infants (Biaggi et al., 2016). This systematic review by Biaggi et al. (2016) also explored the most relevant

factors of anxiety during pregnancy. These factors include lack of social support by the husband, exposure to abuse, unplanned or unwanted pregnancy, as well as a personal history of mental illness. Moreover, present or past pregnancy complications such as abortion, pre-eclampsia, and cesarean section may contribute to antenatal anxiety (Araji and Wallace, 2020).

If symptoms of anxiety are not screened or treated during the antenatal period, it may persist, causing a wide range of risk factors and poor outcomes (Durbano, 2013). It was reported that 21% of pregnant women might clinically have significant anxiety symptoms, and 64% of these women continued to have anxiety in the postpartum period (Durbano, 2013). Araji and Wallace (2020), indicated that at least 10.8% of all pregnant women are affected by generalized anxiety disorder; 20 % of the pregnant women recognized the onset of anxiety during the antenatal period, 14.3% of them recognized anxiety during childbirth, and 51.4% immediately after childbirth. Also, in previous studies conducted in Palestine during the antenatal period, pregnant women had a range of anxiety symptoms that varied between mild 30.7% to severe 12% (Al-Tell, 2019).

Evidence showed an adverse impact of anxiety symptoms and pregnancy-related anxiety on the mother and child's health particularly if the mothers are unsupported (Hijazi et al., 2021). The lack of interpersonal interactions and support within the social network might result in shorter gestational periods and adverse implications for fetal neurodevelopment and child health outcomes (Dunkel Schetter and Tanner, 2012). To date, much attention has been given to social support in the antenatal period and its related outcomes (Phoosuwan et al., 2020).

## **1.2 Problem Statement**

Maternal Mental health problems are considered a significant public health challenge (Alipour, 2018). However, previous studies about anxiety among women of reproductive age are mainly concerned with postpartum anxiety and its impact on women's health, while studies about anxiety during the antenatal period are scarce. However, the physical and psychological changes that occur during the antenatal period, may cause serious pregnancy-related anxiety. Moreover, this could harm the mother's health affecting their psychological health issues and possibly leading to depression and anxiety in the post-natal period (Gyerkoe and Wiegartz, 2009).

These challenges during the antenatal period emphasize the pregnant women's need for all the support that is possible to help them pass this period safely and in good health. Social support does improve health-promoting behaviors during the antenatal period, and the mental and physical health of pregnant women (Fathnezhad-Kazemi et al., 2021). Given that social support is not always received during the pregnancy period (Maharlouei, 2016), it remains unclear whether anxiety symptoms during the antenatal period are related to poor perceived social support and the state of poor health outcomes of the mothers and children or other factors. It is therefore essential to evaluate the relationship between the level of anxiety symptoms and perceived social support during the antenatal period experienced by pregnant women.

Importantly, no previous studies have investigated this relationship in Palestine. Recent evidence has acknowledged that the lack of interpersonal interactions and support within the social network may lead to adverse mental health outcomes.

### **1.3 Significance of the Study**

Anxiety is a serious psychological issue especially in the antenatal period that can develop into other forms of mental problems later and affect the mother's and child's health unless it is screened and managed properly. Providing social support during the antenatal period was found to be beneficial to the psychological well-being of the mother, and it is expected to decrease the chances of experiencing anxiety in the antenatal period among pregnant women (Maharlouei, 2016).

Statistics worldwide have proven that one in three women (35.3%) of pregnant women during the antenatal period had elevated anxiety (Nakić Radoš et al., 2018). In previous studies conducted in Palestine, pregnant women have a range of anxiety from mild 30.7% to severe 12% (Al-Tell, 2019). This study will provide knowledge about the level of anxiety symptoms and its impact on maternal child health among Palestinian pregnant women. Based on the sustainable development goals, and as stated by the Millennium Goals (4 and 5) maternal child health is an important indicator in defining the overall developmental state of a country.

This study will focus on Palestinian pregnant women with anxiety symptoms and perceived social support. Understanding the relationship between perceived social support and the level of anxiety symptoms would be helpful for policymakers. The research results could enhance the development of new strategies for anxiety symptoms screening during the antenatal period with more emphasis on the pregnant women's needs for perceived social support. Furthermore, realizing the importance of social support networks and their relationship with the level of anxiety symptoms during the antenatal period promote maternal child health in Palestine.

## **1.4 Aim of study**

This study aims to evaluate the relationship between perceived social support during the antenatal period and the level of anxiety symptoms among pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine.

## **1.5 Objectives of the Study**

1- To assess the level of perceived social support among the pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine.

2- To explore the prevalence of anxiety symptoms among the pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine.

3- To examine the relationship between independent variables (age, gestational age, number of pregnancies, number of children, previous pregnancy loss (still birth and infant death), intention of pregnancy, educational level, occupational status, place of residence, monthly income) and perceived social support received among the pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine.

4- To examine the relationship between independent variables (age, gestational age, number of pregnancies, number of children, previous pregnancy loss (still birth and infant death), intention of pregnancy, educational level, occupational status, place of residence, monthly income) and the level of anxiety symptoms among the pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine.

5- To assess the relationship between the level of anxiety symptoms and perceived social support among pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine.

## **1.6 Research Questions**

1- What is the level of perceived social support among the pregnant women in Ramallah and Al-Bireh Governorate in the West Bank/Palestine?

2- What is the level of anxiety symptoms among the pregnant women in Ramallah and Al-Bireh Governorate in the West Bank/Palestine?

3- What is the relationship between independent variables (age, gestational age, number of pregnancies, number of children, previous pregnancy loss (stillbirth and infant death), intention of pregnancy, educational level, occupational status, place of residence, monthly income) and perceived social support among the pregnant women in Ramallah and Al-Bireh Governorate in the West Bank/Palestine?

4- What is the relationship between independent variables (Age, gestational age, number of pregnancies, number of children, previous pregnancy loss (still birth and infant death), intention of pregnancy, educational level, Occupational status, place of residence, monthly income) and level of anxiety symptoms among the pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine?

5- What is the relationship between the level of anxiety symptoms and perceived social support among the pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine?

## **1.7 Study boundaries**

**Time boundary:** this study was conducted between February 2022 until February 10<sup>th</sup> 2023

**Place boundary:** this study was conducted in four major hospitals in Ramallah and Al-Bireh Governorate, with a total of 305 pregnant women.

**Population boundary:** this study targeted all pregnant women who visit antenatal care clinics in four major hospitals at Ramallah and Al-Bireh Governorate, in the age groups 19-40 years.

## **1.8 Definition of Terms**

### **1.8.1 Scientific definition**

**1- Perceived social support** refers to an individual's belief or experience of being part of a supportive social network where they feel loved, cared for, and respected by others (Sims et al., 2014). It encompasses the perception of receiving tangible, emotional, and overall help from friends, family members, and other individuals during times of need. Positive levels of perceived social support have been linked to satisfying experiences and overall well-being (Ioannou et al., 2019).

**2- Anxiety:** is characterized by excessive stress and consistent feelings of apprehensive expectation that occur on a daily basis for at least six months, often related to various occasions or activities such as work or school performance. Individuals with anxiety struggle to control their worries, leading to clinically significant distress or impairment in social, occupational, or other important areas of

functioning. Anxiety disorders may be associated with substance abuse or other medical conditions like hyperthyroidism (American Psychiatric Association, 2013). Freud described anxiety as a response to perceived or potential harm and unresolved fear (Nersessian, 2018). It is also seen as an emotional state that arises in situations of unknown risk, anticipating undesirable outcomes (Serdyuk, 2022).

**3- State Anxiety:** is a temporary form of anxiety that arises in specific and transient situations. It involves emotional, cognitive, and physiological changes (Hutchins & Young, 2018). State anxiety reflects the immediate psychological and physical responses to challenging circumstances in a particular situation (Leal et al., 2017).

**4- Pregnancy-related anxiety** refers to the specific anxiety or distress experienced during pregnancy. It encompasses concerns about the health of the developing child, physical changes, labor and delivery, and future parenting issues (Blackmore et al., 2016). It can also be described as the emotional state that pregnant women go through, including fears about their unborn child, labor and delivery, and future parenthood (Dunkel Schetter et al., 2022).

### **1.8.2 Operational definition**

**1. Perceived social support:** will be measured through the answers given by participants on the Medical Outcomes Study Social Support Scale (MOS-SSS). The MOS-SSS typically consists of several items that participants answer about the support they receive from their social networks, such as friends, family, or significant others. These questions can cover emotional support, informational support, and tangible support.

**2- Pregnancy-Related Anxiety:** will be measured through the responses given by the pregnant women to the Pregnancy-Related Anxiety Questionnaire—Revised 2 (PRAQ-R2). It is a self-report questionnaire that is designed to measure the level of pregnancy-related anxiety. It typically includes a set of questions or items that assess the feelings, concerns, and worries of the participants during pregnancy.

**3- State Anxiety:** The responses given by the pregnant women in the State Anxiety Inventory (SAI), are used to evaluate and quantify their state of anxiety. The evaluation of state anxiety levels is based on the conclusions drawn from the inventory.

## **Chapter two**

### **Literature review**

#### **2.1 Overview of Anxiety**

##### **2.1.1 Trait and state anxiety**

#### **2.2 The impact of anxiety on pregnant women and child health**

#### **2.3 Causes of anxiety during the antenatal period**

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## **Chapter two**

### **Literature review**

#### **2.1 Overview of Anxiety**

The American Psychological Association (2013), defines anxiety as an uncontrollable excessive worry about everyday activities. This excessive worry often manifests in fears related to one's health, appearance, social interactions, and unhealthy eating habits. These anxieties can significantly impair an individual's social, occupational, and functional abilities.

Anxiety is a long-lasting, broadly focused, future-oriented response to a diffuse threat. Onset of Anxiety often evolves during childhood, but also happens in adulthood, which might cause dysfunction or impairment in the individual daily life aspects such as social and occupational life. Of course, each individual's culture and gender should be taken into consideration as it is known that anxiety symptoms are more prevalent in women than in men (McLean et al., 2011).

Rector et al. (2008) added that anxiety symptoms are prevalent; one in four persons may have them at some point in their lives, and one in 10 are likely to have experienced one episode of anxiety each year. People with anxiety symptoms may find it challenging to work, study, manage everyday duties, and form strong interpersonal relationships. Additionally, they frequently lead to severe financial tightness and personal suffering. However, people may live with anxiety for many years before recognizing its consequences and potential illness, while the success of treatment for anxiety symptoms can be increased with early intervention.

Moussa and Tayel (2015) mentioned three types of symptoms that can be an indicator of anxiety symptoms: Cognitive, Physical, and Behavioral. According to research, anxiety is accompanied by a variety of cognitive functions, including cognitive control, which makes people process dangerous stimuli excessively at the expense of ongoing tasks. This increased processing of threats interferes with several cognitive functions, including how people perceive and react to their surroundings (Grant and White, 2016). Cognitive symptoms include anxious thoughts, predictions, and beliefs (Rector, et al, 2008).

The second dimension of symptoms is physical, which is characterized by exaggerated physical responses about the situation. The individual would complain of sweating, dizziness, chest pain, and shortness of breath, in addition to muscle pain, and sleep pattern disturbance (Gelenberg, 2000).

The third dimension of symptom is behavioral which occurs as a response to the threatening situation; this could include either active defensive behaviors or passive behaviors such as freezing, both considered coping behaviors (Steimer, 2002). The WHO (2022) mentioned that 301 million people worldwide were suffering from anxiety in 2019, and the number of individuals suffering from anxiety increased by 26% of people worldwide in 2020, due to Covid-19.

### **2.1.1 Trait and state anxiety**

Trait anxiety is about the stable propensity to feel and express unfavorable emotions like fear, worry, and anxiety over a wide range of situations. It is seen as a component of each person's personality. It shows itself as physical symptoms and a dangerous sense of environmental stimuli.

In their definition of trait anxiety, Spielberger and Sydeman stated that it is "Relatively stable individual differences in anxiety proneness." (Spielberger & Sydeman, 1994). Along with the trait anxiety, individuals may experience a state of anxiety that distorts their cognitive level, perspective on events, and recall of information which may result in an apprehensive reaction that is threatening (Gidron, 2013). State anxiety is characterized as an acute sort of anxiety felt in a transient circumstance. Through these circumstances, the person goes through emotional, cognitive, and physical transformations. Fears and worries are brought on by actual or anticipated threats (Hutchins & Young, 2018).

According to Spielberger and Sydeman (1994), state anxiety was also described as a temporal cross-section of a person's emotional life that included sensations of tension, apprehension, uneasiness, worry, and activation of the autonomic nervous system.

## **2.2 The impact of anxiety on pregnant women and child health**

The various physical and psychological changes that mothers experience during pregnancy might expose them to some traits of anxiety during the antenatal period. Prenatal anxiety might be serious and predispose the women to postpartum anxiety as well as postpartum depression. Also, for some women giving delivery increases the risk of developing post-traumatic stress disorder (PTSD) (Gyoerkoe and Wiegartz, 2009).

The infants of these mothers who have high anxiety may have negative effects from these alterations as they develop. Some of these changes were reported by Brunton (2013). For instance, worries during the first trimester may cause abortion, premature birth, or low birth weight infants. Anxiety can also have a serious medical effect on the mother. The hypothalamus-pituitary-adrenal (HPA) axis, limbic system, and

prefrontal cortex of the mother may be impacted by her prenatal stress and anxiety, especially during the second and third trimesters. Further, cortisol enters the fetus through the placenta, disrupting current developmental processes and leading to cleft lip and palate, asthma, shortness of breath, rash, and heart problems (Brunton, 2013). Shahhosseini et al. (2015) reported a much greater impact of extreme anxiety during the antenatal period on the mother's health which might lead to dyslexia, schizophrenia, and neuroblasts in the future. Furthermore, anxiety may result in behavioral alterations in babies such as prolonged crying, irritability, restlessness, anxiety about dealing with some aspects of everyday life more than others, and a lack of mother-child attachment.

### **2.3 Causes of anxiety during the antenatal period**

One of the major contributors to anxiety in pregnant women is socioeconomic position, including income, employment, and education (Araji and Wallace, 2020). Low socioeconomic position has been associated with higher levels of anxiety in pregnant women resulting in poor coping mechanisms during this stressful period (Mahmoodi, et al., 2017).

The importance of education level has been put forward by Wegbom et al. (2023) as it relates to a pregnant woman's anxiety levels. Women with medium and low levels of education may lack or have inaccurate information processing during the prenatal period regarding pregnancy and health, which can lead to an increased risk of health problems, such as anxiety (Ghanem, 2011). High levels of education also ensure a favorable socio-economic status, provide health insurance, and reduce unpleasant accidents which contribute to the reduction of anxiety during the prenatal period among women with high levels of education (Kotimäki et al., 2020).

Anxiety is more likely to occur among women who were overweight before pregnancy (Araji and Wallace, 2020), as they will put on extra weight during the antepartum phase, which raises their worries and increases the likelihood of development of anxiety (Claeson et al., 2010). Obesity has a well-known negative influence on both the physical and mental health of pregnant women. Preeclampsia, gestational diabetes, complications during delivery, antepartum stillbirth, and macrosomia are some examples of health issues that can lead to anxiety among pregnant women. Due to pregnancy, every pregnant woman experiences many physical changes. These changes may have an impact on the pregnant woman's perception of her body, which may result in anxiety related to her body image throughout the antenatal period (Nagl, et al., 2019).

During the prenatal period, 70–85% of pregnant women have severe nausea and excessive exhaustion, which has a profound impact on the pregnant woman's physical, emotional, and social well-being (Munch et al., 2011). One of the main factors causing anxiety levels to rise during the antenatal period is an unplanned pregnancy (Silva et al., 2017). Being faced with an unexpected pregnancy and having to decide whether to keep it or not can be stressful. Being pregnant indeed makes it impossible to hide or abdicate responsibilities. This implies that the expectant mother may go through difficult feelings and emotions (Leibowitz, 2018).

During the antenatal period, women go through several changes such as hormonal changes, which are leading factors for anxiety among pregnant women (Deklava et al., 2015). These hormones such as cortisol and progesterone, their levels can affect this pregnant woman's mental status. The increase in cortisol levels and decrease in progesterone indicate a higher anxiety level in this period (Mikolajkow and Małyszczak, 2022).

Fear and concerns of pregnant women also increase the risk of getting anxiety during pregnancy as fears about giving birth, particularly in nulliparas, mothers who will go through labor for the first time (Rúger-Navarrete et al., 2023). Fears that heighten anxiety also affect mothers who have had previous deliveries and have gone through a great deal of pain and or complications (Hassanzadeh et al., 2020).

Increased anxiety during the antenatal stage brought on by previous pregnancy complications causes mothers to worry more about their own health and the well-being of their unborn children. They need close medical attention, more money, and other unique modifications in their living situation, all of which raise their anxiety level (Araji and Wallace, 2020). Women who had an abortion during their prior pregnancy still worry about having the same problem when they become pregnant. They therefore maintain vigilance and have low expectations for the pregnancy because they believe the unpleasant experience will recur. They worry that they won't be able to enjoy the pregnancy due to their worries (Adolfsson et al., 2012). Lack of perceived social support from partners and family members during the antenatal period may be an important factor in raising anxiety levels (Ghanem, 2011).

## **2.4 Signs and symptoms of anxiety in pregnant women**

### **2.4.1 Physical symptoms**

Unhealthy eating habits during pregnancy can manifest in two ways: emotional eating, where a pregnant woman eats to relieve anxiety rather than hunger, often resorting to unhealthy food high in sugar and fats; and restrictive eating, which is more common in the first trimester. Both practices can lead to unhealthy weight changes, poor dietary intake, and low levels of physical activity (Naughton, 2022).

Additionally, pregnant women may experience changes in their sleep patterns, sleeping less than six hours. This can be attributed to various stressors such as socioeconomic status, body weight, being a first-time mother, and complications from previous pregnancies (Anbesaw et al., 2021). Anxiety during pregnancy can also result in physical symptoms such as headaches, which are considered secondary and often occur as a symptom of other disorders, including anxiety (Negro et al., 2017). Dizziness, also known as vertigo, is another common symptom of anxiety during pregnancy. It occurs due to the interruption of the vestibular system in the brain, which is responsible for maintaining body balance. During anxiety, this system is disrupted by emotional and anxiety-related factors, leading to dizziness (Wiltink et al., 2009).

Furthermore, pregnant women with anxiety may experience palpitations, muscle tension, and shortness of breath. These symptoms are a result of the activation of the sympathetic nervous system, which is part of the autonomic nervous system responsible for the fight-flight response in stressful or dangerous situations (Ho et al., 2020). In anxiety, the sympathetic nervous system becomes activated, as anxiety is closely linked to fear, causing individuals to perceive danger and respond accordingly (Chand and Marwaha, 2023).

#### **2.4.2 Psychological symptoms**

During pregnancy, women often experience increased levels of anxiety, characterized by frequent worries about the health and development of the baby, labor and delivery, postnatal care, as well as concerns about their own body changes (Deklava et al., 2015). This phase is particularly challenging for first-time mothers who have many questions and worries about the antenatal and postnatal period. The lack of adequate

information and reassurance from friends, family, caregivers, and media can further contribute to heightened anxiety symptoms during pregnancy (Vogels-Broeke et al., 2022).

Additionally, fear is a common psychological symptom experienced by pregnant women, primarily related to concerns about the baby's health and their ability to provide proper care after delivery, especially among first-time mothers (Karaçam and Ançel, 2009).

## **2.5 Mood swings vs. anxiety during the antenatal period**

A mood swing is an abrupt and unaccountable change of mood (Encyclopedia, 2023). Pregnant women can experience high levels of mood instability which is associated with mental disorders during the antenatal period (li et al., 2020).

During pregnancy, women often experience mood swings, where their emotions fluctuate from happiness to feeling like crying. These mood swings are most commonly seen in the first trimester and can be more pronounced in women who already experience premenstrual syndrome (Harms and Wick, 2011).

Pregnancy-related discomforts such as nausea, vomiting, and backaches can contribute to emotional vulnerability. Additionally, the process of identifying new roles and dealing with stressors from the surroundings can also contribute to mood swings (Davis, 1996). While these mood swings are usually temporary and decrease in severity during the second trimester, untreated anxiety during pregnancy can persist and exacerbate, leading to postnatal issues like postpartum anxiety and depression (Harms and Wick, 2011).

## **2.6 Overview of social support**

According to Baltaci and Karatas (2015) social support is letting other people know and feel that they are loved, valued, and cared for by their social network, and feel like a member of this network.

Maintaining excellent physical and mental health is dependent on social support, which also serves as a crucial coping technique for those going through challenging circumstances. People usually have stressful situations where they lose control and require assistance and reassurance. The level and type of social support depend on the needs of the person in the circumstance, such as violence or conflicts which are considered stressful situations (International Committee of the Red Cross, 2018).

Social support is an essential need for everyone including adults and children, people require assistance in facing unfavorable or traumatic events and to promote well-being (Kohrt and Song, 2018).

## **2.7 The impact of perceived social support during the antenatal period**

Although being pregnant is regarded as a positive life event, it may sometimes be stressful. Given that it is a new experience for first-time mothers, this time is seen as being extremely stressful. These women do, in fact, require additional assistance and support to get through this time due to the physical and physiological changes as well as the obligations that come with pregnancy (Abdi et al., 2022). Therefore, it is critical to have a decent and effective social support system throughout the antenatal period, as doing so is recognized to be good for the mother's psychological health.

Studies have shown that the mother who receives this type of support from her family, friends, and healthcare providers during the antenatal period is less likely to

experience anxiety and other psychological symptoms during pregnancy and in the post-partum period (Mulyadi and Putri, 2022). This support is provided by exchanging resources between people and providing emotional, informational, or tangible support.

It was recommended by the WHO antenatal care model that social and emotional support should be given as a routine part to promote the quality of antenatal care (WHO, 2006). However, inappropriate and ineffective social support can cause psychological problems in the mother, such as anxiety during the antenatal period, which can progress to post-partum anxiety and other symptoms in the postnatal period; in addition to the negative impact on the fetus's health and development both during the antenatal and postnatal period (Maharlouei, 2016).

## **2.8 Types of perceived social support during the antenatal period**

Perceived social support is classified into three categories: emotional, informational, and tangible support. The support that is received from these three categories can make the antenatal period much easier, and help in the decrease of anxiety levels among pregnant women.

**1- Emotional Support:** Emotional support can be described as the provision of care, affection, attention, and friendship to an individual in need, offering the necessary help and security during challenging and stressful periods (Atoum & Al-Shoboul, 2018). Also, emotional support is related to expressions that include caring, concern, empathy, and sympathy (Ko et al., 2013). In pregnant women it is when the caregiver gives the mother emotional support, including reassurance and empathetic listening to the pregnant woman's discomforts, fears, and changes helps the mother feel comforted and safe (Edmonds et al., 2011).

**2- Informational support:** refers to the knowledge that is given to the expectant mother throughout the antenatal period. These pregnant women require all the knowledge and guidance regarding their condition that the sister-in-law, husbands, mothers, and medical facilities can offer (Edmonds, et al., 2011). The health care professional, such as nurses, midwives, or gynecologists, is a source of further health information. The pregnant woman should be provided with clear information that ensures she is aware of her options and the care she will receive. Additionally, it should provide for equal access regardless of culture or background, flexible information sources, and participation in decision-making (Kwint, 2022).

**3- Tangible support:** a provision of material aid, physical assistance, or help in crises (Swindells et al., 1999), which has a buffering effect on a stressful situation aiming to eliminate the stressor (Åslund et al., 2014). Tangible support during the antenatal period is providing actual assistance in the form of resources like time, money, and other measures through her closed social networks (Hijazi et al., 2021).

## **2.9 Providers of perceived social support for pregnant women**

The social support; emotional, informational, and tangible support that the pregnant woman needs during her antenatal period is provided by the individuals that are in her social network. It was acknowledged by Berkman (1995) that health promotion is a shared responsibility of individuals, their families, and their communities.

Healthcare providers as doctors, midwives, nurses, and other healthcare professionals play major roles in enhancing the population's access to and quality of healthcare.

They give vital services that support wellness, prevent disease, and provide health

care to people, families, and communities using the primary health care model (WHO, 2006).

Then comes the family, the husband, and first-degree relatives. Moreover, close friends as described by Leibowitz (2018) can have an essential role in providing social support. A voluntary friendship can even exist between brothers and sisters. This relationship is built on warm communication, mutual respect, and helping out one another when they need support.

## **2.10 Effect of perceived social support on the mother's health**

It has been discovered that the pregnant woman's mental health during the antenatal time is improved by the offered social support (Al-Mutawtah et al., 2023). Having the support and feeling supported can help the pregnant woman to feel more in control and less concerned during the antenatal period. Because the antepartum period is so filled with uncertainties, especially for first-time mothers, the informational support provided to this expectant mother is crucial because it provides her with advice on how to prepare for labor and delivery; receive adequate prenatal care, and avoid activities that are hazardous to her and her unborn child (Collins et al., 2004).

Receiving social support throughout pregnancy, especially at this stressful time in life, helps pregnant women feel better physically and emotionally and have more life satisfaction. Furthermore, it helps to prevent any health issues for the mother or the child (Hijazi et al., 2021). Receiving sufficient social support can protect the expecting mother from getting psychological problems such as anxiety, and depression, and self-harm (Bedaso et al., 2021). Maharlouei (2016) added that pregnant women who receive social support from their social network, are less likely

to suffer from having preterm delivery, and can save the baby from the high cortisol level that might result in physical abnormalities to the baby.

## **2.11 Theories**

### **2.11.1 Theories of anxiety**

#### **Psychodynamic theory**

Psychodynamic theory is a theory of personality originated by Sigmund Freud. It has a long and complex history within social work and continues to be utilized by social workers. Freud explained anxiety as the stimulant that comes from within us as a reaction toward a harmful or potentially harmful situation, also because of an unresolved fear (Nersessian, 2018). Freud explained the signal theory by saying that the symptoms come from unconscious conflict and defenses, and anxiety comes from perceived psychological danger, signals, and anticipated threats to the ego, if this system fails the individual becomes vulnerable. Some of these threats are object loss such as fear of separation, castration for men a sign of losing control and power, and superego anxiety a fear of negative self-evaluation from the conscience or society (Slavin-Mulford and Hilsenroth, 2011). Freud admitted that repression is the cause of anxiety, not the otherwise, and that behaviors a child had been punished for, are suppressed in the unconscious, and appear later on in life in other forms in the conscious (Ivypanda, 2021).

According to Freud, there are three types of anxiety, which are realistic anxiety, neurotic anxiety, and moral anxiety. Realistic anxiety: is the fear of actual threatening danger to the individual. Neurotic anxiety: is the conflict between the Id and the ego in satisfying the id's needs, this develops in the early life of the individual when trying to satisfy the id and is punished for that. Moral anxiety is the conflict between

the ego and superego, and the fear of breaking the moral values of the society, and comes with feelings of shame and guilt (Al Hikmah, 2021).

Carl Jung added to the conscious and unconscious the collective unconscious (Boeree, 2006). It's an inherited accumulation of primitive human experiences in the form of ideas and images called archetypes and manifested in myths as well as other cultural phenomena such as religion and dreams (APA Dictionary of Psychology, 2023). The state of anxiety can have a variety of causes, but in Jungian terms, anxiety immerses through history as cultural instincts, the collective. These instincts make an individual act differently in a certain situation that arises from the collective unconscious (Jablon, 2019).

Carlson and Englar-Carlson (2017) wrote about the Adlerian theory of psychotherapy, which described people as social beings, and that every behavior is socially mediated and has a social purpose. A person from childhood has a low social lifestyle, that makes him feel inferior to his surroundings, and then later on develops the inferiority complexes (Wissing, 2018). A person develops anxiety in the first years of life, influenced by parents' behavior mainly the mother, it appears later on in the child's life when the child acts in a superior manner, to overcome and mask the inner feeling of inferiority (Kałużna-Wielobób, 2017). Anxiety is a remarkably pervasive trait; it follows a person from early childhood until later on of his life. It significantly harms the individual's life, isolates him from all human interactions, and ruins his chances of leading a tranquil life or making meaningful contributions to the world. Each human function can be impacted by fear. We may be terrified of the outside world or of the world inside of us (Kluetz, 2015).

## **Humanistic theory**

Rogers (1980) developed a personality theory that emphasized the importance of the self-actualizing tendency in shaping human personalities. Rogers believed that individuals who can integrate experiences into their self-structure are in good psychological health. Rogers also mentioned the real self (who I really am from the inside), and ideal- self (who I want to be). These selves should match at a certain level but when they fail and the gap between them increases, anxiety arises (Tekke and Ismail, 2015).

As for Abraham Maslow, anxiety arises from being unable to fulfill individual basic needs according to Maslow's hierarchy (including physiological, safety, love /belonging, esteem, and self-actualization needs) (Taormina and Gao, 2013).

## **Cognitive theory**

According to Beck in this theory, anxiety is an emotional reaction to stimuli that is erroneously perceived as a serious threat as a result of maladaptation. Cognitive, physiological, motivational, affective, and behavioral systems are all active during an anxiety episode. The individual's cognitive system triggers unconscious, deep cognitions known as schemas, which are activated by cognitive distortion, automatic thoughts, and assumptions and prevent the person from processing information and evaluating the situation realistically. Therefore, anxiety is brought on by distorted thoughts, beliefs, assumptions, and cognitive processes as well as genetic inheritability, physical disease states, psychological trauma, and lack of coping mechanisms (Ditomasso and Freeman, 2018).

Beck and Clark (1997) explained anxiety as a schema-based information. It is a processing perspective that views the incorrect or biased perception of stimuli as harmful or threatening to a person's physical or psychological well-being as a key component of anxiety symptoms. Along with processing threat or danger stimuli selectively, the anxious person undervalues their own coping mechanisms and the environment's safety or rescue features (Beck and Clark, 1997).

### **Behavioral theory**

This theory claims that individual behaviors are either learned or conditioned, resulting in producing odd behaviors. In anxiety, it is a conditioned emotional response. These behaviors are either classical conditioning, which pairs the fear with a neutral condition. Later on, this condition causes anxiety when facing this neutral condition, and operant conditioning, which is the repetition or not of a behavior according to the consequences (Hasan et al., 2020). According to Skinner, there are negative and positive reinforcement to the behavior. The positive reinforcement of an anxious behavior through attention, empathy, and other forms of reward will lead to possible repetition of it (Jayathilaka, 2016).

Bandura explained through his Social Learning Theory anxiety. He said that through our life span and from childhood we learn how to respond to certain situation, and learn new skills by observing people surrounding us, and learn from them, such as family, friends, neighbors ... etc., as in fact we learn anxiety (Thyer and Myers, 1998).

## **The biological theory**

According to this theory, the risk of developing an anxiety disorder is six times higher in first-degree relatives of those who already have one. In the case of twins, 32–67% of subtypes of anxiety symptoms are inherited. The genetic architecture is polygenic, with influences likely from both common and rare variations, also environment plays a huge role in the etiology of anxiety symptoms through epigenetic changes and gene-environment interactions (Mufford et al., 2021)

According to Martin et al. (2009) people with anxiety symptoms typically have high or low levels of specific neurotransmitters, which are released in the synaptic cleft to transfer signals from presynaptic to postsynaptic nerve ends. The specific transmitter in the synapse is either present in excess or insufficient amounts to create the specific anxiety condition. Serotonin and GABA dysfunction as well as excessive norepinephrine levels are thought to play a role in the development of anxiety symptoms.

As for the limbic system, which is considered the center of emotional control. It is consisted of thalamus, hypothalamus, amygdala and hippocampus, and other structures. The thalamus sends impulses to the cerebral cortex, which in turn sends them to the amygdala then stimulates other parts of the limbic system. The Amygdala is considered the action part that initiates a behavior (Ten Donkelaar et al., 2020). As for the hypothalamus, when the individual is anxious, thyroxin production, adrenocorticotrophic hormone (ACTH) secretion, antidiuretic (ADH) hormone production, and the autonomic nervous system (ANS) functions are all activated, resulting in anxiety symptoms (Jayathilaka, 2016).

## **2.11.2 Theories of Perceived Social Support**

### **The psychoanalytic theory**

According to Adler's theory of social interests, feeling like part of our social community and experiencing empathy and cooperation are important. These values are learned in early childhood by receiving support and helpfulness from parents.

When a person has social interests, he/she become more adaptable, flexible, and better equipped to handle stress. On the other hand, lacking social interests can negatively impact a person's psychological well-being and lead to feelings of inferiority (Carlson and Englar-Carlson, 2017).

### **Social support theory**

According to Lakey and Cohen (2000) interpersonal relations play a crucial role in providing support to individuals, reducing the negative impact of life stressors, and helping to solve problems, ultimately improving their overall well-being. This support enhances self-esteem and emotional regulation. On the other hand, the absence of social support can lead to increased anxiety levels.

There are two hypotheses regarding social support. The first is the stress-buffering hypothesis, which suggests that social support is only necessary during high-stress situations. By buffering the negative impacts of these events, social support contributes to improved health and mental well-being. The second hypothesis is the direct-effect hypothesis, which states that social support is always beneficial for health and mental health, regardless of stress levels. This hypothesis suggests that social support has a positive impact on overall well-being (Buchwald, 2017).

## **Biological theory**

Perceived social support plays a crucial role in improving individual health by acting as a protective buffer during stressful situations, leading to a reduction in anxiety levels. It has a positive impact on various physiological systems, including the autonomic nervous system, where it decreases the levels of neurotransmitters like norepinephrine and epinephrine (Ditzen and Heinrichs, 2014). Additionally, it affects the Hypothalamic-pituitary-adrenal axis, resulting in lower cortisol levels in individuals receiving adequate perceived social support (Giesbrecht et al., 2013). Furthermore, it influences the immune system by enhancing the function of immune cells, thereby reducing the risk of autoimmune and inflammatory diseases (Copertaro et al., 2014).

## **2.12 Previous studies**

The researcher wrote about some previously conducted studies in several countries, with different study designs, tools, populations, and time, to show the importance of social support during the antenatal period, and how it affects the psychological and physiological health of pregnant women during and after the antenatal period. These studies concluded that social support has a major effect on the pregnant woman and her baby health during and after this period. Proving an adequate social support would indeed lower anxiety levels, and prevents any further health complications.

Abdi et al. (2022) conducted a study, about the association between social support and pregnancy stress: a cross-sectional study of neighbors' interactions. A cross-sectional study, aimed to study the association of social support with the pregnancy-

related stress. The sample consisted of 200 pregnant women recruited through convenience sampling from two teaching hospitals affiliated with Babol University of Medical Sciences and a private obstetric clinic, the women completed two self-reported questionnaires during prenatal care appointments. The questionnaires included the Revised Prenatal Distress Questionnaire (NuPDQ) and Social Support Questionnaire (SSQ). The results showed a significantly positive association between the social support of neighbors and the total score of pregnancy stress, Neighbors' support, as a component of social support, was found to be significantly related to pregnancy stress. This study recommends that healthcare providers consider the positive and negative impacts of social support during the pregnancy period.

Huang et al. (2022) conducted a cross-sectional study that aimed to investigate the prevalence of pregnancy related anxiety (PRA) under the three-child policy in China, and also explored whether resilience mediated the effect of family function and perceived social support on PRA. The tools that the researcher used in his study were demographic form, the Chinese Pregnancy-related Anxiety scale, the 10-item Connor-Davidson Resilience Scale, the APGAR Family Care Index Scale, and the Multidimensional Scale of Perceived Social Support. A total of 579 pregnant women were recruited in this study from a teaching hospital in Chongqing, China. The results indicated that perceived social support, family function, and resilience were negatively associated with PRA. Chinese pregnant women are suffering from high levels of PRA. Better family function and perceived social support might reduce the occurrence of PRA, as well as by mediating effects of resilience.

Finnbogadóttir and Persson (2022), conducted a longitudinal cohort study about (Risk for partners' depression and anxiety during pregnancy and up to one year

postpartum: A longitudinal cohort study.). It is. This study aimed to explore the risk for depression and anxiety during pregnancy and one year postpartum in relation to partners' self-reported health, sense of coherence, social support, and lifestyle factors. Three questionnaires were used, the questionnaires consisted of sociodemographic and lifestyle variables (employment and economy were covered in Q1 and Q3), and self-reported health (covered in all questionnaires) was measured using a question from the Short Form Survey (SF-36) instrument. Total participants of the study 532, they did answer the questionnaires twice before and after one year of postpartum. The results showed that social support has a significant and positive impact concerning signs of depression and anxiety, both during pregnancy and postpartum. Concluding that more than 10% of partners in this study showed depressive symptoms and anxiety, indicating a problem in need of attention by stakeholders. Strengthening social support is of greatest importance. It is time for the introduction of family-focused care aimed at prevention of depression and anxiety, and maintenance of family well-being.

Zefanya and Suryadi (2021) conducted a study that aimed to determine whether or not social support has an effect on pregnancy-related anxiety in the first trimester. This study used a non-experimental quantitative method. It used the Multidimensional Scale of Perceived Social Support (MSPSS) measurement tool, and the pregnancy-related anxiety scale (PrAS). A total of 184 participants who lived in Jakarta and were 18-30 years old in their first trimester filled out the questionnaire. Results indicated that social support has a negative effect on pregnancy-related anxiety.

Brik et al. (2021), conducted a study that aimed to explore depression and anxiety symptoms, and social support in pregnant women during the SARS-CoV-2 lockdown.

Further to explore demographic risk factors. Three questionnaires were used in this study. The depression (EPDS) scale, anxiety (STAI), and Social Support (MOS-SSS) scale. STAI describes the actual state of anxiety and the STAI trait describes the sensation of anxiety. A total of 204 women participated in the study. The study was performed at Hospital Universitario Vall Hebron, Barcelona. Results showed that mental health disorders and lack of social support were independent risk factors for anxiety symptoms in the STAI. It concludes that a lockdown scenario during the first wave of the SARS-CoV-2 pandemic, increases the symptoms of anxiety among pregnant women, particularly affecting those with less social support.

Bedaso et al. (2021) conducted a study about (The association between social support and antenatal depressive and anxiety symptoms among Australian women). A cohort of the Australian Longitudinal Study on Women's Health (ALSWH). This study aimed to examine the associations between domains of social support and antenatal depressive and anxiety symptoms after adjusting for potential confounders. A total of 493 pregnant women engaged in this study. The 10 item Center for Epidemiological Studies Depression (CES-D-10) scale, and the 9-item Goldberg Anxiety and Depression scale (GADS) respectively, and the 19 Item-Medical Outcomes Study Social Support Index (MOSS) were used to assess social support. The study found that the odds of antenatal depressive symptoms were about four and threefold higher among pregnant women who reported low emotional/informational support (and low social support (overall support) respectively compared with their counterparts. In addition, the odds of antenatal anxiety symptoms were seven times higher among pregnant women who reported low affectionate support/positive social interaction.

Yu et al. (2020) conducted a study about (The mediating role of perceived social support between anxiety symptoms and life satisfaction in pregnant women: a cross-sectional study). This study aimed to identify the relationship among anxiety symptoms, perceived social support, and life satisfaction, and to further explore whether perceived social support can play a mediating role. Across sectional study that had a total of 347 Chinese pregnant women from Shenyang city. The Satisfaction with Life Scale (SWLS), the Zung's Self-Rating Anxiety Scale (SAS), the Multi-Dimensional Scale of Perceived Social Support (MSPSS) as well as demographic variables were included in each questionnaire. Anxiety symptoms were negatively associated with life satisfaction and explained 14.7% of the variance. A higher level of perceived social support was related to higher level of life satisfaction, explaining 21.0% of the variance. Perceived social support partly mediated the relationship between anxiety symptoms and life satisfaction for pregnant women.

Simarmata et al. (2019) conducted a study about the effect of social support and social interaction on anxiety among pregnant women. A cross-sectional study that aimed to examine the effect of social support and social interaction on anxiety among pregnant women. A sample of 200 pregnant women was selected by simple random sampling was selected from community health centers in Kutai Kartanegara, East Kalimantan. A questionnaire was used to collect data about anxiety, education, parity, stress, family income, family support, social interaction, and counselling. Result showed that anxiety increases among pregnant women with stress. It is decreased by high education, high income, parity, strong family support, social interaction, and counselling.

Peter et al. (2016) conducted a study about (Association between perceived social support and anxiety in pregnant adolescents). This study aimed to evaluate the association between perceived social support and anxiety symptoms in pregnant adolescents. It's a cross-sectional study that had a sample consisting of 871 pregnant women aged 10 to 19 years who received prenatal care in the national public health care system in the urban area of Pelotas, state of Rio Grande do Sul, southern Brazil. They assessed perceived social support and anxiety symptoms using the Medical Outcomes Study Social Support Survey and the Mini International Neuropsychiatric Interview. A self-report questionnaire was used to obtain sociodemographic information. The prevalence of any anxiety disorder was 13.6%. Pregnant adolescents with an anxiety disorder reported less perceived social support in all domains (affectionate, emotional, tangible, informational, and positive social interaction). Older teenagers reported lower perceived support in the emotional, informational, and positive social interaction domains, whereas those with low socioeconomic status reported lower perceived social support in the material domain. Women who did not live with a partner had less perceived social support in the affectionate and positive social interaction domains. Perceived social support seems to be a protective factor against anxiety symptoms in pregnant adolescents, with a positive effect on mental health.

A study was conducted by Biaggi et.al, (2016) about (Identifying the women at risk of antenatal anxiety and depression), aimed to identify the main risk factors involved in the onset of antenatal anxiety and depression. A systematic literature analysis was conducted, using PubMed, PsycINFO, and the Cochrane Library, 97 paper where included Lack of social support as one of the variables contributing to anxiety and depression during the antenatal period. Numerous studies also note that perceptions of

spouse and social support as being inadequate are significant risk factors for antenatal anxiety and depression.

Verbeek et al. (2015) conducted a study about (Anxiety and depression during pregnancy in Central America: A cross-sectional study among pregnant women in the developing country Nicaragua), it is a cross sectional study, the sample was 98 Nicaraguan women compared with a parallel cohort in the Netherlands ( $N = 4725$ ) on symptoms of anxiety (Spielberger State Trait Anxiety Inventory) and depression (Edinburgh Postnatal Depression Scale). Associations with the women's knowledge how to reach professional psychological support were assessed using multivariable linear regression analyses. Of the Nicaraguan women, 41 % had symptoms of anxiety and 57 % symptoms of depression, versus 15 % and 6 % of the Dutch women. In Nicaragua, both prevalence and severity of symptoms of antenatal anxiety and depression are substantially higher than in developed countries.

A study was conducted by Waqas, et al. (2015) about (Social Factors of Antenatal Anxiety and Depression in Pakistan), that aimed to bridge this gap in scientific knowledge by investigating the factors associated with antenatal depression and anxiety, with particular emphasis on the association between gender discrimination, the preference for sons, and mental health in pregnant woman. Cross-sectional research on 500 pregnant women was conducted at four teaching hospitals in Lahore. The Social Provisions Scale (SPS) and the Hospital Anxiety and Depression Scale (HADS) were the two scales employed. Higher HADS scores were strongly correlated with lower SPS scores, rural background, history of harassment, abortion, cesarean delivery, and unwanted pregnancies, according to inferential analysis. The link between the total number of children, the gender of the prior children, and the HADS

score was mediated by social support (SPS score). Higher numbers of sons were associated with the opposite trends in the scores, whereas women with more daughters were significantly more likely to score higher on the HADS and lower on the SPS.

Chan et al. (2013) conducted a study about (Antenatal anxiety in the first trimester: Risk factors and effects on anxiety and depression in the third trimester and 6-week postpartum). This study aimed to determine the prevalence of antenatal anxiety symptoms and examine the risk factors and effects of anxiety symptoms in early pregnancy on anxiety and depressive symptoms in later pregnancy and early postpartum period. A prospective longitudinal design with quantitative approach was adopted. A consecutive sample of 1470 Chinese pregnant women from hospitals in Hong Kong was invited to participate in the study and was assessed using standardized instruments on 3 time points including first and third trimesters of pregnancy and 6-week postpartum. The results showed that 17.7% of pregnant women manifested anxiety symptoms in the first trimester of pregnancy. Single mothers, younger mothers, mothers who smoked before pregnancy and mothers who received low education level reported significantly higher levels of anxiety symptoms in the first trimester. Unwanted pregnancy, low self-esteem, low marital satisfaction and perceived low social support were significant social risk factors for anxiety symptoms in the first trimester.

Mirabzadeh et al. (2013) conducted a study about (Path Analysis Associations Between Perceived Social Support, Stressful Life Events and Other Psychosocial Risk Factors During Pregnancy and Preterm Delivery.). This study aimed to analyze the relationship pathway of perceived social support, stressful life events, and other

psychosocial risk factors during pregnancy with incidence of preterm labor. It's a cohort study, conducted in four hospitals in Tehran, 500 pregnant women in their 24th to 28th gestational weeks were studied. They filled out a self-report questionnaire on perceived social support, depression, anxiety, stress and stressful life events.

Sociodemographic characteristics were also assessed. The participants were followed up until labor, and the data about mother and the newborn were collected after labor.

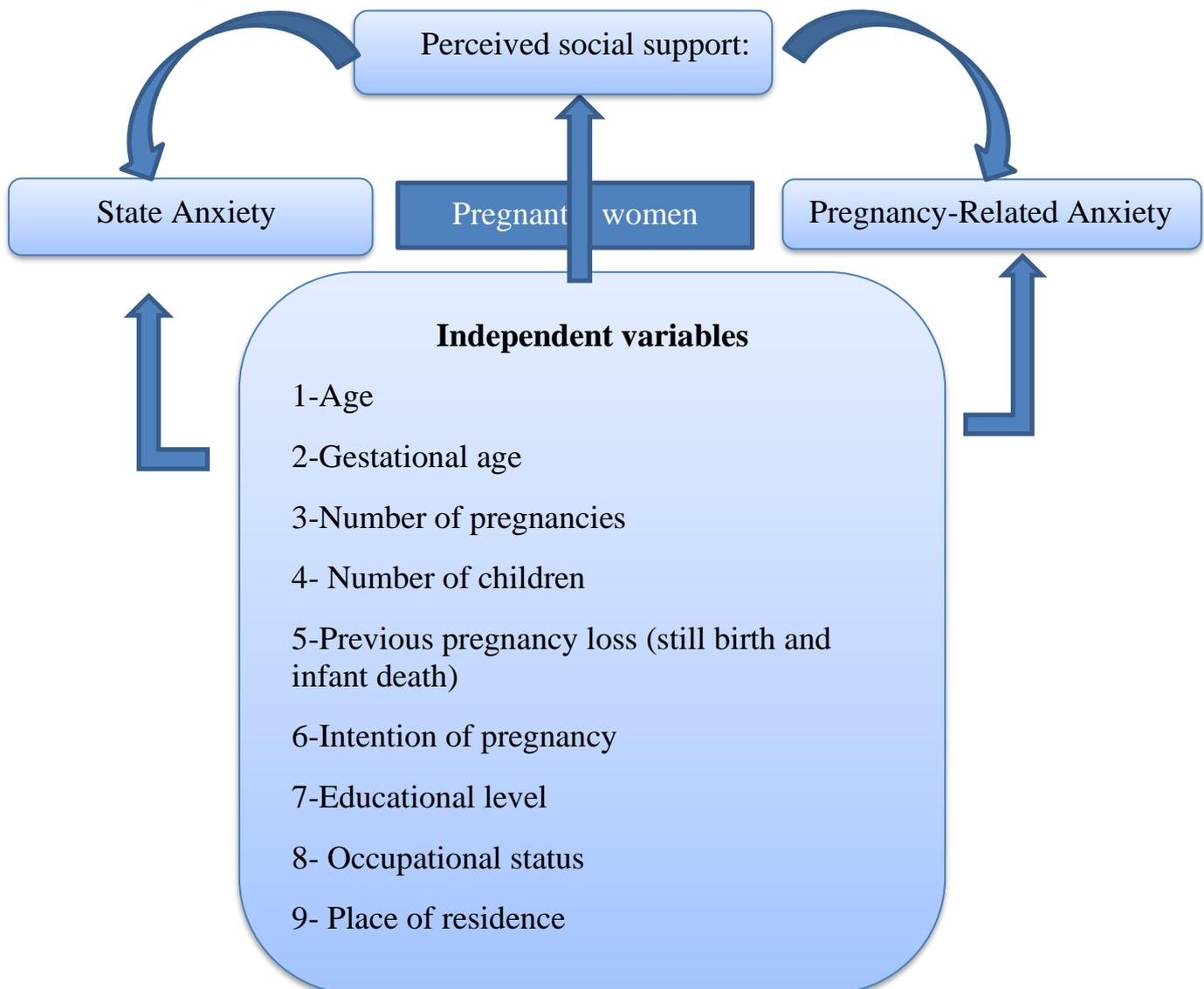
The results showed that supporting pregnant mother moderates' psychological problems such as stress, anxiety, and depression, and hence reduces preterm labor.

Aktan (2011) conducted a study about (Social Support and Anxiety in Pregnant and Postpartum Women.). It is a cross-sectional study. This study aimed to examine relationships between social support and anxiety in pregnant and postpartum women. Two questionnaires were used, Personal Resource Questionnaire (PRQ) 85-Part 2 and State Trait Anxiety Inventory (STAI). The sample consisted of 177 women in their third trimester and able to read and comprehend English. The results showed there is a significant inverse relationship between social support and state and trait anxiety in pregnancy and the postpartum exists. Concluding that nurses must assess for anxiety and social support, as well as educate clients on the importance of supportive relationships and strategies for reducing anxiety.

Reid et al. (2009) conducted a study about (Factors influencing antenatal depression, anxiety and stress). This study aimed to investigate the prevalence and factors influencing antenatal depression, anxiety and stress symptomatology. The study used a cross-sectional survey design in a sample of 302 antenatal women across the trimesters of pregnancy. The questionnaire collected demographic and pregnancy data, included two measures of emotional distress; the Edinburgh Depression Scale

(EDS) and Depression Anxiety Stress Scale (DASS-21), a measure of social support; the Significant Others Scale (SOS), and an adapted measure of distress from life events; the List of Threatening Experiences (LTE). 17% were identified as suffering from depression symptomatology, 25% as having symptoms of anxiety and 25% as having symptoms of stress. Analysis revealed that a lack of support from a partner, mother, and another (typically a sibling or friend) were a significant predictors of symptomatology.

### 2.13 conceptual model



## **Chapter three**

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#### **3.11.1 Validity**

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### **3.13 Limitations**

### **3.14 Data collection**

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## **Chapter three**

### **Methodology**

#### **3.1 Introduction**

This chapter describes the study methodology which includes the study design, study population, type of sample, Eligibility criteria, distribution of the study sample according to the sociodemographic variables, study setting, tools of the study, data collection, data analysis, validity and reliability, and ethical consideration.

#### **3.2 Study design**

The researcher used a descriptive correlational study design to examine the level of perceived social support among pregnant women, and its relation with the level of anxiety symptoms among women in Ramallah and Al-Bireh Governorate in the West Bank/ Palestine.

#### **3.3 Study population and sampling**

The target group of this study includes all the pregnant women who were registering for antenatal care in the selected four major hospitals at Ramallah and Al-Bireh/West Bank/Palestine within the period of the study that started in December 2022 to February 2023. The average number of pregnant women who monthly attended the antenatal clinics in each hospital was taken from the nursing administrators of the selected hospitals in reference to the antenatal registration files, and the recorded attendance files every month.

*Table 3.1: Average Number of pregnant women registered for antenatal care per month in each hospital.*

<b>Name of the Hospital</b>	<b>Number of pregnant women</b>
Palestinian Red Crescent Society Hospital	2440
Palestinian medical complex	628
Istishari Arab Hospital	364
Arab Care Hospital	753
<b>Total</b>	<b>4185</b>

Table 3.1 shows the total number of pregnant women who attended the antenatal clinics every month and fully utilized the antenatal care services in all the selected hospitals during the year 2022-2023 was 4185 pregnant women.

### **3.4 Sample Size**

The sample size was calculated at the beginning of this study by using the online sample size calculators (Raosoft, 2012; Survey System, 2012), to achieve the estimated number with a statistical significance (0.05 error margin). The calculated size according to the total number in the four hospitals was 352 pregnant women. However, a convenient sample was used in this study, and the number of pregnant women who agreed to participate in the study during the period of data collection was 305 women. According to Andrade (2021), the findings of a study based on the convenience sampling method can only be generalized to the sample and not to the entire population. Results of this study are expected to represent those women who showed positive interest to participate in the study, and therefore the researchers would have little control over how many women will participate in the study.

**Table 3.2: Distribution of the participants according to the selected hospitals.**

#	Name of the hospital	Number of participated women
1	Palestinian Red Crescent Society Hospital	150
2	Palestinian medical complex	50
3	Istishari Arab Hospital	35
4	Arab Care Hospital	70
<b>Total number of participants</b>		<b>305</b>

Table 3.2, presents the number of participating pregnant women in each hospital.

### **3.5 Type of sample**

This study used nonprobability convenient sampling method.

### **3.6 Eligibility Criteria**

#### **3.6.1 Inclusion**

- 1- Pregnant-women regardless of gestational age.
- 2- Women in the age group between 19-40 years old.
- 3- Women with no physical or mental health comorbidity.

#### **3.6.2 Exclusion**

- 1-Pregnant women of the age of 18 years and younger.
- 2- Women with comorbidities such as hypertension, diabetes, antepartum hemorrhage, and cardiac disease.
- 3- Women who have a previous mental health disorder

### **3.7 Distribution of the mothers according to the sociodemographic characteristics and other variables**

The sample of the current study consisted of (305) pregnant women who agreed to participate in the study and to fulfill the questionnaire, as the participation was convenient. The following tables from (3.2 to 3.12) present the distribution of the study sample according to the studied sociodemographic variables which include (age, Gestational age, number of previous pregnancies, number of lived children, intention to get pregnant, previous abortion or stillbirth, educational level, occupational status, residency monthly income).

#### **3.7.1 Age of the mother variable**

**Table 3.3: Distribution of mothers' according to the age group variable.**

<b>Age group</b>	<b>Frequency</b>	<b>percentage</b>
<b>19 – 25 years old</b>	103	33.8%
<b>26 – 30 years old</b>	113	37.0%
<b>31 – 35 years old</b>	68	22.3%
<b>36 – 40 years old</b>	21	6.9%
<b>Total</b>	305	100%

According to Table 3.3, (33.8%) of women in the age group of (19 – 25 years old), (37.0%) are between 26 and 30 years old, while (33.8%) are younger are between 31 and 40.

#### **3.7.2 Gestational age variable**

**Table 3.4: Distribution of mothers according to the gestational age variable.**

<b>Gestational age</b>	<b>Frequency</b>	<b>percentage</b>
<b>1<sup>st</sup> trimester (1 – 13 weeks)</b>	48	15.7%
<b>2<sup>nd</sup> trimester (14 – 27 weeks)</b>	101	33.1%
<b>3<sup>rd</sup> trimester (28 – 40 weeks)</b>	152	49.8%
<b>Post-term (&gt; 40 weeks)</b>	4	1.3%
<b>Total</b>	305	100%

According to table 3.4, (15.7%) of pregnant women were in their 1<sup>st</sup> trimester (1-13 weeks), (33.1%) were in their 2<sup>nd</sup> trimester (17-27 weeks), (49.8%) were in their 3<sup>rd</sup> trimester (28-40 weeks), and (1.3%) were pots term (> 40 weeks).

### 3.7.3 Previous pregnancies variable

**Table 3.5: Distribution of mothers according to the previous pregnancies' variable.**

<b>No of previous pregnancies</b>	<b>Frequency</b>	<b>percentage</b>
<b>One time</b>	80	26.2%
<b>Two times</b>	74	24.3%
<b>Three times</b>	62	20.3%
<b>Four times</b>	47	15.4%
<b>Five times and more</b>	42	13.8%
<b>Total</b>	305	100%

According to table 3.5, (26.6%) of women had one-time previous pregnancies, (24.3%) had two-time previous pregnancies, (20.3%) had three times previous

pregnancies, (15.4%) had four times previous pregnancies, and (13.8%) had five times and more previous pregnancies.

### 3.7.4 Number of lived children variable

**Table 3.6: Distribution of mothers according to the number of lived children variable.**

<b>No of lived children</b>	<b>Frequency</b>	<b>percentage</b>
<b>No children</b>	92	30.2%
<b>One child</b>	60	19.7%
<b>Two children</b>	64	21.0%
<b>Three children</b>	51	16.7%
<b>Four children or more</b>	38	12.5%
<b>Total</b>	305	100%

According to table 3.6, (30.2%) of women stated that they had no children, (19.7%) had one child, (21.0%) had two children, (16.7%) had three children, and (12.5%) had four children or more.

### 3.7.5 Abortion or still birth variable

**Table 3.7: Distribution of mothers according to the abortion or still birth variable.**

<b>Abortion or still birth</b>	<b>Frequency</b>	<b>percentage</b>
<b>Yes</b>	91	29.8%
<b>No</b>	214	70.2%
<b>Total</b>	305	100%

According to table 3.7, (29.8%) of women did experience abortion or still birth, and (70.2%) did not experience a previous abortion or stillbirth.

### 3.7.6 Intention of pregnancy (Planned or unplanned) variable

**Table 3.8: Distribution according to the intention of pregnancy variable.**

<b>Intention of pregnancy</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Yes (Planned)</b>	193	63.3%
<b>No (un planned)</b>	112	36.7%
<b>Total</b>	305	100%

Table 3.8, showed that most of women with the percent of (63.3%) stated that the current pregnancy is planned, and (36.7%) is unplanned.

### 3.7.7 Educational level variable

**Table 3.9: Distribution according to the educational level variable.**

<b>Educational level</b>	<b>Frequency</b>	<b>percentage</b>
<b>Elementary school</b>	5	1.6%
<b>Middle school</b>	20	6.6%
<b>High school</b>	70	23.0%
<b>University degree</b>	210	68.9%
<b>Total</b>	305	100%

Table 3.9, indicated that (1.6%) of pregnant women have elementary school degree, (6.6%) have middle school degree, (23%) have high school degree, and more than two third of these women (68.9%) have university degree.

### 3.7.8 Occupational status variable

**Table 3.10: Distribution of mothers according to the occupational status variable.**

<b>Occupational status</b>	<b>Frequency</b>	<b>percentage</b>
<b>Employed</b>	74	24.3%
<b>Unemployed</b>	231	75.7%
<b>Total</b>	305	100%

According to table 3.10, most of pregnant women with the percent of (75.7%) are unemployed, and (24.3%) are employed.

### 3.7.9 Residency variable

**Table 3.11: Distribution of mothers according to the residency variable.**

<b>Residency</b>	<b>Frequency</b>	<b>percentage</b>
<b>Town</b>	130	42.6%
<b>Camp</b>	41	13.4%
<b>Village</b>	44	14.4%
<b>City</b>	90	29.5%
<b>Total</b>	305	100%

Table 3.11, showed that (42.6%) of women lives in the town, (13.4%) lives in the camps, (14.4%) lives in the villages, and (29.5%) lives in the cities.

### 3.7.10 Monthly income variable

*Table 3.12: Distribution of mothers according to the monthly income variable.*

<b>Monthly income</b>	<b>Frequency</b>	<b>percentage</b>
<b>Less than 2000 NIS</b>	5	1.6%
<b>2000 - 3499 NIS</b>	129	42.3%
<b>3500 - 4999 NIS</b>	93	30.5%
<b>5000 NIS and more</b>	78	25.6%
<b>Total</b>	305	100%

According to table 3.12, (1.6%) of the pregnant women stated that their income is less than 2000 NIS, less than half of the mothers (42.3%) between (2000-3499 NIS), (30.5%) between (3500-4999NIS), and (25.6%) their income (5000 NIS and more).

### 3.8 Study Setting

The study was conducted in four major governmental, and private hospitals that have antenatal clinics at Ramallah and Al-Bireh Governorate in the West Bank/ Palestine including Palestine Medical Complex, Palestine Red Crescent Society Hospital, Arab Care Hospital, Istishari Arab Hospital:

**1- Palestinian Red Crescent Society Hospital:** The Palestinian Red Crescent Society – Al-Bireh Branch was established in 1965 as a non-profit charitable association aimed at health and social care for the citizens of Al-Bireh and the Ramallah District, which currently number (300) thousand people distributed over the cities of Al-Bireh and Ramallah and one hundred villages, in addition to the goals of the International Red Crescent Societies of caring for prisoners of war Prisoners and care for those

affected by war and disasters...etc. Since its establishment, the association has opened medical clinics, emergency services, and ambulances, as the association was the pioneer in emergency services that work 24 hours a day. Hospital services include maternity hospital and complete gynecological operations, full department of internal medicine and surgery, intensive care department for newborns, fully equipped operating rooms, (laboratory, radiology, pharmacy, emergency 24 hours), center for optics and eyes, dental clinic, physiotherapy center, ultrasound, CT scan, litter fragmentation center, specialized clinics (orthopedics, heart and pediatric surgery, dermatology, general surgery, ear, nose and throat, audiogram, and other specialties...) (palestinercs, 2022).

**2- Palestinian medical complex:** it is a governmental hospital, was established in 1963 as Ramallah governmental hospital. In 2010 it became the Palestinian medical complex. It provides treatment services to citizens from all governorates. The complex consists of four hospitals, specialized and equipped with the latest devices and equipment; it provides health services to (500) thousand citizens directly and receives medical referrals from the rest of the governorates, with approximately (300) thousand citizens, as the total services provided amount to approximately (800) thousand citizens. It includes Palestine Medical Center, the Kuwaiti Hospital for Cardiac Surgery, the Bahraini Children's Hospital, the Sheikh Zayed Emergency Building and the outpatient clinic building. It includes the following departments (emergency, surgery, orthopedics, catheterization, internal medicine, central operations, intensive care, critical care, and gynecology, obstetrics, physiotherapy, radiology and tomography, pharmacy, and dialysis unit). Where the hospital contains 300 beds, with an occupancy rate of 99% (palestinecabinet, 2017).

**3- Istishari Arab Hospital:** was established in 2016. The hospital provides comprehensive medical and health services, both diagnostic (laboratory, genetic laboratory, radiology, tomography and MRI “magnetic resonance imaging”) and therapeutic services, including emergency services, where services are available for all medical specialties. The hospital is accredited by the Palestinian Medical Council as a teaching hospital for all specialties (IAH Features - IAH, 2021).

**4- Arab Care Hospital:** The Arab Care Specialized Hospital was opened in 1995, and is the first hospital in Palestine equipped with an MRI machine, a gamma radioisotope machine, and a computed tomography (CT) machine. The hospital obtained the International Quality Certificate (ISO), and provides its services to all citizens in the city of Ramallah, and there are clinics in various medical specialties. The hospital is characterized by the presence of a section dedicated to performing surgical operations, a laboratory for conducting all medical analyses, and an incubation section for newborns that are born premature (Arab Care Hospital, 2022).

### **3.9 Tools of the Study**

Data was collected through the use of three self-administered questionnaires to investigate perceived social support and anxiety symptoms among pregnant women. These tools were evident to be valid and reliable, and have been used in the previous studies of Hijazi et al. (2021), Michalik, et al. (2021), and Delgado et al. (2016). The questionnaires assessed the sociodemographic characteristics of the participants such as (age, educational level, occupational status, place of residence, monthly income), and other non-demographic characteristics related to their pregnancy conditions such

as (gestational age, number of pregnancies, number of children, previous pregnancy loss as stillbirth, infant death, as well as if the pregnancy is intended or unintended).

**The three tools are:**

1. The Medical Outcomes Study Social Support Scale (MOS-SSS)
2. The Pregnancy-Related Anxiety Questionnaire—Revised 2 (PRAQ-R2).
3. The State Anxiety Inventory (SAI).

**1- The Medical Outcomes Study Social Support Scale (MOS-SSS):**

This tool aims at evaluating the extent to which an individual has the support of others to deal with challenging circumstances. It is a short self-report questionnaire consisting of 18 items. The scoring ranges from 1 (never) to 5 (always) using a Likert scale of 5 points. The higher scores on each 5-point Likert scale item indicate higher levels of perceived support (Hijazi et al., 2021). The MOS-SSS was used by Hijazi et al. (2021), after translating the scale into Arabic to be used by the participants' native language.

Face validity of this tool was determined before using it by getting the opinions of five experts working in the field of sociology, as they accepted this tool as appropriate for measuring the different types of social support. Results of this scale were classified according to the mean into three categories: (Low = 1-2.33); (Moderate = 2.34-3.67), and (High = 3.68 – 5). These classifications were built upon the results of the previous similar studies and were proven by the statistician. The overall scale was reliable with a Cronbach's  $\alpha$  of (0.91).

The Arabic version of the questionnaire includes three domains emotional support, informational support, and tangible support. The emotional support domain includes six items related to feeling wanted, seeking advice, sharing worries, understanding problems, having someone to listen to, and receiving love and affection. The informational support domain consists of four items related to receiving advice, information, and confidence from healthcare providers. The tangible support domain includes eight items related to spending time, providing assistance with daily tasks, engaging in activities, and offering support during illness or confinement. This support is provided by the social network of pregnant women, which includes their husband, family, close friends, and caregivers.

## **2- Pregnancy-Related Anxiety Questionnaire—Revised 2 (PRAQ-R2):**

This tool aims to evaluate a woman's level of anxiety by exploring their concerns about their appearance and changes during pregnancy, the baby's condition, and delivery. The first version of the PRAQ instrument, which is a self-report questionnaire, was created by Van den Bergh in 1990 and contained 34 items before being initially altered into a 10-item (Huizink et al.,2004). However, a second modification (PRAQ-R2) was made, which made the tool universal for all expectant women (nullipara and multipara) with 11- items.

The questionnaire used in this study has 11 questions, which are divided into three subscales: the fear of childbirth (Qs. 1, 2, and 6); concerns about having a kid who is physically or mentally disabled (Qs. 4, 9, 10, and 11); anxieties about one's own appearance (Qs. 3, 5, and 7), and the nullipara (Q. 8, which was removed from this study because target population was all pregnant women. This scale was previously used by Michalik et al. (2021), to measure pregnancy-related anxiety in a five-point

Likert scale ranging from 1 (Never) to 5 (always). The total scores of this questionnaire ranged from 10 to 50, and the higher scores indicated higher levels of anxiety. The mean score was classified into three categories: (Low = 1-2.33), (Moderate = 2.34-3.67), and (High = 3.68 – 5). These classifications were given by the statistician and the researchers after reviewing similar studies that used the same questionnaire.

### **3- State Anxiety inventory (SAI):**

This is a self-reported questionnaire that was developed by psychologist Charles Spielberger in 1970 and contained 40 items. Later, it was revised and shortened to include only 20 items. It was used in previous research to assess how pregnant women feel at a particular time or condition and was found to have appropriate values of internal consistency (Delgado et al., 2016). The state anxiety question uses a four-point Likert scale to assign a score between 1 (never) and 4 (always). Therefore, the total score is the sum of all-item scores and the range of the outcomes is 20–80. The high score indicates high levels of state anxiety (Delgado et al., 2016). Scores between 20 and 39 were considered as mild state anxiety, and scores from 40 to 59 were considered moderate, while scores from 60 to 80 were considered severe state anxiety (Hedmi, 2018). Scores for 10 questions (1,2,5,8,10,15,16,11,19,20) were recoded from 4-1 before the data analysis.

## **3.10 Variables of the Study**

### **3.10.1 Independent variables:**

The independent variables in this study are the demographic characteristics of the women, the non-demographic data about the women's obstetric history, and the perceived social support.

#### **1. Demographic characteristics:**

- 1- Age of the mother (19-25 years old, 26-30 years old, 31-35 years old, and 36-40 years old)
- 2- Educational level of the mother (Elementary school, middle school, high school, college degree)
- 3- Occupational status (Employed or unemployed)
- 4- Place of residence (Village, camp, town, and city)
- 5- Monthly income (Less than 2000NIS, 2000-3499NIS, 3500-4999NIS, 5000NIS and more)

#### **2. Non-demographic data related to obstetric history**

1-Gestational age by weeks: means in which pregnancy period the participants are in according to these classifications mentioned below:

- \* 1<sup>st</sup> trimester (1-13 weeks)
- \* 2<sup>nd</sup> trimester (14-27 weeks)
- \* 3<sup>rd</sup> trimester (28-40 weeks)
- \* Post-term (more than 40 weeks)

2-Number of pregnancies: (one time, two times, three times, four times, five times and more)

3- Number of children: (no children, one child, two children, three children, four children or more).

4- Previous pregnancy loss (stillbirth and infant death): (yes or no)

5- Intention or pregnancy: (planned or planned pregnancies)

### **3. Perceived social support**

This independent variable includes emotional support, informational support, and tangible support. Emotional support can be verbal or nonverbal care given to another person and showing care and compassion. It can help a person to cope with their emotions and experiences and show them that they are not alone (Atoum and Al-Shoboul, 2018). In this study emotional support was measured through six items including the mother's perception of care, affection, attention, and friendship, as well as the help and security received during stressful times. Informational support refers to the communication that imparts knowledge or advice, such as feedback on actions comprises four items (Ko, et.al, 2013).

Informational support is about receiving a message that includes knowledge or facts, such as advice or feedback on actions to get information, guidance, and advice. In the context of this study, pregnant women might receive information support from their caregivers. Caregivers can include health professionals, family members, friends, social workers, and members of the religious community. They offer assistance in various settings, including homes, hospitals, and other medical facilities (National Cancer Institute, 2022). Tangible support involves the provision of material aid, physical assistance, or help during crises. This type of support aims to address the practical needs of pregnant women (Swindells, et al., 1999). In this study, tangible support encompasses eight items.

### **3.10.2 Dependent variables:**

1- Pregnancy- Related anxiety: is the result that we conclude from answering the Pregnancy-Related Anxiety Questionnaire- Revised 2 by the targeted pregnant women.

2- State Anxiety is the result that we conclude from answering the State Anxiety Inventory by the targeted pregnant women.

## **3.11 Validity and Reliability**

### **3.11.1 Validity**

The instruments adopted in this thesis are self-reported questionnaires; universally used scales, simple and easy to interpret. The validity of the MOS-SSS questionnaire has been proven, as well the validity test was conducted on the revised Arabic version by Hijazi et al., (2021).

The pregnancy-related anxiety questionnaire has a high psychometric value, and predicts birth and childhood outcomes. It is a commonly used tool for assessing and identifying pregnancy-related anxiety in all pregnant women, regardless of gestational age or parity. This tool was recently used by Al-Baqami (2022). The State Anxiety Inventory has been used for more than thirty years. It has a high degree of stability and internal consistency, and is widely used in Arab societies and among the Palestinian people (Hedmi, M. 2018).

To ensure the validity of the tools that were used in this study, the researcher did a pilot test distributing the questionnaire to 10 pregnant women from different hospitals. These women indicated that the questionnaire is clear, simple, and can be easily filled. These women gave a few notes about the questionnaire, which was to add the choice of a master's degree to the education level and to write the level of education in

sequence order. They also gave a correction to some mistakes in the typed words in the pregnancy- related anxiety in item (7+10).

### 3.11.2 Reliability

**Table 3:13 Cronbach alpha coefficient values of MOS-SSS, PRAQ-R2, and SAI.**

Scales	MOS-SSS			PRAQ-R2	SAI
	Emotional support	Informational support	Tangible support		
Cronbach alpha coefficient	87.3%	85.2%	92.2%		
Total	92.9%			89.8%	90.4%

*MOS-SSS = Medical Outcomes Study Social Support Scale, PRAQ-R2 = Pregnancy-Related Anxiety Questionnaire-Revised 2, SAI = State Anxiety Inventory.*

In this study, the stability coefficient was assessed using the Cronbach's alpha equation. The Cronbach's alpha coefficient values for the MOS-SSS subscales were as follows: emotional support (87.3%), informational support (85.2%), and tangible support (92.2%). The overall scale of MOS-SSS had a Cronbach's alpha coefficient was 92.9%. Similarly, the PRAQ-R2 had a Cronbach's alpha coefficient of 89.8%, and the SAI had a Cronbach's alpha coefficient of 90.4%. These high coefficient values indicate good stability, which is essential for scientific research purposes.

### 3.12 Ethical Considerations

- 1- The researcher obtained the approval of the ethical committee at the College of Public Health and the Mental Health Committee at Al-Quds University.
2. - The researcher obtained the approval of the main ethical committee at Al-Quds University.

- 3- The researcher obtained permission from the Palestinian Ministry of Health to collect data from the Palestinian health complex hospital. Permission was also taken from the managers of the private hospitals.
- 4- The researcher obtained written consent from the pregnant women who participated in the sample.
- 5- The researcher was in contact with a specialist in mental health to be able to give psychological support to the participants when needed. This is needed because the research questions include some sensitive issues that might affect the emotions of the participants.

### **3.13 Limitations**

In this study the researcher faced the following limitations:

- The tools utilized in this study were not validated or assessed by field experts. In future studies, it is recommended that these tools undergo validity and reliability testing and be evaluated by experts in the respective field.
- The administrators at Istishari Hospital took too much time to respond on the request to allow the researcher to start distributing the questionnaires at their hospital.

#### **- During data collection:**

- 1-Results of this study represent those women who showed positive interest in participating in the study, and therefore the researcher had little control over how many women participated in the study
- 2-Some women refused to fill out the questionnaire because they were in a hurry and had no time.

3- Some women filled out the questionnaire and kept it in the waiting area at their chairs to go for their appointments in the clinic, others just lifted it undone at the waiting area, so the researcher printed more copies.

4- The doctors' schedule in the hospital clinics was not fixed, which makes it difficult for the researcher to determine the exact dates of data collection, therefore many days were wasted without filling any questionnaires.

### **3.14 Data collection**

The data collection period spanned from December 20/2022 to February 10 /2023, during which the researcher visited the hospitals five days a week to collect the data from a convenient sample. The dates of visiting the hospitals were based on the doctors' schedules and the determined dates of the antenatal services in each clinic. Data was collected through a self-administered questionnaire that was distributed and collected by the researcher herself from three hospitals including the Palestinian Red Crescent Society, and Istishari Arab Hospital Arab Care Hospital. However, data from the Palestinian medical complex was collected by a student nurse because the researcher was busy during the days of the assigned antenatal clinic at the medical complex. The student nurse was in the fourth year of her study in nursing and she was trained by the researcher in the data collection process.

The pregnant women in the antenatal care clinics of the selected hospitals were asked by the researcher and the student nurse about their agreement to participate in the study after giving them an explanation its purpose. Those women,

who agreed to participate in the study, were asked to sign the consent form after it was read and explained by the researcher. The pregnant women fulfilled the study questionnaire at the waiting areas of the antenatal clinics in the selected hospitals. The questionnaire took approximately 3-4 minutes to be completed by the participating women.

### **3.15 Data Analysis**

The collected data was analyzed by using version 27 of the Statistical Package for Social Sciences (SPSS). Data entry was performed by the researcher and double-checked for outliers, missing data, or errors. Both descriptive and inferential statistics were conducted in this study. Descriptive statistics include calculating the frequency, percentages, mean score, and Standard Deviation (SD) of the independent and dependent variables, including scores of MOS-SSS, PRAQ-R2, and the SAI scales. Inferential statistics started by testing the distribution of normality of the variables through Shapiro-Wilk and Kolmogorov-Smirnov tests. Non-parametric tests were applied including the Mann-Whitney-U test, Kruskal–Wallis H test, and Spearman’s correlation to assess the differences in the relationship between variables. Then permutation for the significant correlation with some variables was applied using the t-test to assess whether the beta coefficient was significantly different from zero.

## **Chapter four**

### **Results**

#### **4.1 Introduction**

#### **4.2 Result related to level of perceived social support**

#### **4.3 Results related to level of anxiety symptoms**

##### **4.3.1 The Pregnancy-Related Anxiety Questionnaire—Revised 2 (PRAQ-R2)**

##### **4.3.2 State Anxiety Inventory (SAI)**

#### **4.4 Analytical results**

##### **4.4.1 Results related to the relationship between independent variables and perceived social support.**

##### **4.4.2 Results related to the relationship between independent variables and level of anxiety symptoms**

##### **4.4.3 Results related to the relationship between level of anxiety symptoms and perceived social support**

# Chapter four

## Results

### 4.1 Introduction

This chapter includes both descriptive and analytical (inferential) results of the current stud. On the other hand, analytical results include the investigation of the relationship between the study's independent and dependent variables.

### 4.2 Test of normality

**Table 4.1: Tests of normality.**

Test factor	S-W test	p-value	K-S test	p-value	Interpretation
Age	0.073	0.001	0.979	< 0.001	Not normal
Gestational age	0.139	< 0.001	0.932	< 0.001	Not normal
Pregnancy count	0.187	< 0.001	0.887	< 0.001	Not normal
Children number	0.168	< 0.001	0.883	< 0.001	Not normal
Monthly income	0.221	< 0.001	0.842	< 0.001	Not normal

First, there was a need to identify the normality distribution of the study's data, which is shown in Table 4.1. The table shows that the data of the study are not normally distributed, as shown by both Shapiro-Wilk and Kolmogorov-Smirnov tests (p-value < 0.05). Therefore, the inferential tests that are used to investigate the relationship between independent and dependent factors are non-parametric tests.

Results showed that the differences in social support and anxiety mean scores according to abortion, pregnancy planning and occupation are done using the Mann-Whitney U test, as a replacement to the independent sample t-test, while the differences in social support and anxiety mean scores according to educational level and residency is done using Kruskal-Wallis, as a replacement to one-way Analysis of Variance (ANOVA), with Spearman correlation (as a replacement to Pearson correlation) for the correlation between age, gestational age, number of pregnancies and lived births and income, and the scores of social support and anxiety scales, as well as the correlation between social support and anxiety scales themselves.

**4.2 Result related to research question number one:** “What is the level of perceived social support among the pregnant women in Ramallah and Al-Bireh Governorate in the West Bank/Palestine?”

**Table 4.2 A: Distribution of frequency, percentage, (mean &SD) in each domain of the MOS-SSS scale.**

Scale category	Classification	Frequency	Percentage
Emotional support	Low emotional support	4	1.31%
	Moderate emotional support	36	11.8%
	High emotional support	265	86.9%
Informative support	Low informative support	5	1.64%
	Moderate informative support	55	18.03%
	High informative support	245	80.33%

*MOS-SSS = The Medical Outcomes Study Social Support Scale*

**Table 4.2 B: Distribution of frequency, percentage, (mean &SD) in each domain of the MOS-SSS scale.**

Scale category	Classification	Frequency	Percentage
Tangible support	Low tangible support	7	2.3%
	Moderate tangible support	37	12.13%
	High tangible support	261	85.6%
Total score	Low perceived social support	2	0.7%
	Moderate perceived social support	41	13.44%
	High perceived social support	262	85.9%

*MOS-SSS = The Medical Outcomes Study Social Support Scale*

Table 4.2, presents the frequency, percentage, mean, and SD of the MOS-SSS, which was classified according to the answers of the mothers into low, moderate, and high perceived social support. The findings showed that a small proportion of mothers (0.7 %) had low levels of perceived social support, while the majority of mothers (85.9%) reported high levels of perceived social support. In addition, the overall mean score of the 18 items in the MOS-SSS Scale was (4.21, SD= 0.53), which indicates the high level of perceived social support in the three domains of MOS\_SSS. There were little variations between the mean of the three domains of the MOS-SSS. The mean of the emotional support was (4.34, SD= 0.64), mean for informational support was (4.05, SD= 0.62), and for tangible support it was (4.24, SD= 0.7).

**4.3 Results related to research question number two:**” What is the level of anxiety symptoms among the pregnant women in Ramallah and Al-Bireh Governorate in the West Bank/Palestine?

### 4.3.1 The Pregnancy-Related Anxiety Questionnaire-Revised 2 (PRAQ-R2)

**Table 4.3: Distribution of frequency and percentage of the anxiety levels among mothers in the PRAQ-R2 scale classifications.**

<b>Classification of the PRAQ-R2 scale</b>	<b>Frequency</b>	<b>Percentage</b>
Low anxiety level	105	34.43%
Moderate anxiety level	142	46.56%
High anxiety level	58	19.02%

*PRAQ-R2= Pregnancy-Related Anxiety Questionnaire-Revised 2*

Table 4.3, Presents pregnancy-related anxiety among the mothers as classified by the PRAQ-R2 scale into low, moderate and high levels of anxiety. Results revealed that 34.43% of mothers were classified as having low anxiety levels, while 46.56% fell into the category of moderate anxiety levels. The smallest percentage, 19.02%, was found among mothers with high anxiety levels. In addition, the overall mean of the 10 items in the Pregnancy-Related anxiety scale was (2.75, SD = 0.9), which revealed a moderate level of pregnancy-related anxiety among the participating mothers.

### 4.3.2 State Anxiety Inventory (SAI)

**Table 4.4: Distribution of frequency and percentage of anxiety symptoms among mothers in the SAI classifications.**

<b>SAI Classification</b>	<b>Frequency</b>	<b>Percentage</b>
Mild state anxiety	158	51.8%
Moderate state anxiety	136	44.6%
Severe state anxiety	11	3.6%

*SAI = State anxiety inventory*

Table 4.4, presents the frequency and percentage of state anxiety among mothers that were categorized as mild, moderate, and severe anxiety, as indicated by their SAI

scale score. The data reveals that a majority of the mothers (51.8%) experience mild anxiety, while 44.6% have moderate anxiety, and only 3.6% have severe anxiety. The overall mean score of the 20 items in the SAI scale was (2.05, SD = 0.46), which stands for moderate anxiety symptoms.

**4.4. Results related to research question number three:”** What is the relationship between independent variables (age, gestational age, number of pregnancies, number of children, previous pregnancy loss (stillbirth and infant death), intention of pregnancy, educational level, occupational status, place of residence, monthly income) and perceived social support among the pregnant women in Ramallah and Al-Bireh Governorate in the West Bank/Palestine?

**Table 4.5 A: Differences between categorical mothers’ demographic and non-demographic and perceived social support.**

Factor	Values	Emotional		Informational		Tangible		Overall	
		Mean Rank	P	Mean Rank	P	Mean Rank	P	Mean Rank	P
Abortion	Yes	153.11	0.988	159.19	0.406	150.27	0.721	153.48	0.905
	No	152.95		150.37		154.16		152.80	
Planned	Yes	158.17	0.169	157.56	0.217	155.57	0.498	157.90	0.276
	No	144.08		145.14		148.57		144.56	
Education	Elementary	100.00	0.366	130.30	0.830	131.80	0.891	110.50	0.748
	Middle	139.85		140.88		144.35		144.80	
	Secondary	147.48		156.29		156.72		154.56	
	University	157.35		153.60		153.09		154.27	

**Table 4.5 B: Differences between categorical mothers' demographic and non-demographic and perceived social support.**

Factor	Values	Emotional		Informational		Tangible		Overall	
		Mean Rank	p	Mean Rank	P	Mean Rank	p	Mean Rank	P
Occupation	Employed	159.36	0.46	147.05	0.488	152.74	0.97	154.61	0.96
	Unemployed	150.96		154.91		153.08		152.48	
Residency	Town	147.52	0.408	145.30	0.135	156.22	0.259	147.18	0.640
	Camp	149.59		170.54		147.50		156.37	
	Village	145.98		172.19		131.06		148.41	
	City	165.91		146.74		161.58		162.11	

Table 4.5 presents the differences between categorical mothers' demographic and non-demographic factors, and the perceived social support (mean MOS-SSS scores). The results conclude that there were no significant differences in any of the subscales or overall perceived social support according to abortion, planning of pregnancy, education, occupation, or residency (p-value > 0.05).

**Table 4.6: Correlations between numerical demographic and non-demographic factors of the mothers and perceived social support.**

Factor	Emotional		Informational		Tangible		Overall	
	r	P	r	p	R	p	R	P
Age	0.027	0.633	0.059	0.303	- 0.081	0.159	- 0.020	0.729
Gestational age	- 0.012	0.831	- 0.005	0.937	0.013	0.815	- 0.003	0.952
Number of Pregnancies	- 0.012	0.839	0.059	0.306	- 0.073	0.202	- 0.032	0.581
Number of Children	0.005	0.934	0.033	0.567	- 0.059	0.303	- 0.025	0.668
Monthly Income	0.015	0.789	0.057	0.319	0.051	0.373	0.056	0.331

*p = p-value (\* = < 0.05. \*\* = < 0.01, \*\*\* < 0.001), r = Spearman correlation value.*

Table 4.6, shows no significant correlation between mothers' age, gestational age, number of pregnancies, number of children, and monthly income with subscales and overall scores of perceived social supports. All the studies variables were not statistically significant ( $p$ -value > 0.05).

**4.5 results related to research question number four:”** What is the relationship between independent variables (age, gestational age, number of pregnancies, number of children, previous pregnancy loss (still birth and infant death), intention of pregnancy, educational level, occupational status, place of residence, monthly income) and level of anxiety symptoms among the pregnant women in Ramallah and Al-Bireh Governorate in the West Bank/Palestine?

**Table 4.7: Differences between the Categorical (demographic& non-demographic factors) of the mothers, and level of anxiety symptoms (Mean rank scoresPRAQ-R2 and SAI scales).**

Factor	Values	PRAQ-R2 (of 50)		SAI (of 80)	
		Mean Rank	P	Mean Rank	P
Abortion	Yes	152.36	0.934	152.25	0.509
	No	153.27		153.32	
Planned pregnancy	Yes	156.01	0.433	152.28	0.999
	No	147.81		154.25	
Education	Elementary	104.00	0.070	220.80	0.143
	Middle	148.03		178.78	
	Secondary	133.02		169.91	
	University	161.30		143.29	
Occupation	Employed	174.39	0.015	141.93	0.005
	Unemployed	146.15		156.55	
Residency	Town	152.13	0.102	168.95	0.022
	Camp	132.46		153.55	
	Village	141.01		130.93	
	City	169.48		140.51	

*PRAQ-R2 = Pregnancy-Related Anxiety Questionnaire-Revised 2, SAI = State Anxiety Inventory*

Table 4.7 presents the differences between categorical demographic, and non-demographic factors of the mothers and levels of anxiety symptoms, as differentiated by the mean rank scores of the PRAQ-R2 and SAI scales. Results showed no significant differences in abortion status ( $p=0.934$ ), planned pregnancy ( $p=0.433$ ), education level ( $p=0.070$ ), or residency ( $p=0.102$ ) in terms of PRAQ score. While a significant difference was found between the occupations of the mothers ( $p=0.015$ ) and PRAQ score in favor of the unemployed mothers, which indicate that unemployed mothers have lower PRAQ score than employed mothers.

Concerning the SAI scale and demographic data, results showed no significant differences related to abortion status ( $p=0.509$ ), planned pregnancy ( $p=0.999$ ), and education level ( $p=0.143$ ). A significant difference was found between the occupation of the women ( $p=0.005$ ) and the SAI score in favor of the unemployed. This means that unemployed participants have lower SAI scores than those who are employed. In addition, a significant difference was found between residency ( $p=0.022$ ). The Bonferroni correlation test indicated that pregnant women who lived in a town, had higher state anxiety than in other places ( $p=<0.05$ ).

**Table 4.8: Correlation between (numerical demographic & and non-demographic factors) of the mothers and levels of anxiety symptom scores in the PRAQ-R2, SAI scales.**

Factor	PRAQ-R2		SAI	
	R	P	r	P
Age	- 0.055	0.342	0.042	0.469
Gestational age	0.007	0.907	0.056	0.329
Number of Pregnancies	- 0.142	0.013	- 0.075	0.192
Number of Children	- 0.153	0.007	- 0.072	0.212
Monthly Income	0.015	0.791	- 0.043	0.459

*PRAQ-R2 = Pregnancy-Related Anxiety Questionnaire-Revised 2, SAI = State Anxiety Inventory,  $p = p$ -value (\* = < 0.05, \*\* = < 0.01, \*\*\* < 0.001),  $r =$  Spearman correlation result.*

Table 4.8 shows the correlations between numerical demographic and non-demographic factors and scores on PRAQ-R2 and SAI scales. It revealed a moderate negative correlation between the number of pregnancies ( $r = - 0.142$ ,  $p$ -value = 0.013) and children number ( $r = - 0.153$ ,  $p$ -value = 0.007) and scores of the PRAQ-R2. This indicates that pregnancy-related anxiety symptoms are significantly less among mothers with the high number of pregnancies and who have more children. On the

other hand, pregnancy-related anxiety symptoms are not significantly correlated with mothers' age, gestational age or monthly income, with no significant correlation between state anxiety and any of the mothers' numerical sociodemographic factors (p-value > 0.05).

**4.6 Results related to research question number five:”** What is the relationship between the level of anxiety symptoms and perceived social support among the pregnant women in Ramallah and Al-Bireh Governorate in the West Bank/Palestine?

**Table 4.9: Correlation between perceived social support and scores of the anxiety symptom scales.**

Scale	MOS-SSS		PRAQ-R2		SAI	
	R	P	R	P	R	P
MOS-SSS			- 0.024	0.672	- 0.402***	< 0.001
PRAQ-R2	- 0.024	0.672			0.279***	< 0.001
SAI	- 0.402***	< 0.001	0.279***	< 0.001		

*MOS-SSS = Medical Outcomes Study Social Support Scale, PRAQ-R2 = Pregnancy-Related Anxiety Questionnaire-Revised 2, SAI = State Anxiety Inventory, p= p-value (\* = < 0.05, \*\* = < 0.01, \*\*\* < 0.001), r = Spearman correlation result.*

Table 4.9 presents the correlations between mothers' perceived social support and level of anxiety symptoms scores. A negative moderate correlation was found between the SAI overall score and MOS-SSS score (r = - 0.402, p-value < 0.001), which indicates significantly higher anxiety symptoms with less perceived social support. Further, a negative mild correlation was found between PRAQ-R2 overall score and MOS-SSS score (r = - 0.024), but with an insignificant manner (p-value=0.672). Moreover, a positive moderate correlation was found between SAI overall score and PRAQ-R2 (r= -0.279, p-value < 0.001), which indicates significantly higher pregnancy-related anxiety, with increased symptoms of anxiety.

**Table 4:10: Prediction analysis of the studied variables (occupation, number of pregnancies, and number of children) on levels of the PRAS scale.**

Factor	Coefficient (B)	95% CI B	t value	p-value
Occupation (ref. employed)	- 2.452	- 4.791 to - 0.113	- 2.063	0.040*
No. of pregnancies	- 0.821	- 1.450 to - 0.192	- 2.567	0.011*
No. of children	- 0.859	- 1.505 to - 0.214	- 2.620	0.009**

*Significance marked as \* p-value < 0.05, \*\* p-value < 0.01, \*\*\* p-value < 0.001. CI= Confidence interval.*

Table 4.10 shows the prediction occupation (employed vs. unemployed) mothers. Unemployed mothers have fewer PRAQ-R2 symptoms than employed mothers (p-value = 0.040). The higher number of pregnancies is predicted to decrease PRAQ-R2 scores (P value = 0.011). Further, the increased number of children is predicted to decrease the PRAQ-R2 score (p-value = 0.009), which are parallel with the findings that pregnancy-related anxiety is lower among unemployed mothers and mothers with a higher number of pregnancies and increased number of children.

**Table 4.11: Prediction analysis of the studied variable (occupation) on levels of the SAI scale.**

Factor	Coefficient (B)	95% CI B	t value	p-value
Occupation (ref. employed)	- 3.832	- 6.231 to - 1.434	- 3.145	0.002**

*Significance marked as \* p-value < 0.05, \*\* p-value < 0.01, \*\*\* p-value < 0.001. CI = Confidence interval.*

Table 4.11 shows that unemployed mothers are significantly predicted to have fewer anxiety symptoms on the SAI scale than employed mothers (p-value = 0.002) and 95% CI (- 6.231 to - 1.434).

**Table 4.12: Relationship between residency and SAI score.**

Independent factor (I)	Factor's values (J)	Mean difference (I – J)	p-value
Town	Camp	0.466	0.777
	Village	- 3.088	0.054
	City	- 2.927	0.021*
Camp	Town	- 0.466	0.777
	Village	- 3.554	0.075
	City	- 3.393	0.050*
Village	Town	3.088	0.054
	Camp	3.554	0.075
	City	0.161	0.924
City	Town	2.927	0.021*
	Camp	3.393	0.050*
	Village	- 0.161	0.924

Significance marked as \*  $p$ -value < 0.05, \*\*  $p$ -value < 0.01, \*\*\*  $p$ -value < 0.001.

Finally, in (Table 4.12), the researcher investigated the significant relationship between residency and SAI score by using the post hoc test (LSD post hoc). Results showed that mothers who live in cities, have significantly higher SAI scores than mothers who live in towns ( $p$ -value = 0.021), and in camps ( $p$ -value = 0.050). On the other hand, no significant differences in SAI scores were found between other residencies ( $p$ -value > 0.05).

## **Chapter five**

### **Discussion**

#### **5.1 Introduction**

#### **5.2 Discussion of results according to the first question**

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## **Chapter five**

### **Discussion**

#### **5.1 Introduction**

This chapter presents a discussion of the study results, in which the researcher provides a critical review of the previous studies and compares the findings of this study to the previous findings in the literature. Recommendations and the conclusion are also presented in this chapter.

#### **5.2 Discussion of results according to the first question**

##### **Q1. What is the level of perceived social support among the pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine?**

Results of this study showed that 262 (85.9%) of the participants encountered a high level of social support, with a total mean of (4.24) in the three domains of the MOS-SSS emotional, informational, and tangible support. This suggests that these women have a strong network of emotional, informational, and tangible support, which may contribute to their overall well-being during pregnancy. According to Mulyadi and Putri (2022), receiving high levels of social support during the antenatal period is essential for mothers and it might reduce the risk of getting anxiety and other psychological symptoms during pregnancy and in the postpartum period.

These findings are similar to the findings of Guta et al. (2023), research. However, the present study showed no significant relationship between perceived social support and

the studied variables. While Guta et al. (2023), found a significant predictor for low perceived social support. These predictors were low-income level, disclosure status, poor adherence to drugs, and unwanted pregnancy.

Furthermore, the high level of perceived social support as reported by the Palestinian mothers in this study can be linked to the psychodynamic theory, which recognizes that an adult is the product of both nature and nurture is largely influenced by childhood experiences, and by the way they received help and support from parents during early childhood (Isenberg, 2015). Also, Adler's theory, which emphasizes the importance of feeling part of a social community, and experiencing empathy and cooperation, might shape mothers' social interests and their ability to cope with stress during pregnancy (Carlson and Englar-Carlson, 2017). However, these assumptions need further studies.

The high levels of perceived social support reported by the pregnant mothers in this study are consistent with the theory of social support that highlights the role of interpersonal relationships in providing support. Thus, reducing the negative impact of stress, and improving overall well-being (Lakey and Cohen, 2000). Therefore, the support that Palestinian mothers gain during pregnancy; either from family members, friends, or the overall social network support, might play an important role in enhancing their self-esteem and emotional regulation, ultimately reducing anxiety levels. In conclusion, the high levels of perceived social support reported by pregnant women in this study have important implications for their well-being. This is also in line with theories of perceived social support, and highlights the positive impact of social support on mental and physical health (Buchwald, 2017).

### **5.3 Discussion of results according to the second question**

#### **Q2. What is the level of anxiety symptoms among the pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine?**

In this study, anxiety symptoms were classified into low, moderate, and high levels on the PRAQ-R2 scale. The mean score of this scale was (2.75, SD = 0.9), which indicates moderate anxiety symptoms. Results showed that a large number of the participating mothers 142 (46.56%) had moderate levels of anxiety symptoms, and (34.43%) reported low levels, while only 58 mothers (19.02) reported severe levels of anxiety. Although anxiety during pregnancy is a very common experience, it was suggested by Hijazi et al. (2021), that antenatal anxiety would be reduced if effective informational support were readily available for pregnant women. Therefore, the results emphasize the role of midwives, and other healthcare providers in giving the needed knowledge and support to mothers during pregnancy. There is also a clear need to emphasize the interaction between pregnant mothers, their families, and the health care providers in the antenatal clinics in different hospitals in Palestine.

Similarly, the total mean score of the SAI scale (2.05, SD= 0.46), indicates a moderate level of anxiety among the participating mothers. This study found that almost half of the participating mothers 51.8 % had mild levels of anxiety symptoms, and a large number 44.6% also reported moderate levels, while only 3.6% had severe anxiety symptoms. It is well known that variant levels of anxiety during pregnancy can have adverse effects on the mother and her baby. Therefore, even mild levels of anxiety should not be neglected. However, one should differentiate between normal fears and worries, and a more serious anxiety disorder during pregnancy. Although anxiety disorders are not studied in this research, but the variant levels of anxiety

symptoms among the participating mothers particularly the percentage of those women with severe levels of anxiety symptoms require much focus in future studies.

Screening and identifying pregnant mothers with anxiety symptoms is essential to help pregnant mothers control the symptoms of anxiety disorders at an early stage (Shahhosseini et al., 2015). Pregnant mothers should be advised to speak to their doctors when the anxiety becomes long-term and interferes with their ability to do daily life activities to find better ways of managing those feelings. Moreover, emphasizing the importance of social support in alleviating these symptoms, and highlighting the role of social support in reducing stress, promoting well-being, and providing individuals with the necessary resources, will help the mothers cope with difficult conditions during pregnancy.

Future research should focus on the screening strategies for anxiety during pregnancy, to enhance the well-being of pregnant women and improve their overall health outcomes. Furthermore, addressing the impact of social support on the physical and psychological symptoms experienced by pregnant women is essentially needed to promote the mother's health. This may include providing pregnant women with adequate social support through various means such as: support groups, counseling and educational programs.

#### **5.4 Discussion of results according to the third question**

What is the relationship between independent variables (Age, gestational age, number of pregnancies, number of children, previous pregnancy loss (stillbirth and infant death), intention of pregnancy, educational level, occupational status, place of

residence, monthly income) and perceived social support received among the pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine?

The current study showed no significant relationship between categorical and numerical sociodemographic factors and perceived social support among Palestinian mothers. Despite the variation in the sociodemographic characteristics of the participating mothers and the other variables related to pregnancy, they all received a high level of social support from relatives, social relations, and friends. The researcher attributes these findings to the strong social bonding and support system in Palestinian society. On the contrary, the study by Bedaso et al. (2021), which was conducted on Australian women, found a significant relationship between receiving low social support during pregnancy, being from a low socio-economic status, and living without a partner or a husband.

Berkman (1995) emphasizes the importance of social support in improving the overall health outcomes of women. Strengthening community-based social support, can lead to better interventions and health outcomes for pregnant women. Social support during pregnancy might play a major role in supporting coping capabilities of the pregnant mothers and helping them to overcome stressors and psychosocial barriers that they might face. However, coping capabilities with stressors in pregnancy should be studied in the future by using different research methods as qualitative studies.

## **5.5 Discussion of results according to the fourth question**

What is the relationship between independent variables (Age, gestational age, number of pregnancies, number of children, previous pregnancy loss (still birth and infant

death), intention of pregnancy, educational level, occupational status, place of residence, monthly income) and the level of anxiety symptoms among the pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine?

The findings of this study showed a significant relation between the occupation of the pregnant mothers and the anxiety symptoms in both PRAQ-R2, and SAI scales. These relations indicated that employed mothers have significantly higher anxiety levels than unemployed mothers. This could be attributed to different physical and psychosocial factors that might impact anxiety levels among employed pregnant mothers. The physiological changes, and minor discomfort experienced by pregnant mothers as morning sickness and fatigue might interfere with their jobs, increase absence days, and elevate anxiety levels. However, these are important issues that should be studied in future research. For example, to study the impact of employment status on pregnant mothers, and to compare the two groups in relation to anxiety symptoms and other stressful factors related to employment during pregnancy.

Mahini et al. (2023), concluded that low income and unplanned pregnancy can affect the level of anxiety in pregnant women, and showed a significant relationship between income and unplanned pregnancy and stress levels. Further Simarmata et al. (2019), conclude that a high family income might decrease stress levels among pregnant women. However, these results were not shown in our study, and there was no clear relationship between anxiety level and income with unplanned pregnancy.

However, fear and worries about financial suffering; the cost of birth and care needed for the baby after birth, might influence anxiety symptoms among employed pregnant mothers. Financial needs often force the employee to comply with their jobs despite all the physical and psychological changes that they feel. The indirect effects of job

and income loss on the mental health of employees were found to be significant mediators to a higher risk of suffering from anxiety to panic attacks (De Miquel et al., 2022). This highlights the need for preventive interventional programs to promote the mental health of employed pregnant women.

The negative impact of employment on pregnancy-related anxiety was found to be congruent with the results of Araji et al. (2020) and Kotimaki, et al. (2020). However, it contradicts their findings regarding the relationship with socioeconomic status. Similarly, the study of Ahmed Kadim et al. (2023) found a positive correlation between anxiety symptom levels and being employed, in which employed pregnant women showed anxiety symptoms because they have extra responsibilities and efforts.

Although there was no significant relationship between education level and anxiety symptoms among participating mothers in this study, Simarmata et al. (2019) reported that stress significantly decreased among pregnant women who have a high education status. Further, Araji, et al. (2020) indicated that high educational levels, and increased awareness of the pregnant mothers about anxiety, with emphasis on the coping abilities, is expected to decrease the level of anxiety symptom

The results of this study showed correlations between numerical sociodemographic factors, PRAQ-R2 and SAI scores. It shows a moderate negative correlation between pregnancy number, number of children, and PRAQ-R2 scores, which indicates that anxiety symptoms are significantly less among mothers with a higher number of pregnancy and more children. The low anxiety symptoms among these women can be attributed to the increased knowledge and experience that a mother gains when having more pregnancies and more children. These mothers are expected to deal and cope

with pregnancy discomforts and other associated factors, which is expected to decrease the anxiety symptoms than the primigravida mothers; or mothers with a smaller number of pregnancies.

This result is found to be parallel to the findings of Hassanzadeh et al. (2020), which concluded that first-time motherhood is associated with higher level of anxiety during pregnancy period, while less anxiety symptoms was observed among more experienced mothers with high number of pregnancies.

The biological theory suggests that anxiety can be influenced by genetic and neurotransmitter factors (Mufford et al., 2021). In this study, no significant differences were found in anxiety levels based on factors such as abortion, planning of pregnancy, or educational level. This aligns with the biological theory, as these factors are not directly related to biological factors that contribute to anxiety.

As for the social support theory, the study emphasizes the importance of social support for pregnant women in reducing anxiety symptoms (Lakey and Cohen, 2000). It suggests that interventions like support groups, counseling, and educational programs can provide pregnant women with the necessary resources to cope with the challenges of pregnancy and motherhood. These findings align with the social support theory, which suggests that having a strong support network can positively impact mental health and reduce anxiety.

In regards to the psychodynamic theory, there is a crucial role of inner conflicts and unconscious processes in shaping anxiety (Slavin-Mulford and Hilsenroth, 2011).

While the study does not directly address psychodynamic factors, it does highlight the potential impact of occupational status on anxiety levels. The fear of postpartum suffering, occupational needs, and financial pressures may contribute to anxiety,

which can be seen as an inner conflict between the mother's personal and professional responsibilities.

On the other hand, the cognitive theory focuses on distorted thoughts and cognitive processes as contributors to anxiety (Ditomasso and Freeman, 2018). The study does not directly address cognitive factors, but it does identify the potential influence of employment on anxiety levels. Employed mothers may experience higher levels of fatigue and fear of postpartum occupational needs, because of negative thoughts and expectations which can lead to increased anxiety.

Overall, the study's findings align with various theories, highlighting the complex interplay of biological, social, psychodynamic, and cognitive, factors in shaping anxiety levels among pregnant women. Enhancing social support networks and addressing occupational pressures can be effective strategies for reducing anxiety and promoting healthier pregnancies and happier mothers.

## **5.6 Discussion of results according to the fifth question**

What is the relationship between the level of anxiety symptoms and perceived social support among the pregnant women at Ramallah and Al-Bireh Governorate in the West Bank/Palestine?

Table 4.9 presented significant negative correlations between mothers' perceived social support and level of anxiety symptoms in both the PRAQ-R2 and SAI scales. A significant correlation between anxiety symptoms and social support was found in the three domains of social support (emotional, informative, and tangible). Similar

findings were found in the study of Zefanya and Suryadi (2021), although it used a different sampling method (snowball) and smaller sample size (n = 184).

These findings are also parallel to the findings of Reid et al. (2007), in which social support is considered a significant predictor of anxiety symptoms, despite the use of several tools to investigate anxiety symptoms. Furthermore, the findings of Bedaso et al. (2021) also showed similarities to the findings of this research, as well emphasized the importance of social support and psychological assessment for all pregnant women, including women who were diagnosed with anxiety symptoms and depression.

Waqa et al. (2015) also reported a significant correlation between anxiety and social support, despite the use of different scales compared with the current study. They also found a significant association between residency, pregnancy planning, and anxiety which was found to be insignificant in the current study except for Palestinian mothers who live in cities. They reported a higher level of anxiety symptoms than those who live in towns, villages and camps. However, the gender preferences and the social norms of identifying the child's gender during pregnancy should be understood well in future research in Palestine. To study the association between the child's gender, anxiety symptoms, and social support is recommended, as gender preferences might affect the psychological well-being of the mother.

Huang et al. (2022) reported high levels of pregnancy-related anxiety among Chinese women that is related to low social support. This emphasized the role of family support and perceived social support in reducing anxiety symptoms, support mental health in pregnant women, and in mediating resilience. Yu et al. (2020) also concluded that Perceived social support can largely influence anxiety level. It plays an

important mediator between anxiety symptoms and life satisfaction among pregnant women. Investigating quality of life and life satisfaction in pregnant women can be also recommended for future studies in Palestine. This promote the use of certain measures and strategies to improve perceived social support and decrease anxiety symptoms among pregnant mothers.

The conclusions of the current study, correspond to many psychological theories. Social support theory supports the importance of social bonds and support networks that play a crucial role in promoting the well-being of the individual and reducing anxiety. The results of this study suggest that cognitive factors, such as pregnancy-related anxiety and status anxiety, are influenced by perceived social support.

Pregnant women with low social support reported higher levels of anxiety symptoms. In relation to behavioral theory, social support acts as an environmental factor that influences anxiety levels. The presence of a strong support system and interdependence in the Palestinian society contributes to the overall well-being of pregnant women.

The results support the compression buffering hypothesis, which indicate that the high levels of perceived social support among women act as a barrier against the negative effects of stress, contributing to improved mental well-being. This is in line with the idea that social support is necessary during highly stressful situations

## **5.7 Recommendations**

Based on the results and discussions of the current study, the following recommendations can be made:

### **5.7.1 Recommendations at the official governmental and non-governmental level**

- 1- Strengthen the health services provided to pregnant women in antenatal clinics, including anxiety screening and perceived social support.
- 2- Provide comprehensive training to healthcare providers to ensure that they have the knowledge and skills to support pregnant women and effectively manage any psychological events or experiences.
- 3- Increase the awareness of health care providers of psychological theories to better understand the motives and psychological state of pregnant women, thereby reducing the risk for psychological symptoms.

### **5.7.2 Recommendations for researchers**

- 1- Conduct further studies to investigate anxiety symptoms and perceived social support among Palestinian women, taking into account variables such as weight changes and prenatal experiences, employment and gender preferences.
- 2- Include pregnant women with diagnosed mental illnesses in specific studies to explore the intermediate role of psychological symptoms in the relationship between perceived social support and pregnancy-related anxiety.
- 3- Expand the sample by including mothers from different areas of Palestinian society to get a more comprehensive overview of anxiety symptoms and perceived social support among all Palestinian pregnant women.
- 4- Consider increasing the sample size or using probabilistic sampling methods in future studies to ensure more robust and representative results.

- 5- Investigating the relationship between spousal support, pre-pregnancy support from partners, and anxiety levels during pregnancy, as studied by barjaste and Tabrizi (2016).

These recommendations aim to improve the support and care provided to pregnant women, enhance understanding of anxiety symptoms and perceived social support, and address the special needs of Palestinian pregnant women. In addition to that, research and collaboration between government agencies, NGOs and researchers is necessary to effectively implement these recommendations.

### **5.7.3 Recommendations at the level of workers in the field of mental health**

- 1- Develop comprehensive training programs for mental health professionals that focus on addressing anxiety and promoting social support during pregnancy. This can include specific techniques and interventions tailored to the unique needs of pregnant women.
- 2- Collaborate with healthcare providers and obstetricians to integrate mental health screenings and assessments into routine prenatal care. This can help identify and address anxiety symptoms early and provide appropriate support and referrals.
- 4- Foster partnerships with community organizations and support groups that provide care to pregnant women. This can help create a network of resources and support systems that pregnant women can access throughout their pregnancy journey.
- 5- Conduct research and gather data on the effectiveness of mental health interventions for pregnant women, with a specific focus on anxiety and

perceived social support. This can inform evidence-based practices and guide future program development.

- 6- Advocate for policies and strategies that prioritize mental health support for pregnant women, including increased funding for mental health services and improved access to care. This can help reduce barriers and ensure that all pregnant women have access to the support they need.
- 7- Continuously evaluate and update existing programs and interventions to ensure they are meeting the evolving needs of pregnant women. This can involve gathering feedback from participants, monitoring outcomes, and making necessary adjustments to improve effectiveness.

By implementing these recommendations, mental health workers can play a crucial role in supporting pregnant women and promoting their overall well-being during this important and transformative period in their lives.

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## Appendices

### Appendix number (1)

#### Questionner in Arabic

حضرة السيدة المحترمة:

انا الطالبة سيرين بشارية من برنامج الصحة النفسية المجتمعية/ مسار العلاج النفسي في كلية الصحة العامة بجامعة القدس، أقوم بإجراء دراسة بعنوان "الدعم الاجتماعي المتصور واعراض القلق لدى الناس الحوامل الفلسطينيات، وذلك من أجل انهاء متطلبات رسالة التخرج لدرجة الماجستير.

لذا نرجو من حضرتكم الإجابة على أسئلة هذه الاستبانة علما بأن هذه الدراسة من أجل البحث العلمي والأكاديمي فقط، وسيتم المحافظة على سرية الإجابة، لذلك لا داعي لكتابة الاسم او ما يشير اليك شاكرا لكم حسن تعاونكم في إنجاح هذه الدراسة.

التعليمات:

- ضعي دائرة حول الجواب المناسب
- املئي الفراغات

- 1- العمر: -----
- 2- عمر الحمل بالأسابيع: -----
- 3- عدد مرات الحمل: -----
- 4- عدد الأطفال: -----
- 5- هل سبق ان أجهضت او توفي الطفل: نعم لا
- 6- الحمل الحالي: مخطط له غير مخطط له
- 7- هل تعاني من أي أمراض او مضاعفات صحية خلال الحمل: نعم لا
- 8- المستوى التعليمي: ابتدائي اعدادي ثانوي جامعي
- 9- وضع العمل: موظفة بلا عمل
- 10- مكان السكن: قرية مخيم بلدة مدينة
- 11- الدخل الشهري: .....

القسم الأول:

الرجاء الإجابة على الأسئلة التالية حول الدعم الاجتماعي المتصور خلال فترة الحمل. ضعي إشارة (X) في

الخانة المناسبة لإجابتك

الدعم العاطفي من شبكتك الاجتماعية القريبة (أي الزوج والأقارب من الدرجة الأولى والأصدقاء المقربين)					
#	العبارات	دائما	معظم الوقت	أحيانا	بعض المرات
1	هناك شخص في دائرتك الاجتماعية المقربة يجعلك تشعر بأنك مرغوب				
2	يمكنك اللجوء إلى شخص ما في دائرتك الاجتماعية المقربة للحصول على اقتراحات حول كيفية التعامل مع مشاكلك الشخصية				
3	يمكنك مشاركة مخاوفك الخاصة مع شخص ما في دائرتك الاجتماعية المقربة				
4	لدي ك شخص ما في دائرتك الاجتماعية المقربة يتفهم مشاكلك				
5	يمكنك الاعتماد على شخص ما في دائرتك الاجتماعية المقربة للاستماع إليك عندما تحتاج إلى التحدث				
6	لدي ك شخص ما في دائرتك الاجتماعية المقربة يظهر لك الحب والعاطفة				
الدعم المعلوماتي من مقدمي الرعاية الصحية (أي الأطباء والممرضات)					
1	يقدم لك مزود و الرعاية الصحية المشورة عندما تريدها حقا				
2	يزودك مقدمو الرعاية الصحية بمعلومات لمساعدتك على فهم الموقف المتعلق بالحمل والولادة				
3	يقدم لك مزودو الرعاية الصحية نصائح جيدة حول ما يخيفك و يقلقك				
4	يجعلك مقدمو الرعاية الصحية تشعر بالثقة عندما تتحدث معهم عن نفسك أو عن مشاكلك				
دعم ملموس من شبكتك الاجتماعية (أي الزوج والأقارب من الدرجة الأولى والأصدقاء المقربين)					
1	لدي ك شخص ما في دائرتك الاجتماعية المقربة لتقضي وقتك مع ه عندما تريد				
2	لدي ك شخص ما في دائرتك الاجتماعية المقربة يمكنه أن يصحبك إلى الطبيب إذا كنت بحاجة إلى ذلك				

					3	يقوم شخص ما في دائرتك الاجتماعية المقربة بإعداد وجباتك إذا كنت غير قادر على القيام بذلك بنفسك
					4	يساعدك شخص ما في دائرتك الاجتماعية المقربة على القيام بالأعمال اليومية إذا كنت مريضا
					5	هناك من يتفاعل معك من دائرتك الاجتماعية المقربة للمساعدة في إبعاد عقلك عن الأشياء السلبية
					6	يساعدك شخص ما في دائرتك الاجتماعية المقربة على النهوض إذا كنت طريح الفراش
					7	لديك شخص ما في دائرتك الاجتماعية المقربة يحرص على الخروج معك للاسترخاء
					8	لديك شخص ما في دائرتك الاجتماعية المقربة يحرص على القيام بأعمال تسعدك

### القسم الثاني:

الرجاء الإجابة على الأسئلة التالية حول القلق المرتبط بالحمل خلال فترة الحمل. ضعي إشارة (X) في الخانة المناسبة

لإجابتك

#	(PRAQ-R2) استبيان القلق المرتبط بالحمل - مراجعة 2 )	ابدا	بعض المرات	احيانا	معظم الوقت	دائما
1	اشعر بانني غير مستعدة للولادة					
2	اشعر بالخوف عند التفكير بالأم الولادة					
3	اخشى ان لا يستعيد جسمي شكله الطبيعي بعد الولادة					
4	اخشى الا يكون طفلي بصحة جيدة					
5	تجاه مظهر جسمي الغير الجذاب أنا قلق					
6	أنا قلق بشأن عدم القدرة على السيطرة على نفسي أثناء المخاض والخوف من أن أصرخ					
7	أنا قلق تجاه زيادة وزني خلال فترة الحمل					
8	اخشى ان يصاب الجنين بتلف في المخ او ضعف بالقدرة العقلية					
9	أخشى أن يموت الطفل بعد الولادة					
10	اخشى ان يكون طفلي مشوها او معاقا					

القسم الثالث:

الرجاء الإجابة على الأسئلة التالية حول اعراض القلق خلال فترة الحمل. ضعي اشارة (X) في الخانة المناسبة لإجابتك

#	استبيان اعراض القلق	ابدا	احيانا	معظم الوقت	دائما
1	اشعر بالهدوء				
2	اشعر بالأمان				
3	اشعر ان اعصابي متوترة				
4	اشعر بالندم				
5	اشعر بالارتياح وراحة البال				
6	اشعر بعدم الاتزان				
7	اشعر بالانزعاج لاحتمال وقوع كارثة، او محنة لي				
8	اشعر بالراحة				
9	اشعر بالقلق				
10	اشعر السرور				
11	اثق بنفسي				
12	انا عصبي المزاج				
13	انرفز لأتفه الأسباب				
14	اشعر بالتوتر				
15	اشعر بالاسترخاء				
16	اشعر القناعة				
17	اشعر بالضيق				
18	اشعر بانني مستثار				
19	اشعر بالسعادة				
20	استطيع ادخل السرور على الاخرين				

## **Appendix number (2)**

### **Questionner in English:**

Dear Madam:

I am student Sireen bishareya from the Community Mental Health Program/Psychotherapy track at the College of Public Health at Al-Quds University. I am conducting a study entitled “Perceived Social Support and Anxiety Symptoms Among the Palestinian Pregnant Women,” in order to complete the requirements for a graduation thesis for a Master’s degree.

Therefore, we ask you to answer the questions of this questionnaire, knowing that this study is for scientific and academic research only, and the answer will be kept confidential, so there is no need to write your name or anything that refers to you. We thank you for your kind cooperation in making this study a success.

Instructions:

1- Please circle around the suitable answer



2- Fill in the blank

1-Age: -----

2-Gestational age: -----

3-Number of pregnancy: -----

4-Numbe of children: -----

5- Previous pregnancy lost or death of an infant:      YES              NO

6- Intention of pregnancy:      Planned              Unplanned

7- Physical or psychological comorbidity:    Yes      No

Education level:    Primary school      Middle school      High school

Collage

8-occupation status:    Employed              Unemployed

9- Place of residence:    Village      Camp      Town      City

10- Monthly income: -----

**Section one:**

**Please answer the following question related to the perceived social support during your pregnancy, put (X) in the appropriate box for your answer:**

#	Items Description: The Medical Outcomes Study Social Support Scale (MOS-SSS)	All of the time	Most of the time	Sometimes	Rarely	None of the time
<b>Emotional support from your close social network (i.e., husband, first-degree relatives, and close friends)</b>						
1	Someone in your close social network makes you feel wanted.					
2	You can turn to someone in your close social network for suggestions about how to deal with a personal problem					
3	You can share your most private worries and fears with someone in your close social network.					
4	Someone in your close social network understands your problems.					
5	You can count on someone in your close social network to listen to you when you need to talk					
6	Someone in your close social network shows you love and affection.					
<b>Informational support from healthcare providers (i.e., doctors and nurses)</b>						
1	Your healthcare providers offer you advice when you really want it.					
2	Your healthcare providers give you information to help you understand a situation related to pregnancy and childbirth.					
3	Your healthcare providers give you good advice about your worries and fears.					
4	Your healthcare providers make you feel confident when you talk to them about yourself or your problems					
<b>Tangible support from your social network (i.e., husband, first-degree relatives, and close friends)</b>						
1	Someone in your close social network spends time with you					

2	Someone in your close social network takes you to the doctor if you need it.					
3	Someone in your close social network prepares your meals if you are unable to do it yourself					
4	Someone in your close social network helps you with daily chores if you are sick					
5	Someone in your close social network engages with you to help get your mind off things.					
6	Someone in your close social network helps you if you are confined to bed.					
7	Someone in your close social network gets together with you to relax.					
8	Someone in your close social network does something enjoyable with you					

**Section two:**

**Please answer the following question related to the pregnancy related anxiety during your pregnancy, put (X) in the appropriate box for your answer:**

#	Item Description: The Pregnancy-Related Anxiety Questionnaire—Revised 2 (PRAQ-R2).	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
1	I am anxious about the delivery					
2	I am worried about the pain of contractions and the pain during delivery					
3	I am worried about the fact that I shall not regain my figure after delivery.					
4	I sometimes think that our child will be in poor health or will be prone to illnesses					
5	I am concerned about my unattractive appearance					
6	I am worried about not being able to control myself during labor and fear that I will scream.					
7	. I am worried about my enormous weight gain					
8	I am afraid the baby will be mentally handicapped or will suffer from brain damage.					
9	I am afraid our baby will be stillborn or will die during or immediately after delivery.					
10	I am afraid that our baby will suffer from a physical defect or worry that something will be physically wrong with the baby.					

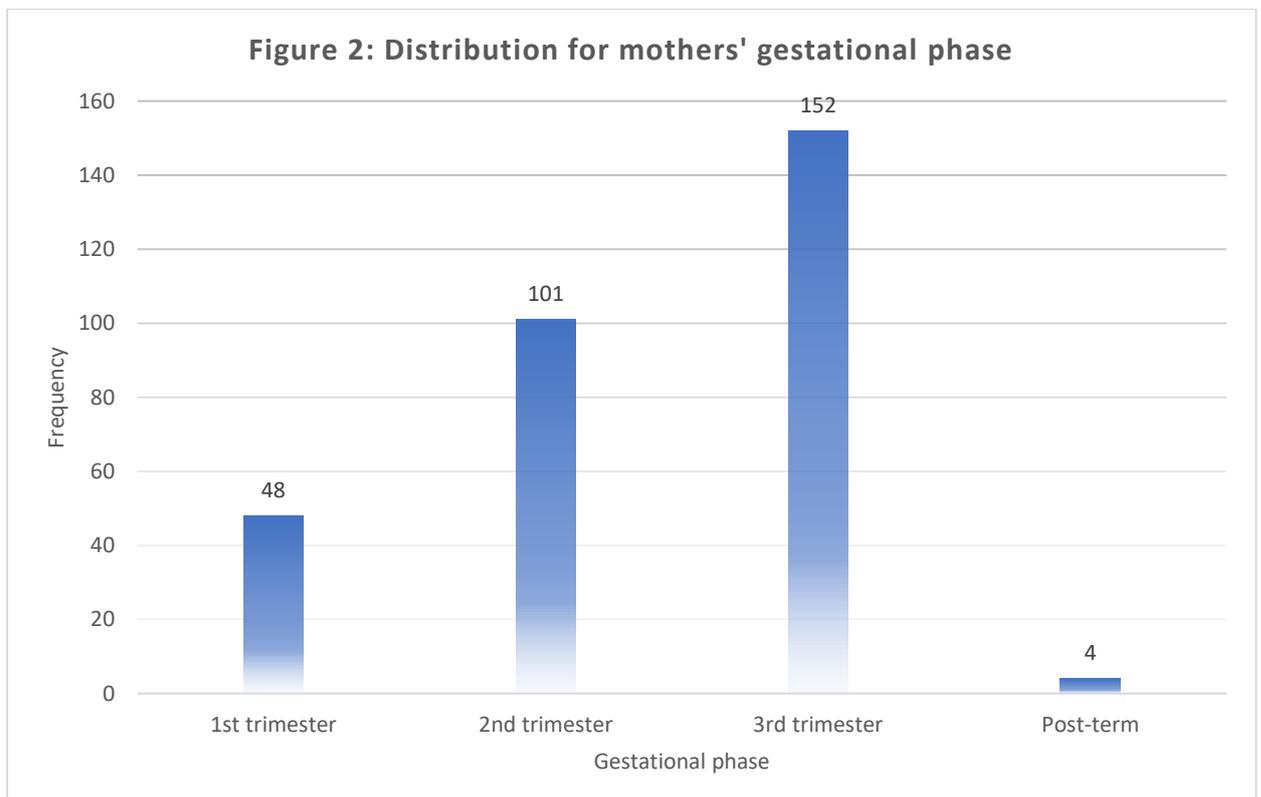
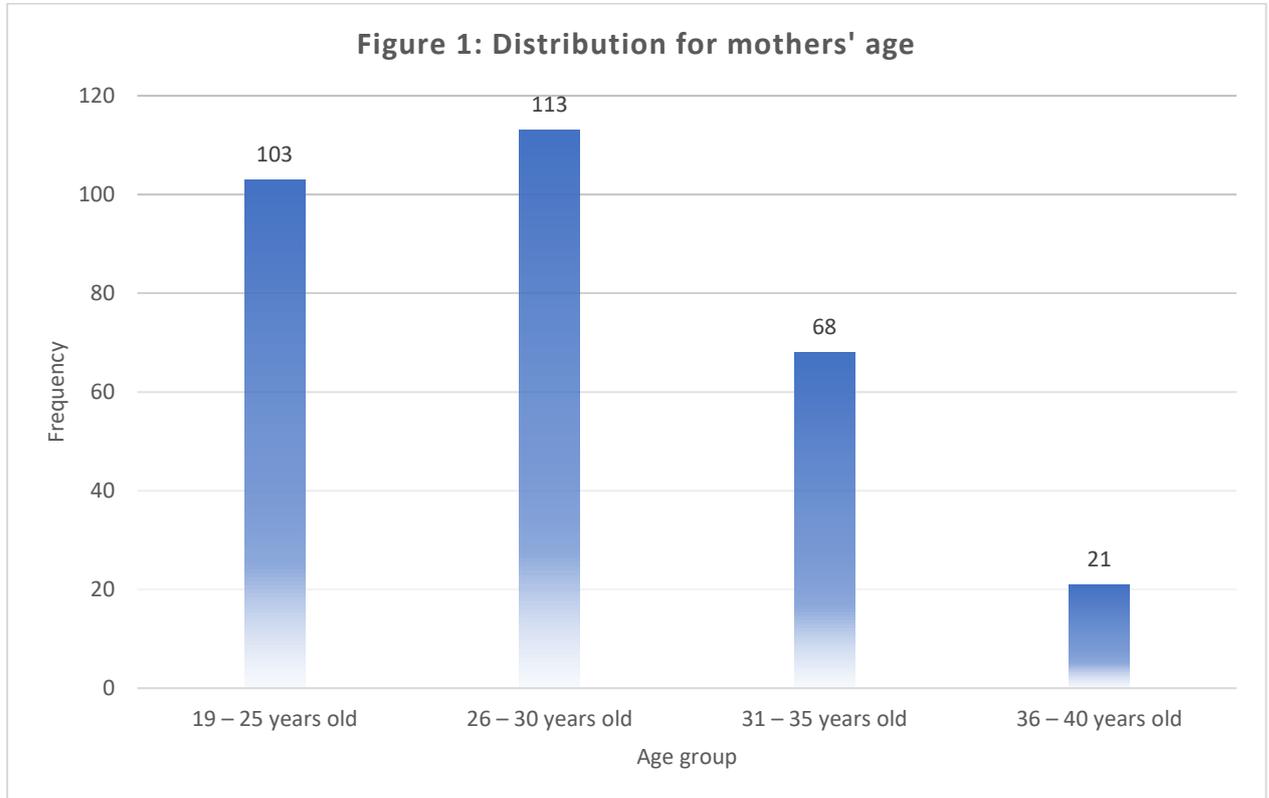
**Section three:**

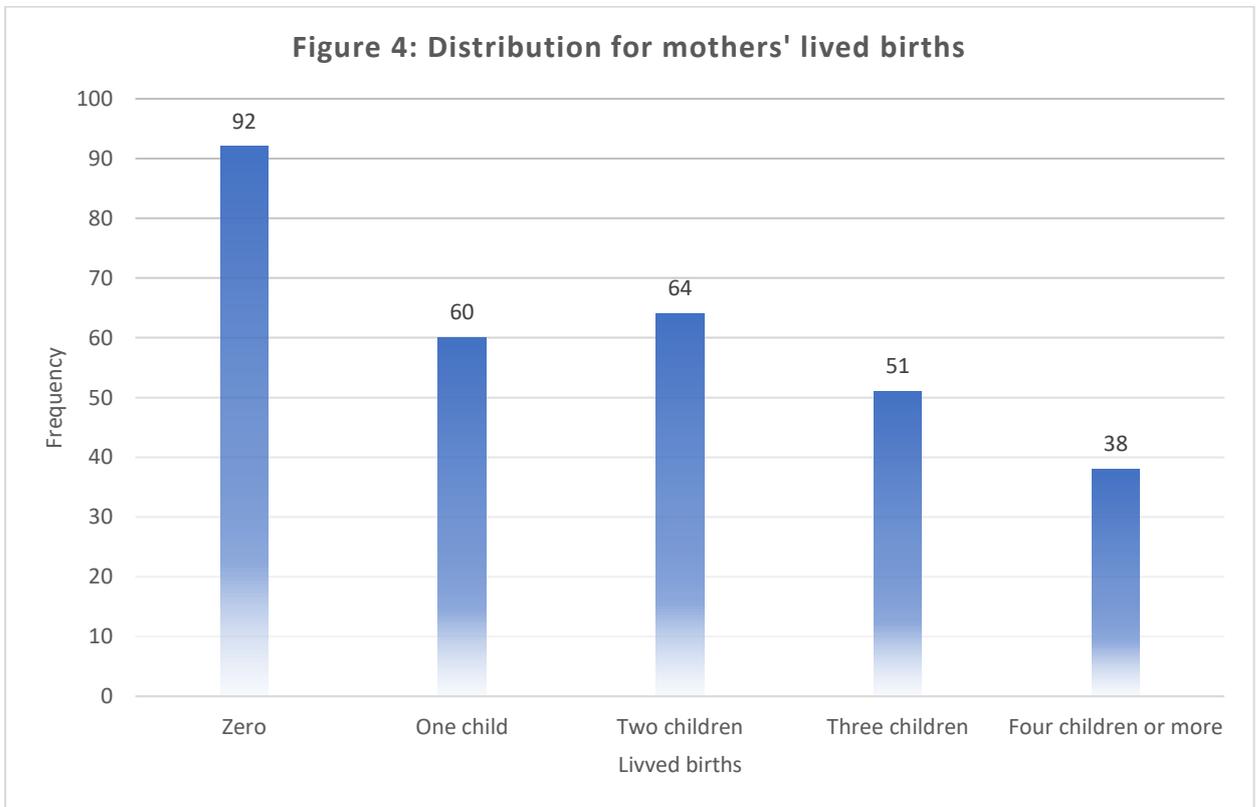
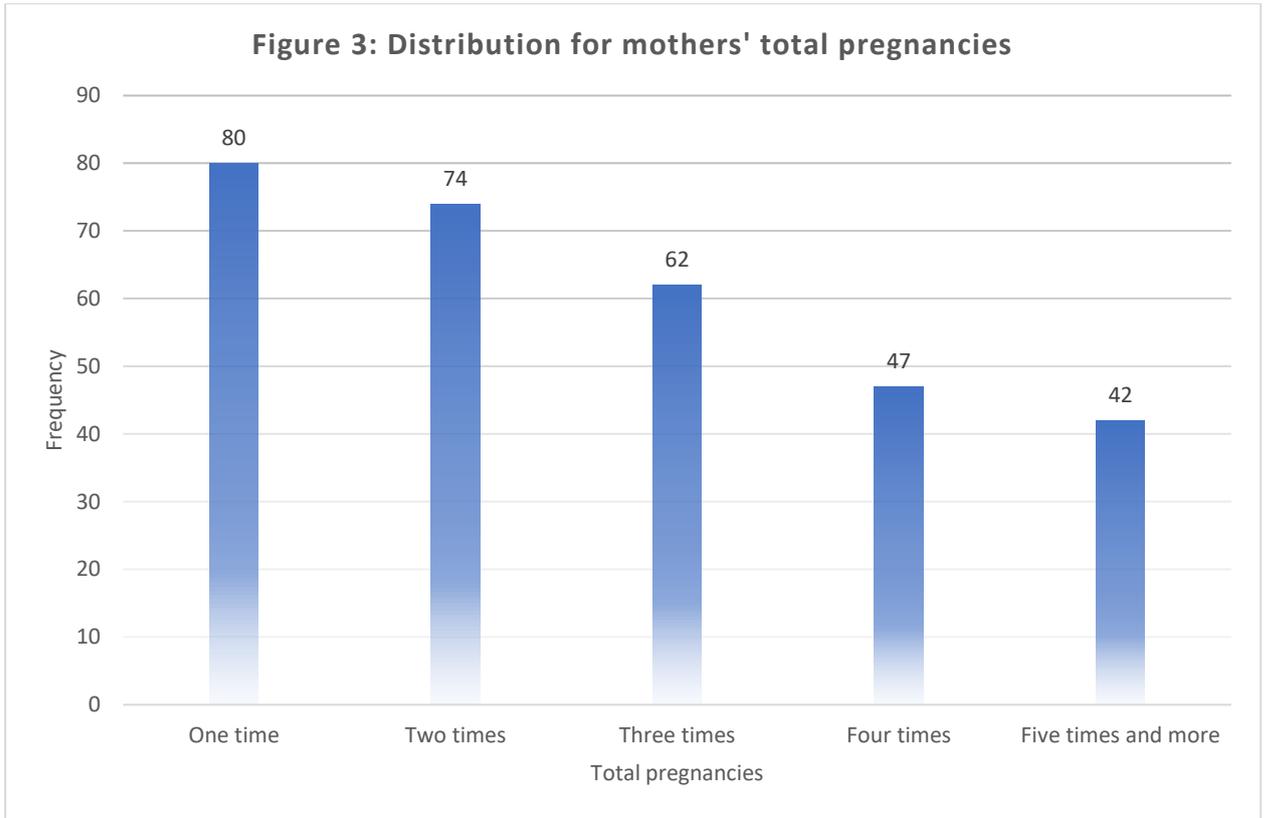
**Please answer the following question related to the anxiety symptoms during your pregnancy, put (X) in the appropriate box for your answer:**

#	Item description: State Anxiety inventory	Never	Some times	Most of the time	Always
1	I feel calm				
2	I feel secure				
3	I am tense				
4	I feel strained				
5	I feel at ease				
6	I feel upset				
7	I am presently worrying over possible misfortunes				
8	I feel satisfied				
9	I feel frightened				
10	I feel comfortable				
11	I feel self-confident				
12	I feel nervous				
13	I am jittery				
14	I feel indecisive				
15	I am relaxed				
16	I feel content				
17	I am worried				
18	I feel confused				
19	I feel steady				
20	I feel pleasant				

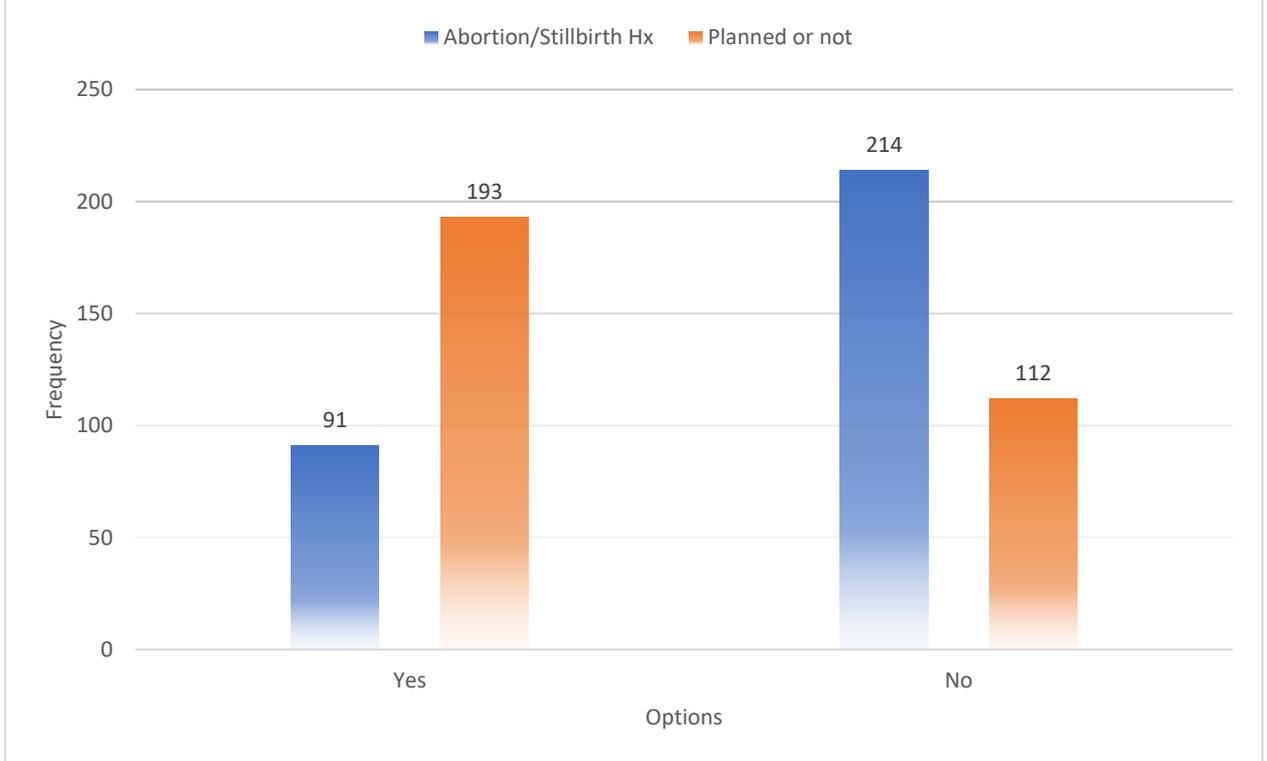
## Appendix Number (3)

### Figures

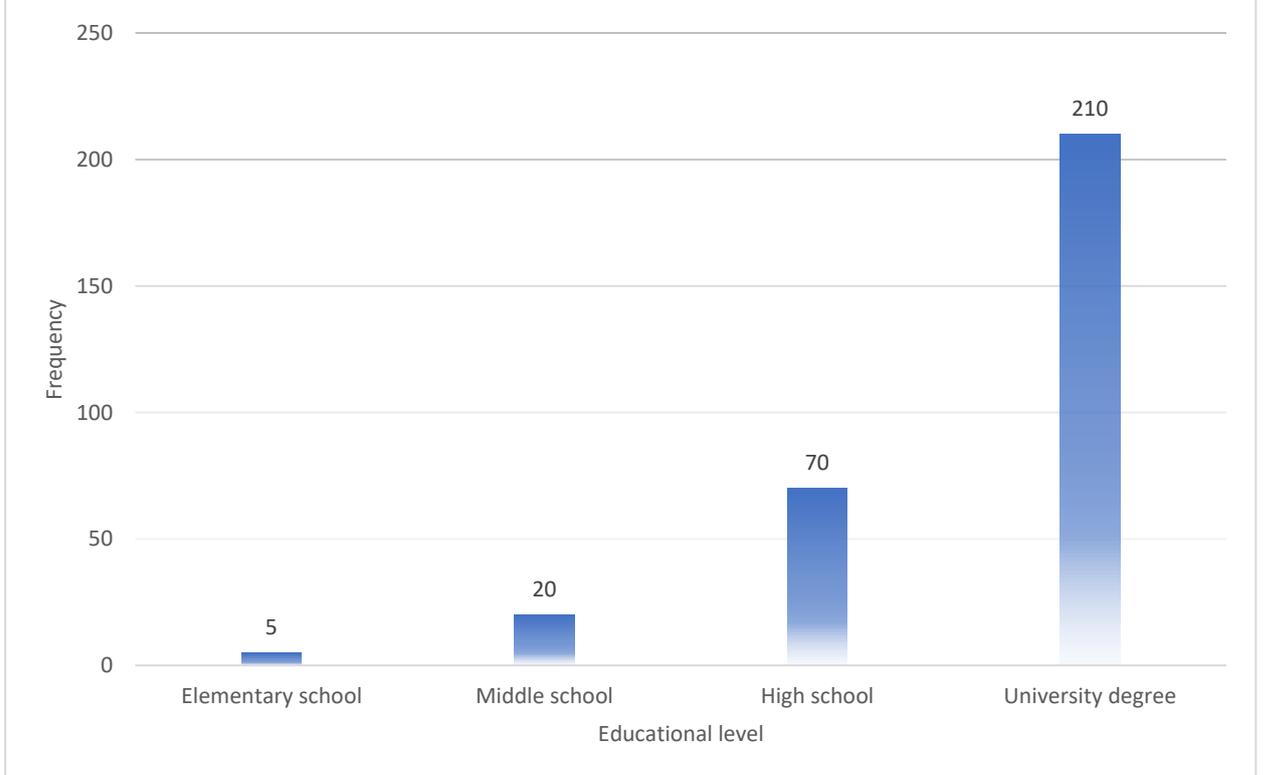




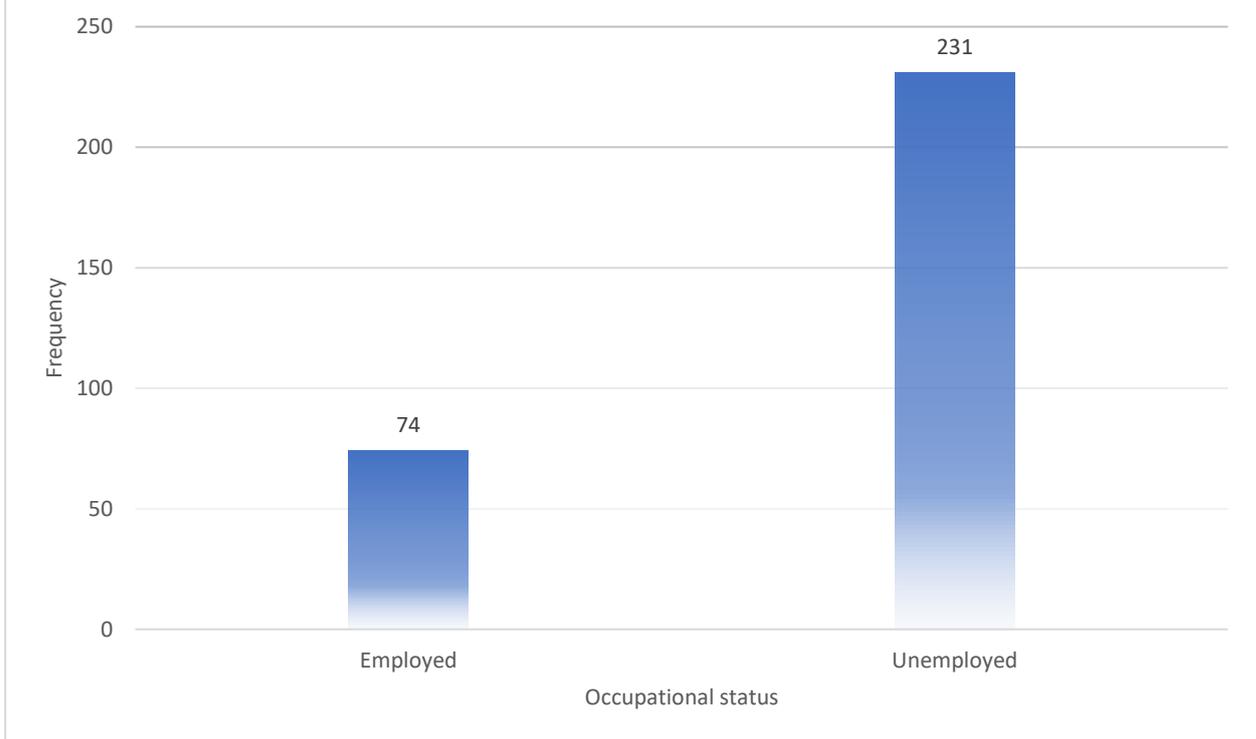
**Figure 5: Distribution for mothers' current pregnancy**



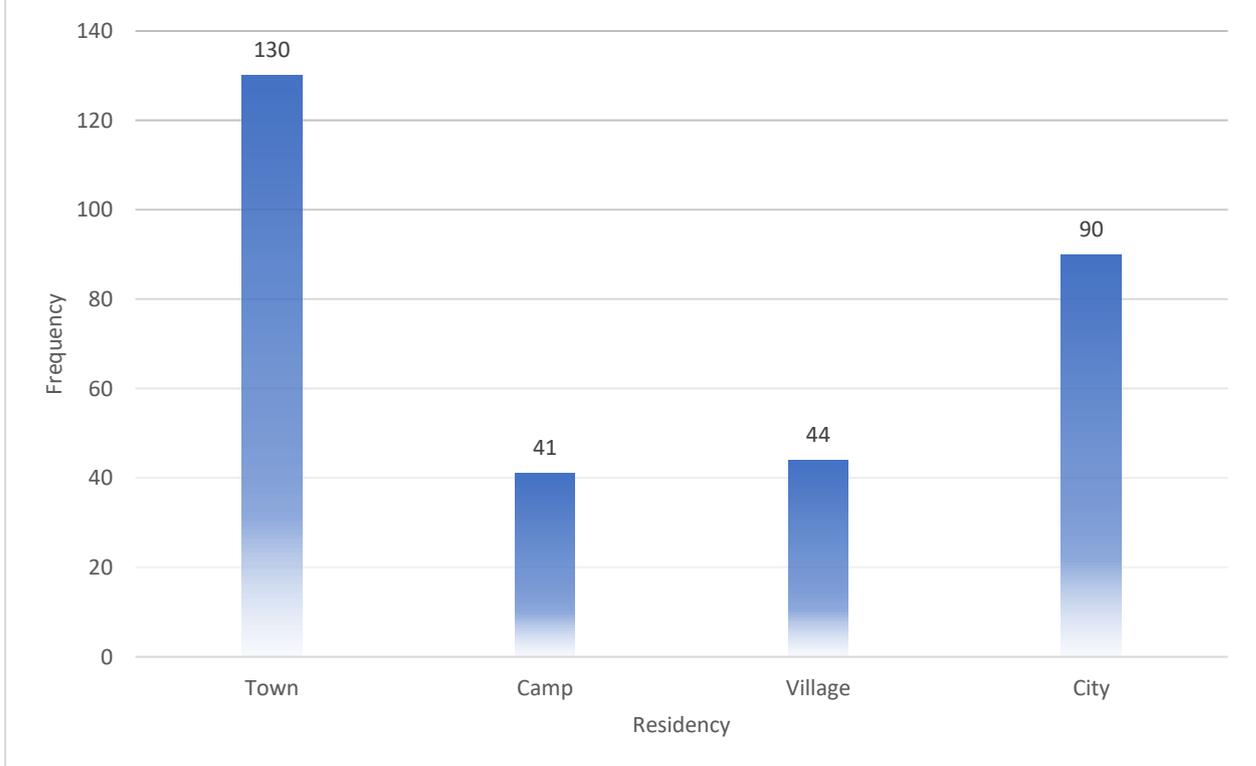
**Figure 6: Distribution for mothers' educational level**



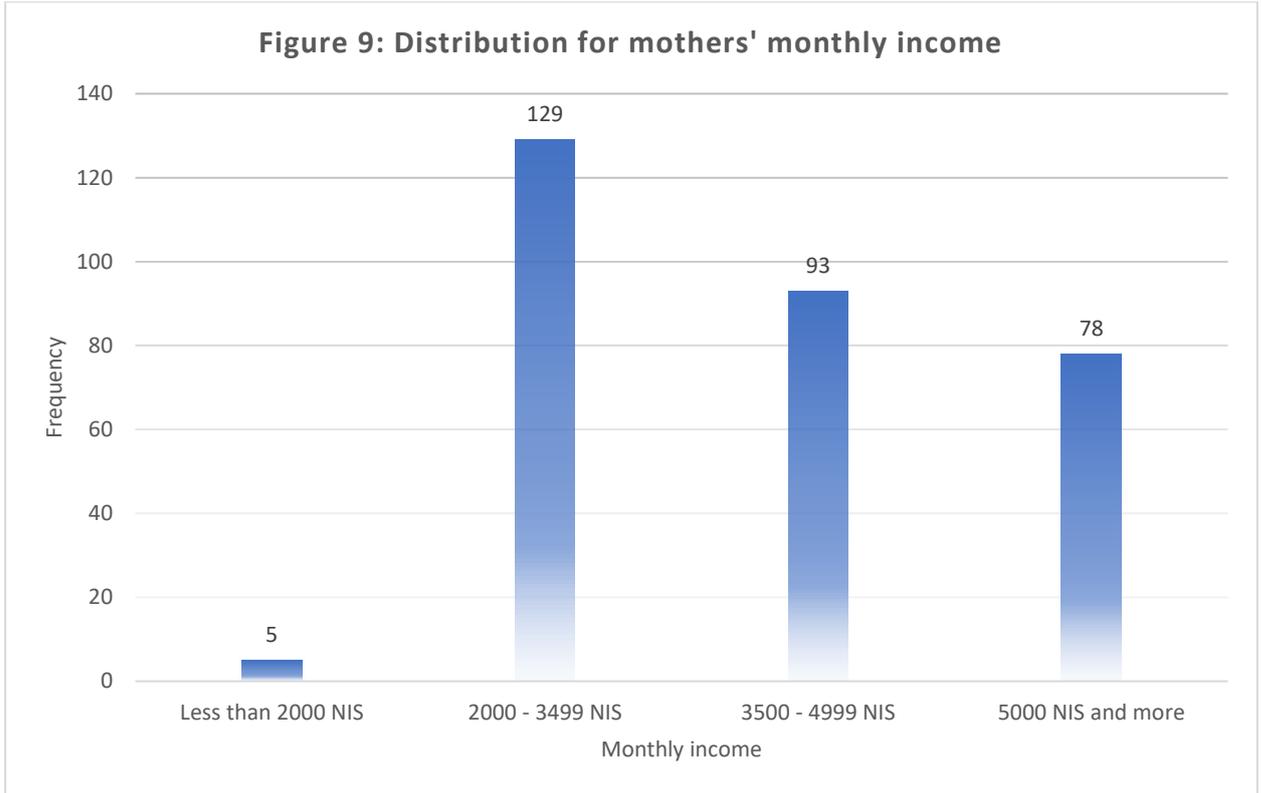
**Figure 7: Distribution for mothers' occupational status**



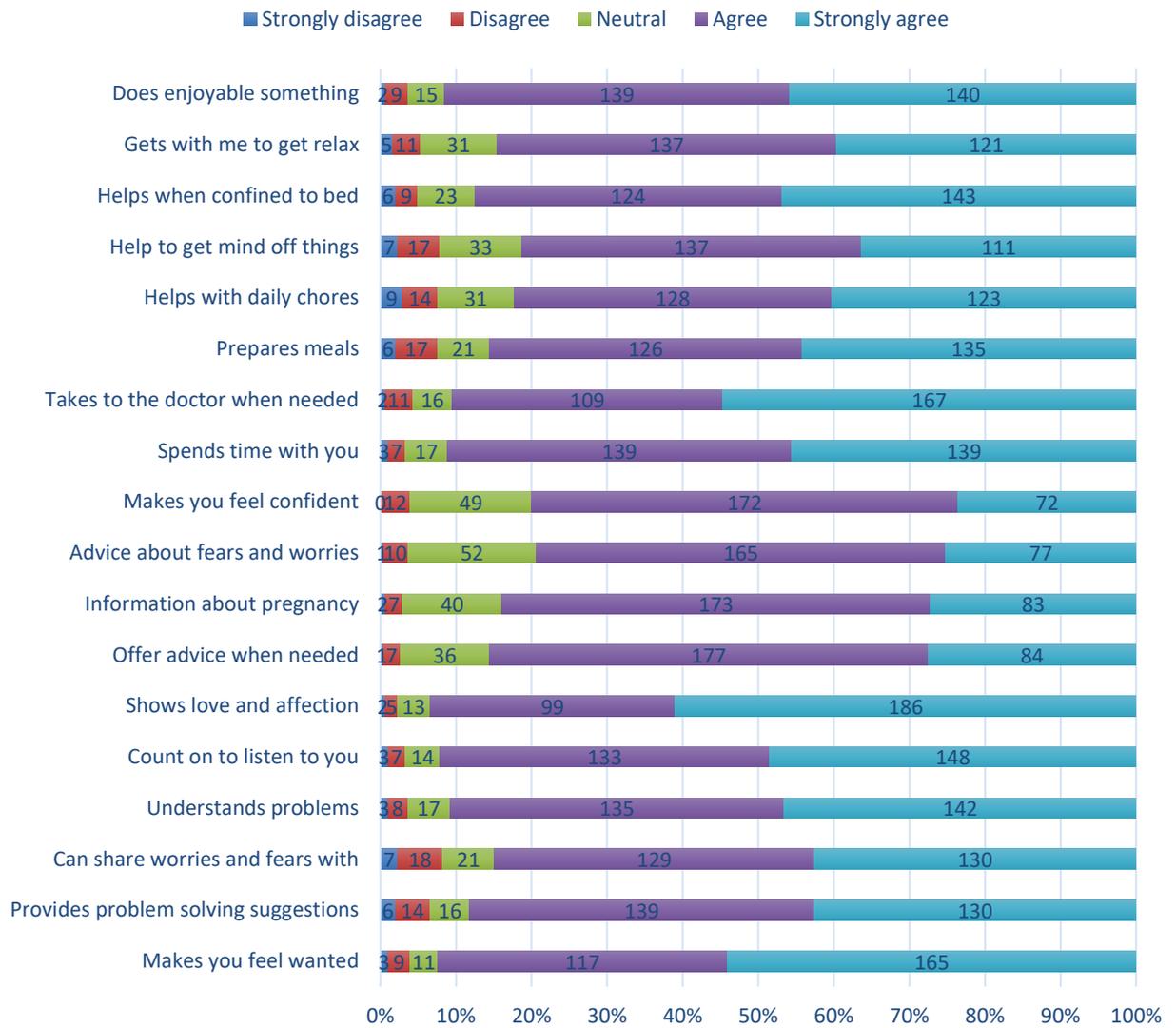
**Figure 8: Distribution for mothers' residency**



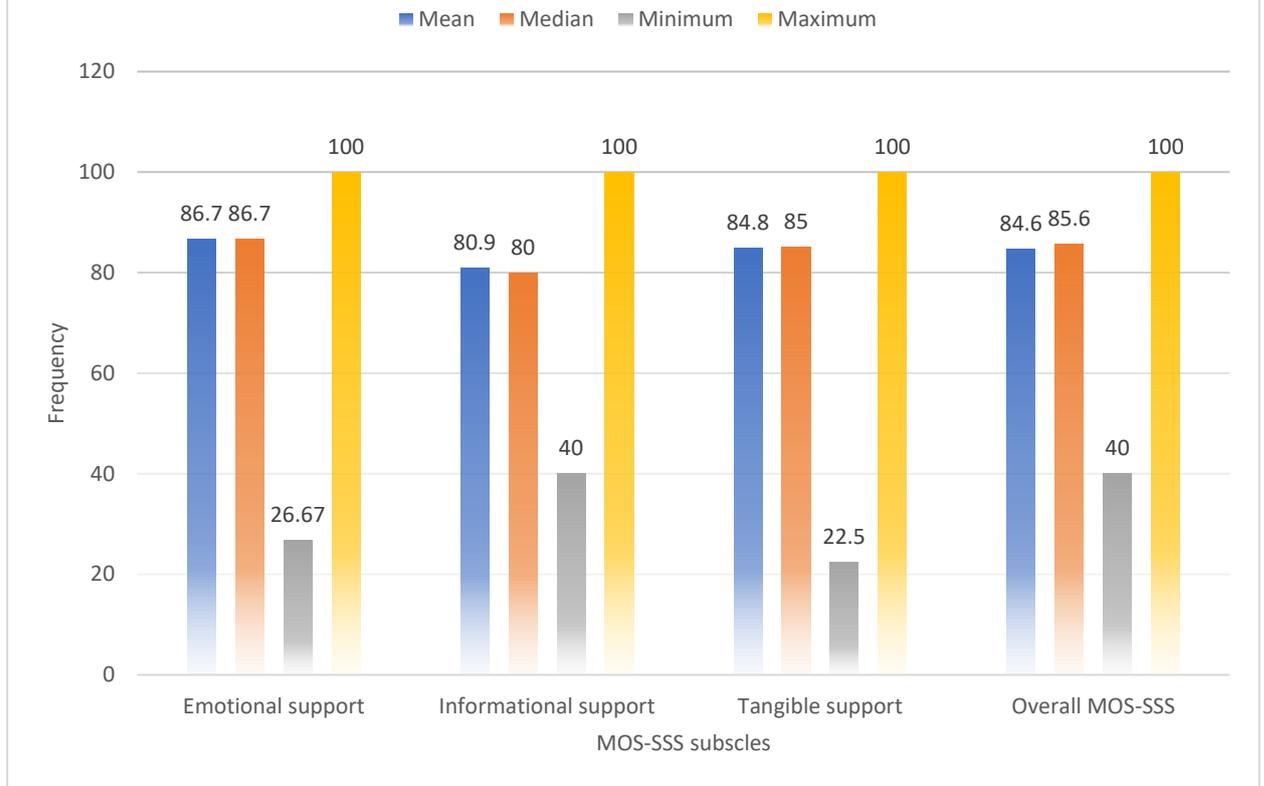
**Figure 9: Distribution for mothers' monthly income**



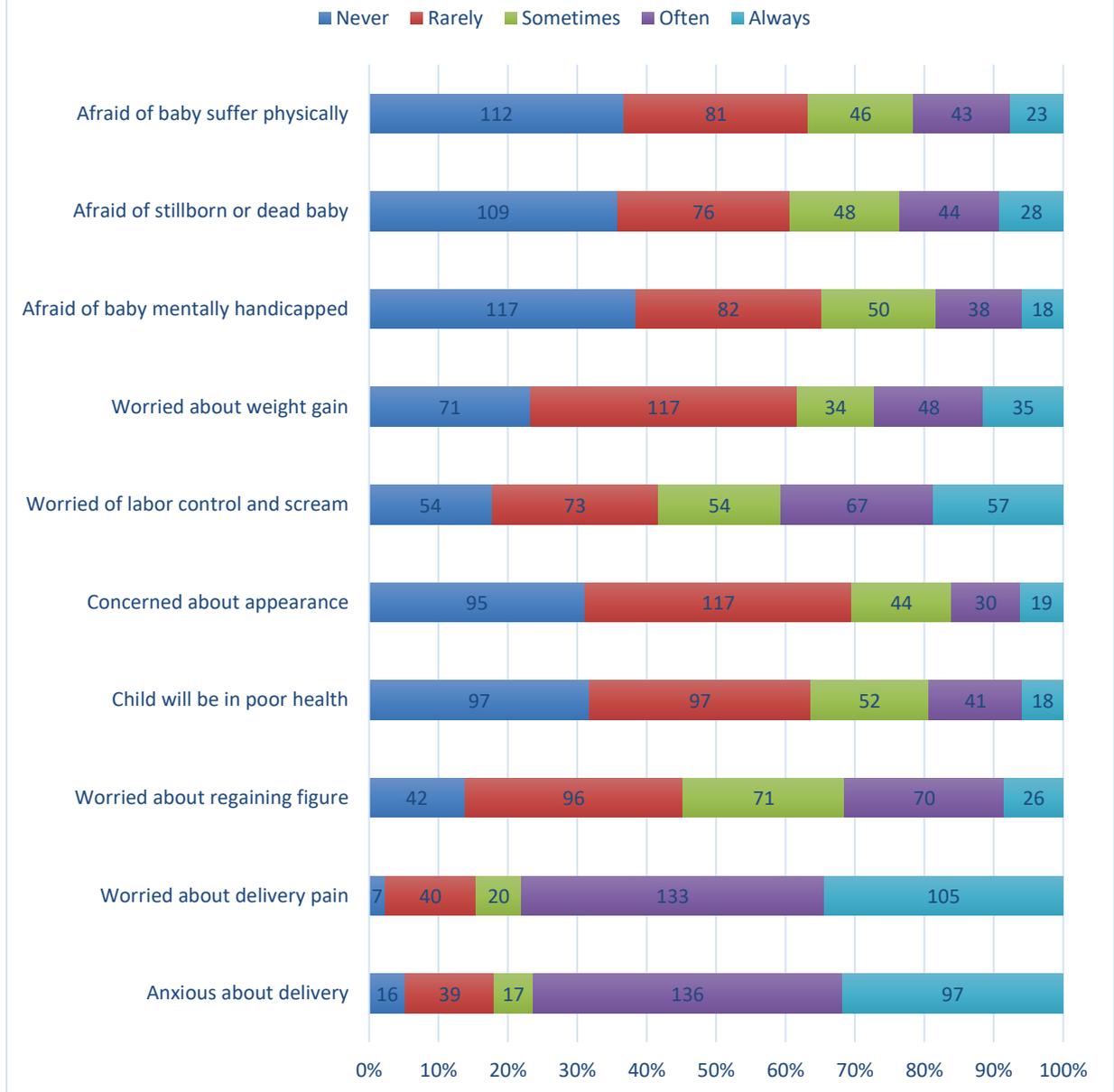
### Figure 10: Mothers' responses to MOS-SSS



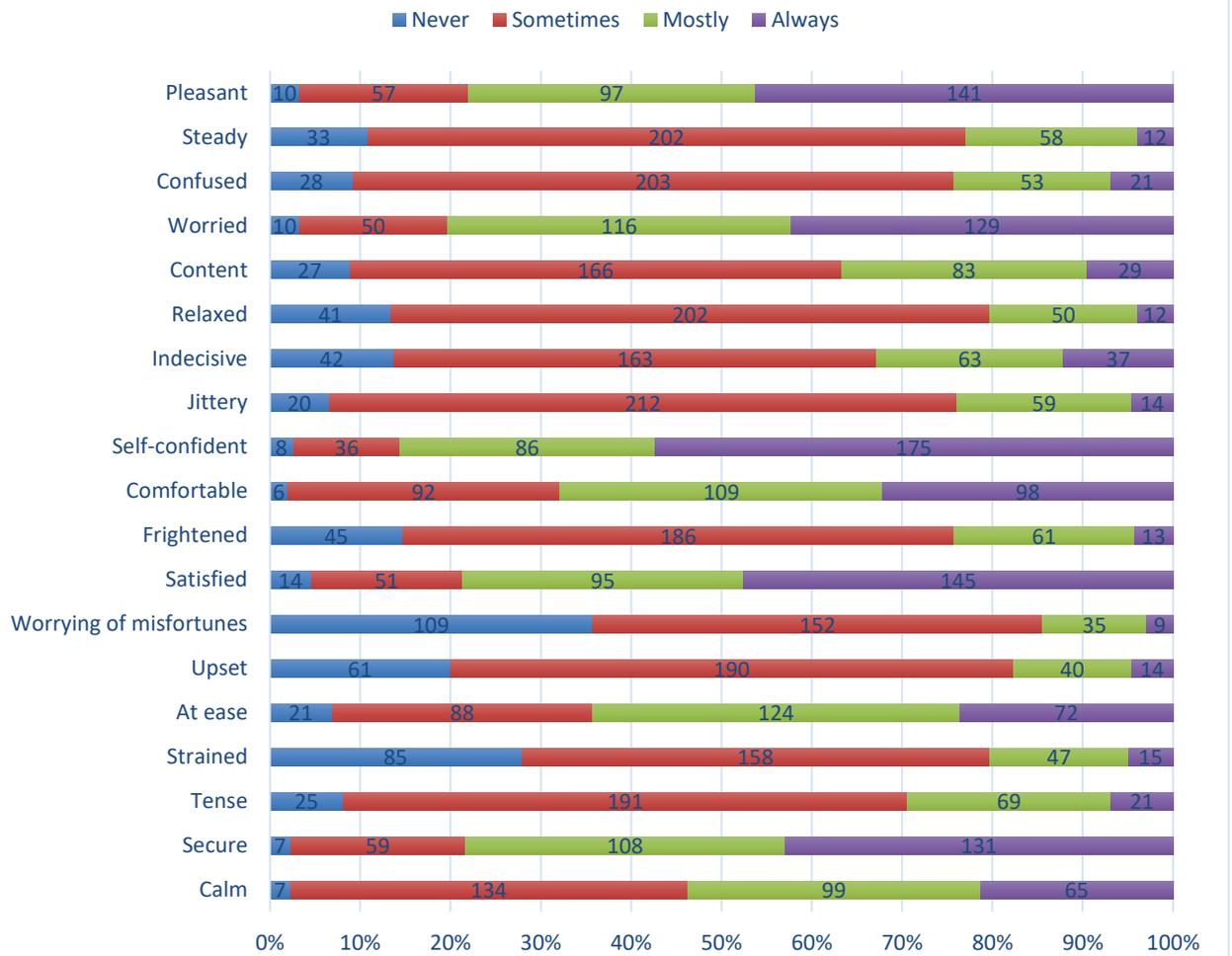
**Figure 11: percentage of overall MOS-SSS and subscales**



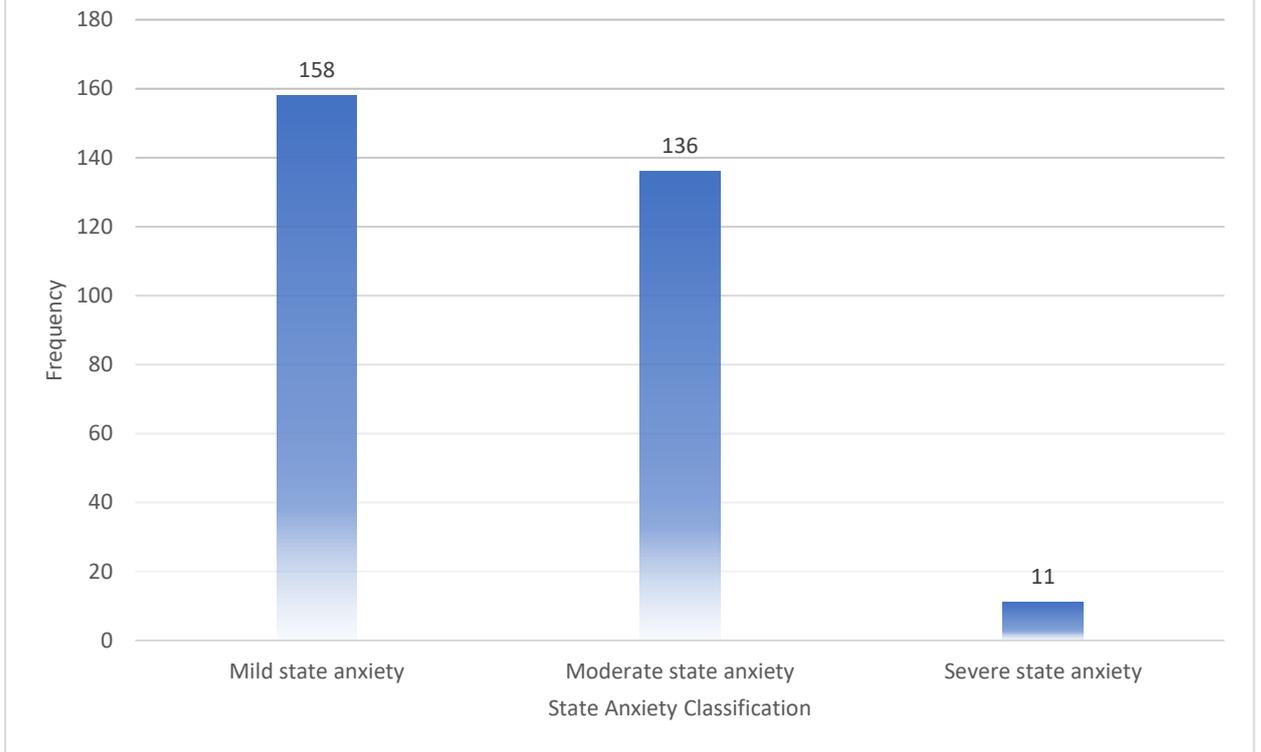
**Figure 12: Mothers' responses to PRAQ-R2**



### Figure 13: Mothers' responses to SAI



**Figure 14: Classification of State Anxiety according to SAI**



## Appendix number (4)

### Sample distribution tables

**Table 4.13 A: Distribution of mothers' responses to statements of The Medical Outcomes Study Social Support Scale (MOS-SSS).**

Statements	SD		D		N		A		SA	
	F	%	F	%	F	%	F	%	F	%
1. Someone in your close social network makes you feel wanted.	3	1.0%	9	3.0%	11	3.6%	117	38.4%	165	54.1%
2. You can turn to someone in your close social network for suggestions about how to deal with a personal problem	6	2.0%	14	4.6%	16	5.2%	139	45.6%	130	42.6%
3. You can share your most private worries and fears with someone in your close social network.	7	2.3%	18	5.9%	21	6.9%	129	42.3%	130	42.6%
4. Someone in your close social network understands your problems.	3	1.0%	8	2.6%	17	5.6%	135	44.3%	142	46.6%
5. You can count on someone in your close social network to listen to you when you need to talk	3	1.0%	7	2.3%	14	4.6%	133	43.6%	148	48.5%

*SD = Strongly disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly agree, F = Frequency, % = Percentage*

**Table 4.13 B: Distribution of mothers' responses to statements of The Medical Outcomes Study Social Support Scale (MOS-SSS).**

Statements	SD		D		N		A		SA	
	F	%	F	%	F	%	F	%	F	%
6. Someone in your close social network shows you love and affection.	2	0.7%	5	1.6%	13	4.3%	99	32.5%	186	61.0%
<b>Informational support from healthcare providers (i.e., doctors and nurses)</b>										
1. Your healthcare providers offer you advice when you really want it.	1	0.3%	7	2.3%	36	11.8%	177	58.0%	84	27.5%
2. Your healthcare providers give you information to help you understand a situation related to pregnancy and childbirth.	2	0.7%	7	2.3%	40	13.1%	173	56.7%	83	27.2%
3. Your healthcare providers give you good advice about your worries and fears.	1	0.3%	10	3.3%	52	17.0%	165	54.1%	77	25.2%

*SD = Strongly disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly agree, F = Frequency, % = Percentage*

**Table 4. 13 C: Distribution of mothers' responses to statements of The Medical Outcomes Study Social Support Scale (MOS-SSS).**

Statements	SD		D		N		A		SA	
	F	%	F	%	F	%	F	%	F	%
4. Your healthcare providers make you feel confident when you talk to them about yourself or your problems	0	0.0%	12	3.9%	49	16.1%	172	56.4%	72	23.6%
<b>Tangible support from your social network (i.e., husband, first-degree relatives, and close friends)</b>										
1. Someone in your close social network spends time with you	3	1.0%	7	2.3%	17	5.6%	139	45.6%	139	45.6%
2. Someone in your close social network takes you to the doctor if you need it.	2	0.7%	11	3.6%	16	5.2%	109	35.7%	167	54.8%
3. Someone in your close social network prepares your meals if you are unable to do it yourself	6	2.0%	17	5.6%	21	6.9%	126	41.3%	135	44.3%
4. Someone in your close social network helps you with daily chores if you are sick	9	3.0%	14	4.6%	31	10.2%	128	42.0%	123	40.3%
5. Someone in your close social network engages with you to help get your mind off things.	7	2.3%	17	5.6%	33	10.8%	137	44.9%	111	36.4%

*SD = Strongly disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly agree, F = Frequency, % = Percentage*

**Table 4.13 D: Distribution of mothers' responses to statements of The Medical Outcomes Study Social Support Scale (MOS-SSS).**

Statements	SD		D		N		A		SA	
	F	%	F	%	F	%	F	%	F	%
6. Someone in your close social network helps you if you are confined to bed.	6	2.0%	9	3.0%	23	7.5%	124	40.7%	143	46.9%
7. Someone in your close social network gets together with you to relax.	5	1.6%	11	3.6%	31	10.2%	137	44.9%	121	39.7%

*SD = Strongly disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly agree, F = Frequency, % = Percentage*

**Table 4.14 A: Distribution of mothers' responses to Pregnancy-Related Anxiety Questionner (PRAQ-R2) statements.**

Statements	Never		Rarely		Sometimes		Often		Always	
	F	%	F	%	F	%	F	%	F	%
1. I am anxious about the delivery	16	5.2%	39	12.8%	17	5.6%	136	44.6%	97	31.8%
2. I am worried about the pain of contractions and the pain during delivery	7	2.3%	40	13.1%	20	6.6%	133	43.6%	105	34.4%

*F = Frequency, % = Percentage*

**Table 4.14 B: Distribution of mothers' responses to Pregnancy-Related Anxiety Questionner (PRAQ-R2) statements.**

Statements	Never		Rarely		Sometimes		Often		Always	
	F	%	F	%	F	%	F	%	F	%
3. I am worried about the fact that I shall not regain my figure after delivery.	42	13.8%	96	31.5%	71	23.3%	70	23.0%	26	8.5%
4. I sometimes think that our child will be in poor health or will be prone to illnesses	97	31.8%	97	31.8%	52	17.0%	41	13.4%	18	5.9%
5. I am concerned about my unattractive appearance	95	31.1%	117	38.4%	44	14.4%	30	9.8%	19	6.2%
6. I am worried about not being able to control myself during labor and fear that I will scream.	54	17.7%	73	23.9%	54	17.7%	67	22.0%	57	18.7%
7. I am worried about my enormous weight gain	71	23.3%	117	38.4%	34	11.1%	48	15.7%	35	11.5%
8. I am afraid the baby will be mentally handicapped or will suffer from brain damage.	117	38.4%	82	26.9%	50	16.4%	38	12.5%	18	5.9%

*F = Frequency, % = Percentage*

**Table 4.14 C: Distribution of mothers' responses to Pregnancy-Related Anxiety Questionner (PRAQ-R2) statements.**

Statements	Never		Rarely		Sometimes		Often		Always	
	F	%	F	%	F	%	F	%	F	%
9. I am afraid our baby will be stillborn or will die during or immediately after delivery.	109	35.7%	76	24.9%	48	15.7%	44	14.4%	28	9.2%
10. I am afraid that our baby will suffer from a physical defect or worry that something will be physically wrong with the baby.	112	36.7%	81	26.6%	46	15.1%	43	14.1%	23	7.5%

*F = Frequency, % = Percentage*

**Table 4.15 A: Distribution of mothers' responses to State Anxiety Inventory (SAI) items**

Statement	Never		Sometimes		Mostly		Always	
	F	%	F	%	F	%	F	%
1. I feel calm	7	2.3%	134	43.9%	99	32.5%	65	21.3%
2. I feel secure	7	2.3%	59	19.3%	108	35.4%	131	43.0%
3. I am tense	25	8.2%	191	62.6%	69	22.3%	21	6.9%
4. I feel strained	85	27.9%	158	51.8%	47	15.4%	15	4.9%
5. I feel at ease	21	6.9%	88	28.9%	124	40.7%	72	23.6%
6. I feel upset	61	20.0%	190	62.3%	40	13.1%	14	4.6%
7. I am worrying over possible misfortunes	109	35.7%	152	49.8%	35	11.5%	9	3.0%
8. I feel satisfied	14	4.6%	51	16.7%	95	31.1%	145	47.5%
9. I feel frightened	45	14.8%	186	61.0%	61	20.0%	13	4.3%

*F = Frequency, % = Percentage*

**Table 4.15 B: Distribution of mothers' responses to State Anxiety Inventory**

*(SAI) items*

Statement	Never		Sometimes		Mostly		Always	
	F	%	F	%	F	%	F	%
10. I feel comfortable	6	2.0%	92	30.2%	109	35.7%	98	32.1%
11. I feel self-confident	8	2.6%	36	11.8%	86	28.2%	175	57.4%
12. I feel nervous	20	6.6%	212	69.5%	59	19.3%	14	4.6%
13. I am jittery	42	13.8%	163	53.4%	63	20.7%	37	12.1%
14. I feel indecisive	41	13.4%	202	66.2%	50	16.4%	12	3.9%
15. I am relaxed	27	8.9%	166	54.4%	83	27.2%	29	9.5%
16. I feel content	10	3.3%	50	16.4%	116	38.0%	129	42.3%
17. I am worried	28	9.2%	203	66.6%	53	17.4%	21	6.9%
18. I feel confused	33	10.8%	202	66.2%	58	19.0%	12	3.9%
19. I feel steady	10	3.3%	57	18.7%	97	31.8%	141	46.2%
20. I feel pleasant	5	1.6%	57	18.7%	104	34.1%	139	45.6%

*F = Frequency, % = Percentage*

## Appendix number (5)

### Ethical committee approval

Al-Quds University  
Jerusalem  
Deanship of Scientific Research



جامعة القدس  
القدس  
عمادة البحث العلمي

Research Ethics Committee  
Committee's Decision Letter

Date: November 19, 2022

Ref No: 262/REC/2022

**Dears Dr. Maha Nahal, Ms. Sireen Ibrahim Bshareya,**

Thank you for submitting your application for research ethics approval. After reviewing your application entitled "Anxiety symptoms and Perceived Social support among the Palestinian pregnant women", the Research Ethics Committee confirms that your application is in accordance with the research ethics guidelines at Al-Quds University.

We would appreciate receiving a copy of your final research report/ publication.

Thank you again and wish you a productive research that serves the best interests of your subjects.

PS: This letter will be valid for two years.

Sincerely,

Suheir Ereqat, PhD  
Associate Professor of Molecular Biology

Research Ethics Committee Chair

Cc. Prof. Imad Abu Kishek - President  
Cc. Members of the committee  
Cc. file

Abu-Dies, Jerusalem P.O.Box 20002  
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## Appendix number (6)

### Formal letters facilitating the task

Al-Quds University  
Jerusalem  
School of Public Health



جامعة القدس  
القدس  
كلية الصحة العامة

التاريخ: 2022/12/3

حضرة السيد عثمان عوض المحترم  
مسؤول التوجيه والتدريب / مستشفى الاستشاري

الموضوع: تسهيل مهمة للطلبة سرين يشارية

تحية طيبة وبعد،،،

تقوم الطالبة سرين إبراهيم باجس يشارية/ برنامج ماجستير الصحة النفسية المجتمعية/ كلية الصحة العامة/ جامعة القدس بإجراء بحث الرسالة بإشراف د. مها نحال ويحتون:

**Anxiety symptoms and Perceived Social support among the Palestinian pregnant women**

وتهدف الدراسة الى تقييم العلاقة بين الدعم الاجتماعي الملحوظ خلال فترة ما قبل الولادة ومستوى القلق لدى النساء الحوامل في مستشفيات الولادة في الضفة الغربية، وهي بحاجة الى توزيع استبانة الدراسة على النساء الحوامل المراجعات للمادة النسائية الخارجية في المستشفى. ارجو من حضرتكم تسهيل مهمة الطالبة والسماح لها بتوزيع الاستبانة على عينة الدراسة لإتهاء إجراءات البحث، علماً بان المعلومات ستكون لأغراض البحث العلمي فقط.

وتفضلوا بقبول فائق الاحترام،

د. حلام اغا  
رئيسة قسم الصحة العامة  
Public Health  
كلية الصحة العامة  
Al-Quds University

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Jerusalem  
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كلية الصحة العامة

التاريخ: 2022/12/3

حضرة الدكتورة صابرين الخطيب المحترم  
مسؤولة العيادات الخارجية/ مستشفى الرعاية العربية

الموضوع: تسهيل مهمة الطالبة سارين بشارية

تحية طيبة وبعد،،

تقوم الطالبة سارين إبراهيم باجس بشارية/ برنامج ماجستير الصحة النفسية المجتمعية/ كلية الصحة العامة/ جامعة القدس بإجراء بحث الرسالة بإشراف د. مها نحال ويعنون:

**Anxiety symptoms and Perceived Social support among the Palestinian pregnant women**

وتهدف الدراسة الى تقييم العلاقة بين الدعم الاجتماعي الملحوظ خلال فترة ما قبل الولادة ومستوى القلق لدى النساء الحوامل في مستشفيات الولادة في الضفة الغربية، وهي بحاجة الى توزيع استبانة الدراسة على النساء الحوامل المراجعات للعيادة النسائية الخارجية في المستشفى. ارجو من حضرتكم تسهيل مهمة الطالبة والسماح لها بتوزيع الاستبانة على عينة الدراسة لإنهاء إجراءات البحث، علما بان المعلومات ستكون لأغراض البحث العلمي فقط.

وتفضلوا بقبول فائق الاحترام،

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جامعة القدس  
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التاريخ: 2022/12/3

حضرة السيد عبد الناصر خربوش المحترم  
مدير الموارد البشرية لمستشفى جمعية الهلال الأحمر / البيرة

الموضوع: تسهيل مهمة الطالبة سرين بشارية

تحية طيبة وبعد،،،

تقوم الطالبة سرين إبراهيم بأحسن بشارية/ برنامج ماجستير الصحة النفسية المجتمعية/ كلية الصحة العامة/ جامعة القدس بإجراء بحث الرسالة بإشراف د. مها لحال ويعنون:

**Anxiety symptoms and Perceived Social support among the Palestinian pregnant women**

وتهدف الدراسة الى تقييم لعلاقة بين الدعم الاجتماعي الملحوظ خلال فترة ما قبل الولادة ومستوى اللقلق لدى النساء الحوامل في مستشفيات الولادة في الضفة الغربية، وهي بحاجة الى توزيع استبانة الدراسة على النساء الحوامل المراجعات للعيادة النسائية الخارجية في المستشفى. ارجو من حضرتكم تسهيل مهمة الطالبة والسماح لها بتوزيع الاستبانة على عينة الدراسة لإنهاء إجراءات البحث، علماً بأن المعلومات ستكون لأغراض البحث العلمي فقط.

وتفضلوا بقبول فائق الاحترام،

د. حازم العا  
مدير الموارد البشرية  
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Ref.: .....  
Date: .....

الرقم: ٢٠٢٢ / ١٤٤٤ / ١٤٤٤  
التاريخ: ٢٠٢٢ / ١٤٤٤ / ١٤٤٤

عطفة الوكيل المساعد المدير التنفيذي لمجمع فلسطين الطبي المحترم،،،  
تحية واحترام..

**الموضوع: تسهيل مهمة بحث**

يرجى تسهيل مهمة الطالبة: سرين ابراهيم باجس بشارية- ماجستير الصحة النفسية

المجتمعية/ جامعة القدس، في عمل بحث بعنوان:

**'Anxiety symptoms and perceived social support among the  
Palestinian pregnant women '**

من خلال السماح للطالبة بالحصول على معلومات من خلال تعبئة استبانة من قبل النساء  
الحوامل (بعد اخذ موافقتهم)، وذلك في العيادات النشائية الخارجية في:

- مجمع فلسطين الطبي

على ان يتم الالتزام باساليب واخلاقيات البحث العلمي، وعند التعرض للمعلومات الشخصية للمريضات.  
على ان يتم الالتزام بجميع تعليمات واجراءات الوقاية والسلامة الصادرة عن وزارة الصحة بخصوص  
جائحة كورونا، وتحت طائلة المسؤولية. وابرار شهادة التطعيم قبل دخول مراكز وزارة الصحة.  
على ان يتم تزويد الوزارة بنسخة PDF من نتائج البحث، التعمد بعدم النشر لحين الحصول على موافقة  
الوزارة على نتائج البحث. وتحديد دور وزارة الصحة.  
مع الاحترام...

د. عبد الله القواسمي  
رئيس وحدة التعليم الصحي والبحث العلمي



نسخة: عميد كلية الصحة العامة المحترم/ جامعة القدس