



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

**PREVALENCE OF DEPRESSION AND  
ANXIETY SYMPTOMS AMONG HOSPITAL  
HEALTHCARE WORKERS IN  
NABLUS CITY– PALESTINE**

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

**2024**

# **PREVALENCE OF DEPRESSION AND ANXIETY SYMPTOMS AMONG HOSPITAL HEALTHCARE WORKERS IN NABLUS CITY– PALESTINE**

By

Zeina Samer Barah

This Thesis was Defended Successfully on 2/7/2024 and approved by

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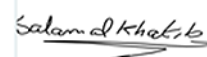
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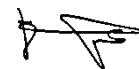
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## **Dedication**

To my great teacher and messenger, Mohammed (May Allah bless and grant him),

To my homeland Palestine,

To my great parents,

To my dearest husband and his family,

To my beloved daughter ,Bayan.

To my beloved brothers and sisters,

To all my family, the symbol of love and giving,

To my friends who encourage and support me,

To all the people in my life who touch my heart.

## Acknowledgment

إن الحمد لله، نحمده سبحانه وتعالى حمدا يليق بجلال وجهه وعظيم سلطانه، فقد سدد الخطى، وشرح الصدر، ويسر الأمر، فله الحمد كله إليه يعود الفضل كله، والصلاة والسلام على أشرف المرسلين سيدنا محمد صلى الله عليه وسلم.

لا يسعني، بعد ان وفقني الله سبحانه وتعالى في إتمام هذا العمل المتواضع إلا أن أخرج ساجدة لله عز وجل، اعترافا بفضله عليّ، حامدة له نعمه عليّ، راجية عفوه ومغفرته وهدايته وتوفيقه.

واعترافا بذوي الفضل عليّ، وانطلاقا من قوله صلى الله عليه وسلم «مَنْ لَمْ يَشْكُرِ النَّاسَ لَمْ يَشْكُرِ اللَّهَ»، فإنه يسرني، ويثلج صدري، أن أعبر عن امتناني لجامعة النجاح الوطنية والهيئة التدريسية القائمة على برنامج علم النفس السريري وأخص بالذكر عميدة الدراسات العليا الدكتورة كفاح برهم المحترمة.

كما أقدم شكري وتقديري لكل من مد لي يد العون في سبيل إتمام هذا البحث مشرفي دكتور محمد مرعي المحترم، كما ويسعدني أن أسجل شكري وتقديري وعرفاني الجميل الى أستاذي الفاضل ومعلمي الدكتور عبد الكريم أيوب المحترم.

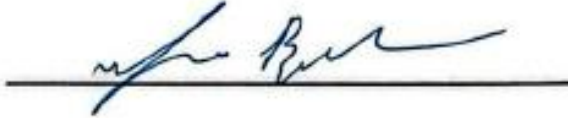
## Declaration

I, the undersigned, declare that I submitted the thesis entitled:

**PREVALENCE OF DEPRESSION AND ANXIETY SYMPTOMS AMONG  
HOSPITAL HEALTHCARE WORKERS IN NABLUS CITY- PALESTINE.**

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

**Student's Name:** Zaina Samir Barah

**Signature:** 

**Date:** 2-7-2024

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## **Abstract**

**Background:** Globally, depression and anxiety are significant mental health concerns, with healthcare workers (HCWs) facing particular challenges due to work-related stressors. Factors such as heavy workloads, exposure to infectious diseases and long hours contributing to high rates of depression and anxiety among HCWs.

**Objective:** The aim of this study was to determine the prevalence of depression and anxiety symptoms among hospital healthcare workers in Nablus city, Palestine.

**Methods:** The research employs a quantitative, descriptive, cross-sectional methodology in order to investigate the prevalence of depression and anxiety symptoms among hospital HCWs in Nablus city, Palestine. Sample size of 500 HCWs participated in the study. Validity and reliability of the questionnaire were confirmed through experts' evaluation and pilot testing, with data analyzed using SPSS V25.0. Ethical considerations were meticulously observed, through ensuring permission, pursuing informed consent and safeguarding the privacy of the participants.

**Results:** Results revealed that weighted mean prevalence rates for depression and anxiety were 32.66% and 36.00%, respectively. Socio-demographic factors such as age ( $p < 0.002$ ), ( $p < 0.001$ ), education level ( $p < 0.001$ ), ( $p < 0.001$ ), profession ( $p < 0.006$ ), ( $p < 0.001$ ), marital status ( $p < 0.010$ ), ( $p < 0.05$ ), number of children ( $p < 0.049$ ), ( $p < 0.001$ ), and regular working shifts ( $p < 0.007$ ), ( $p < 0.001$ ), showed statistically significant differences in both depression and anxiety levels, respectively. Additionally, certain risk factors associated with severe or moderate depression and anxiety symptoms were identified, including older age groups, lower education levels, divorced or widowed marital status, smoking habits and lack of family or work-related support.

**Conclusion:** By prioritizing the mental well-being of healthcare workers and implementing evidence-based interventions, organizations and policymakers can cultivate more resilient and supportive workforce, ultimately enhancing patient care and healthcare system sustainability while upholding ethical standards and participants' rights. Continued research and actions in this area are crucial to effectively promoting overall well-being.

**Key words:** Prevalence, Depression, Anxiety, Hospitals, Nablus, Palestine, Healthcare workers.

# Chapter One

## Introduction and Literature Review

### 1.1 Introduction

This chapter presents several parts, including a research overview, statement of problem, significance of the study, objectives of the study, research questions, hypotheses, definitions of related terms, mental health status in Palestine, theoretical framework about depression and anxiety symptoms, and a literature review about the prevalence of depression and anxiety symptoms among Palestinian hospital healthcare workers (HCWs).

### 1.2 Research Overview

It is known that depression and anxiety are considered one of the highest widespread and co-occurring mental diseases. (Kalin, 2020). Depression represents one of the foremost health burdens and contributors to the global disability-adjusted life year. (Li et al., 2016). Psychological requirements of HCWs have been given attention, as they are an important health issue for the community and a threat to the delivery of high-quality healthcare. At work, HCWs are exposed to number of stresses, which can have a severe influence on their mental, emotional, and physical health. (Søvold et al., 2021). In addition, depression, anxiety, and stress levels differed considerably by gender, age, number of families and a person's socioeconomic status (Radwan et al., 2021).

Healthcare providers and social workers are susceptible to suffering a wide range of symptoms, involving fatigue, lack of motivation, anxiety, nervousness, tension, uncertainty, anger, overwhelming, emotions of annoyance, sense of sadness and dejection; as well as having trouble falling asleep or concentrating. (Cocker & Joss, 2016).

The emergence and etiology of mental symptoms in healthcare workers may be influenced by a some factors of a significantly higher workload, inadequate personal protection against infectious diseases, rising work demands, frustration, exhaustion from long work hours, little to no contact with their families, and a lack of physical or psychological safety. (Huarcaya-Victoria et al., 2022; Søvold et al., 2021). Adverse

psychological consequences may result in harmful habits such as drug abuse, alcoholism, or smoking among healthcare professionals, which might hinder their ability to perform their duties. Witnessing death and feeling helpless in the face of increasing patient deaths may have a substantial influence on the mental health of social and health care staff members (Pollock et al., 2020). Physical symptoms like headaches, sweating, lethargy or exhaustion are frequently present with excessive and ongoing anxiety, and they can all have a severe effect on person's capability to function at work and in their daily lives (Ma et al., 2021).

Therefore, the researcher decides to examine the prevalence of depression and anxiety symptoms among HCWs at hospitals in Nablus, Palestine, and to make suitable recommendations for decision-makers.

### **1.3 Statement of Problem**

Healthcare workers encounter mental health problems as a result of working stressors and dangers. Number of factors, including exposure to infectious infections that can cause illness or death, contribute to the ongoing stress at work in the healthcare sector. Healthcare personnel may experience significant rates of anxiety and sadness due to their consistently heavy daily jobs (Shamsan et al., 2022).

Many symptoms including, sorrow, extreme loss of interests and/or pleasure, guilt or low self-esteem, disturbed sleep or food, feeling weary and an impaired ability to concentrate are signs of depression. An excessive amount of unwarranted worry and/or chronic worry are the hallmarks of anxiety, which is frequently accompanied by symptoms including tachycardia, tremors, restlessness, exhaustion, poor concentration, irritability, and sleep pattern abnormalities. The co-existence of depression and anxiety can be extremely crippling and may have serious negative effects on the afflicted populations' physical, mental and social wellness (Shawahna et al., 2020).

Healthcare workers must be responsible for a variety of physical, psychological, and emotional stressors over time in this situation, increasing their risk of developing chronic stress. In other words, these stressors jeopardize the physical and emotional health of medical personnel, jeopardizing the effectiveness and quality of care provided by healthcare systems in crucial situations (Sangrà et al., 2022).

Previous study revealed that a substantial percentage of healthcare workers had severe depressive symptoms. This studies also indicated that the incidence of depression and anxiety in this population was about 51% and 41%–45%, respectively. Because it was after the pro-drome and weariness is associated with fatigue and loss of energy in major depressive disorder, which causes a depressive emotional state, healthcare personnel may have felt more exhausted and depressed than anxious (Tanifuji et al., 2022).

There are limited number of previous studies on the prevalence of symptoms of depression and anxiety among HCWs at hospitals in Palestine. By carrying out this research, the researcher intends to address the gap and participate to enriching the existing literature about the mental health of HCWs. Additionally, the researcher wants to address significant mental health problems like depression and anxiety in order to enhance the wellbeing of HCWs, who play an important role in delivering healthcare services to the general public.

#### **1.4 Significant of Study**

The study of the literature demonstrated that the mental health of healthcare providers is considered the main engine to ensure a healthy system full of mental and physical health (Søvold et al., 2021). Also, it suggests that depression and anxiety have negative effects on the quality of healthcare provided to patients (Brenes, 2007).

Since there have been minimal previous researches, particularly in Palestine (Maraqa et al., 2020; Sarhan et al., 2021), the outcomes of this study could add new knowledge to the worldwide awareness of mental health problems among HCWs. Moreover, the outcomes of the present research will serve as a valuable resource of knowledge for healthcare providers and researchers when additional research is conducted on the mental health of healthcare providers.

Making a comparison between the outcomes of Palestinian research and the outcomes of previous research from other countries around the world could offer more comprehensive picture of the prevalence and symptoms influencing depression and anxiety among HCWs (Ahmed et al., 2009). Furthermore, the negative effects of depression and anxiety on the healthcare system in addition to the low number of investigations on this subject, indicate the necessity for additional studies in Palestine.

The study can be used to support policy modifications and workplace enhancements that will encourage greater mental health for HCWs. This may improve the general standard of healthcare services delivered and the wellbeing of both patients and HCWs. This research will additionally help administrators and policymakers in the field of mental health in developing recommendations and guidelines for recognizing HCWs experiencing psychological symptoms as a result of work environment pressures. Also, this study could potentially assist the Palestinian Ministry of Health (MOH) in introducing and preventing any other psychological issues.

The findings of the study may be useful for developing supportive treatments and programs for HCWs in Palestine. Identifying the particular difficulties and stressors confronted by HCWs in Palestine can lead to adopt more effective approaches to address and manage mental health problems.

Finally, significance of the study stems from its capability to enhance the well-being of HCWs in Nablus city and hence the quality of local healthcare services delivered in Palestine. As well, it can offer insightful information for other locations with comparable socio-cultural contexts and healthcare practitioners encountering comparable difficulties.

## **1.5 Objectives of the Study**

### **1.5.1 General Objective**

Assessing the prevalence of depression and anxiety symptoms among hospital HCWs in Nablus city, Palestine.

### **1.5.2 Specific objectives**

- Identifying the levels of depression and anxiety symptoms among HCWs in Nablus city, Palestine.
- Measuring the relation between the (total score of depression and anxiety symptoms levels)and socio-demographic information.
- Determining the relation between the (total score of depression and anxiety symptoms levels)and health history information.
- Measuring the relation between the (total score of depression and anxiety symptoms levels) and emotional support information.

- Assessing the correlation between depression and anxiety symptoms levels.

### **1.6 Research questions**

- What is the prevalence and levels of depression and anxiety among hospital HCWs in Nablus city, Palestine?
- What is the relation between the (total score of depression and anxiety symptoms levels) and socio-demographic information ?
- What is the relation between the (total score of depression and anxiety symptoms levels) and health history information ?
- What is the relation between the (total score of depression and anxiety symptoms levels) and emotional support information?
- What is the correlation between depression and anxiety symptoms levels?

### **1.7 Research hypothesis**

- H0: There is no relationship at ( $\alpha \leq 0.05$ ) level between the (total score of depression and anxiety symptoms levels) and socio-demographic information among HCWs in Nablus city, Palestine.
- H0: There is no relationship at ( $\alpha \leq 0.05$ ) level between the (total score of depression and anxiety symptoms levels) and health history information among HCWs in Nablus city, Palestine.
- H0: There is no relationship at ( $\alpha \leq 0.05$ ) level between the (total score of depression and anxiety symptoms levels) and emotional support information among HCWs in Nablus city, Palestine.
- H0: There is no correlation at ( $\alpha \leq 0.05$ ) level between depression and anxiety symptoms levels among HCWs in Nablus city, Palestine.

## **1.8 Theoretical Frameworks**

### **1.8.1 Mental Health Status in Palestine**

According to the WHO, depression and anxiety disorders are the greatest widespread mental illnesses in the world (World Health Organization, 2022). Palestinians are particularly at risk for developing anxiety disorders and post-traumatic stress disorder (PTSD) (Marie et al., 2020).

The Palestinian healthcare system is still in the developing stage and is dealing with particular issues related to occupation and political unrest. The Palestinian government, Palestinian private health care facilities, International Non-Governmental Organization (NGOs) and the United Nations (UN) are the four main institutions that offer the primary care and essential public health services in the complex and fragmented health care system. According to the WHO and the Palestinian MOH, the community mental health in Palestine has not prioritized by Palestinian MOH on its list of budget priorities. Recently, the World Health Organization and the Palestinian MOH are making efforts to enhance the health care system in Palestine, especially in the West Bank, and plan has been developed to implement these efforts (Marie et al., 2020).

Shawahna et al, (2020) found that at a major institution in the West Bank of Palestine, depression and anxiety symptoms were common among Palestinian medical students. Reducing symptoms of depression and anxiety among medical students in Palestine may be accomplished through interventions aimed at improving the students' self-rated mental health during their academic years, improving study environments, and offering counseling services to enhance spirituality. It will need more research to see whether these treatments will help Palestinian medical students experience fewer symptoms of anxiety and depression.

It is recommended that screening protocols be established and that doctors receive the necessary training to adhere to these protocols. Treatments for managing and preventing depression also need to be created. Initiatives must be started in order to educate the general people about depression. Politicians and outside funding organizations need this information to set future agendas. Priority one must go to the development of referral mechanisms for people exhibiting signs of moderate to severe anxiety and depression (Maraqat et al., 2024).

In conclusion, the Palestinian people faced significant difficulties as a result of the history of occupied Palestine and political unrest. One of the biggest but least recognized of all health issues is mental illness, which affects about one-third of Palestinians as a result of historical events. These things left a bad impression of this conflict on the collective mind of the Palestinian state (Marie et al., 2016).

## **1.8.2 Depression**

### **1.8.2.1 Definition of Depression**

American Psychiatric Association (2020) defined depression “a prevalent and substantial psychological disorder that has a negative impact on how the individual feels, thinks, and behaves”. It is, fortunately, susceptible to treatment. Depression creates feeling of sadness and/or a diminished sense of interest in previously enjoyed activities. It can cause a wide range of psychological and physical issues, as well as a reduction in an individual's capacity to function effectively at his or her job and at home.

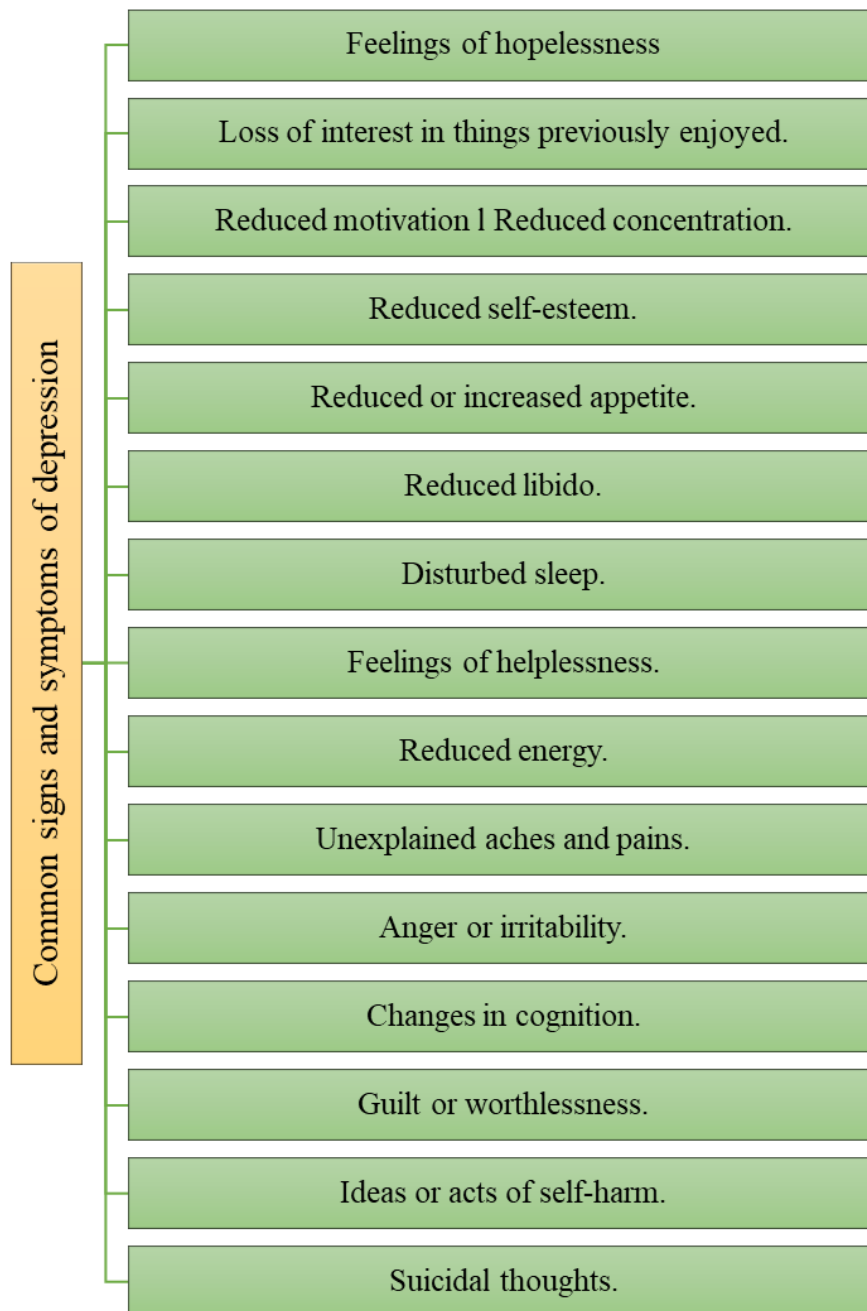
### **1.8.2.2 Signs and Symptoms of Depression**

A depressing, hopeless mood that lasts more than two weeks and impairs a person's performance at work, in school, or in interpersonal interactions is the primary symptom of depression. It might be challenging to comprehend this melancholy illness because while some behavioral signs of depression, such speaking or moving slowly, are behavioral, other symptoms, like hopelessness and negative thoughts, are emotional and cognitive. This is remarkably dissimilar from the clinical manifestations of other illnesses, including limb pain from a break or fever from an acute infection (American Psychiatric Association, 2020).

The symptoms are significantly decreasing the quality of life and raise the likelihood of suicide. Depression has been scientifically attached to both objective alterations in sleep architecture and subjective sleep disorder experiences (Nutt et al., 2008).

**Figure 1**

*Common Signs and Symptoms of Depression. Source*



### **1.8.2.3 Causes of Depression**

Recognizing the underlying causes of depressive disorders is challenging due to it is a complex condition. People of any age, socioeconomic status or race might be influenced, and it could be caused by biological, genetics, psychological, and environmental factors. Since there are many different causes of depression, it is crucial to treat each individual uniquely and comprehend their symptoms and behaviors by

getting to know them. It frequently comes along with other mental health issues or long-term physical illnesses (Munro & Milne, 2020b).

It's possible to inherit biological susceptibility to depression because certain types of depression can run in families. Also, an external event, such as a significant loss, long-term disease, challenging relationship, economic issue or any unwished alter in life patterns, will frequently introduce an episode of depression. Some people may experience stressors that lead to the development of depression more than others (Bhowmik et al., 2012).

Men are especially sensitive to the depressive consequences due to low socioeconomic status or being without a job, divorce and having few effective stress management strategies. Females who have experienced sexual, emotional or physical abuse are more likely to suffer from depression (Bhowmik et al., 2012).

Depression is also linked to several developmental impairments or mental health issues. A person's risk of having depression may be increased if they have attention deficit hyperactivity disorder (ADHD), anxiety, developmental difficulties or drug abuse (Bhowmik et al., 2012).

#### **1.8.2.4 Assessment and Diagnosis of Depression**

Depression ought to be classified as “mild, moderate or severe”, based on the intensity and effect of symptoms as well as the degree of functional disability or impairment that it causes. Assessment of depression must involve comprehensive history and examination, containing a mental status examination; evaluation of interpersonal, functional, and social issues; obtaining a psychiatric history that details prior depression episodes or mood elevation, response to preceding therapy and the presence of co-morbid mental health disorders; suicidal intent should be examined on a frequent basis, along with safety of the client and risk to others; and if the client agrees and it is acceptable to take third-party history from relatives or other caregivers (CAMH, 2016).

#### **1.8.2.4.1 DSM-5-TR Criteria for Depression Disorders**

As for diagnosis, American Psychiatric Association (2022) has approved a diagnostic criteria for depression based on DSM-V, TR as the following:

- A. “Five (or more) of the following symptoms have been presented during the same 2-weeks period and representing a change from previous functioning: at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

Note: Symptoms that are clearly attributable to another medical condition are not included.

1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad, empty and hopeless) or observations made by others (e.g., appears tearful). (Note: Irritable mood can be in children and adolescents.)
2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation).
3. Significant weight loss when not dieting or weight gain (e.g., Change of more than 5% of body weight in a month), or decreasing or increasing in appetite nearly every day. (Note: In children, considering failure to make expected weight gain.)
4. Insomnia or hypersomnia nearly every day.
5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).
6. Fatigue or loss of energy nearly every day.
7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).
9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

- B. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- C. The episode is not attributable to the physiological effects of a substance or to another medical condition.
- D. Occurrence of the major depressive episode is not better explained by schizoaffective disorder, schizophrenia, schizophreniform disorder, delusional disorder or other specified and unspecified schizophrenia spectrum and other psychotic disorders.
- E. There has never been a manic episode or a hypomanic episode. "

### **1.8.2.5 Treatment and Complications of Depression**

Bains & Abdijadid (2023) stated: "Depression disorder can be successfully treated using a variety of therapy approaches involving pharmaceutical, psychological, interventional and changes in lifestyles. Depression is initially treated with psychotherapy or medications. The amalgamation of therapeutic approaches, which includes both psychotherapy and medications, has scientifically revealed more beneficial compared to the use either of these therapies separately. Electroconvulsive therapy has been shown to be considerably better than any other kind of therapy for severe depression. The following are medications approved by the FDA for the medical management of depression: "Antipsychotics, Mood-Stabilizers, Monoamine Oxidase Inhibitors (MAOIs), Tricyclic Antidepressants (TCAs), Typical Antidepressants, Serotonin Modulators, Serotonin-norepinephrine Reuptake Inhibitors (SNRIs) and Selective Serotonin Reuptake Inhibitors (SSRIs)". It should be noted that all antidepressants are similarly effective yet have different side effect features

Shallcross, et al. (2015) discovered a good understanding of depression treatment regarding cognitive therapy (CT), which is one such therapy that lowers depressive symptoms in people with current Major Depressive Disorders and in remission with residual symptoms as well as depression relapse in patients with recurrent major depressive disorder.

### 1.8.3 Anxiety

#### 1.8.3.1 Definition of Anxiety

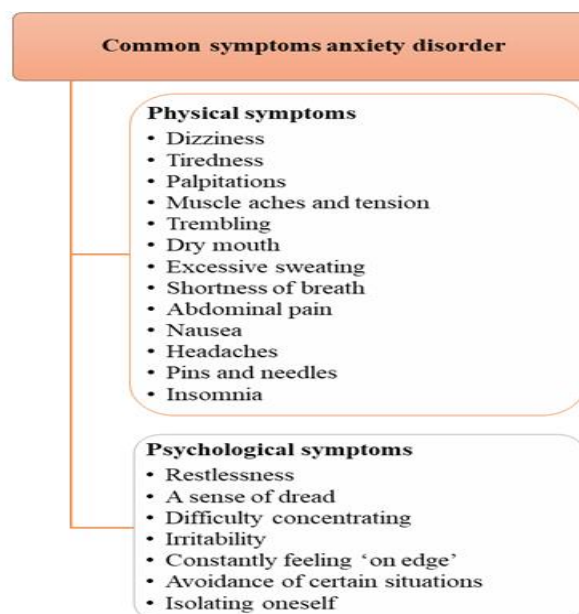
Anxiety is defined as “an emotional state marked by sensations of tension, thoughts of worry, and physical alterations such as elevated blood pressure”. Individuals suffering from anxiety disorders commonly experience repeated intrusive thoughts or concerns. They might avoid specific situations as a result of worry. They possibly will correspondingly experience physical manifestations like a rapid heartbeat, dizziness, trembling or sweating (American Psychological Association, 2022).

#### 1.8.3.2 Signs and Symptoms of Anxiety

A variety of anxiety disorders exhibit similar symptoms, such as personal experience of distress and accompanying troubles with concentration, sleep, social interactions, and/or occupational performance. While numerous health conditions are comparable, they usually differ in terms of presentation, course and therapy. It's common for individuals to express their primary concern as being in poor physical condition (Adwas et al., 2019)

**Figure 2**

*Common symptoms anxiety disorder.*



Source: (Munro & Milne, 2020a)

### **1.8.3.3 Causes of Anxiety**

The possible causes of anxiety are stress, physical disorders such as diabetes or various concurrent disorders such as genetics, depression, history of generalized anxiety disorder among family members, environmental factors containing childhood maltreatment and addiction to drugs (Adwas et al., 2019). Similar to hereditary factors, stressful life events whether they are personal or shared with other family members are etiologically linked to the emergence of anxiety disorders and are expected to have effects that are non-discriminatory across disorders (Hettema et al., 2005).

### **1.8.3.4 Assessment and Diagnosis of Anxiety**

The process of formally diagnosing anxiety disorders relies on the criteria outlined in the “Diagnostic and Statistical Manual of Mental Disorders (DSM-V TR or DSM-5)”. During the assessment of individuals for anxiety disorders, it's essential to evaluate their potential risk of suicide, especially if they concurrently experience depression. When it comes to assessing if a person has an anxiety disorder, the following factors should be considered. In this regard , The Center of Addiction and Mental Health ( 2017) Saied :

- A. " Obtaining a comprehensive history and performing an examination that encompass a mental status examination. Considering organic reasons of anxiety, including endocrine disorders, usage of stimulants, congestive heart failure or asthma.”
- B. Assessing the associated interpersonal, functional and social challenges that the individual is encountering. If the client offers consent and family participation is suitable, getting additional information from family members through a third-party history. Also taking cultural factors into consideration.
- C. Obtaining psychological history, paying attention to previous anxiety episodes, treatment response, and co-occurring mental health disorders.
- D. Evaluating the individual's safety and risk continuously, since suicide intentions might be present, especially if that individual already experiences depression."

As for diagnosis, anxiety disorders are characterized by high levels of anxiety and fear, as well as accompanying issues with behavior, and often displaying a high degree of co-morbidity. Nonetheless, they may be distinguished by an in-depth examination about

the situation types causing fear and the content of the related thoughts (CAMH, Anxiety disorders: Assessment and diagnosis. Centre for Addiction and Mental Health (CAMH), 2017).

#### **1.8.3.4.1 DSM-5-TR Criteria for Anxiety Disorders**

American Psychiatric Association (2022) Saied :

- a. "Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).
- b. The individual finds it difficult to control the worry.
- c. The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms having been present for more days than not for the past 6 months);

Note: Only one item is required in children.

1. Restlessness or feeling keyed up or on edge.
  2. Being easily fatigued.
  3. Difficulty concentrating or mind going blank.
  4. Irritability.
  5. Muscle tension, and
  6. Sleep disturbance (difficulty falling or staying asleep, or restless, unsatisfying sleep).
- D. The anxiety, worry or physical symptoms cause clinically significant distress or impairment in social, occupational or other important areas of functioning.
  - E. The disturbance is not attributable to the physiological effects of a substance (e.g., drug of abuse, medication) or another medical condition (e.g., hyperthyroidism).
  - F. The disturbance is not better explained by another mental disorder (e.g., anxiety or worry about having panic attacks in panic disorder, negative evaluation in social

anxiety disorder [social phobia], contamination or other obsessions in obsessive-compulsive disorder, separation from attachment figures in separation anxiety disorder, reminders of traumatic events in posttraumatic stress disorder, gaining weight in anorexia nervosa, physical complaints in somatic symptom disorder, perceived appearance flaws in body dysmorphic disorder, having a serious illness in illness anxiety disorder or the content of delusional beliefs in schizophrenia or delusional disorder)".

### **1.8.3.5 Treatment and Complications of Anxiety**

Anxiety disorders can be efficiently managed by pharmacotherapy and psychotherapy. Individuals suffering from certain phobias rarely require medication and are commonly managed by psychotherapeutic interventions. The selection of treatment is determined based on the severity and acuity of the anxiety disorder. In a majority of cases, the patients seek therapy after their symptoms have been persistent for several months or even years (Goldbloom & Davine, 2019).

#### **1.8.3.5.1 Acute Treatment**

Benzodiazepines is considered an appropriate short-term choice (e.g., for approximately two weeks) in cases of there is an exacerbation or severe onset of anxiety disorder with considerable impairment of functioning, and in the absence of contraindication (such as a history of significant drug usage disorder). Patients have right to be informed about the risk of habit formation and negative effects that related to the usage of benzodiazepines. In specific cases, a low-dose, short-term antipsychotic medication might be needed, but caution should be taken, as baseline metabolic blood work should be completed and afterward the psychiatrist should monitor metabolic syndrome continuously at regular points in time (Goldbloom & Davine, 2019).

#### **1.8.3.5.2 Non-acute treatment**

In the absence of crisis and with mild to moderate symptoms, the primary steps in managing anxiety disorder are to decrease and discontinue unneeded medications purchased over the counter, caffeine, cigarettes, alcohol and recreational substances. The psychiatrist should give psychological education; advise the client to commit to healthy lifestyle habits including sleep, dietary habits, and physical activity and refer the client to self-help resources and cognitive-behavioral therapy (CBT) if it is readily

accessible. Also, the psychiatrist should evaluate the client's improvement within a timeframe of two to four weeks, or as dictated by clinical necessity (Goldbloom & Davine, 2019)

## **1.9 Literature Review**

### **1.9.1 Search Strategy**

By conducting a comprehensive review of prior research, the researcher analyzed studies that looked at the prevalence of depression and anxiety among hospital HCWs in healthcare centers.

The literature review was conducted by using all readily available sources, including books, theses, published research articles, systematic reviews, journal publications, and online resources. The researcher analyzed and examined the prevalence of depression and anxiety among hospital HCWs, encompassing an exploration of signs and symptoms, causes, and measurements tools.

In order to retrieving relevant academic literature concerning the topic, the researcher utilized medical research sources, specifically CrossRef, Google Scholar, and PubMed, with the subsequent search terms in single or combinations phrases: Depression in Palestine; Anxiety in Palestine; depression and anxiety among HCWs. Additionally, special attention was directed towards the relevant publications on depression and anxiety among HCWs in Palestine that were listed as references in the articles that were chosen to be included in the literature review. Only original literatures produced and released in English language are included. Furthermore, the literature publications were selected for inclusion subsequent to cross-referencing different sources and eliminating duplications and unrelated files.

### **1.9.2 Related Studies**

A cross-sectional study was undertaken by Belete and Anbesaw (2022) using a sample size of 252 HCWs in Ethiopia. The participants were recruited by a random sampling method, and the assessment of depression was carried out using the *Patient Health Questionnaire (PHQ-9)*, with a threshold score of 5 or higher. The findings indicated significant prevalence (27.8%) of symptoms of depression among HCWs. Within the group of individuals who had self-reported experiencing symptoms of depression, the

majority, including 72.2%, indicated the absence of any symptoms of depression; smaller proportion, 20.2%, stated that they had mild symptoms of depression, while 6% indicated moderate symptoms of depression. Lastly, a little ,1.6% of participants, experienced severe symptoms of depression. The results of the multivariable analysis indicate that many factors, including gender (specifically female), marital status (specifically unmarried), having family members with a history of mental disorders and engaging in ongoing drug abuse have been identified as statistically significant predictors of symptoms of depression.

In cross-sectional research done by Ain et al. (2020), it was observed that out of a sample of 314 physicians, the majority were female (62.1%). The average age of the participants was 29 years, with a standard deviation of 2.72. Furthermore, a significant proportion of the physicians in the study were not married (78.3%) and held the position of medical officers (93.6%). The study found that the prevalence of severe or very severe symptoms of anxiety was 27.4%, while the prevalence of depression was 22.9% and stress was 18.5%. In addition, there is a positive correlation between physicians' self-perception of depression, anxiety and/or stress and the subsequent development of corresponding symptoms. Females had a twofold higher likelihood of reporting symptoms of anxiety. Being married was shown to have a protective impact against symptoms of depression, while longer tenure at the same institution was found to have a statistically significant but relatively small protective impact against symptoms of stress and anxiety.

Gong et al. (2014) carried out a cross-sectional examining examine the relationship between working circumstances and symptoms of depression. The sample consisted of 3474 nurses who had accumulated at least 1 year of work experience at public hospitals in China. The findings indicated that around 38% of nurses experienced symptoms of depression. A significant proportion of nurses, above 10%, often faced incidents of workplace violence, while a substantial majority, around 64.22%, experienced such occurrences on an infrequent basis. The presence of depression symptoms has shown to be associated with many factors in the workplace, including high occurrences of workplace violence, extended hours at work (above 45 hours per week), frequently shifts at night (amounting to at least two per week), and certain departments. The results found that it is crucial to implement interventions aimed at reducing workload and

enhancing nurse-patient interactions in order to address symptoms of depression amongst nurses. Furthermore, while addressing both the prevention and treatment of depressive disorders amongst nurses, it is necessary to take into account the variations that exist within different departments.

In research conducted by El-Hamrawya et al. (2018), a cross-sectional design was used to test the prevalence of depressive symptoms amongst HCWs in Menoufia governorate, Egypt. The study also aimed to determine the risk factors associated with symptoms of depression amongst HCWs. The overall number of physicians was 961, while the number of nurses was 685. The presence of symptoms related to depression was found to be significantly elevated among HCWs. Specifically, the prevalence of symptoms related to depression amongst respondents of the primary healthcare center (PHCC) was notably higher (71.4%) compared to that of the tertiary healthcare hospital (THCH) (59%). The prevalence rate of symptoms related to depression among the physicians of the PHCC was found to be 73.8%, which was notably higher compared to the rate seen at the THCH, which stood at 58.8%. Similarly, the prevalence of symptoms related to depression among the nurses working at the PHCC was determined to be 68.6%, which was significantly more than the rate observed at the THCH, which was recorded at 45.4%.

Abraham et al. (2021) performed a systematic review and meta-analysis focused on the Eastern Mediterranean Region (EMR). The primary objectives of their research were to ascertain the prevalence of depressive disorders amongst HCWs and to discover the characteristics that contribute to the risk or protection against depressive disorders in this population. A total of 108 studies from 12 countries in the EMR were found, exhibiting varied degrees of quality. The meta-analysis covered a total of 77 investigations, which yielded 122 prevalence measures in seven countries in the EMR. The outcomes showed that female gender, suboptimal sleep quality, and extended work hours were identified as risk factors for depression among HCWs. The pooled prevalence of depressive disorders amongst HCWs was found to be 33.03%. HCWs working in the emergency department have significantly elevated rates of depressive disorders in comparison to HCWs in other fields of healthcare.

Almarhapi and Khalil (2021) accomplished a cross-sectional investigation with the aim of determining the prevalence of depression among HCWs employed at Northwest Armed Forces Hospital in Saudi Arabia. Additionally, the researchers sought to determine the factors that contribute to the occurrence of depression in this particular population. The study included 255 HCWs (physicians and nurses). The female participants constitute 58.8% of the total sample. The age of the individuals varied from 22 to 50 years old. Approximately 64.3% of the participants being nursing staff while the remaining 35.7% consisted mostly of physicians, and mainly registrars accounting for 22.8%. The average prevalence of depressive disorders reached 43.9%, with 0.8% of individuals experiencing severe depression. In contrast to HCWs with fewer than five years of expertise, individuals with greater work expertise (5-10 and more than 10 years) had a significantly reduced risk of developing depression. The authors concluded that the depressive disorder is a prevalent health issue that significantly impacts HCWs. However, in majority of cases, the depression was mild.

Obi et al. (2015) conducted a cross-sectional descriptive survey with the aim of assessing the prevalence as well as the distribution of depressive disorders amongst HCWs at the tertiary level of healthcare service in Enugu, a region located in the South-east of Nigeria. Out of the 309 HCWs examined, a total of 46 individuals were identified as experiencing symptoms of depression, accounting for 14.9% of the sample. Among the HCWs who were identified as experiencing depression, a higher proportion of females (18.0%) were seen compared to men (8.7%). The depressed individuals had a higher degree of constant sadness in relation to their family relationships, as well as their employment and living situations. The authors concluded that the depression is present among health workers. The occupation of a female medical professional has been shown to potentially correlate with the presence of depressive symptoms.

In Palestine, Obaid and Sarhan (2019) accomplished a cross-sectional study to examine the prevalence of symptoms of depression and evaluate the risk factors related with these symptoms among radiographers employed in hospitals of West Bank. This research reveals a high prevalence of depressed symptoms amongst radiographers. Symptoms of depression were shown to be associated with variables such as “gender, number of children, experience period, level of education, and employment sector”.

Ahmed (2015) performed descriptive cross-sectional research in al Baha, Saudi Arabia with the objective of assessing the levels of anxiety and associated symptoms experienced by nurses in critical care who work at governmental hospitals. A convenience sampling method was used to choose a sample of sixty nurses working in critical care facilities, including operating rooms, emergency rooms, and intensive care units. The findings indicated that the nursing staff exhibited a mild level of anxiety. A statistically significant inverted association was observed between levels of anxiety and the ages of nurses in critical care facilities. The predominant symptoms often associated with anxiety involve an anxious mood, heightened tension, sleep disturbances, fear, and somatic symptoms.

According to a cross-sectional Chinese study, which calls for immediate investigation and action from hospital administrators. The anxiety symptoms were prevalent among Chinese nurses working in public city hospitals. The study's findings also point to the possibility that proper counseling, advocacy for healthy lifestyle choices, and enhancements to the social climate at work could help to lessen or even eliminate the symptoms of anxiety (Gao et al., 2012).

In cross-sectional research undertaken by Yahaya et al. (2018), a sample of 140 emergency room medical officers employed in public hospitals across seven areas in Malaysia was examined. The participants were recruited randomly, and their levels of depression, anxiety, and stress were assessed using the 21-item Depression, Anxiety, Stress Scale. The findings indicated that anxiety had the greatest prevalence rate at 28.6%, then came depression at 10.7% and stress at 7.9%. There was a notable disparity in the prevalence of anxiety symptoms between male and female medical officers, with males reporting a considerably higher level of anxiety. Nevertheless, there was no significant difference seen in the occurrence of stress and depression symptoms amongst male and female medical officers. There was no observed association between stress, anxiety, and depression levels and variables such as age, marital status, ethnic background, employment experience, number of shifts and the kind of system used across various hospitals.

Marzouk et al. (2018) accomplished a cross-sectional survey in order to assess the prevalence of symptoms of depression and anxiety among medical residents in Tunisia, as well as identify the risk factors related with these symptoms. The researchers used the questions from the Hospital Anxiety and Depression (HAD) questionnaire to assess the occurrence of depression and/or anxiety among the study sample. The questionnaire was completed by 1700 participants, representing 77% of the overall sample size of 2200 medical residents. The mean age of the participants was  $28.5 \pm 2$  years, with females comprising 60.8% of the respondents. The majority of the respondents (74.1%) exhibited either definite (43.6%) or probable (30.5%) symptoms of anxiety. Similarly, 62% of the participants displayed definite (30.5%) or probable (31.5%) symptoms of depression, with 20% of the participants experiencing both definite depression and definite anxiety. There was a significant association between the overall HAD score and many factors, including the person's age, female gender, and the substantial workload they experienced. In contrast to other medical professions, those that are often acknowledged to be difficult (such as surgical or medical-surgical specialisations) had a higher score on the HAD scale. The authors concluded that the Tunisian residents has a significantly elevated prevalence of depressive and anxiety disorders compared to the global average.

According to study done in Korea, HCWs had a greater prevalence of mood disorders, anxiety disorders, sleep disorders and all other psychiatric diseases than other Korean workers. The frequent night shifts may be to be blamed for the startlingly high prevalence of sleep problems. The study concluded that the alarmingly high frequency of mental health issues among healthcare personnel necessitates immediate action in order to enhance their wellbeing (Kim et al., 2018).

An important picture of the mental health of HCWs worldwide throughout the pandemic of COVID-19 was revealed in a review and meta-analysis study which showed that the HCWs have a significant prevalence of mental health issues, including depression, anxiety, severe stress, insomnia and PTSD (Marvaldi et al., 2021).

A meta-analysis and systematic review research discovered that despite limited understanding of the trajectory of issues far this time, mental health issues are more prevalent among HCWs dealing with patients affected by the pandemic immediately after COVID. There was a lot of variations between studies, which were probably

caused by methodological variations. Two studies suggest higher rates of clinically substantial PTSS during follow-up, underscoring the notion that HCWs engaged in pandemic scenarios are more likely to suffer from a variety of deleterious mental health consequences, particularly in the initial stage (Allan et al., 2020).

According to a study conducted in 2014–2015, the Ebola pandemic, resulted 11,310 confirmed deaths. examined the psychological symptoms of 161 among Ebola survivors and HCWs. And showed that there the paranoid ideation, phobic anxiety, hostility, anxiety, and obsession-compulsion were considerably elevated among Ebola Virus Disease survivors and HCWs (Ji et al., 2017).

According to a cross-sectional study of nurses in Hong Kong, which showed that there is psychosocial disturbance in nurses, and demonstrated that the age and marital status are socio-demographic risk factors, as are chronic illnesses, sleep issues, and self-perceived mental health. Lifestyle risk factors include physical activity and leisure time, and work-related risk factors include clinical specialization, workplace conflict, and job satisfaction. Significant lifestyle factors have been identified as causes of poor mental health (Cheung & Yip, 2015).

Another cross-sectional study done in Spain in 2015 found that during the first wave of the COVID-19 pandemic, there was a considerable prevalence of likely current mental problems among Spanish HCWs, with 1 in 7 presenting a debilitating mental disease. Prior to the pandemic, HCWs who reported having a history of mental illnesses had a much higher prevalence of adverse mental health (Alonso et al., 2021).

Ali et al. (2022) performed a comprehensive systematic review with the aim of determining the effects of the COVID-19 pandemic on both the physical and mental health of HCWs in Arab nations. A comprehensive compilation of 56 research conducted across 14 Arab nations has provided insights into the physical and mental health of HCWs throughout the COVID-19 epidemic. The sample of HCWs examined in this study included individuals from various professional backgrounds, such as physicians, nurses, administrators, paramedics, and allied health professionals. The primary emphasis of the bulk of the research (n=29) was on the mental health of HCWs, whereas four studies only examined physical issues, and 23 studies addressed both physical and mental health issues. The mental health issues most frequently indicated

included “anxiety, depression, distress, stigmatisation, risk of infection, and PTSD”. In terms of physical health, the most commonly reported issues were “physical abuse, exposure to the virus, exhaustion, burnout, underachievement, sleep deprivation, poor quality of life, and financial difficulties”.

Also, Ahmead et al. (2022) conducted a cross-sectional study with the objective of illustrating the emotions experienced by Palestinian HCWs and identifying the factors contributing to their stress levels. Additionally, the study aimed to identify the strategies employed by HCWs for reducing workplace stress and explore the associations between stress levels, coping mechanisms, and motivating factors among HCWs during the COVID-19 pandemic. A total of 506 healthcare professionals, including physicians and nurses, filled out an online self-reported survey. The results indicated that 24.1% of the respondents exhibited a high degree of stress, whereas 25.7% demonstrated a low-stress level. The primary coping mechanism used by the participant was avoidance, whereas the predominant emotional aspect was the sense of ethical and professional duty to persist in their task. Moreover, a significant contributing factor to their heightened levels of stress pertained to concerns around personal safety and the potential transmission of the COVID-19 virus. The results of the study indicated a significant relationship between stress levels and the age of the participants, with younger individuals exhibiting higher levels of stress. Additionally, the study found that doctors had lower levels of stress compared to nurses. Additionally, a significant association was observed between the absence of training for the management of COVID-19 and heightened levels of stress. In addition, a notable positive correlation was seen between stress scoring and coping mechanisms assessment, although no significant correlation was found with motivation scores. In conclusion, the findings of this research indicate that HCWs in Palestine encountered significant emotional distress throughout the COVID-19 epidemic.

Moreover, Al Shrafi (2012) completed descriptive analytic research with the objective of identifying stress and psychological issues amongst HCWs working in intensive care units (ICUs) in Gaza Strip, Palestine. The investigation's sample included 366 HCWs, with 87 being female and 279 being male. Among the participants, there were 119 physicians, 233 nursing employees and 14 physiotherapists. The research revealed that stress levels among HCWs in ICUs are in a moderate level, with a rate of 67.60%. The

first dimension to be considered is the material dimension, which exhibited the greatest average score of 86.63%. Subsequently, the work environment dimensions with an average score of 73.70%, then came the political dimension with an average score of 67.41%. The physical dimension ranked fourth with an average score of 51.68%, while the psychological dimension concluded the list with an average score of 50.17%. The overall dimensions of the Brief Symptom Inventory (BSI) scale exhibit a relatively low level, as indicated by a percentage of 43.14%. The psychological disorders with the highest prevalence rates among participants were the need to engage in repetitive checking and verification of actions (65.30%), experiencing heightened levels of nervousness (63.39%), believing that each and every day in life is challenging (58.20%), and feeling a lack of recognition from others for personal accomplishments (57.49%). There exists a notable difference in stress levels with regard to occupation, with nurses experiencing a greater degree of stress. There exists a notable difference in the BSI scale across various demographic factors. Specifically, females tend to exhibit higher scores compared to males. Additionally, individuals below the age of 30 tend to have higher scores than other age groups. Furthermore, residents of Khan Younis demonstrate higher scores compared to residents of other governorates. Moreover, individuals with 3-6 years of professional experience tend to have higher scores than those with less or more experience. In terms of department, neonate ICUs show higher scores compared to other departments. Lastly, individuals with 3-4 years of work in the department tend to have higher scores.

Additionally, Alhajjar (2013) accomplished a quantitative survey to clarify the prevalence of work stressors/pressures among nurses in hospitals in Gaza-Palestine and investigate potential causative work stressors/pressures. The findings of this investigation indicated a significant prevalence of psychological distress, depression, and trauma. The work stressors/pressures that were identified as the most severe were: "Not enough staff to adequately cover the unit", "Lack of drugs and equipment required for nursing care" and "Unpredictable staffing and scheduling" respectively. The highest common work stressors/pressures were: "Not enough staff to adequately cover the unit", "Watching a patient suffer" and "Lack of drugs and equipment required for nursing care" respectively. As subscales, "Workload" and "Death and dying" were the highest common and severe work stressors/pressures. Psychological distress was considerably related to "gender, age, experience, night shifts and extra-work".

Depression was considerably related to “gender, type of hospital, age, night shifts, experience and marital status”. Severity of work stressors/pressures was considerably related to “age, night shifts, specialisation and qualifications”. Frequency of work stressors/pressures was considerably related to “type of hospital, experience specialisation and night shifts”. Lastly, trauma was considerably related to “type of hospital, experience, and night shifts”.

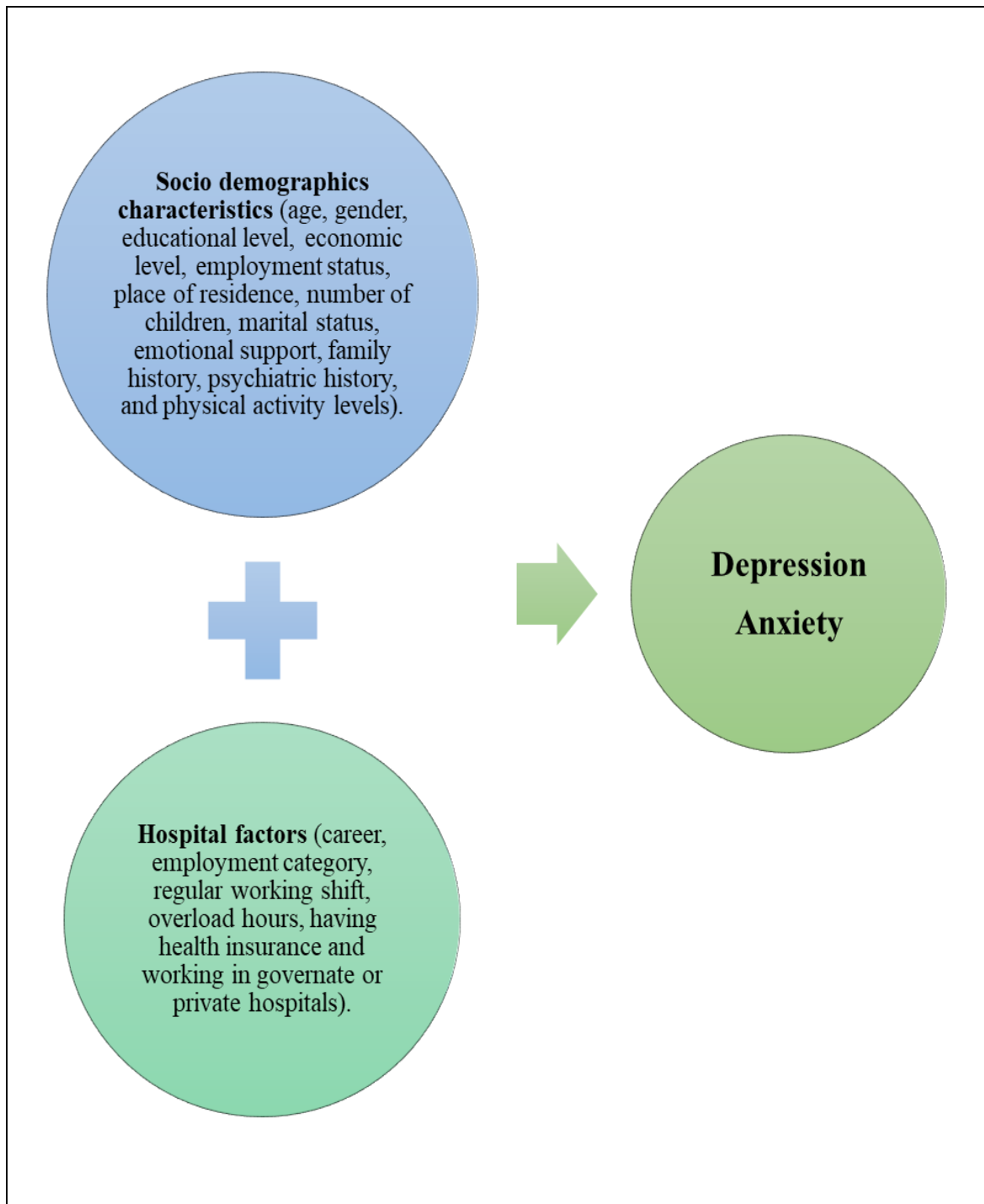
Therefore, and because of all of the above, any subsequent research ought to gain a deeper understanding of the exclusive variables that influence the prevalence of depression and anxiety among HCWs. As a result, direct the authorities to develop strategic plans to address this problem.

### **1.9.3 Conceptual Framework**

The researcher constructed the conceptual framework after conducting a review of the literature on the topic. The conceptual framework is the road map that guides the study's design and accomplishment, as well as it serves as a summary that clarifies the variables that were investigated. Additionally, it is employed to direct the methodological steps and to render the results more meaningful and helpful.

**Figure 3**

*Risk factors for depression and anxiety*



## **Chapter Two**

### **Methodology**

#### **2.1 Introduction**

This chapter delineates the comprehensive method utilized in the research study named: Prevalence of depression and anxiety symptoms among hospital healthcare workers (HCWs) in Nablus city, Palestine. It covers the study's design, population, setting, length of the study, number of samples taken, method of sampling, criteria for inclusion and exclusion the participants, reliability and validity of the research instrument, data collection process, figuring out variables, describing the statistical method and addressing the ethical that were considered in the study. Additionally, this chapter serves as the template for the whole study's scientific integrity.

#### **2.2 Research Design**

This study employed quantitative, descriptive, cross-sectional study design. Quantitative approach has been selected because of the quantitative technique entails collecting, assessing, analyzing and interpreting numerical data; It is often employed to investigate correlations, average data, create forecasts, investigate hypotheses for causality and extrapolate results to greater populations (Bhandari, 2022).

Furthermore, the descriptive design was selected due to the fact that is a specific type of quantitative research and it is seen to be an ideal option when the study goal is to determine attributes, frequencies as well as patterns, and classifications. Additionally, it seeks to characterize a population, circumstance or occurrence correctly and thoroughly. It is beneficial when little information exists regarding an issue or subject (McCombes, 2023).

At the same way, cross-sectional research is characterized by the investigator obtains data from numerous different persons at a single instance. Furthermore, the researcher monitors the study variables without interfering with them. In addition, it was thought to be the greatest option for evaluating the prevalence of a variable at one particular moment in time (Thomas, 2022).

### **2.3 Study Population**

The target population consisted of hospital HCWs including consultants, specialist, physicians, nurses, pharmacists, lab, x-ray technicians and other medical workers with other specialty who were worked during the time of data collecting in Nablus city. Based on the data from hospitals, the population number was approximately 1955 HCWs.

The researcher's primary emphasis is on HCWs since they are more susceptible to encountering mental health issues as a result of their working circumstances. These circumstances usually entail exposure to highly stressful and emotionally charged scenarios while providing care for individuals who are ill; The experience of being confronted with human misery and mortality.

### **2.4 Study Setting**

This research was conducted in Nablus hospitals and medical complexes, which are Al-Watani Hospital, Nablus Specialty Hospital, Arab Specialty Hospital, Rafedia Hospital, An-Najah University Hospital, ST.Luke'sHospital, Nablus Charitable Medical Complex, Al Rahma Medical complex and al Hakim Medical Complex.

Nablus was selected as the research area based on its favorable accessibility and the willingness participation of HCWs. Additionally, collaborative efforts will be established with hospitals in Nablus to streamline the process of conducting study. In addition, the researcher has interpersonal connections, information, and experience pertaining to Nablus, which makes it an appropriate site for the purpose of the study. Eventually, the researcher selected Nablus as a representative site for HCWs in Palestine. The results obtained from the current setting have the potential to be generalized to other regions in Palestine.

### **2.5 Data Collection and Study Period**

The commencement of the research started in September 2022. Pilot study was carried out in September 2022. Data collection began in October 2022 and ended in November 2022. In addition, data entry was completed at the end of December 2022. Furthermore, the process of analyzing the data, literature review, and study preparation kept going till August 2023.

The researcher began gathering data from Nablus hospitals and medical complexes after taking the recommended permission from the the managers of each hospital and obtain approval and sign on the letter of permission to collect the sample in October 2022 and continued until November 2022. The study's objectives, full instructions, and the importance of providing honest responses were then explained to the participants. Then, self-reported questionnaires were given to participants. The researcher also used HDAS to collect data .The data collection was carried out at the most suitable moment and followed all ethical principles.

## **2.6 Pilot Study**

### **2.6.1 Pilot Study Procedure**

Prior to the actual data collection, 10% of the sample size (50 participants) underwent a pilot study. This pre-test aimed to gather feedback on the questionnaire, assess its reliability and validity, estimate response rates and completion time, identify ambiguous areas, and detect any language flaws. Participants were selected to represent a range of age brackets, educational levels, and geographical locations. Each participant received a thorough explanation of the study's objectives before data collection. The response rate was 100%, with participants completing the questionnaire in less than five minutes on average. Feedback indicated that the questions were clear and straightforward.

### **2.6.2 Results of the Pilot Study**

The pilot study confirmed that the questionnaire was well-received, achieving a 100% response rate. Participants found the questionnaire concise and easy to understand. Based on their feedback, minor revisions were made for clarity, including rephrasing certain questions and adding additional response options. The reliability of the questionnaire, assessed using Cronbach's alpha, yielded a score of 0.85, indicating high internal consistency. These results confirmed the questionnaire's suitability for the main study.

## **2.7 Sample Size**

The sample size was calculated to be 322 HCWs by an online sample size calculator (Annex 1) which is usually used to calculate the precise sample size, and accessible on website named “Select Statistical Services: <https://select-statistics.co.uk/calculators/sample-size-calculator-population-proportion/>” (Select Statistical Services Limited, 2022).

The researcher has chosen a sample size of 500 individuals for the present study due to the following justifications: Larger-scale research provide more robust and reliable outcomes due to their reduced margins of error and lower standard deviations (Note that the standard deviation is a statistical metric that quantifies the extent to which data values deviate from the mean. A direct relationship exists between the size of the research sample and the magnitude of the margin of error: as the sample size increases, the margin of error decreases). Researchers are able to effectively manage the potential for presenting inaccurate negative or positive results by using larger sample sizes (The accuracy of findings increases as the number of samples increases). In general, larger sample sizes tend to result in higher levels of statistical power. This implies that investigators have a higher probability of identifying statistically significant associations or variation if they are present within the sample at hand. Increasing the size of the sample may be beneficial in mitigating type II errors, which are characterized by the occurrence of false negatives (Charlesworth Author Services, 2022).

This might have significance in addressing issues such as anxiety and depressive disorders, whereby substantial differences may exist among individuals. Additionally, the researcher believes that increasing the sample size might enhance the study's potential for significant contributions to the field and enhance the generalize ability of the results. By increasing the sample size, the findings are more probable to accurately represent the larger population of HCWs in Nablus city, Palestine.

## **2.8 Sampling Technique**

In this research, a convenience sampling approach was employed to select participants. The selection process involved approaching HCWs in various hospitals and medical complexes in Nablus who were readily available and willing to participate. The researcher first identified potential participants by visiting departments and units within

the hospitals and explaining the study's purpose and significance. Interested HCWs who met the inclusion criteria were then invited to participate. The inclusion and exclusion criteria were applied to select participants. This approach ensured that a diverse range of HCWs, including consultants, specialists, physicians, nurses, pharmacists, lab technicians, and other medical workers, were included in the study. This method was chosen for its practicality and efficiency in obtaining a sample that reflects the target population's characteristics.

Healthcare workers have been defined as those who work to protect, promote, or enhance the general public's health. This is in line with the World Health Organization's definition of health systems, which includes all initiatives whose main objective is to promote health. Strictly speaking, this means that volunteers and other unpaid caregivers who assist in improving health as well as family members of the ill should also be counted as members of the health workforce. However, these individuals are not taken into account here or in the global database, partly due to a lack of information and partly because it is challenging to draw boundaries around what defines a health system (Dal Poz et al., 2007).

## **2.9 Inclusion & Exclusion Criteria**

### **2.9.1 Inclusion Criteria**

- Healthcare workers who have been employed within any of the aforementioned medical services.
- Healthcare workers who agreed to participate in the study by providing their informed permission.
- Healthcare workers who express interest in participating in this research.
- Healthcare workers residing within the designated study region.
- Healthcare workers who were present throughout the research period.

### **2.9.2 Exclusion Criteria**

- Healthcare workers with a documented history of severe mental health issues, such as psychotic disorders, as well as those with intellectual impairments that hinder their capacity to independently fill out questionnaires.
- Healthcare workers who did not work in Hospitals or medical complexes.
- Healthcare workers that are not residents of the study area.
- Healthcare workers that refuse or express a lack of interest in participating.
- Healthcare workers who were undergoing treatment for mental health issues.

### **2.10 Study Tools**

A self-administered questionnaire was used (Annex 2) as primary data collection instrument in order to effectively achieve the research goals. It was created with the help of the research supervisor and mental health professionals after reviewing, reading and modifying numerous questions and surveys from various relevant literature and previous research.

The tool had multiple sections involving inquiries on age, gender, qualification level, economic level, employment status, place of residence, number of children, marital status, profession, emotional support, family history, psychiatric history (i.e., affective and anxiety disorders), physical activity levels, professional and employment category, regular working shift, overload hours, having health insurance or not, working in government or private hospitals and the Hospital Anxiety Depression Scale (HADS) by (Snaith & Zigmond, 1983).

HADS scale, which is the most suitable scale for the study's objectives, was used to evaluate depression and anxiety. It includes 14 items (seven related to anxiety symptoms, and seven related to depressive symptoms). Each question receives a four-point Likert response. For each dimension (anxiety/depression), cut-off scores for "potential instances" or "likely cases" are established. Scores are derived by summing the responses to the questions posed to assess the domains of anxiety and depression. Scores under 11 were considered favorable for the investigation's anxiety and depression dimensions (Botega et al., 1995).

Based on the information from Stern (2014), HADS questionnaire was freely accessible.

HADS scale was chosen due to its brevity and extensive utilization as a tool for assessing psychological distress. Furthermore, it is noteworthy that HADS is accessible in several languages, including but not limited to French, German, Dutch, Italian, Spanish, Chinese, and Arabic. Research has shown that HADS scale yields psychometrically relevant outcomes when used as a psychological screening instrument. HADS scale is frequently employed by researchers from many countries as a prominent tool for evaluating levels of depression and anxiety (Montazeri et al., 2003).

HADS scale serves as a valuable tool for the initial diagnosis of psychological symptoms and for monitoring the development or remission of such symptoms over time. It is approved and recommended by the National Institute for Health and Care Excellence (NICE) as a diagnostic instrument for anxiety and depression (Stern, 2014).

According to New Zealand Council for Educational Research (2015), HADS scale is a validated and reliable self-assessment tool used to evaluate levels of depression and anxiety within a healthcare facility as well as community settings.

Regards the language of the questionnaire, at first the questions about “age group, gender, qualification level, economic level, employment status, place of residence, number of children, marital status, profession, emotional support, family history, psychiatric history (i.e., affective and anxiety disorders), physical activity levels, professional and employment category, regular working shift, overload hours, having health insurance or not and working in government or private hospitals” were written in English, then translated to Arabic by an English language expert. Regarding HADS scale, it was first developed in English for use in the United Kingdom. However, subsequent efforts have been made to translate the scale into several languages, such as Arabic, Chinese, German, Hungarian, Italian, Malayalam, Nigerian, Persian, Portuguese, Punjabi, Sinhalese, Slovenian, Swedish, Urdu ... etc. (Snaith & Zigmond, 1983). the Arabic version of HADS which is freely available in the study was used in (Terkawi et al., 2017).

In conclusion, HADS scale is considered to be a robust and dependable instrument, as it has shown validity and reliability.

## **2.11 Validity and Reliability of HADS**

To ascertain the scientific accuracy and structural adequacy of the questionnaire employed for analyzing factors, variables, and relationships, a group of mental health experts and academics, possessing relevant qualifications and expertise, were engaged to evaluate the study instrument. The panel was responsible for assessing the suitability of the questionnaire, offering judgements and recommendations. They reviewed if the questions were relevant to the research, suitable in nature, clear in their wording, and thorough in scope. Additionally, they examined the questionnaire to ensure that it followed a logical sequence.

As for the validity and reliability of the Arabic version of HADS; Initially, the validity and reliability of HADS scale was tested among a group of individuals in Kingdom of Saudi Arabia by El-Rufaie and Absood (1987), and Malasi et al. (1991). Then, the Arabic version of HADS scale was also re-tested in United Arab Emirates (U.A.E.) by El-Rufaie and Absood (1995). Recently, Terkawi et al. (2017) evaluated the validity and reliability of HADS scale in Kingdom of Saudi Arabia and demonstrated that the Arabic version of HADS scale is valid and reliable. In conclusion, the studies indicated that the Arabic version of the HADS scale demonstrates validity and reliability in identifying states of depression and anxiety.

The feedback included modification of the wording of some questions, adding some options to answer some questions, deleting some options for some questions and adding new questions, such as question about smoking and a question about medication. Their feedback was considered and incorporated to improve the study tool.

Furthermore, prior to commencing data collecting, a pilot study was performed to assess the intelligibility of the questions and the entire procedure of presenting the questionnaire. This pilot study aimed to identify any possible challenges or ambiguities faced by respondents when providing their answers. The 500 participants claimed that the questionnaire was unambiguous and that all of the questions were straightforward.

Because it has already been evaluated for its validity and reliability in prior studies, HADS scale is thought to be a reliable depression and anxiety screening tool in hospitals and medical facilities. In the majority of earlier studies, factor analyses revealed a two-factor solution that was well in line with HADS subscales for depression

(HADS-D) and anxiety (HADS-A), respectively. The two subscales had correlations ranging from .40 to .74 (mean .56). For HADS-A, Cronbach's alpha ranged from .68 to .93 (mean .83), and for HADS-D, it ranged from .67 to .90 (mean .82) (Bjelland et al., 2002).

Cronbach Alpha formula was employed to determine HADS's reliability. Table 1 presents the calculated scores of Chronbach Alpha for each respective domain of the questionnaires administered to the participants. The table presents the reliability of domains, with a Cronbach Alpha value of 0.851 for the whole questionnaire in the pilot sample. This result shows that the entire questionnaire exhibits high reliability.

**Table 1**

*Reliability of the research for each domain of HADS*

| No.   | Domain     | No. of item | Cronbach's Alpha |
|-------|------------|-------------|------------------|
| 1.    | Anxiety    | 7           | 0.709            |
| 2.    | Depression | 7           | 0.795            |
| Total |            | 14          | 0.751            |

## **2.12 Variables**

### **2.12.1 Dependent variable**

Depression and anxiety among healthcare workers.

### **2.12.2 Independent variables**

Gender, Age, Educational level, Economic level, Employment status, Place of residence, number of children, marital Status, profession, emotional Support, family history, psychiatric history (i.e., affective and anxiety disorders), physical activity levels, professional and employment category, regular working shift, weekly working hours, overload hours and medical service worked during the pandemic.

The variables investigated were chosen after careful assessment of the study goals, available research, and probable factors that may influence the emergence of symptoms of depression and anxiety in HCWs.

The chosen factors have significance due to their perceived ability to influence the emergence of symptoms related to anxiety and depression. Each of these variables has the potential to have an impact on a person's mental health via diverse mechanisms and conducting an in-depth examination of these variables enables researchers to enhance their comprehension of the elements that contribute to the observed results. Through the examination of these variables, investigators are able to discern possible risk factors, preventive measures and possible treatments aimed at promoting the mental health of HCWs in Nablus city, Palestine.

### **2.13 Statistical Analysis**

The researcher reviewed each questionnaire for completeness and consistency. Data was processed, coded, entered the computer, processed by using the Statistical Package for the Social Sciences (SPSS V25.0). Frequency tables illustrating baseline characteristics by number (n) and percentage (%) in categorical data such as age group, qualification level, marital status, Polygamous husband, place of residence, family type, number of family members, family income and work, health history, birth characteristics, a complications during pregnancy and stressful life events during this pregnancy. After testing for normality according to the criteria for normality in numerical data, normally distributed quantitative data was described by mean  $\pm$  standard deviation (SD) as depression levels. Furthermore-test and One Way ANOVA is performed to compare means when needed for data analysis (e.g., comparing mean levels of depression and anxiety between socio-demographic and health history data).

### **2.14 Ethical Consideration**

The researcher was entirely devoted to all ethical standards. The research followed the ethical principles for human medical research as stipulated in the World Medical Association's Declaration of Helsinki. Also, the researcher has received An-Najah National University's IRB permission (Annex 3). Additionally, a letter of authorization (approval from the research ethics committee) was obtained from the Palestinian Ministry of Health to permit the researcher to gather data (Annex 4). Moreover, prior to filling out the questionnaire, each participant provided written informed consent to the researcher (Annex 5). The study was voluntary, and all information and data collected were kept private and weren't used by anyone else. Every participant had the option to

pause or end the study at any time. Names of those involved were not disclosed. Subjects were given information regarding the research's aims and an importance.

### **2.15 Summary**

This study employed a quantitative, descriptive, cross-sectional study design; The target population will consist of hospital HCWs in Nablus hospitals and medical complexes; The study was beginning in September 2022 and continued until August 2023; a total of 500 participants filled the questionnaire; a method of convenience sampling was adopted; the study instrument utilized a self-administered questionnaire that encompassed multiple parts, including questions related to variables such as: “age, gender, qualification level, economic level, employment status, place of residence, number of children, marital status, profession, emotional support, family history, psychiatric history (i.e., affective and anxiety disorders), physical activity levels, professional and employment category, regular working shift, overload hours, having health insurance or not, working in government or private hospitals and the HADS”. The researcher evaluated the validity of the study tool; a pilot study was completed before data collection began; the reliability of HADS was determined by computing the Cronbach’s alpha which shows that the whole questionnaire is reliable; the data collection was taking place between October 2022 to November 2022 at appropriate period, with follows all ethical issues. Data analyzed using SPSS V25.0.

## Chapter Three

### Results

#### 3.1 Introduction

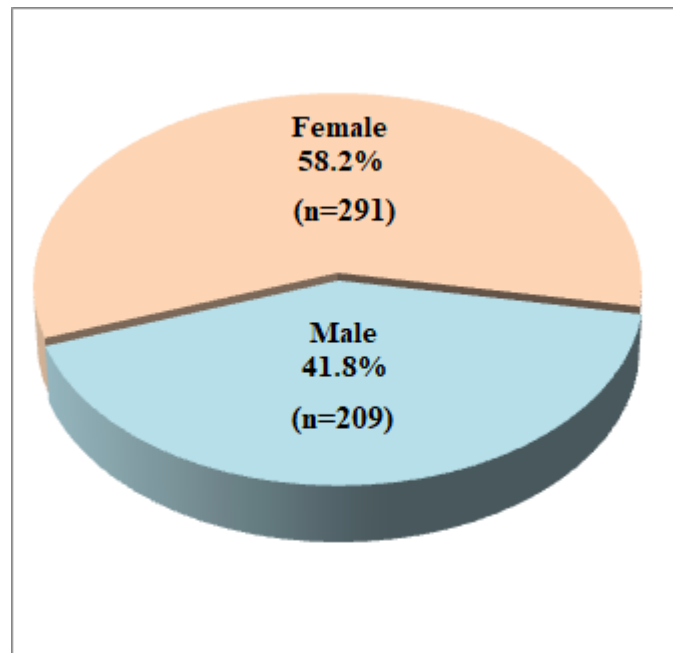
Chapter three discusses the outcomes of the statistical analysis conducted on the data, which includes descriptive analysis that introduces the study and provides solutions to the study's research questions. The total sample number was 500 subjects to assess the prevalence of depression and anxiety symptoms among hospital healthcare workers. A cross-sectional study design was utilized, and appropriate statistical calculations, such as mean and standard deviation, were employed for numerical data. The independent t-test (Student's t-test) was utilized to assess whether there was a statistically significant difference between two means, ANOVA is used to compare means of multiple groups. Logistic regression predicts binary outcomes based on input variables. Chi-square ( $\chi^2$ ) was used to show a statistical test used to determine if there is a significant association between two categorical variables. The P-value was considered significant at  $P \leq 0.05$  and not significant at  $P > 0.05$ . The socio-demographic characteristics studied included age, gender, level of education, profession, marital status, place of residency, family income per month, number of children, level of experience, regular working shifts, determine regular shift time, working overload hours, and working in private or governmental hospital.

#### 3.2 Sample Aistribution According to Socio-Demographic Data

Distribution of the study participants due to the variable of gender was obtained and the results are in Figure 1: Figure (1) Pointed out that more than half of the participants was female (58.2%) ; 41.8% were male.

**Figure 4**

*Distribution of the study participants according to their gender*

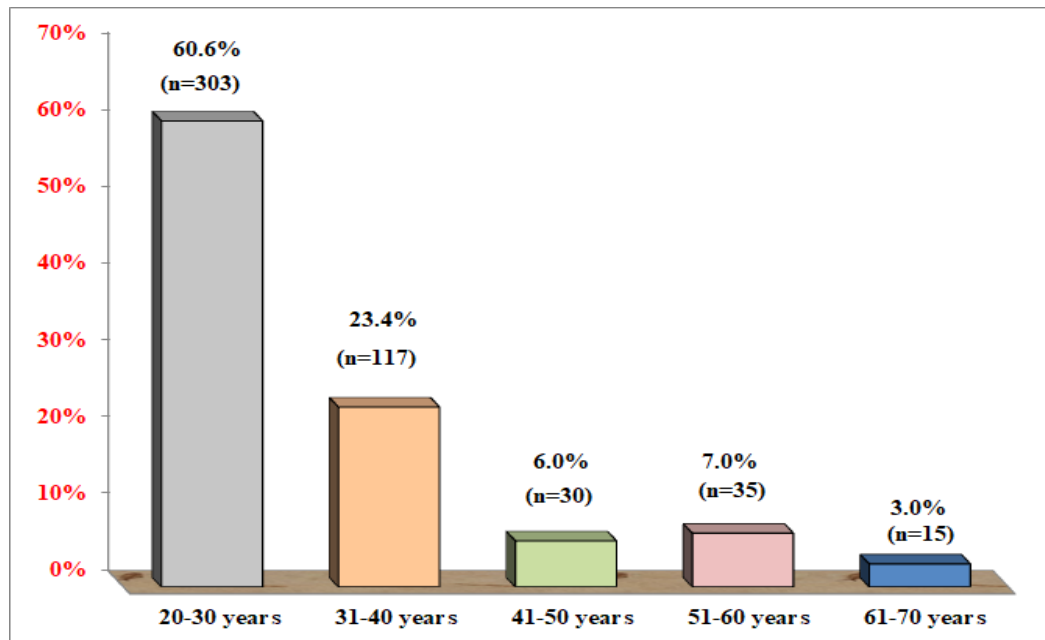


### **3.3 Distribution of the study participants according to the age groups?**

Distribution of the study participants according to the age groups was obtained . Results shown in figure 2which illustrated that the highest age groups of the participants were aged between 20 to 30 years (60.6%), followed by 23.4% of them being aged from 31 to 40 years, while 7.0% of them aged from 51 to 60 years and 6.0% of them being aged from 41 to 50 years. The results showed that the lowest age groups of the study were aged between 61 to 70 years (3.0%). The average age among participants was  $31.5 \pm 10.5$  years.

**Figure 5**

*Distribution of the study participants according to their age groups*

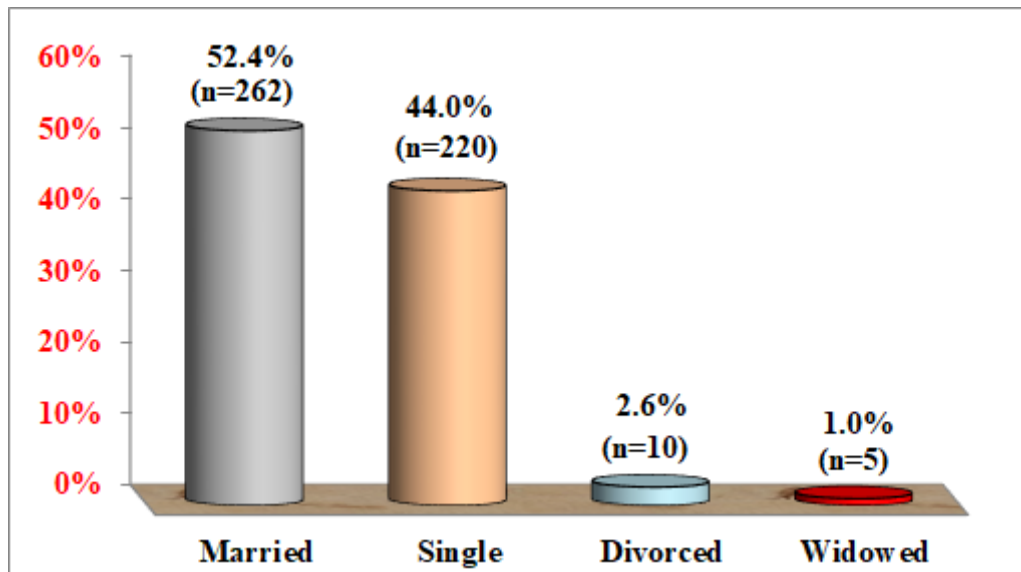


### **3.4 Distribution of the study participants according to the marital status**

Figure (3) The distributions of the study participants according to marital status showed that the highest group of the study participants was married (52.4%), followed by 44.0% of them single, while 2.6% of them were divorced. On the other hand, the results showed that 1.0% of participants were widowed.

**Figure 6**

*Distribution of the study participants according to their marital status*



### **3.5 Distribution of the study participants according to their socio-demographic information**

Table (1) pointed out that the majority of the study participants have a bachelor's degree (63.8%) followed by 17.8% with a diploma and 9.4% of them finished a master's degree, while 8.4% of them were specialists and consultants. On the other hand, the results showed that 0.5% of participants were finished Ph.D. degrees. The results detected professions were 39.0%, 23.8%, 10.6%, 9.6%, 8.2%, 5.6%, and 3.2% of nursing, medicine, laboratory medicine, pharmacy, another health specialty, radiology, and doctor of pharmacy, respectively. The table pointed out that the majority of the study participants have a place of residency in the city (59.6%) while 33.6% of them were in the village and 6.8% in the camp.

Also, the table illustrated that the majority of the participants have a monthly income of more than 4000 NIS (36.1%) while 35.1% of them are between 3000 to 4000 and 28.8% have a family income per month of less than 3000 NIS. The results detected that 54.4% of the participants have no children and 13.6% had one child, 12.4% had two children, 9.4% had three children 7.2% had four children, and 3% have more than 4 children.

The table illustrated that the majority of the participants have more than 3 years of experience (56.4%) followed by 12.2% of them had years of experience from 1 and 2 years, while 10.2% of them 3 years of practice; On the other hand, the results showed that 9.0% of participants haven't experienced. The results showed that 49.8% had regular working shifts.

Finally, The distribution of the study participants due to regularity shift time showed that the highest percentage of participants was A shift representing 68.4% and 31.6% of participants were B shift. The results showed that 36.0% had working overload hours. Finally, the results showed that the highest percentage of participants worked in private hospital representing 75.0%, and 25.0% of participants worked in governmental hospital.

**Table 2***Distribution of the study participants due to socio-demographic information*

| Socio-demographic                           |                          | N   | %     |
|---|--------------------------|-----|-------|
| Level of education                          | Diploma                  | 89  | 17.8% |
|   | Bachelors                | 319 | 63.8% |
|   | Master                   | 47  | 9.4%  |
|   | Ph.D.                    | 3   | 0.6%  |
|   | Specialist (for doctors) | 25  | 5.0%  |
|   | Consultant (for doctors) | 17  | 3.4%  |
| Profession                                  | Medicine                 | 119 | 23.8% |
|   | Nursing                  | 195 | 39.0% |
|   | Doctor of Pharmacy       | 16  | 3.2%  |
|   | Laboratory Medicine      | 53  | 10.6% |
|   | Radiology                | 28  | 5.6%  |
|   | Pharmacy                 | 48  | 9.6%  |
|   | Other Health Specialty   | 41  | 8.2%  |
| Place of residency                          | City                     | 298 | 59.6% |
|   | Village                  | 168 | 33.6% |
|   | Camp                     | 34  | 6.8%  |
| The family income per month                 | Less than 3000           | 141 | 28.8% |
|   | Between 3000-4000        | 172 | 35.1% |
|   | More than 4000           | 177 | 36.1% |
| Number of children                          | 1                        | 68  | 13.6% |
|   | 2                        | 62  | 12.4% |
|   | 3                        | 47  | 9.4%  |
|   | 4                        | 36  | 7.2%  |
|   | More than 4              | 15  | 3.0%  |
|   | No children              | 272 | 54.4% |
| Level of experience                         | One Year                 | 61  | 12.2% |
|   | Two Years                | 61  | 12.2% |
|   | Three Years              | 51  | 10.2% |
|   | More than three Years    | 282 | 56.4% |
|   | No Experience            | 45  | 9.0%  |
| Regular working shifts                      | Yes                      | 249 | 49.8% |
|   | No                       | 251 | 50.2% |
| Determine regular shift time                | A Shift                  | 171 | 68.4  |
|   | B shift                  | 79  | 31.6  |
|   | Mixed shifts             | 0   | 0.0%  |
| Working overload hours                      | Yes                      | 180 | 36.0% |
|   | No                       | 320 | 64.0% |
| Working in a private or government hospital | Private hospital         | 375 | 75.0  |
|   | Governmental hospital    | 125 | 25.0  |

### **3.6 Distribution of the study participants due to the health history information**

Table (2) showed that 70.4% had health insurance and the majority of the participants were employed (92.6%) while 7.4% of them were volunteers. The results showed that 9.8% had suffered from chronic diseases and the highest percentage of participant suffering from hypertension(25.5%), followed by diabetes melletus (DM) (19.1%), Hypothyroidism (14.9%), Gastroesophageal Reflux Disease (GERD), Irritable Bowel Syndrome (IBS) (12.8%), Polycystic Ovary (8.5%), Asthma (6.4%), Irregular Heartbeat (4.3%), Deep Vein Thrombosis (DVT) (4.30%), Rheumatoid Arthritis (2.1%), and hypercholesterolemia (2.10%). The results showed that 9.4% had taken chronic drugs and the highest chronic drugs taking among participant was antihypertensive drugs (25.5%), followed by antidiabetic drugs and insulin (19.1%), levothyroxine (14.9%), antacids and proton pump inhibitors (PPIs) (12.8%), spironolactone (8.5%), corticosteroid Inhalers (6.4%), anticoagulant drugs (4.3%), heart rate control therapy (4.3%), antihyperlipidemic drugs (2.1%) and salazopyrin EN (2.1%). The table showed that 28.0% was a smoker and the majority of the study participants have daily smoking consumption more than one packet (39.9%) while 33.3% were consumption one packet and 26.8% consumption less than packet.

The results illustrated that 2.6% had a family history of any mental disorders and the majority of the study participants had family mental disorders in depression (69.2%) while 15.4% had schizophrenia. On the other hand, the results showed that the lowest groups of the study participants had bipolar mania and PTSD, OCD (7.7%).

The results showed that 4.8% living with anyone at high risk of infection. The distribution of the study participants according to those at high risk of infection showed that the highest percentage of participants was elderly family members which represent 88.5% and 11.5% of children with diabetes. Regarding exercise regularly, the table pointed out that the highest groups of participants don't practice exercise (52.8%), while 19.6% practice exercise once a week, 11.6% practice exercise twice a week, and 8.2% practice exercise three times weekly. On the other hand, the results showed that the lowest group of exercise regularly is every day (7.8%).

### 3.7 Distribution of the study participants according to their emotional support information

The distribution of the study participants due to their emotional support information is shown in Table (3) The results showed that 81.0% of participants their family support them psychologically during work, while 66.0% have anyone support them during work. The table showed that one-third of the study participants stated that they were supported by friends (40.4%) while 33.3% of them were supported by husbands and 26.3% by others.

**Table 3**

*Distribution of the study participants due to emotional support information*

| Emotional support                               | Class   | N   | %     |
|---|---------|-----|-------|
| Family supports you psychologically during work | Yes     | 405 | 81.0% |
|   | No      | 95  | 19.0% |
| Do you have anyone who supports you during work | Yes     | 330 | 66.0% |
|   | No      | 170 | 34.0% |
| If yes who supports you                         | Husband | 113 | 33.3% |
|   | Friends | 137 | 40.4% |
|   | Others  | 89  | 26.3% |

### 3.8 What is the prevalence of depression and anxiety symptoms?

Table (4) summarized the distribution of the study participants according to their responses to depression. The table shows that the weighted mean for the overall perceptions about depression was 32.66%. According to the results, the highest item was number (1) which is : “I feel as if I am slowed down” with a weighted mean equal to 40.00%, followed by item number (4) “I can enjoy a good book or TV or radio” with a weighted mean equal to 36.66%. While the lowest item is (2) “I have lost interest in my appearance” with a weighted mean equal to 23.00%, followed by item number (3) “I look forward with enjoyment to things” with a weighted mean equal to 27.66%.

**Table 4***Scores of items measuring depression*

| No.   | Items  | Mean | SD   | % Mean | Rank |
|-------|--|------|------|--------|------|
| 1     | I feel as if I am slowed down                | 1.20 | 0.79 | 40.00  | 1    |
| 2     | I have lost interest in my appearance        | 0.69 | 0.88 | 23.00  | 7    |
| 3     | I look forward with enjoyment to things      | 0.83 | 0.89 | 27.66  | 6    |
| 4     | I can enjoy a good book or TV or radio       | 1.10 | 1.03 | 36.66  | 2    |
| 5     | I still enjoy the things I used to enjoy     | 1.02 | 0.81 | 34.00  | 4    |
| 6     | I can laugh and see the funny side of things | 0.93 | 0.78 | 31.00  | 5    |
| 7     | I feel cheerful                              | 1.10 | 0.85 | 36.66  | 2    |
| Total | degree (Depression)                          | 0.98 | 0.52 | 32.66  |      |

### 3.9 What is the distribution of the study participants due to their responses about depression

Table (5) illustrated the distribution of the study participants according to their responses to depression. This table showed that 61.2% of the participants had a normal level of depression while 24.6% had a borderline level of depression and 14.2% had an abnormal level of depression. Finally, the average (SD) of attitude levels was 6.78 (3.62) out of 21 points.

**Table 5***Distribution of the study participants due to the level of depression*

| Variable and level     | N   | %    | Mean <sup>£</sup> | (SD) | Min  | Max   |
|------------------------|-----|------|-------------------|------|------|-------|
| Depression             |     |      | 6.78              | 3.62 | 0.00 | 21.00 |
| Normal Case (0-7)      | 306 | 61.2 |                   |      |      |       |
| Borderline Case (8-10) | 123 | 24.6 |                   |      |      |       |
| Abnormal Case (11-21)  | 71  | 14.2 |                   |      |      |       |

N: number of subjects; SD: standard deviation; Min: minimum; Max: maximum; <sup>£</sup>Maximum score of mean

### 3.10 What is the prevalence of anxiety symptoms among participants

Table (6) summarized the distribution of the study participants according to their responses about anxiety. The table shows that the weighted mean for the overall perceptions about anxiety was 36.00%. According to the results, the highest item was number (6) "Worrying thoughts go through my mind" with a weighted mean equal to 42.33%, followed by the item number (4) "I feel tense or wound up" with a weighted mean equal to 40.66%. While the lowest item (3) "I get a sudden feeling of panic" with

a weighted mean equal to 27.66%, followed by item number (1) “I get a sort of frightened feeling” with a weighted mean equal to 29.66%.

**Table 6**

*Scores of items measuring Anxiety*

| No.                     | Items   | Mean | SD   | %<br>Mean | Rank |
|-------------------------|---|------|------|-----------|------|
| 1                       | I get a sort of frightened feeling                        | 0.89 | 0.75 | 29.66     | 6    |
| 2                       | I feel restless as I have to be on the move               | 1.00 | 0.89 | 33.33     | 5    |
| 3                       | I get a sudden feeling of panic                           | 0.83 | 0.84 | 27.66     | 7    |
| 4                       | I feel tense or wound up                                  | 1.22 | 0.97 | 40.66     | 2    |
| 5                       | I have a frightened feeling that awful things will happen | 1.15 | 0.97 | 38.33     | 4    |
| 6                       | Worrying thoughts go through my mind                      | 1.27 | 0.96 | 42.33     | 1    |
| 7                       | I can sit at ease and feel relaxed                        | 1.19 | 0.95 | 39.66     | 3    |
| Total degree (Anxiety ) |   | 1.08 | 0.61 | 36.00     |      |

### **3.11 What is the distribution of the study participants according to their responses to anxiety**

Table (7) illustrated the distribution of the study participants according to their responses to anxiety. This table showed that 51.8% of the participants had a normal level of anxiety while 22.6% of them had a borderline level of anxiety and 25.6% of them had an abnormal level of anxiety. Finally, the average (SD) of attitude levels was 7.61 (4.12) out of 21 points.

**Table 7**

*Distribution of the study participants according to their level of anxiety*

| Variable and level     | n   | %    | Mean <sup>£</sup> | (SD) | Min  | Max   |
|------------------------|-----|------|-------------------|------|------|-------|
| Anxiety                |     |      | 7.61              | 4.12 | 0.00 | 21.00 |
| Normal Case (0-7)      | 259 | 51.8 |                   |      |      |       |
| Borderline Case (8-10) | 113 | 22.6 |                   |      |      |       |
| Abnormal Case (11-21)  | 128 | 25.6 |                   |      |      |       |

**n:** number of subjects; **SD:** standard deviation; **Min:** minimum; **Max:** maximum; <sup>£</sup>Maximum score of mean

### **3.12 What is Mean Difference Between Depression and Anxiety and Another Factor?**

Table (8) showed the mean difference in the studied domain of depression among socio-demographic data. The independent t-test and one-way ANOVA test demonstrated that there are a statistically significant differences in the average depression regarding age, level of education, profession, marital status, number of children and regular working shifts ( $P < 0.05$ ). While the results showed that, there are no statistically significant differences in the average of depression regarding other socio-demographic data ( $p > 0.05$ ).

### **3.13 What is mean difference of depression related to health history data**

Table (9) showed the mean difference in depression levels among health history data. The independent t-test and one-way ANOVA test demonstrated that there are statistically significant differences in the average depression levels regarding smoking a smoker ( $P < 0.05$ ). While the results showed that, there are no statistically significant differences in the average depression levels compared with others health history data ( $P > 0.05$ ).

### **3.14 What is Mean Difference of Depression Related to Emotional Support Data.**

Table (10) showed the mean difference in the depression levels related to emotional support data. The independent t-test and one-way ANOVA test demonstrated that there are statistical significance differences in the average of depression levels regarding family supports psychologically during work and supports of others during work ( $P < 0.05$ ). The results showed that, there are no statistically significant differences in the average depression levels of anyone who support participants ( $p > 0.05$ ).

**Table 8***Mean difference of depression related to emotional support data*

| Depression   |         | N   | Mean | SD   | T      | F     | P-value |
|--|---------|-----|------|------|--------|-------|---------|
| Your family supports you psychologically during work | Yes     | 405 | 6.5  | 3.4  | -4.008 | --    | 0.000*  |
|  | No      | 95  | 8.1  | 4.1  |        |       |         |
| Do you have anyone who supports you during work      | Yes     | 330 | 6.2  | 3.3  | -5.084 | --    | 0.000*  |
|  | No      | 170 | 7.9  | 3.9  |        |       |         |
| If yes, who support you?                             | Husband | 113 | 6.48 | 3.30 |        | 0.514 | 0.599   |
|  | Friends | 137 | 6.27 | 3.38 |        |       |         |
|  | Others  | 89  | 5.99 | 3.58 |        |       |         |

\* The mean difference is significant at the ( $\alpha=0.5$ ) level

### **3.15 What is mean difference of anxiety related to socio-demographic data**

Table (11) showed the mean difference in the anxiety levels among socio-demographic data. The independent t-test and one-way ANOVA test demonstrated that there are statistically significant differences in the average anxiety regarding age, level of education, profession, marital status, number of children, and regular working shifts ( $P<0.05$ ). While the results showed that, there are no statistically significant differences in the average anxiety compared with other socio-demographic data ( $P>0.05$ ).

### **3.16 What is the mean difference of anxiety related to health history data**

Table (12) showed the mean difference in the studied domain anxiety among health history data. The independent t-test and one-way ANOVA test demonstrated that there are a statistically significant differences in the average anxiety regarding a smoker or a family history of any mental disorders ( $P<0.05$ ). While the results showed that, there are no statistically significant differences in the average anxiety levels compared with others health history data ( $P>0.05$ ).

### **3.17 What is the Mean difference of anxiety related to emotional support data**

Table (13) showed the mean difference in the studied domain anxiety among emotional support data. The independent t-test and one-way ANOVA test demonstrated that there are a statistically significant differences in the average anxiety regarding family supporting you psychologically during work and supporting them during work ( $P<0.05$ ). The results showed that, there are no statistically significant differences in the average anxiety levels of anyone who support participants ( $p>0.05$ ).

**Table 9***Mean difference of anxiety related to emotional support data*

| Anxiety  |         | N   | Mean | SD   | T      | F     | P-value |
|--|---------|-----|------|------|--------|-------|---------|
| Your family supports you psychologically during work | Yes     | 405 | 7.3  | 3.8  | -3.913 | ----  | 0.000*  |
|  | No      | 95  | 9.1  | 4.9  |        |       |         |
| Do you have anyone who supports you during work      | Yes     | 330 | 7.1  | 3.9  | -3.499 | ----  | 0.001*  |
|  | No      | 170 | 8.5  | 4.4  |        |       |         |
| If yes who supports you                              | Husband | 113 | 7.35 | 3.84 | —      | 2.141 | 0.119   |
|  | Friends | 137 | 7.49 | 4.00 |        |       |         |
|  | Others  | 89  | 6.45 | 3.68 |        |       |         |

\* The mean difference is significant at the ( $\alpha=0.5$ ) level

### **3.18 What Is the Comparison Between Socio-demographic Data Regarding the Total Score of Depression?**

A comparison between socio-demographic data regarding the total score of depression is illustrated in Table (14). The results showed that there are statistically significant relations between regular working shifts and total score of depression ( $P<0.05$ ). In contrast, the results indicated that there are no statistically significant relationship between other socio-demographic data and the total score of depression ( $P>0.05$ ).

### **3.19 What Is the Comparison Between Health History Information Regarding the Total Score of Depression?**

A comparison between health history information regarding the total score of depression shown in Table (15). The results showed that there are statistically significant relations between total score of depression and both smoking and a family history of any mental disorders ( $P<0.05$ ). In the contrary, the results showed that there is no statistically significant relationship between others' health history information and the total score of depression ( $P>0.05$ ).

### 3.20 What is Comparison between emotional support information regarding the total score of depression

A comparison between emotional support information regarding the total score of depression is displayed in Table (16) The results showed that there are statistically significant relations between the total score of depression and family supporting them psychologically during work and anyone who supports them during work ( $P < 0.05$ ). In contrast, the results showed that no statistically significant relationship between others' emotional support information and the total score of depression ( $P > 0.05$ ).

**Table 10**

*Comparison between emotional support information regarding a total score of depression*

| Emotional support information                        | support | Total score of depression |                                |                              | Statistical analysis |         |
|--|---------|---------------------------|--------------------------------|------------------------------|----------------------|---------|
|  |         | Normal Case (0-7) (n=302) | Borderline Case (8-10) (n=123) | Abnormal Case (11-21) (n=71) | $\chi^2$             | P-value |
| Your family supports you psychologically during work | Yes     | 259 (84.6)                | 101 (82.1)                     | 45 (63.4)                    | 17.057               | 0.000*  |
|  | No      | 47 (15.4)                 | 22 (17.9)                      | 26 (36.6)                    |                      |         |
| Do you have anyone who supports you during work      | Yes     | 224 (73.2)                | 73 (59.3)                      | 33 (46.5)                    | 21.556               | 0.000*  |
|  | No      | 82 (26.8)                 | 50 (40.7)                      | 38 (53.5)                    |                      |         |
| If yes who supports you                              | Husband | 70 (30.8)                 | 32 (42.1)                      | 11 (30.6)                    | 6.602                | 0.158   |
|  | Friends | 94 (41.4)                 | 24 (31.6)                      | 19 (52.8)                    |                      |         |
|  | Others  | 63 (27.8)                 | 20 (26.3)                      | 6 (16.7)                     |                      |         |

\* The mean difference is significant at the ( $\alpha=0.5$ ) level

### 3.21 What is the comparison between socio-demographic data regarding the total score of anxiety

A comparison between socio-demographic data regarding the total score of anxiety is displayed in Table (17). The results showed that there are statistically significant relations between total score of anxiety regarding all this criteria (the profession, place of residency, and the number of children) ( $P < 0.05$ ). In contrast, the results showed that there is no statistically significant relationship between other socio-demographic data and the total score of anxiety ( $P > 0.05$ ).

### **3.22 What is the comparison between health history information regarding the total score of anxiety**

A comparison between health history information regarding the total score of anxiety is displayed in Table (18). The results showed that there are statistically significant relations between the total score of anxiety and both determine which disorders and if live with anyone who is at high risk of infection ( $P < 0.05$ ). In contrast, the results showed that there is no statistically significant relationship between others' health history information and the total score of anxiety ( $P > 0.05$ ).

### **3.23 What is the comparison between emotional support information regarding the total score of anxiety**

A comparison between emotional support information regarding the total score of anxiety is displayed in Table (19). The results showed that there are statistically significant relations between the total score of anxiety and family supporting them psychologically during work and anyone who supports them during work ( $P < 0.05$ ). In contrast, the results showed that there is no statistically significant relationship between others' emotional support information and the total score of anxiety ( $P > 0.05$ ).

### **3.24 What is the Correlation between knowledge, attitudes, and self-practices among the study participants**

Table (20) showed that there is positive correlation between depression and anxiety. ( $P < 0.05$ ).

### **3.25 What is the risk factors of depression**

Table (21) presents the risk factors of depression, analyzing various variables and their association with abnormal depression scores. The statistical analysis includes  $p$ -values and odds ratios (OR) with 95% confidence intervals (CI). The study examined a sample of individuals and assessed their demographic characteristics, such as age, gender, level of education, profession, marital status, place of residency, number of children, smoking habits, family support, and support during work. The results revealed significant associations between certain variables and abnormal depression scores. Specifically, age groups 31-40 years ( $p = 0.028$ ) and 41-50 years ( $p = 0.167$ ) showed a higher risk of abnormal depression scores compared to the reference group (20-30 years). Individuals

with a diploma ( $p = 0.024$ ) were also at a higher risk compared to those with a bachelor's degree. Divorced ( $p = 0.189$ ) and widowed ( $p = 0.078$ ) individuals exhibited a higher risk of abnormal depression scores compared to married individuals. Smoking ( $p = 0.010$ ) was associated with an increased risk, with an odds ratio of 1.68 (95% CI = 1.13-2.5). Lack of family support ( $p = 0.010$ ) and support during work ( $p = 0.000$ ) were both linked to higher risks of abnormal depression scores. These findings contribute to the understanding of risk factors for depression and emphasize the importance of targeted interventions and support systems for individuals at higher risk of depression.

### **3.26 What are the risk factors of anxiety?**

Table (22) indicates significant associations between certain variables and abnormal anxiety scores. In terms of age, individuals aged 31-40 years ( $p = 0.011$ ) and 41-50 years ( $p = 0.133$ ) exhibited a higher risk of abnormal anxiety scores compared to the reference group (20-30 years), with odds ratios of 5.55 (95% CI = 1.49-20.73) and 3.06 (95% CI = 0.71-13.13), respectively. Regarding education level, individuals with a diploma ( $p = 0.003$ ) showed a higher risk compared to those with a bachelor's degree, with an odds ratio of 7.55 (95% CI = 2.02-28.21). Similarly, individuals with a master's degree ( $p = 0.024$ ) had an increased risk compared to those with a bachelor's degree, with an odds ratio of 4.87 (95% CI = 1.24-19.2). In terms of profession, the Laboratory Medicine group ( $p = 0.040$ ) exhibited a lower risk of abnormal anxiety scores compared to the reference group (Medicine), with an odds ratio of 0.41 (95% CI = 0.18-0.96). Other variables such as the number of children, regular working shifts, and family support during work were also associated with abnormal anxiety scores. The findings provide valuable insights into the risk factors of anxiety, emphasizing the importance of addressing these factors to prevent and manage anxiety symptoms effectively.

The study looked into a variety of topics related to feelings of anxiety and depression among hospital healthcare personnel. It shows that 58.2% of participants were female and that the largest age group (60.6%) was between 20 and 30 years old. The majority was married (52.4%), had a bachelor's degree (63.8%), worked primarily as nurses (31.0%), lived in cities (59.6%), and earned more than 4000 NIS as a family (36.1%). Among the common chronic illnesses were diabetes (19.1%) and hypertension (25.5%). There was a high prevalence of emotional support at work, with 81.0% reporting psychological assistance from family. Anxiety and depression had weighted mean

prevalence rates of 32.66% and 36.00%, respectively. Age, education, occupation, marital status, number of children, and regular work shifts were among the sociodemographic characteristics that revealed statistically significant variations in the levels of anxiety and depression ( $p < 0.05$ ). In particular, individuals who worked regular shifts showed differences in their anxiety and depression scores between shift types. Nonetheless, no noteworthy correlations were discovered between the levels of anxiety and depression and other sociodemographic characteristics, including gender, place of residence, family income, and employment in either a public or private hospital ( $P > 0.05$ ). Furthermore, a number of risk variables were shown to be connected to abnormal scores for anxiety and depression, including smoking behaviors, older age groups, poorer educational attainment, divorced or widowed marital status, and a lack of support from family or the workplace. The aforementioned results underscore the necessity of focused treatments aimed at addressing mental health concerns among healthcare professionals and reducing their detrimental impact on overall health.

## Chapter Four

### Discussion

#### 4.1 Introduction

Increasing number of people are concerned about hospital staff members who exhibit signs of depression and anxiety. Their work might have a big negative impact on their mental health because it is hard and stressful. Number of studies have been carried out to determine how common these symptoms are among healthcare professionals. The incidence rates for depression and anxiety among hospital employees have consistently been higher than those for the general population despite the fact that they can vary based on the nation, healthcare system, and particular conditions. According to certain research, prevalence rates can reach as high as 40% in some specializations or high-stress settings. Long work hours, heavy patient loads, exposure to traumatic situations, a lack of resources or support and the stigma associated with seeking treatment are factors that contribute to these symptoms (Liu et al., 2020).

Results show that the weighted mean for the overall perceptions about depression was 32.66%. The current results agree with Ching et al., (2021) which studied psychological distress among healthcare providers in Asia in Systematic review and meta-analysis and the researchers showed that prevalence of depression was 37.5%. On the other hand, Al-Ateeq et al., (2020) have studied mental health among healthcare providers and showed more than half of them had depressive disorder (55.2%), which ranged from mild (24.9%), moderate (14.5%) and moderately severe (10%) to severe (5.8%). Half of the sample had generalized anxiety disorder (51.4%), which ranged from mild (25.1%) and moderate (11%) to severe (15.3%). The current study subjects based on how they responded to depression has shown 61.2% of the participants had normal levels of depression, 24.6% had borderline levels and 14.2% had abnormal levels and the results conduct with Zheng et al., (2023) which studied prevalence and association with anxiety and depression in Macao and the researchers showed that prevalence of depression among health care providers was 63.1%. According to a recent meta-analysis of 77 separate researches, about 28.0% of medical students globally reported having depression. Furthermore, a number of studies have expressed worry about the alarmingly high rates of anxiety and hopelessness among medical students.

For instance, a study at Bahrain's Royal College of Surgeons found that 51% of participants had anxiety and 40% of patients showed signs of depression. In a similar vein, research at Pakistan's Foundation University Medical College revealed that 51% of its medical students experienced anxiety and hopelessness. Additionally, independent research has found that medical students exhibit prevalence rates of anxiety and depression above 35% (Shawahna et al., 2020). These results demonstrated the urgent need to address issues with mental health among medical students. High levels of depression, stressful work environments, the emotional toll of patient care, difficulties juggling work and personal obligations, the weight of important decisions, a lack of resources and support, traumatic incidents, vicarious trauma, stigma, high expectations, isolation and pre-existing mental health illnesses are some of the problems that might arise. These elements

#### **4.2 Prevalence of Anxiety Symptoms Among Participants**

Results showed that the weighted mean for the overall perceptions about anxiety was 36.00%. Liu et al., (2020) was studied the prevalence and influencing factors in anxiety in medical workers and the results showed that The prevalence of anxiety was 12.5%, with 53 employees reported mild (10.35%), seven reported moderate (1.36%), and four reported severe anxiety(0.78%). The continual exposure to stressful and high-pressure situations, long working hours, lack of support, fear of making mistakes, dealing with life-or-death situations and being able to observe patients' suffering can all contribute to high anxiety among hospital team members. Anxiety levels may also rise as a result of the demanding and fast-paced nature of the healthcare industry.

The distribution of the study subjects based on how they responded to anxiety has shown that 51.8% of the individuals had normal levels of anxiety, compared to 22.6% who had borderline levels and 25.6% who had extreme levels. Finally, out of a possible 21 points, the attitude level average (SD) was 7.61 (4.12). The current results agree with Colin et al., (2023) and Weaver et., (2018) which showed that the study participants' varied levels of anxiety, with a sizeable portion reporting normal anxiety levels but a sizeable portion also fell into the borderline and extreme anxiety groups. The evaluation of attitudes offers further information into how participants feel or perceive the research or topic under investigation. These findings may have consequences for intervention or

support techniques in pertinent circumstances and provide important information for understanding anxiety and attitudes in the study population.

#### **4.3 Mean Difference of Depression Related to Socio-demographic Data**

The results showed the mean difference in the studied domain depression among socio-demographic data. The results demonstrated that there was a association in the average depression regarding age, level of education, profession, marital status, number of children, and regular working shifts ( $P < 0.05$ ). While the results showed that, there were no statistically signifi association between depression regarding gender, place of residency the family income per month, level of experience, determine regular shift time, working overload hours and working in a private or government hospital. Yahaya et al., (2018) showed there were no discernible differences in depression between the seven hospitals ( $P > 0.05$ ). While depression symptoms were not substantially different between male and female medical officers ( $P > 0.05$ ), men medical officers significantly had greater depression symptoms than female medical officers ( $P = 0.0022$ ). Age, job history, ethnicity, marital status, number of shifts, and the type of system used in various hospitals were not related to depression ( $P > 0.05$ ). Tang et al., (2023) have studied depression among medical staff in Shanghai and the study found that lack of personal success ratings reduced but scores for depersonalization were significantly higher than norms. depression were influenced by variables such working hours, work unit, work environment and age.

#### **4.4 Mean Difference of Depression Related to Health History Data**

The current study pointed out that there were statistically significant differences in the average depression levels regarding smoking a smoker ( $P < 0.05$ ). While the results showed that, there were no statistically significant differences in the average depression levels compared with others health history data as health insurance, current status, suffering from any chronic diseases, taking chronic drugs, determining which drugs, determining daily consumption, having family history of any mental disorders, determining which disorders, living with anyone who is at high risk of infection and exercising regularly. The current results contracted with another study by Fond et al, (2022) which concluded that among health risk behaviors, increased risk of depression was associated with heavy smoking.

Generally speaking, our study's conclusions are accompanied by a systematic review whereby Almost half of the studies found a correlation between baseline anxiety or depression and some form of smoking behavior later on, be it increased heaviness when smoking, the shift from daily to dependent smoking, or the initiation of smoking itself. These results provide credence to the self-medication theory, which holds that smoking helps people cope with psychological difficulties. (Fluharty et al., 2017).

Another study discovered a strong correlation between smoking and the intensity of depression symptoms. Recessive major depressive disorder has been linked to a decreased likelihood of successfully quitting smoking. One of the causes is that smokers with a history of major depressive disorder relapse more frequently and experience more withdrawal symptoms, such as a depressed mood, when they attempt to stop. There aren't many published studies examining the effectiveness of antidepressants in helping people quit smoking. (Aubin et al., 1996)

#### **4.5 Mean Difference of Depression Related to Emotional Support Data.**

The results revealed association between the average depression levels for family psychological support at work and other people' support at work. The findings demonstrated that there was no association between the average depression levels of participants who provided assistance. The study by Tomlin et al., (2020) aimed to explore the relationship between average depression levels, family psychological support at work and other people's support at work. However, the findings revealed no significant association between the average depression levels of participants who provided assistance, suggesting that providing support at work did not directly impact their own levels of depression.

#### **4.6 Mean Difference of Anxiety Related to Socio-demographic Data**

The results showed that there was an association in the average anxiety regarding age, level of education, profession, marital status, number of children and regular working shifts .On the other hand , the results showed that, there was no association in the average anxiety compared with other socio-demographic data. In order to investigate any relationships between general anxiety levels and numerous socio-demographic characteristics, such as age, educational attainment, occupation, marital status, number

of children and regular shift work, the findings showed no connection between these socio-demographic factors and the average levels of anxiety.

Gupta et al., (2021) have studied survey of prevalence of anxiety symptoms among 1124 healthcare workers in India. The results showed that the age group (20-35 years) (50.4% vs. 61.2%), female gender (30.6% vs. 45.5%), single status (21.2% vs. 30.6%), and nursing profession (14.7% vs. 26.4%) were the risk variables for anxiety. Having more than 20 years of service was a protective factor (23.4% versus 14.8%).

#### **4.7 Mean Difference of Anxiety Related to Health History Data**

The results of current study illustrated that there was an association between anxiety and both smoker or a family history of any mental disorders. While the results showed that there was no association between the anxiety levels compared with others health history data ( $P>0.05$ ). In cross-sectional study conducted by Repon et al., (2021) in order to assess the effect of COVID-19 pandemic on mental health among Bangladeshi healthcare professionals. The authors showed that working conditions, financial situation, level of education, place of residence, marital status, gender differences, professional category, body mass index and smoking habit were substantially linked to the development of mental health issues in HCPs. Furthermore, it has been observed a strong relationships between the various mental health outcomes. During the COVID-19 pandemic, a sizable percentage of HCPs in Bangladesh reported having mental health problems. The COVID-19 epidemic had a significant negative influence on the mental health of Bangladeshi medical workers.

#### **4.8 Mean Difference of Anxiety Related to Emotional Support Data**

The results showed that there was an association between the anxiety and family supporting psychologically during work and supporting during work. The results showed that, there were no statistically significant differences in the average anxiety levels of anyone who support participants. The current results agree with Pallavicini et al., (2021) which showed that not getting emotional support from family, society and hospital were associated with a high likelihood of depression, anxiety, stress and inadequate sleeping and the results agree with lack of perceived emotional support from family, society and hospital related to depression, anxiety, stress and inadequate

sleeping. However, depression, anxiety, stress and inadequate sleeping did not differ between professions or departments.

Our research is supported by another study that discovered emotional reactivity was only positively correlated with surgical anxiety when there was a low perceived amount of support from friends and significant others—not when there was a moderate or high level of support. We came to the conclusion that, because social support is protective and improves surgical outcome, anxiety reduction intervention programs for surgical patients should take this into account. (Aliche et al., 2020).

According to Shao et al. (2020), medical students who felt that medical school interfered less with their social and personal lives were psychologically more stable. They also found that a lack of social support was linked to fewer positive emotions and experiences as well as a lower level of psychological well-being. Chinese medical students find great support from their families. Our research revealed a negative correlation between psychiatric symptoms (anxiety, sadness) and family function. Medical students' physical and mental health may be enhanced by the emotional comforts of the family.

#### **4.9 Comparison Between Socio-demographic Data Regarding the Total Score of Depression**

The results showed that there are associated relations between regular working shifts and total score of depression. In contrast, the results showed that there is no associated significant relationship between depression and gender, level of education, profession, marital status, place of residency, the family income per month, number of children, level of experience, regular working shifts, working overload hours and working in a private or government hospital ( $P>0.05$ ). According to Yahaya et al. (2018), there were no appreciable differences in the prevalence of depression among the seven institutions ( $P>0.05$ ). Male and female medical officers did not significantly differ in their levels of depression symptoms ( $P>0.05$ ). Although men significantly outperformed women in terms of depression symptoms ( $P=0.0022$ ), depression was unrelated to age, employment history, race, marital status, number of shifts and system type employed at various hospitals ( $P>0.05$ ). In a study by Tang et al. (2023) about depression in Shanghai's medical personnel, it was discovered that while depersonalization scores

were much higher than an average, assessments of personal achievement were reduced. factors like working hours, work unit, work atmosphere and age affected depression.

#### **4.10 Comparison Between Health History Information Regarding the Total Score of Depression**

Comparison between health history information regarding the total score of depression is displayed in Table (15). The results showed that there are associated relations between total score of depression and both smoking and a family history of any mental disorders ( $P<0.05$ ). In contrast, the findings indicated that there were no associated differences between the average levels of depression and other health history information, such as health insurance, current state, having a family history of any mental problems, knowing which disorders, using any chronic medications, knowing which drugs, knowing your daily consumption, living with someone who is at high risk for infection and engaging in regular exercises. The present findings from Sahin et al., (2020) study in contrast with another study demonstrated smoking is substantially linked to higher degrees of depression when health history.

#### **4.11 Correlation Between Depression and Anxiety Among the Study Participants**

The results showed that there is a positive correlation between depression and anxiety. In cross-sectional study by Motahedi, et al., (2021) conducted to elevated anxiety and depression among healthcare workers, the research showed that significant direct association between anxiety and depression.

#### **4.12 Risk Factors of Depression**

Analysis of variables and their relationships to aberrant depression scores to identify risk factors for depression showed significant associated between few factors and aberrant depression scores. The risk was higher for those in the age groups of 31 to 40 and 41 to 50, as well as for those with a degree, those who had been divorced or bereaved and smokers. Risk was also heightened by a lack of family and workplace support. These results underline the need for tailored interventions and assistance programmes for people who are more vulnerable to depression. Koinis et al., (2015) have studied the impact of healthcare workers job environment on their mental-emotional health, coping strategies and the case of a local general hospital and the results finding that depression risk factors requires an analysis of variables and their

connections to aberrant depression scores. Significant relation between a few variables and abnormal depression scores have been found. The risk was higher for those who were older, had experienced divorce or a loss, and were smokers. Lack of support from friends and coworkers also increased risk. The need for tailored interventions and assistance programmes for those who are more susceptible to depression is highlighted by these results.

Chen et al., (2021) have studied the risk factors for depression and anxiety in healthcare workers deployed in China. The results showed that independent risk variables for anxiety included an increased workload, respiratory and digestive issues, , needing to care for family members, having a poor coping mechanism and job burnout. Additionally, the increased workload, respiratory and digestive issues and job burnout were the independent risk factors for depression.

#### **4.13 Risk Factors of Anxiety**

The results showed significant associations between certain variables and abnormal anxiety scores. People with a diploma or a master's degree showed higher risk, as did those who were 31 to 40 and 41 to 50 years old. In contrast to the medicine group and the laboratory medicine group displayed a decreased risk. Having children, working regular shifts and having family support while working were also associated with elevated anxiety levels. These results highlight how important it is to address these risk factors in order to successfully avoid and treat anxiety symptoms. Yassin et al., (2022) have studied the prevalence estimates and risk factors of anxiety among healthcare workers in Jordan. The authors used logistic regression analyses which showed that the female gender has risk factor for developing anxiety at the pandemic onset, while poor satisfaction with institutional preparedness was a significant anxiety risk factor in the one-year group. Low monthly income and lack of special education were the shared risk factors for anxiety in both groups. This study reveals a significant rise in anxiety among HCWs over a year of the COVID-19 pandemic and shows the vulnerable sub-groups who likely need psychological interventions.

#### **4.14 Conclusion**

In conclusion, the study highlights a significant prevalence of psychological challenges among hospital healthcare workers in Nablus city, with substantial variations in depression and anxiety levels. While a majority reported normal levels of depression and anxiety, a notable proportion experienced borderline or abnormal levels, highlighting the need for targeted mental health support. Key factors such as age, education level, smoking, and family support were significantly associated with higher risks of abnormal depression and anxiety scores. The positive correlation between depression and anxiety further emphasizes the interconnected nature of these mental health issues. These findings suggest that interventions aimed at improving family support and addressing specific risk factors could be beneficial in enhancing the mental well-being of healthcare workers. Further research and policy development are essential to address these concerns and provide effective support for this critical workforce.

#### **4.15 Recommendation**

- The Ministry of Health should consider establishing supporting guidelines that encourage family and friends' involvement to stand in a promotion work environment.
- Supporting workshops should be conducted to promote understanding and mental health knowledge to recognition of depression and anxiety levels among workers in the Ministry of Health.
- Increasing teamwork in mental health and counseling departments should be established to assess mental health screenings for healthcare workers to prevent those at risk of depression and anxiety.
- Supporting workshops interested in coping strategies and stress management programs among healthcare workers with high levels of depression or anxiety should be carried out.
- Supporting specialized programs for healthcare workers aged 31-40 years to lower stress and elevated the education of mental health education and emotional well-being should be done .

- Hopeful healthcare workers in the Ministry of Health seek support and engage in self-care practices regarding depression and anxiety levels.
- Creating mechanisms for workplace and family support to identify their confidence impact on lowering anxiety and depression among healthcare workers in MOH
- Developing opportunities for professional growth and development to enable employees in the MOH to contribute to their psychological well-being.
- Conducting stress management workshops that meet the distinctive challenges experienced by workers in the Ministry of Health, to enhance resilience and mental health.
- Encouraging collaboration between disciplines such as medicine and mental health to address the everyday problems that cause depression and anxiety.
- Future researchs should be conducted in order to assess the anxiety and depression among health workers in other cities and other ministries.

#### **4.16 Strength and Limitation**

The study presents several strengths, including its quantitative methodology, robust sample size of 500 healthcare workers, and utilization of the validated Hospital Anxiety Depression Scale (HADS) for standardized assessment. Ethical considerations were meticulously observed, ensuring participant rights and privacy. The comprehensive analysis of various socio-demographic, health-related, and occupational factors provided valuable insights into mental health outcomes among hospital healthcare workers. However, limitations exist, such as the convenience sampling method introducing selection bias and the cross-sectional design precluding the assessment of causality. Reliance on self-reported data may introduce response and social desirability biases, and the study's focus on a specific population in Nablus city limits generalizability. Despite controlling for confounding variables, there may still be factors influencing depression and anxiety symptoms among healthcare workers not accounted for in the study.

## List of Abbreviations

| Abbreviation | Meaning   |
|--------------|---|
| HCWs         | Healthcare Workers                                    |
| MOH          | Ministry Of Health                                    |
| WHO          | World Health Organization                             |
| PTSD         | Post-traumatic Stress Disorder                        |
| NGOs         | Non-governmental Organization                         |
| UN           | United Nation   |
| APA          | American Psychiatric Association                      |
| ADHD         | Attention Deficit Hyperactivity Disorder              |
| DSM          | Diagnostic and Statistical Manual of Mental Disorders |
| FDA          | Food Drug Administration                              |
| MOAs         | Monoamine Oxidase Inhibitor                           |
| TCAs         | Tricyclic Antidepressant                              |
| SNRIs        | Selective-Norepinephrine Reuptake Inhibitors          |
| SSRIs        | Selective-Serotonin Reuptake Inhibitors               |
| CBT          | Cognitive-Behavioral Therapy                          |
| COVID-19     | Coronavirus Disease                                   |
| PHQ-9        | Patient Health Questionnaire                          |
| PHCC         | Primary Health Care Center                            |
| THCH         | Tertiary Healthcare Center                            |
| EMR          | Eastern Mediterranean Region                          |
| HAD          | Hospital Anxiety and Depression                       |
| ICU          | Intensive Care Unit                                   |
| BSI          | Brief Symptom Inventory                               |
| PTSS         | Post-Traumatic Stress Syndrome                        |
| IRB          | Institutional Review Board                            |
| HADS         | Hospital Anxiety Depression Scale                     |
| NICE         | National Institute for Health and Care Excellence     |
| HADS A       | Hospital Anxiety Depression Scale – Anxiety           |
| HADS D       | Hospital Anxiety Depression Scale – Depression        |
| SPSS         | Statistical Package for Social Sciences               |

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|      |                                 |
|------|---------------------------------|
| SD   | Standard Deviation              |
| IBS  | Irritable Bowel Syndrome        |
| DVT  | Deep Vein Thrombosis            |
| OCD  | Obsessive Compulsive Disorder   |
| GERD | Gastroesophageal Reflux Disease |
| PPIs | Proton Pump Inhibitor           |
| DM   | Diabetes Mellitus               |
| N    | Number of Subjects              |
| Max  | Maximum                         |
| Min  | Minimum                         |
| OR   | Odds Ratio                      |
| CI   | Confidence Intervals            |
| HCPs | Healthcare Professionals        |

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## Appendices

### Appendix A

#### Sample size calculator

|  |                                   |   |
|--|-----------------------------------|---|
| What margin of error do you need?<br>5% is a common choice                                       | <input type="text" value="5"/> %  |    |
| What confidence level do you need?<br>Typical choices are 90%, 95%, or 99%                       | <input type="text" value="95"/> % |    |
| How big is the population?<br>If you don't know, use 100,000                                     | <input type="text" value="1955"/> |    |
| What do you believe the likely sample proportion to be?<br>If you're not sure, leave this as 50% | <input type="text" value="50"/> % |   |
| <b>Your recommended sample size is</b>   | <b>322</b>                        |  |

Source: (Select Statistical Services Limited, 2022).

**Appendix B**

**Study Tool**



**An-Najah National University  
Faculty of Graduate Studies  
Master of Clinical Psychology**

**Questionnaire**

**Prevalence of Depression and Anxiety Symptoms  
Among Hospital Healthcare Workers in Nablus  
City – Palestine.**

**Prepared by:**

**Zeina Samer Barah**

**Supervised by:**

**Dr. Mohammed Marie**

# جامعة النجاح الوطنية

## كلية الدراسات العليا



استبيان حول مدى انتشار الاكتئاب و القلق لدى العاملين في مجال الرعاية الصحية في مستشفيات مدينة نابلس - فلسطين

عزيزي المشارك،

أشرك على استجابتك وتعاونك معي أنا طالبة ماجستير في جامعة النجاح الوطنية زينه سامر بعاره، أقوم بعمل دراسة علمية تهدف لمعرفة مدى انتشار الاكتئاب و القلق بين العاملين في مجال الرعاية الصحية تحت اشراف دكتور محمد مرعي. وقد تم اختيارك عشوائيا لتكون جزءا من عينة الدراسة لك الحرية الكاملة في المشاركة أو الانسحاب منها دون أن تبرر ذلك. يرجى الإجابة عن الأسئلة المرفقة ومراعاة الدقة علما بأنه لا توجد اجابه صحيحة أو خاطئة وانما هي لأغراض البحث العلمي وسيتم الحفاظ على السرية وخصوصية المشاركين بأقصى درجة.

تعبئة هذه الاستمارة تعني قبول المشاركة في هذا البحث

شاكرين لكم مشاركتكم

الباحثة: زينة سامر بعاره

للاستفسار التواصل على

[Zaina1995.zb@gmail.com](mailto:Zaina1995.zb@gmail.com)

الرقم التسلسلي -----

**Socio-demographic data.**

- ❖ **Age:** -----
- ❖ **Gender**
  - Male
  - Female
- ❖ **Qualification Level:**
  - Diploma.
  - Bachelors.
  - Master
  - PhD
  - Specialty for doctors
  - Consultant for doctors
- ❖ **Profession:**
  - Medicine
  - Nursing
  - Doctor of Pharmacy
  - Laboratory medicine
  - X-Ray Technicians
  - Pharmacy
  - Others
- ❖ **Marital status:**
  - Married.
  - Divorce.
  - Widow.
  - Single.
- ❖ **Place of residency:**
  - City.
  - Village.
  - Camp.
- ❖ **Family Income Per month :**
  - Less than 3000 shekels.
  - From 3000 to 4000 shekels.
  - More than 4000 shekels.
  - Determine the exact salary -----

❖ **Number of children:**

- One
- Two
- Three
- four
- More than 4
- zero

❖ **Level of Experience in industry ?**

- 1 Year
- 2 Years
- 3 Years
- More than 3 years

Determine the exact years of experience -----

❖ **Do you have regular working shift ?**

- Yes
- No

If yes determine the regular shift -----

❖ **Are you working overload Hours ?**

- Yes
- No

❖ **Current Status:**

- Employed
- Volunteer
- Student
- Other

❖ **Are you working in private or government hospital ?**

- Private
- Government

❖ **Do you have health insurance ?**

- Yes
- No

**Health history.**

❖ **Are you suffering from any chronic diseases ?**

- Yes.
- No.

If yes, specify the diseases -----

❖ **Are you taking chronic drugs ?**

- Yes
- No

**If yes specify the drugs -----**

❖ **Are you smoker ?**

- Yes
- No

**If yes specify the daily consumption -----**

❖ **Do you have a family history of previous psychiatric or mental disorder ?**

- Yes.
- No.

**If yes, specify: -----**

❖ **Do you live with anyone who is at high risk of infectious diseases ?**

- Yes
- No

**If yes , determine whom -----**

❖ **Consider , do you exercise regularly ?**

- Once weekly
- Twice weekly
- 3 times a week
- Daily
- None

### **Emotional support**

❖ **Family supports you psychologically during working**

- Yes.
- No.

❖ **Anyone supports you psychologically during working**

- Yes.
- No.

**If the answer is yes, specify (husband - friend - others)**

## Hospital Anxiety Depression Scale (HADS).

The 14-item HADS is made up of seven items linked to anxiety symptoms and seven items related to depressive symptoms. The questions are all answered on four-point Likert scale.

### Hospital Anxiety and Depression Scale (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week.  
Don't take too long over you replies: your immediate is best.

| D | A |   | D | A |  |
|---|---|---|---|---|--|
|   |   | <b>I feel tense or 'wound up':</b>  |   |   | <b>I feel as if I am slowed down:</b>  |
|   | 3 | Most of the time  | 3 |   | Nearly all the time  |
|   | 2 | A lot of the time   | 2 |   | Very often   |
|   | 1 | From time to time, occasionally   | 1 |   | Sometimes  |
|   | 0 | Not at all  | 0 |   | Not at all   |
|   |   | <b>I still enjoy the things I used to enjoy:</b>                                    |   |   | <b>I get a sort of frightened feeling like 'butterflies' in the stomach:</b> |
|   | 0 | Definitely as much  |   | 0 | Not at all   |
|   | 1 | Not quite so much   |   | 1 | Occasionally   |
|   | 2 | Only a little   |   | 2 | Quite Often  |
|   | 3 | Hardly at all   |   | 3 | Very Often   |
|   |   | <b>I get a sort of frightened feeling as if something awful is about to happen:</b> |   |   | <b>I have lost interest in my appearance:</b>                                |
|   | 3 | Very definitely and quite badly   | 3 |   | Definitely   |
|   | 2 | Yes, but not too badly  | 2 |   | I don't take as much care as I should  |
|   | 1 | A little, but it doesn't worry me   | 1 |   | I may not take quite as much care  |
|   | 0 | Not at all  | 0 |   | I take just as much care as ever   |
|   |   | <b>I can laugh and see the funny side of things:</b>                                |   |   | <b>I feel restless as I have to be on the move:</b>                          |
|   | 0 | As much as I always could   |   | 3 | Very much indeed   |
|   | 1 | Not quite so much now   |   | 2 | Quite a lot  |
|   | 2 | Definitely not so much now  |   | 1 | Not very much  |
|   | 3 | Not at all  |   | 0 | Not at all   |
|   |   | <b>Worrying thoughts go through my mind:</b>  |   |   | <b>I look forward with enjoyment to things:</b>                              |
|   | 3 | A great deal of the time  | 0 |   | As much as I ever did  |
|   | 2 | A lot of the time   | 1 |   | Rather less than I used to   |
|   | 1 | From time to time, but not too often  | 2 |   | Definitely less than I used to   |
|   | 0 | Only occasionally   | 3 |   | Hardly at all  |
|   |   | <b>I feel cheerful:</b>   |   |   | <b>I get sudden feelings of panic:</b>                                       |
|   | 3 | Not at all  |   | 3 | Very often indeed  |
|   | 2 | Not often   |   | 2 | Quite often  |
|   | 1 | Sometimes   |   | 1 | Not very often   |
|   | 0 | Most of the time  |   | 0 | Not at all   |
|   |   | <b>I can sit at ease and feel relaxed:</b>  |   |   | <b>I can enjoy a good book or radio or TV program:</b>                       |
|   | 0 | Definitely  | 0 |   | Often  |
|   | 1 | Usually   | 1 |   | Sometimes  |
|   | 2 | Not Often   | 2 |   | Not often  |
|   | 3 | Not at all  | 3 |   | Very seldom  |

Please check you have answered all the questions

#### Scoring:

Total score: Depression (D) \_\_\_\_\_ Anxiety (A) \_\_\_\_\_

0-7 = Normal

8-10 = Borderline abnormal (borderline case)

11-21 = Abnormal (case)



استبيان حول مدى انتشار الاكتئاب والقلق لدى العاملين في مجال الرعاية الصحية في مستشفيات  
مدينة نابلس - فلسطين

عزيزي المشارك،

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تعبئة هذه الاستمارة تعني قبول المشاركة في هذا البحث

شاكرين لكم مشاركتكم.

الباحثة: زينة سامر بعارة

للاستفسار التواصل على [Zaina1995.zb@gmail.com](mailto:Zaina1995.zb@gmail.com)

الرقم التسلسلي -----

## القسم الاول

### البيانات الاجتماعية و الديموغرافية

1- العمر :

1- الجنس :

1- ذكر 2- أنثى

2- مستوى التعليم :

1- دبلوم 2- بكالوريوس 3- ماجستير 4- دكتوراه 5- اختصاصي (للأطباء) 6- استشاري (للأطباء)

3- المهنة:

1- طب 2- تمريض 3- دكتورصيدله 4- طب مخبري 5- أشعة 6- صيدلة 7- تخصص اخر

4- الحالة الاجتماعية :

1- متزوجة 2- مطلق/ة 3- أرمل/ة 4- أعزب/عزباء

5- مكان الإقامة :

1- مدينة 2- قرية 3- مخيم

6- الدخل الشهري :

1- اقل من 3 الاف 2- من 3 الاف الى 4 الاف 3- أكثر من 4 الاف , حدد قيمة الدخل ----- .

7- عدد الأطفال :

1- واحد 2- اثنان 3- ثلاثة 4- أربعة 5- أكثر من ذلك , حدد عدد الأطفال ----- . 6- لا يوجد

8- مستوى الخبرة في العمل :

1- سنة 2- سنتان 3- ثلاث سنوات 4- أكثر من ذلك , حدد عدد السنوات ----- 5- لا يوجد خبرة

9- هل ورديات ( شفتات) العمل منتظمة ؟

1- نعم 2- لا

إذا كانت الاجابه نعم حدد الوردية التي تعمل بها بانتظام ----- .

10- هل تعمل ساعات عمل اضافيه ؟

1- نعم 2- لا

11- هل تعمل في قطاع خاص أم حكومي ؟

1- خاص 2- حكومي

12- هل ليك تأمين صحي ؟

1- نعم 2- لا

13- ما وضعك الان ؟

1- موظف 2- متطوع 3- طالب 4- غير ذلك من التخصصات الصحيه , حدد التخصص ----- .

### التاريخ الصحي

14- هل تعاني من امراض سابقه ؟

1- نعم 2- لا

حدد ما هي الامراض اذا كانت الاجابه نعم ----- .

15- هل تتناول ادوية بشكل مزمن ؟

1- نعم 2- لا

حدد ما هي الادوية اذا كانت الاجابه نعم ----- .

16- هل أنت مدخن ؟

1- نعم 2- لا

حدد استهلاكك اليومي للسجائر اذا كانت الاجابه نعم ----- .

17- هل يوجد تاريخ عائلي لاضطرابات نفسية او عقلية سابقة؟

1- نعم 2- لا

حدد ما هي الامراض اذا كانت الاجابه نعم -----

18- هل تعيش مع اشخاص معرضين بدرجة عالية للاصابة بالامراض المعدية؟

1- نعم 2- لا

حدد من هم الأشخاص مع تحديد سبب التعرض للاصابة؟ -----

19- هل تمارس الرياضة ؟

1- مره اسبوعيا 2- مرتان اسبوعيا 3- ثلاث مرات اسبوعيا 4- يوميا 5- لا امارس الرياضة

الدعم العاطفي

20- هل أسرتك تدعمك نفسيا أثناء العمل ؟

1- نعم 2- لا

21- هل يوجد من يدعمك نفسيا اثناء العمل ؟

1- نعم 2- لا

حدد الجبهه التي تدعمك ( زوج-صديق- اخرون) -----

## القسم الثاني:

### HADS : Hospital Anxiety Depression Scale

يتكون هذا القسم من 14 فقرة تتضمن أعراض الاكتئاب والقلق . أرجو الاجابة على كل مما يلي حسب ما شعرت به خلال احدى ايام الاسبوع الماضي وحتى اليوم :

| Hospital Anxiety Depression Scale (HADS): |  | من فضلك، قم بإختيار الإجابة المناسبة بوضع دائرة عليها: |   |
|---|--|--|---|
| A   | أشعر بالتوتر الشديد:<br>• أكثر الوقت<br>• عدة مرات<br>• أحياناً<br>• لا أشعر بذلك مطلقاً   | 3<br>2<br>1<br>0                                       | D<br>أحس بأنني هامد ( فاقده للطاقة ) :<br>• تقريباً في كل وقت<br>• في كثير من الأحيان<br>• في بعض الأوقات<br>• لا أشعر بذلك مطلقاً  |
| D   | أنا لازلت ألتصق بالأشياء التي اعتدت أن أستمتع بها:<br>• بالتأكيد، كما كنت<br>• ليس تماماً<br>• قليلاً<br>• بالكاد، على الإطلاق                                     | 0<br>1<br>2<br>3                                       | A<br>يتنابني شعور بالخوف:<br>• لا، على الإطلاق<br>• أحياناً<br>• كثيراً<br>• في أغلب الأوقات  |
| A   | أشعر بنوع من الخوف، وكان شيئاً مروعاً على وشك الحدوث:<br>• بالتأكيد، وبشكل مزعج<br>• نعم، ولكن أقل سوءاً<br>• قليلاً، لكنه لا يقلقني<br>• لا أشعر بذلك على الإطلاق | 3<br>2<br>1<br>0                                       | D<br>لقد فقدت الاهتمام بمظهري:<br>• بالتأكيد فقدت كل الاهتمام<br>• أنا لا أهتم بمظهري كما يجب أن أهتم<br>• قد لا أعني بمظهري كما يجب<br>• أعني بمظهري بشكل جيد كما كنت سابقاً |
| D   | أستطيع الضحك و رؤية الجوانب الممتعة في الأشياء:<br>• كما كنت سابقاً<br>• أقل مما كنت سابقاً<br>• بالتأكيد، ليس كثيراً الآن<br>• لا أشعر بذلك على الإطلاق           | 0<br>1<br>2<br>3                                       | A<br>الإحساس بضيق الصدر دون مجهود جسدي:<br>• في الواقع، كثيراً جداً<br>• كثيراً، لا بأس به<br>• أشعر بذلك قليلاً<br>• لا أشعر بذلك على الإطلاق                                |
| A   | تأتيني دائماً أفكار مقلقة:<br>• أغلب الأوقات<br>• معظم الأوقات<br>• من وقت لآخر، ولكن ليس كثيراً<br>• أحياناً  | 3<br>2<br>1<br>0                                       | D<br>أنا أتطلع للأشياء من حولي باستمتاع:<br>• بقدر ما يمكنني فعله<br>• نوعاً ما أقل مما اعتدت على فعله<br>• بالتأكيد أقل مما اعتدت على فعله<br>• لا، على الإطلاق              |
| D   | أشعر بالبهجة:<br>• لا، على الإطلاق<br>• ليس كثيراً<br>• في بعض الأحيان<br>• في أغلب الأوقات  | 3<br>2<br>1<br>0                                       | A<br>يتنابني إحساس مفاجئ بالغث:<br>• في الواقع، في كثير من الأحيان<br>• غالباً<br>• ليس كثيراً<br>• لا أشعر بذلك على الإطلاق  |
| A   | يمكنني الجلوس براحة و الشعور بالاسترخاء:<br>• بكل التأكيد<br>• عادة ما<br>• ليس كثيراً<br>• لا يمكنني ذلك على الإطلاق  | 0<br>1<br>2<br>3                                       | D<br>يمكنني الإستمتاع بقراءة كتاب جيد أو مشاهدة البرامج التلفزيونية أو الإستماع إلى الإذاعة:<br>• غالباً<br>• في بعض الأحيان<br>• ليس كثيراً<br>• نادراً جداً                 |

## Appendix C

### IRB approval

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



جامعة النجاح الوطنية  
كلية الطب وعلوم الصحة  
لجنة اخلاقيات البحث العلمي

Ref: Mas. Sep. 2022/53

#### IRB Approval Letter

Title of Research:

*Prevalence of Depression and Anxiety Symptoms Among Hospital Healthcare Workers in Nablus City - Palestine*

Submitted by:  
Zaina Barah.

Supervisor:  
Mohammad Marie.

Approved:  
28<sup>th</sup> Sep, 2022

Your Study Title "*Prevalence of Depression and Anxiety Symptoms Among Hospital Healthcare Workers in Nablus City - Palestine*" reviewed by An-Najah National University IRB committee and was approved on 28<sup>th</sup> Sep, 2022.

Hasan Fitian, MD  
IRB Committee Chairman



Nablus - P.O Box :7 or 707 | Tel (970) (09) 2342902/4/7/8/14 | Faximile (970) (09) 2342910| E-mail :  
[IRB@najah.edu](mailto:IRB@najah.edu)

## Appendix D

### Palestinian Ministry of Health approval

An-Najah  
National University  
Faculty of Graduate Studies



جامعة  
النجاح الوطنية  
كلية الدراسات العليا

التاريخ : 2022/10/10

حضرة الدكتور عبد الله القواسمي المحترم  
وزارة الصحة الفلسطينية

**الموضوع: تسهيل مهمة الطالبة / زينة سامر بعاورة رقم تسجيل (11952853)  
تخصص ماجستير علم النفس الاكلينيكي**

تحية طيبة وبعد ،،،

الطالبة/ زينة سامر بعاورة، رقم تسجيل 11952853، تخصص ماجستير علم النفس الاكلينيكي في كلية الدراسات العليا، وهي بصدد اعداد الاطروحة الخاصة بها والتي عنوانها:

(مدى انتشار الاكتئاب و القلق لدى العاملين في مجال الرعاية الصحية في مستشفيات مدينة نابلس في دولة فلسطين)

(Prevalence of Depression and Anxiety Symptoms Among Hospital Healthcare Workers in Nablus City – Palestine)

يرجى من حضرتكم تسهيل مهمتها بتوزيع استبانة على مجموعة من الطواقم الطبية بما فيها (طب، صيدلة، تمريض، اشعة، تحاليل طبية وعلاج طبيعي) وذلك باخذ عينة عشوائية من العاملين في هذا المجال خلال خمسة شهور ابتداء من شهر اكتوبر الحالي في مستشفى رفيديا الحكومي، مستشفى النجاح الوطني الجامعي ومستشفى الوطني الحكومي، مؤكداً لكم بأن كافة المعلومات التي سوف يتم جمعها هي لأغراض البحث العلمي فقط وسوف يتم الحفاظ على السرية التامة وعدم استخدام هذه المعلومات لأغراض أخرى.

شاكرين لكم حسن تعاونكم.

مع وافر الاحترام ،،،

أ.د. وليد صويلح  
عميد كلية الدراسات العليا



فلسطين، نابلس، ص.ب 7،707 هاتف: /2345115، 2345114، 2345113 (09)(972) \*فاكسيل: 2342907(09)(972)

Nablus, P. O. Box (7) \*Tel. 972 9 2345113, 2345114, 2345115 هاتف داخلي (5) 3200

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## Appendix E

### Informed Consent

#### جامعة النجاح الوطنية – كلية الدراسات العليا



استبيان حول مدى انتشار الاكتئاب والقلق لدى العاملين في مجال الرعاية الصحية في مستشفيات مدينة نابلس - فلسطين

عزيزي المشارك،

أشكرك على استجابتك و تعاونك معي أنا طالبة ماجستير في جامعة النجاح الوطنية زينه سامر بعاره، أقوم بعمل دراسة علمية تهدف لمعرفة مدى انتشار الاكتئاب والقلق بين العاملين في مجال الرعاية الصحية تحت اشراف دكتور محمد مرعي . وقد تم اختيارك عشوائيا لتكون جزءا من عينة الدراسة لك الحرية الكاملة في المشاركة أو الانسحاب منها دون أن تبرز ذلك. يرجى الإجابة عن الأسئلة المرفقة ومراعاة الدقة علما بأنه لا توجد اجابه صحيحة أو خاطئة و انما هي لأغراض البحث العلمي وسيتم الحفاظ على السرية وخصوصية المشاركين بأقصى درجة.

تعبئة هذه الاستمارة تعني قبول المشاركة في هذا البحث

شاكرين لكم مشاركتكم

الباحثة : زينة سامر بعاره

للاستفسار التواصل على

[Zaina1995.zb@gmail.com](mailto:Zaina1995.zb@gmail.com)

الرقم التسلسلي -----

## Appendix F

### Tables of Study

**Table F1**

*Distribution of the study participants due to health history information*

| Health history                                  | Class                          | N   | %     |
|---|--------------------------------|-----|-------|
| Do you have health insurance                    | Yes                            | 352 | 70.4% |
|   | No                             | 148 | 29.6% |
| Current status                                  | Employed                       | 463 | 92.6% |
|   | Volunteer                      | 37  | 7.4%  |
|   | Student                        | 0   | 0.0%  |
| Are you suffering from any chronic diseases     | Yes                            | 49  | 9.8%  |
|   | No                             | 451 | 90.2% |
| If yes determine the diseases (n=49)            | Hypertension                   | 12  | 25.5% |
|   | DM                             | 9   | 19.1% |
|   | Hypothyroidism                 | 7   | 14.9% |
|   | GERD, IBS                      | 6   | 12.8% |
|   | Polycystic Ovary               | 4   | 8.5%  |
|   | Asthma                         | 3   | 6.4%  |
|   | Irregular Heart Beat           | 2   | 4.3%  |
|   | DVT                            | 2   | 4.3%  |
|   | Rheumatoid Arthritis           | 1   | 2.1%  |
|   | Hypercholesterolemia           | 1   | 2.1%  |
|   | Heart Disease                  | 0   | 0.0%  |
|   | Are you taking chronic drugs   | Yes | 47    |
| No  |                                | 453 | 90.6% |
| Determine which drugs                           | Spironolactone                 | 4   | 8.5%  |
|   | Antihypertensive Drugs         | 12  | 25.5% |
|   | Antidiabetic Drugs and Insulin | 9   | 19.1% |
|   | Antacids and PPIs              | 6   | 12.8% |
|   | Levothyroxine                  | 7   | 14.9% |
|   | Heart rate control therapy     | 2   | 4.3%  |
|   | Salazopyrin EN                 | 1   | 2.1%  |
|   | Corticosteroid Inhalers        | 3   | 6.4%  |
|   | Antihyperlipidemic Drugs       | 1   | 2.1%  |
|   | Anticoagulant Drugs            | 2   | 4.3%  |
|   | CCBs                           | 0   | 0.0%  |
|   | Are you smoker                 | Yes | 140   |
| No  |                                | 360 | 72.0% |
| If yes determine your daily consumption         | Less than packet               | 37  | 26.8% |
|   | One packet                     | 46  | 33.3% |
|   | More than one packet           | 55  | 39.9% |
| Having a family history of any mental disorders | Yes                            | 13  | 2.6%  |
|   | No                             | 487 | 97.4% |
| If yes determine which disorders                | Depression                     | 9   | 69.2% |
|   | Bipolar mania                  | 1   | 7.7%  |

|  |                            |     |       |
|--|----------------------------|-----|-------|
|  | PTSD, OCD                  | 1   | 7.7%  |
|  | Schizophrenia              | 2   | 15.4% |
| Do you live with anyone who is at high risk of infection | Yes                        | 24  | 4.8%  |
|  | No                         | 476 | 95.2% |
| If yes determine whom                                    | Elderly family members     | 23  | 88.5% |
|  | Children with diabetes     | 3   | 11.5% |
| Exercise regularly                                       | Once a week                | 98  | 19.6% |
|  | Twice a week               | 58  | 11.6% |
|  | Three times weekly         | 41  | 8.2%  |
|  | Daily                      | 39  | 7.8%  |
|  | I do not practice exercise | 264 | 52.8% |

**Table F2***Mean difference of depression related to socio-demographic data*

| Depression                  |                          | N   | Mean  | SD   | T     | F     | P-value |
|-----------------------------|--------------------------|-----|-------|------|-------|-------|---------|
| Age                         | 20-30                    | 303 | 6.97  | 3.64 |       | 4.355 | 0.002*  |
|                             | 31-40                    | 117 | 7.26  | 3.60 |       |       |         |
|                             | 41-50                    | 30  | 7.20  | 4.05 |       |       |         |
|                             | 51-60                    | 35  | 5.63  | 3.23 |       |       |         |
|                             | 61-70                    | 15  | 3.73  | 2.49 |       |       |         |
| Gender                      | Male                     | 209 | 7.0   | 3.8  | 1.124 |       | 0.262   |
|                             | Female                   | 291 | 6.6   | 3.5  |       |       |         |
| Level of education          | Diploma                  | 89  | 7.72  | 3.91 |       | 4.007 | 0.001*  |
|                             | Bachelors                | 319 | 6.72  | 3.50 |       |       |         |
|                             | Master                   | 47  | 5.98  | 3.66 |       |       |         |
|                             | Ph.D.                    | 3   | 6.00  | 1.73 |       |       |         |
|                             | Specialist (for doctors) | 25  | 7.60  | 3.15 |       |       |         |
|                             | Consultant (for doctors) | 17  | 4.06  | 3.27 |       |       |         |
|                             | Total                    | 500 | 6.78  | 3.62 |       |       |         |
| Profession                  | Medicine                 | 119 | 6.27  | 3.27 |       | 3.053 | 0.006*  |
|                             | Nursing                  | 195 | 7.53  | 3.94 |       |       |         |
|                             | Doctor of Pharmacy       | 16  | 6.06  | 3.59 |       |       |         |
|                             | Laboratory Medicine      | 53  | 5.55  | 2.76 |       |       |         |
|                             | Radiology                | 28  | 6.96  | 3.34 |       |       |         |
|                             | Pharmacy                 | 48  | 6.50  | 3.46 |       |       |         |
|                             | Other Health Specialty   | 41  | 6.73  | 3.79 |       |       |         |
| Marital status              | Married                  | 262 | 6.82  | 3.77 |       | 3.822 | 0.010*  |
|                             | Divorced                 | 13  | 8.23  | 3.14 |       |       |         |
|                             | Widowed                  | 5   | 11.40 | 4.16 |       |       |         |
|                             | Single                   | 220 | 6.54  | 3.37 |       |       |         |
| Place of residency          | City                     | 298 | 6.84  | 3.74 |       | 1.394 | 0.249   |
|                             | Village                  | 168 | 6.50  | 3.39 |       |       |         |
|                             | Camp                     | 34  | 7.59  | 3.51 |       |       |         |
| The family income per month | Less than 3000           | 141 | 7.13  | 3.44 |       | 1.096 | 0.335   |
|                             | Between 3000-4000        | 172 | 6.77  | 3.58 |       |       |         |
|                             | More than 4000           | 177 | 6.53  | 3.76 |       |       |         |
| Number of children          | 1 child                  | 68  | 7.97  | 4.27 |       | 2.247 | 0.049*  |
|                             | 2 children               | 62  | 7.02  | 3.64 |       |       |         |
|                             | 3 children               | 47  | 6.96  | 4.05 |       |       |         |
|                             | 4 children               | 36  | 6.64  | 3.84 |       |       |         |
|                             | More than 4 children     | 15  | 5.73  | 3.49 |       |       |         |
|                             | No children              | 272 | 6.47  | 3.28 |       |       |         |
| Level of experience         | 1 Year                   | 61  | 6.52  | 3.35 |       | 0.599 | 0.664   |
|                             | 2 Years                  | 61  | 6.54  | 3.46 |       |       |         |
|                             | 3 Years                  | 51  | 6.94  | 3.57 |       |       |         |

|                                     |          |                     |     |      |      |       |        |
|-------------------------------------|----------|---------------------|-----|------|------|-------|--------|
|                                     |          | More than 3 Years   | 282 | 6.94 | 3.85 |       |        |
|                                     |          | No Experience       | 45  | 6.20 | 2.66 |       |        |
|                                     |          | Total               | 500 | 6.78 | 3.62 |       |        |
| Regular shifts                      | working  | Yes                 | 249 | 6.3  | 3.6  | -     | 0.007* |
|                                     |          | No                  | 251 | 7.2  | 3.6  | 2.693 |        |
| Determine shift time                | regular  | A Shift             | 171 | 6.3  | 3.6  | -     | 0.943  |
|                                     |          | B shift             | 79  | 6.4  | 3.5  | 0.071 |        |
| Working hours                       | overload | Yes                 | 180 | 6.6  | 3.7  | -     | 0.542  |
|                                     |          | No                  | 320 | 6.9  | 3.6  | 0.610 |        |
| Working private government hospital | in a or  | Private hospital    | 375 | 6.7  | 3.6  | -     | 0.231  |
|                                     |          | Government hospital | 125 | 7.1  | 3.6  | 1.200 |        |

\*. The mean difference is significant at the ( $\alpha=0.5$ ) level

**Table F3***Mean difference of depression related to health history data*

| Depression   |                                | N   | Mean  | SD   | T      | F     | P-value |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|--|--------------------------------|-----|-------|------|--------|-------|---------|--|------------------|-----|------|------|--------|-------|--------|------------------------|-----|------|------|--|--------------------------------|----|------|------|--------|-------|-------|--|-----|------|------|----------------------------------|------------------|------|-------|--|-------|-------|-------|--------------------------------------|-----------------|-------|-------|----------------------------|-----|-------|-------|--------------------------------------|---------------|-------|-------|-------------------------|---|-------|-------|--------------------------|-----|-------|------|---------------------------------|-------|------|--------|-------------------|--------|------|-------|--|------------------|------|--------|--------------------------|----------------|-------|-------|--|------------------|-------|-------|--------------------------|------------------------|-------|-------|----------------------|-----|-------|-------|--|--------------------------------|------|------|--|-------|-------|-------|--------------------------------|-------|------|-------|--------------------------------------|------------|------|------|--------------------------------------|------------|-------|-------|----------------------------|---|-------|-------|----------------------------|---|-------|------|--------------------------|---|------|------|--------------------------|---|------|------|--------------------------|-----|------|------|---------------------|-------|------|--------|-------------------|-------|-----|--------|--|------------------|-----|--------|--|------------------|-----|-------|--|------------------|----|-------|-------|----|-------|-------|----------------------|----|------|------|--|-----|------|------|--|-------|----|-------|-----|-------|-----|-------|--------------------------------------|------------|-----|------|--------------------------------------|--------------------------------------|------------|-------|-------|---------------|-------|-------|---------------|---|-------|-------|---------------|---|------|---|---------------|---|------|------|-----------------|-----|------|------|
| 1. Do you have health insurance                    | Yes                            | 352 | 6.9   | 3.6  | 0.944  |       | 0.346   |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | No                             | 148 | 6.5   | 3.6  |        |       |         | 2. Current status                                  | Employed         | 463 | 6.8  | 3.6  | 0.553  |       | 0.581  | Volunteer              | 37  | 6.5  | 3.3  | 3. Are you suffering from any chronic diseases | Yes                            | 49 | 6.5  | 4.1  | -0.541 |       | 0.589 | No   | 451 | 6.8  | 3.6  | 4. If yes determine the diseases | Polycystic Ovary | 4    | 6.25  | 3.50   |       | 0.788 | 0.629 | Hypertension                         | 12              | 6.08  | 4.48  | DM                         | 9   | 4.78  | 3.03  | GERD, IBS                            | 6             | 9.33  | 2.25  | Hypothyroidism          | 7 | 7.86  | 5.79  | Irregular Heartbeat      | 2   | 10.00 | 4.24 | Rheumatoid Arthritis            | 1     | 6.00 | 0.00   | Asthma            | 3      | 6.00 | 4.36  | Hypercholesterolemia                       | 1                | 5.00 | 0.00   | DVT                      | 2              | 4.50  | 6.36  | 5. Are you taking chronic drugs            | Yes              | 47    | 6.5   | 4.1                      | -0.528                 |       | 0.598 | No                   | 453 | 6.8   | 3.6   | 6. Determine which drugs                           | Spironolactone                 | 4    | 6.25 | 3.50   |       | 0.788 | 0.629 | Antihypertensive Drugs         | 12    | 6.08 | 4.48  | Antidiabetic Drugs and Insulin       | 9          | 4.78 | 3.03 | Antacids and PPIs                    | 6          | 9.33  | 2.25  | Levothyroxine              | 7 | 7.86  | 5.79  | Heart rate control therapy | 2 | 10.00 | 4.24 | Salazopyrin EN           | 1 | 6.00 | 0.00 | Corticosteroid Inhalers  | 3 | 6.00 | 4.36 | Antihyperlipidemic Drugs | 1   | 5.00 | 0.00 | Anticoagulant Drugs | 2     | 4.50 | 6.36   | 7. Are you smoker | Yes   | 140 | 7.6    | 3.9  | 3.320            |     | 0.001* | No   | 360              | 6.4 | 3.4   | 8. If yes determine your daily consumption | Less than packet | 37 | 7.05  | 3.96  |    | 0.511 | 0.601 | One packet           | 46 | 7.76 | 4.18 | More than one packet                               | 55  | 7.85 | 3.69 | 9. Having a family history of any mental disorders | Yes   | 13 | 8.3   | 4.0 | 1.549 |     | 0.122 | No                                   | 487        | 6.7 | 3.6  | 10. If yes determine which disorders | Depression                           | 9          | 8.11  | 3.95  |               | 0.055 | 0.982 | Bipolar mania | 1 | 8.00  | -     | PTSD, OCD     | 1 | 8.00 | - | Schizophrenia | 2 | 9.50 | 7.78 | 11. Do you live | Yes | 24   | 7.7  |
| 2. Current status                                  | Employed                       | 463 | 6.8   | 3.6  | 0.553  |       | 0.581   |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Volunteer                      | 37  | 6.5   | 3.3  |        |       |         | 3. Are you suffering from any chronic diseases     | Yes              | 49  | 6.5  | 4.1  | -0.541 |       | 0.589  | No                     | 451 | 6.8  | 3.6  | 4. If yes determine the diseases               | Polycystic Ovary               | 4  | 6.25 | 3.50 |        | 0.788 | 0.629 | Hypertension                                       | 12  | 6.08 | 4.48 |                                  | DM               | 9    | 4.78  | 3.03   |       |       |       | GERD, IBS                            | 6               | 9.33  | 2.25  | Hypothyroidism             | 7   | 7.86  | 5.79  | Irregular Heartbeat                  | 2             | 10.00 | 4.24  | Rheumatoid Arthritis    | 1 | 6.00  | 0.00  | Asthma                   | 3   | 6.00  | 4.36 | Hypercholesterolemia            | 1     | 5.00 | 0.00   | DVT               | 2      | 4.50 | 6.36  | 5. Are you taking chronic drugs            | Yes              | 47   | 6.5    | 4.1                      | -0.528         |       | 0.598 | No   | 453              | 6.8   | 3.6   | 6. Determine which drugs | Spironolactone         | 4     | 6.25  | 3.50                 |     | 0.788 | 0.629 |  | Antihypertensive Drugs         | 12   | 6.08 | 4.48   |       |       |       | Antidiabetic Drugs and Insulin | 9     | 4.78 | 3.03  | Antacids and PPIs                    | 6          | 9.33 | 2.25 | Levothyroxine                        | 7          | 7.86  | 5.79  | Heart rate control therapy | 2 | 10.00 | 4.24  | Salazopyrin EN             | 1 | 6.00  | 0.00 | Corticosteroid Inhalers  | 3 | 6.00 | 4.36 | Antihyperlipidemic Drugs | 1 | 5.00 | 0.00 | Anticoagulant Drugs      | 2   | 4.50 | 6.36 | 7. Are you smoker   | Yes   | 140  | 7.6    | 3.9               | 3.320 |     | 0.001* | No   | 360              | 6.4 | 3.4    | 8. If yes determine your daily consumption | Less than packet | 37  | 7.05  |  | 3.96             |    | 0.511 | 0.601 |    |       |       | One packet           | 46 | 7.76 | 4.18 | More than one packet                               | 55  | 7.85 | 3.69 | 9. Having a family history of any mental disorders | Yes   | 13 | 8.3   | 4.0 | 1.549 |     | 0.122 | No                                   | 487        | 6.7 | 3.6  |                                      | 10. If yes determine which disorders | Depression | 9     | 8.11  |               |       |       | 3.95          |   | 0.055 | 0.982 | Bipolar mania | 1 | 8.00 | - | PTSD, OCD     | 1 | 8.00 | -    | Schizophrenia   | 2   | 9.50 | 7.78 |
| 3. Are you suffering from any chronic diseases     | Yes                            | 49  | 6.5   | 4.1  | -0.541 |       | 0.589   |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | No                             | 451 | 6.8   | 3.6  |        |       |         | 4. If yes determine the diseases                   | Polycystic Ovary | 4   | 6.25 | 3.50 |        | 0.788 | 0.629  | Hypertension           | 12  | 6.08 | 4.48 |  | DM                             | 9  | 4.78 | 3.03 |        |       |       | GERD, IBS  | 6   | 9.33 | 2.25 |                                  | Hypothyroidism   | 7    | 7.86  | 5.79   |       |       |       | Irregular Heartbeat                  | 2               | 10.00 | 4.24  | Rheumatoid Arthritis       | 1   | 6.00  | 0.00  | Asthma                               | 3             | 6.00  | 4.36  | Hypercholesterolemia    | 1 | 5.00  | 0.00  | DVT                      | 2   | 4.50  | 6.36 | 5. Are you taking chronic drugs | Yes   | 47   | 6.5    | 4.1               | -0.528 |      | 0.598 | No   | 453              | 6.8  | 3.6    | 6. Determine which drugs | Spironolactone | 4     | 6.25  | 3.50                                       |                  | 0.788 | 0.629 |                          | Antihypertensive Drugs | 12    | 6.08  | 4.48                 |     |       |       |  | Antidiabetic Drugs and Insulin | 9    | 4.78 | 3.03   |       |       |       | Antacids and PPIs              | 6     | 9.33 | 2.25  | Levothyroxine                        | 7          | 7.86 | 5.79 | Heart rate control therapy           | 2          | 10.00 | 4.24  | Salazopyrin EN             | 1 | 6.00  | 0.00  | Corticosteroid Inhalers    | 3 | 6.00  | 4.36 | Antihyperlipidemic Drugs | 1 | 5.00 | 0.00 | Anticoagulant Drugs      | 2 | 4.50 | 6.36 | 7. Are you smoker        | Yes | 140  | 7.6  | 3.9                 | 3.320 |      | 0.001* | No                | 360   | 6.4 | 3.4    | 8. If yes determine your daily consumption | Less than packet | 37  | 7.05   |  | 3.96             |     | 0.511 | 0.601                                      | One packet       |    |       |       | 46 | 7.76  | 4.18  | More than one packet | 55 | 7.85 | 3.69 | 9. Having a family history of any mental disorders | Yes | 13   | 8.3  | 4.0  | 1.549 |    | 0.122 | No  | 487   | 6.7 | 3.6   | 10. If yes determine which disorders | Depression | 9   | 8.11 | 3.95                                 |                                      |            | 0.055 | 0.982 | Bipolar mania | 1     | 8.00  | -             |   |       |       | PTSD, OCD     | 1 | 8.00 | - | Schizophrenia | 2 | 9.50 | 7.78 | 11. Do you live | Yes | 24   | 7.7  |
| 4. If yes determine the diseases                   | Polycystic Ovary               | 4   | 6.25  | 3.50 |        | 0.788 | 0.629   |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Hypertension                   | 12  | 6.08  | 4.48 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | DM                             | 9   | 4.78  | 3.03 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | GERD, IBS                      | 6   | 9.33  | 2.25 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Hypothyroidism                 | 7   | 7.86  | 5.79 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Irregular Heartbeat            | 2   | 10.00 | 4.24 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Rheumatoid Arthritis           | 1   | 6.00  | 0.00 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Asthma                         | 3   | 6.00  | 4.36 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Hypercholesterolemia           | 1   | 5.00  | 0.00 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | DVT                            | 2   | 4.50  | 6.36 |        |       |         | 5. Are you taking chronic drugs                    | Yes              | 47  | 6.5  | 4.1  | -0.528 |       | 0.598  | No                     | 453 | 6.8  | 3.6  | 6. Determine which drugs                       | Spironolactone                 | 4  | 6.25 | 3.50 |        | 0.788 | 0.629 | Antihypertensive Drugs                             | 12  | 6.08 | 4.48 | Antidiabetic Drugs and Insulin   | 9                | 4.78 | 3.03  | Antacids and PPIs                                  | 6     | 9.33  | 2.25  | Levothyroxine                        | 7               | 7.86  | 5.79  | Heart rate control therapy | 2   | 10.00 | 4.24  | Salazopyrin EN                       | 1             | 6.00  | 0.00  | Corticosteroid Inhalers | 3 | 6.00  | 4.36  | Antihyperlipidemic Drugs | 1   | 5.00  | 0.00 | Anticoagulant Drugs             | 2     | 4.50 | 6.36   | 7. Are you smoker | Yes    | 140  | 7.6   | 3.9  | 3.320            |      | 0.001* | No                       | 360            | 6.4   | 3.4   | 8. If yes determine your daily consumption | Less than packet | 37    | 7.05  | 3.96                     |                        | 0.511 | 0.601 | One packet           | 46  | 7.76  | 4.18  | More than one packet                               | 55                             | 7.85 | 3.69 | 9. Having a family history of any mental disorders | Yes   | 13    | 8.3   | 4.0                            | 1.549 |      | 0.122 | No                                   | 487        | 6.7  | 3.6  | 10. If yes determine which disorders | Depression | 9     | 8.11  | 3.95                       |   | 0.055 | 0.982 | Bipolar mania              | 1 | 8.00  | -    | PTSD, OCD                | 1 | 8.00 | -    | Schizophrenia            | 2 | 9.50 | 7.78 | 11. Do you live          | Yes | 24   | 7.7  | 3.2                 | 1.237 |      | 0.217  |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
| 5. Are you taking chronic drugs                    | Yes                            | 47  | 6.5   | 4.1  | -0.528 |       | 0.598   |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | No                             | 453 | 6.8   | 3.6  |        |       |         | 6. Determine which drugs                           | Spironolactone   | 4   | 6.25 | 3.50 |        | 0.788 | 0.629  | Antihypertensive Drugs | 12  | 6.08 | 4.48 |  | Antidiabetic Drugs and Insulin | 9  | 4.78 | 3.03 |        |       |       | Antacids and PPIs                                  | 6   | 9.33 | 2.25 | Levothyroxine                    | 7                | 7.86 | 5.79  | Heart rate control therapy                         | 2     | 10.00 | 4.24  | Salazopyrin EN                       | 1               | 6.00  | 0.00  | Corticosteroid Inhalers    | 3   | 6.00  | 4.36  | Antihyperlipidemic Drugs             | 1             | 5.00  | 0.00  | Anticoagulant Drugs     | 2 | 4.50  | 6.36  | 7. Are you smoker        | Yes | 140   | 7.6  | 3.9                             | 3.320 |      | 0.001* | No                | 360    | 6.4  | 3.4   | 8. If yes determine your daily consumption | Less than packet | 37   | 7.05   | 3.96                     |                | 0.511 | 0.601 |  | One packet       | 46    | 7.76  | 4.18                     |                        |       |       | More than one packet | 55  | 7.85  | 3.69  | 9. Having a family history of any mental disorders | Yes                            | 13   | 8.3  | 4.0  | 1.549 |       | 0.122 | No                             | 487   | 6.7  | 3.6   | 10. If yes determine which disorders | Depression | 9    | 8.11 |                                      | 3.95       |       | 0.055 | 0.982                      |   |       |       | Bipolar mania              | 1 | 8.00  | -    | PTSD, OCD                | 1 | 8.00 | -    | Schizophrenia            | 2 | 9.50 | 7.78 | 11. Do you live          | Yes | 24   | 7.7  | 3.2                 | 1.237 |      | 0.217  |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
| 6. Determine which drugs                           | Spironolactone                 | 4   | 6.25  | 3.50 |        | 0.788 | 0.629   |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Antihypertensive Drugs         | 12  | 6.08  | 4.48 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Antidiabetic Drugs and Insulin | 9   | 4.78  | 3.03 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Antacids and PPIs              | 6   | 9.33  | 2.25 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Levothyroxine                  | 7   | 7.86  | 5.79 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Heart rate control therapy     | 2   | 10.00 | 4.24 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Salazopyrin EN                 | 1   | 6.00  | 0.00 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Corticosteroid Inhalers        | 3   | 6.00  | 4.36 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Antihyperlipidemic Drugs       | 1   | 5.00  | 0.00 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Anticoagulant Drugs            | 2   | 4.50  | 6.36 |        |       |         | 7. Are you smoker                                  | Yes              | 140 | 7.6  | 3.9  | 3.320  |       | 0.001* | No                     | 360 | 6.4  | 3.4  | 8. If yes determine your daily consumption     | Less than packet               | 37 | 7.05 | 3.96 |        | 0.511 | 0.601 | One packet   | 46  | 7.76 | 4.18 | More than one packet             | 55               | 7.85 | 3.69  | 9. Having a family history of any mental disorders | Yes   | 13    | 8.3   | 4.0                                  | 1.549           |       | 0.122 | No                         | 487 | 6.7   | 3.6   | 10. If yes determine which disorders | Depression    | 9     | 8.11  | 3.95                    |   | 0.055 | 0.982 | Bipolar mania            | 1   | 8.00  | -    | PTSD, OCD                       | 1     | 8.00 | -      | Schizophrenia     | 2      | 9.50 | 7.78  | 11. Do you live                            | Yes              | 24   | 7.7    | 3.2                      | 1.237          |       | 0.217 |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
| 7. Are you smoker                                  | Yes                            | 140 | 7.6   | 3.9  | 3.320  |       | 0.001*  |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | No                             | 360 | 6.4   | 3.4  |        |       |         | 8. If yes determine your daily consumption         | Less than packet | 37  | 7.05 | 3.96 |        | 0.511 | 0.601  | One packet             | 46  | 7.76 | 4.18 |  | More than one packet           | 55 | 7.85 | 3.69 |        |       |       | 9. Having a family history of any mental disorders | Yes | 13   | 8.3  | 4.0                              | 1.549            |      | 0.122 | No   | 487   | 6.7   | 3.6   | 10. If yes determine which disorders | Depression      | 9     | 8.11  | 3.95                       |     | 0.055 | 0.982 |                                      | Bipolar mania | 1     | 8.00  | -                       |   |       |       | PTSD, OCD                | 1   | 8.00  | -    | Schizophrenia                   | 2     | 9.50 | 7.78   | 11. Do you live   | Yes    | 24   | 7.7   | 3.2  | 1.237            |      | 0.217  |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
| 8. If yes determine your daily consumption         | Less than packet               | 37  | 7.05  | 3.96 |        | 0.511 | 0.601   |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | One packet                     | 46  | 7.76  | 4.18 |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | More than one packet           | 55  | 7.85  | 3.69 |        |       |         | 9. Having a family history of any mental disorders | Yes              | 13  | 8.3  | 4.0  | 1.549  |       | 0.122  | No                     | 487 | 6.7  | 3.6  | 10. If yes determine which disorders           | Depression                     | 9  | 8.11 | 3.95 |        | 0.055 | 0.982 | Bipolar mania                                      | 1   | 8.00 | -    | PTSD, OCD                        | 1                | 8.00 | -     | Schizophrenia                                      | 2     | 9.50  | 7.78  |                                      | 11. Do you live | Yes   | 24    | 7.7                        |     |       |       | 3.2                                  | 1.237         |       | 0.217 |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
| 9. Having a family history of any mental disorders | Yes                            | 13  | 8.3   | 4.0  | 1.549  |       | 0.122   |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | No                             | 487 | 6.7   | 3.6  |        |       |         | 10. If yes determine which disorders               | Depression       | 9   | 8.11 | 3.95 |        | 0.055 | 0.982  | Bipolar mania          | 1   | 8.00 | -    |  | PTSD, OCD                      | 1  | 8.00 | -    |        |       |       | Schizophrenia                                      | 2   | 9.50 | 7.78 | 11. Do you live                  | Yes              | 24   | 7.7   | 3.2  | 1.237 |       | 0.217 |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
| 10. If yes determine which disorders               | Depression                     | 9   | 8.11  | 3.95 |        | 0.055 | 0.982   |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Bipolar mania                  | 1   | 8.00  | -    |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | PTSD, OCD                      | 1   | 8.00  | -    |        |       |         |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
|  | Schizophrenia                  | 2   | 9.50  | 7.78 |        |       |         | 11. Do you live                                    | Yes              | 24  | 7.7  | 3.2  | 1.237  |       | 0.217  |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |
| 11. Do you live                                    | Yes                            | 24  | 7.7   | 3.2  | 1.237  |       | 0.217   |  |                  |     |      |      |        |       |        |                        |     |      |      |  |                                |    |      |      |        |       |       |  |     |      |      |                                  |                  |      |       |  |       |       |       |                                      |                 |       |       |                            |     |       |       |                                      |               |       |       |                         |   |       |       |                          |     |       |      |                                 |       |      |        |                   |        |      |       |  |                  |      |        |                          |                |       |       |  |                  |       |       |                          |                        |       |       |                      |     |       |       |  |                                |      |      |  |       |       |       |                                |       |      |       |                                      |            |      |      |                                      |            |       |       |                            |   |       |       |                            |   |       |      |                          |   |      |      |                          |   |      |      |                          |     |      |      |                     |       |      |        |                   |       |     |        |  |                  |     |        |  |                  |     |       |  |                  |    |       |       |    |       |       |                      |    |      |      |  |     |      |      |  |       |    |       |     |       |     |       |                                      |            |     |      |                                      |                                      |            |       |       |               |       |       |               |   |       |       |               |   |      |   |               |   |      |      |                 |     |      |      |

|  |                            |     |      |      |        |       |
|--|----------------------------|-----|------|------|--------|-------|
| with anyone who is at high risk of infection | No                         | 476 | 6.7  | 3.6  |        |       |
| 12. If you determine who                     | yes Elderly family members | 23  | 7.3  | 3.0  | -1.871 | 0.074 |
|  | Children with diabetes     | 3   | 10.7 | 2.1  |        |       |
| 13. Consider you regularly.                  | do exercise                | 98  | 6.47 | 3.42 | 2.005  | 0.093 |
|  | Once a week                | 58  | 6.14 | 3.99 |        |       |
|  | Twice a week               | 41  | 6.27 | 3.23 |        |       |
|  | Three times weekly         | 39  | 6.18 | 3.55 |        |       |
|  | Daily                      | 264 | 7.20 | 3.64 |        |       |
|  | I do not practice exercise |     |      |      |        |       |

\*. The mean difference is significant at the ( $\alpha=0.5$ ) level

**Table F4***Mean difference of anxiety related to socio-demographic data*

| Anxiety                     |                          | N   | Mean  | SD   | t/F   | P-value |
|-----------------------------|--------------------------|-----|-------|------|-------|---------|
| Age                         | 20-30                    | 303 | 7.74  | 3.99 |       |         |
|                             | 31-40                    | 117 | 8.45  | 4.18 | 6.644 | 0.000*  |
|                             | 41-50                    | 30  | 7.00  | 4.11 |       |         |
|                             | 51-60                    | 35  | 5.80  | 3.64 |       |         |
|                             | 61-70                    | 15  | 3.80  | 4.20 |       |         |
| Gender                      | Male                     | 209 | 7.3   | 4.3  | -     | 0.221   |
|                             | Female                   | 291 | 7.8   | 4.0  | 1.225 |         |
| Level of education          | Diploma                  | 89  | 8.80  | 4.52 |       |         |
|                             | Bachelors                | 319 | 7.46  | 3.90 | 4.167 | 0.001*  |
|                             | Master                   | 47  | 7.74  | 4.61 |       |         |
|                             | Ph.D.                    | 3   | 7.67  | 2.08 |       |         |
|                             | Specialist (for doctors) | 25  | 7.36  | 3.35 |       |         |
|                             | Consultant (for doctors) | 17  | 4.12  | 3.84 |       |         |
| Profession                  | Medicine                 | 119 | 6.52  | 3.82 |       |         |
|                             | Nursing                  | 195 | 8.59  | 4.45 | 4.733 | 0.000*  |
|                             | Doctor of Pharmacy       | 16  | 9.25  | 4.77 |       |         |
|                             | Laboratory Medicine      | 53  | 6.66  | 3.22 |       |         |
|                             | Radiology                | 28  | 7.54  | 3.60 |       |         |
|                             | Pharmacy                 | 48  | 6.69  | 3.90 |       |         |
|                             | Other Health Specialty   | 41  | 7.78  | 3.54 |       |         |
| Marital status              | Married                  | 262 | 7.66  | 4.29 |       | 0.032   |
|                             | Divorced                 | 13  | 9.62  | 4.56 | 2.959 |         |
|                             | Widowed                  | 5   | 11.60 | 3.85 |       |         |
|                             | Single                   | 220 | 7.34  | 3.83 |       |         |
| Place of residency          | City                     | 298 | 7.65  | 4.23 |       | 0.751   |
|                             | Village                  | 168 | 7.45  | 4.04 | 0.287 |         |
|                             | Camp                     | 34  | 8.00  | 3.58 |       |         |
|                             | Total                    | 500 | 7.61  | 4.12 |       |         |
| The family income per month | Less than 3000           | 141 | 7.65  | 4.03 |       | 0.258   |
|                             | Between 3000-4000        | 172 | 7.92  | 3.94 | 1.360 |         |
|                             | More than 4000           | 177 | 7.20  | 4.35 |       |         |
| Number of children          | 1 child                  | 68  | 9.66  | 4.44 |       |         |
|                             | 2 children               | 62  | 7.71  | 4.58 | 5.039 | 0.000*  |
|                             | 3 children               | 47  | 7.77  | 4.27 |       |         |
|                             | 4 children               | 36  | 6.39  | 4.11 |       |         |
|                             | More than 4 children     | 15  | 5.93  | 4.38 |       |         |
|                             | No children              | 272 | 7.29  | 3.73 |       |         |
| Level of experience         | 1 Year                   | 61  | 7.28  | 3.25 |       | 0.608   |
|                             | 2 Years                  | 61  | 7.39  | 4.24 | 0.677 |         |
|                             | 3 Years                  | 51  | 8.24  | 4.25 |       |         |

|   |                       |     |      |      |       |        |
|---|-----------------------|-----|------|------|-------|--------|
|   | More than 3 Years     | 282 | 7.70 | 4.22 |       |        |
|   | No Experience         | 45  | 7.04 | 4.29 |       |        |
| Regular working shifts                      | Yes                   | 249 | 7.0  | 4.1  | -     | 0.001* |
|   | No                    | 251 | 8.2  | 4.1  | 3.241 |        |
| Determine regular shift time                | A Shift               | 171 | 7.1  | 4.1  | 0.623 | 0.534  |
|   | B shift               | 79  | 6.8  | 4.0  |       |        |
| Working overload hours                      | Yes                   | 180 | 7.6  | 4.0  | 0.043 | 0.965  |
|   | No                    | 320 | 7.6  | 4.2  |       |        |
| Working in a private or government hospital | Private hospital      | 375 | 7.7  | 4.1  | 0.595 | 0.552  |
|   | Governmental hospital | 125 | 7.4  | 4.1  |       |        |

\*. The mean difference is significant at the ( $\alpha=0.5$ ) level

**Table F5***Mean difference of anxiety related to health history data*

| Anxiety  |                                | N   | Mean  | SD   | T     | F     | P-value |
|--|--------------------------------|-----|-------|------|-------|-------|---------|
| Do you have health insurance                         | Yes                            | 352 | 7.6   | 4.0  | -     |       | 0.716   |
|  | No                             | 148 | 7.7   | 4.4  | 0.364 |       |         |
| Current status                                       | Employed                       | 463 | 7.6   | 4.1  | 0.100 |       | 0.920   |
|  | Volunteer                      | 37  | 7.5   | 4.4  |       |       |         |
| Are you suffering from any chronic diseases          | Yes                            | 49  | 7.2   | 4.6  | -     |       | 0.495   |
|  | No                             | 451 | 7.6   | 4.1  | 0.682 |       |         |
| If yes determine the diseases                        | Polycystic Ovary               | 4   | 5.25  | 3.30 |       | 1.065 | 0.410   |
|  | Hypertension                   | 12  | 5.75  | 3.72 |       |       |         |
|  | DM                             | 9   | 7.56  | 4.30 |       |       |         |
|  | GERD, IBS                      | 6   | 11.83 | 5.56 |       |       |         |
|  | Hypothyroidism                 | 7   | 7.86  | 5.05 |       |       |         |
|  | Irregular Heartbeat            | 2   | 9.50  | 6.36 |       |       |         |
|  | Rheumatoid Arthritis           | 1   | 6.00  | 0.00 |       |       |         |
|  | Asthma                         | 3   | 4.67  | 3.79 |       |       |         |
|  | Hypercholesterolemia           | 1   | 5.00  | 0.00 |       |       |         |
|  | DVT                            | 2   | 7.00  | 9.90 |       |       |         |
| Are you taking chronic drugs                         | Yes                            | 47  | 7.3   | 4.7  | -     |       | 0.565   |
|  | No                             | 453 | 7.6   | 4.1  | 0.576 |       |         |
| Determine which drugs                                | Spirolactone                   | 4   | 5.25  | 3.30 |       | 1.065 | 0.410   |
|  | Antihypertensive Drugs         | 12  | 5.75  | 3.72 |       |       |         |
|  | Antidiabetic Drugs and Insulin | 9   | 7.56  | 4.30 |       |       |         |
|  | Antacids and PPIs              | 6   | 11.83 | 5.56 |       |       |         |
|  | Levothyroxine                  | 7   | 7.86  | 5.05 |       |       |         |
|  | Heart rate control therapy     | 2   | 9.50  | 6.36 |       |       |         |
|  | Salazopyrin EN                 | 1   | 6.00  | 0.00 |       |       |         |
|  | Corticosteroid Inhalers        | 3   | 4.67  | 3.79 |       |       |         |
|  | Antihyperlipidemic Drugs       | 1   | 5.00  | 0.00 |       |       |         |
|  | Anticoagulant Drugs            | 2   | 7.00  | 9.90 |       |       |         |
| Are you smoker                                       | Yes                            | 140 | 8.3   | 4.4  | 2.335 |       | 0.020*  |
|  | No                             | 360 | 7.3   | 4.0  |       |       |         |
| If yes determine your daily consumption              | Less than packet               | 37  | 8.05  | 4.64 |       | 0.179 | 0.837   |
|  | One packet                     | 46  | 8.11  | 4.52 |       |       |         |
|  | More than one packet           | 55  | 8.55  | 4.28 |       |       |         |
| Do you have a family history of any mental disorders | Yes                            | 13  | 10.9  | 5.5  | 2.964 |       | 0.003*  |
|  | No                             | 487 | 7.5   | 4.0  |       |       |         |
| If yes determine which disorders                     | Depression                     | 9   | 10.56 | 6.25 |       | 0.251 | 0.859   |
|  | Bipolar mania                  | 1   | 10.00 | -    |       |       |         |
|  | PTSD, OCD                      | 1   | 16.00 | -    |       |       |         |
|  | Schizophrenia                  | 2   | 10.50 | 4.95 |       |       |         |

|  |                        |     |      |      |       |        |
|--|------------------------|-----|------|------|-------|--------|
| Do you live with anyone who is at high risk of infection | Yes                    | 24  | 8.7  | 4.3  | 1.294 | 0.196  |
|  | No                     | 476 | 7.6  | 4.1  |       |        |
| If yes determine who                                     | Elderly family members | 23  | 8.0  | 4.2  | -     | 0.042* |
|  | Children with diabetes | 3   | 13.3 | 0.6  | 2.150 |        |
| Consider do you exercise regularly                       | Once a week            | 98  | 7.37 | 3.62 | 1.189 | 0.315  |
|  | Twice a week           | 58  | 7.28 | 4.48 |       |        |
|  | Three times weekly     | 41  | 6.80 | 3.57 |       |        |
|  | Daily                  | 39  | 7.13 | 4.42 |       |        |
|  | I do not Exercise      | 264 | 7.96 | 4.24 |       |        |

\*. The mean difference is significant at the ( $\alpha=0.5$ ) level

**Table F6***Comparison between socio-demographic data regarding the total score of depression*

| Socio-demographic data            |                          | Total score of depression       |                                      |                                    | Statistical analysis |         |
|-----------------------------------|--------------------------|---------------------------------|--------------------------------------|------------------------------------|----------------------|---------|
|                                   |                          | Normal Case<br>(0-7)<br>(n=302) | Borderline Case<br>(8-10)<br>(n=123) | Abnormal Case<br>(11-21)<br>(n=71) | $\chi^2$             | P-value |
| Gender                            | Male                     | 118<br>(38.6)                   | 59<br>(48)                           | 32<br>(45.1)                       | 3.554                | 0.169   |
|                                   | Female                   | 188<br>(61.4)                   | 64<br>(52)                           | 39<br>(54.9)                       |                      |         |
| Level of education                | Diploma                  | 45 (14.7)                       | 27 (22)                              | 17 (23.9)                          | 9.429                | 0.492   |
|                                   | Bachelors                | 201 (65.7)                      | 76 (61.8)                            | 42 (59.2)                          |                      |         |
|                                   | Master                   | 30 (9.8)                        | 11 (8.9)                             | 6 (8.5)                            |                      |         |
|                                   | Ph.D.                    | 2 (0.7)                         | 1 (0.8)                              | 0 (0)                              |                      |         |
|                                   | Specialist (for doctors) | 14 (4.6)                        | 6 (4.9)                              | 5 (7)                              |                      |         |
|                                   | Consultant (for doctors) | 14 (4.6)                        | 2 (1.6)                              | 1 (1.4)                            |                      |         |
|                                   | Profession               | Medicine                        | 80 (26.1)                            | 28 (22.8)                          |                      |         |
| 1.                                | Nursing                  | 102 (33.3)                      | 56 (45.5)                            | 37 (52.1)                          |                      |         |
|                                   | Doctor of Pharmacy       | 11 (3.6)                        | 3 (2.4)                              | 2 (2.8)                            |                      |         |
|                                   | Laboratory Medicine      | 43 (14.1)                       | 7 (5.7)                              | 3 (4.2)                            |                      |         |
|                                   | Radiology                | 15 (4.9)                        | 9 (7.3)                              | 4 (5.6)                            |                      |         |
|                                   | Pharmacy                 | 29 (9.5)                        | 12 (9.8)                             | 7 (9.9)                            |                      |         |
|                                   | Other Health Specialty   | 26 (8.5)                        | 8 (6.5)                              | 7 (9.9)                            |                      |         |
|                                   | Marital status           | Married                         | 157 (51.3)                           | 66 (53.7)                          | 39 (54.9)            | 11.676  |
| Divorced                          |                          | 6 (2)                           | 5 (4.1)                              | 2 (2.8)                            |                      |         |
| Widowed                           |                          | 1 (0.3)                         | 1 (0.8)                              | 3 (4.2)                            |                      |         |
| Single                            |                          | 142 (46.4)                      | 51 (41.5)                            | 27 (38)                            |                      |         |
| Place of residency                | City                     | 182 (59.5)                      | 69 (56.1)                            | 47 (66.2)                          | 5.458                | 0.243   |
|                                   | Village                  | 108 (35.3)                      | 42 (34.1)                            | 18 (25.4)                          |                      |         |
| The family income per month (NIS) | Camp                     | 16 (5.2)                        | 12 (9.8)                             | 6 (8.5)                            | 1.811                | 0.770   |
|                                   | Less than 3000           | 81 (27.1)                       | 40 (32.8)                            | 20 (29)                            |                      |         |
|                                   | Between 3000-4000        | 109 (36.5)                      | 41 (33.6)                            | 22 (31.9)                          |                      |         |
| Number of children                | More than 4000           | 109 (36.5)                      | 41 (33.6)                            | 27 (39.1)                          | 11.401               | 0.327   |
|                                   | 1                        | 34 (11.1)                       | 19 (15.4)                            | 15 (21.1)                          |                      |         |
|                                   | 2                        | 37 (12.1)                       | 15 (12.2)                            | 10 (14.1)                          |                      |         |
|                                   | 3                        | 26 (8.5)                        | 13 (10.6)                            | 8 (11.3)                           |                      |         |
|                                   | 4                        | 20 (6.5)                        | 11 (8.9)                             | 5 (7)                              |                      |         |
| Level of experience               | More than 4 children     | 12 (3.9)                        | 1 (0.8)                              | 2 (2.8)                            | 8.342                | 0.400   |
|                                   | No children              | 177 (57.8)                      | 64 (52)                              | 31 (43.7)                          |                      |         |
|                                   | 1 Year                   | 40 (13.1)                       | 14 (11.4)                            | 7 (9.9)                            |                      |         |

|   |                       |            |           |           |       |        |
|---|-----------------------|------------|-----------|-----------|-------|--------|
|   | 2 Years               | 41 (13.4)  | 12 (9.8)  | 8 (11.3)  |       |        |
|   | 3 Years               | 29 (9.5)   | 16 (13)   | 6 (8.5)   |       |        |
|   | More than 3 Years     | 166 (54.2) | 68 (55.3) | 48 (67.6) |       |        |
|   | No Experience         | 30 (9.8)   | 13 (10.6) | 2 (2.8)   |       |        |
| Do you have regular working shifts                  | Yes                   | 163 (53.3) | 55 (44.7) | 31 (43.7) | 3.814 | 0.148  |
|   | No                    | 143 (46.7) | 68 (55.3) | 40 (56.3) |       |        |
| If you determine your regular shift time            | A Shift               | 115 (70.1) | 31 (56.4) | 25 (80.6) | 6.062 | 0.048* |
|   | B shift               | 49 (29.9)  | 24 (43.6) | 6 (19.4)  |       |        |
|   | Mixed shifts          | 0 (0)      | 0 (0)     | 0 (0)     |       |        |
| Are you working overload hours                      | Yes                   | 112 (36.6) | 44 (35.8) | 24 (33.8) | 0.200 | 0.905  |
|   | No                    | 194 (63.4) | 79 (64.2) | 47 (66.2) |       |        |
| Are you working in a private or government hospital | Private hospital      | 234 (76.5) | 91 (74)   | 50 (70.4) | 1.214 | 0.544  |
|   | Governmental hospital | 72 (23.5)  | 32 (26)   | 21 (29.6) |       |        |

\*. The mean difference is significant at the ( $\alpha=0.5$ ) level

**Table F7***Comparison between health history information regarding a total score of depression*

| Health history information                     |                                 | Total score of depression       |                                      |                                    | Statistical analysis |         |           |       |       |
|--|---------------------------------|---------------------------------|--------------------------------------|------------------------------------|----------------------|---------|-----------|-------|-------|
|  |                                 | Normal Case<br>(0-7)<br>(n=302) | Borderline Case<br>(8-10)<br>(n=123) | Abnormal Case<br>(11-21)<br>(n=71) | $\chi^2$             | P-value |           |       |       |
| 1. Do you have health insurance                | Yes                             | 208 (68)                        | 92 (74.8)                            | 52 (73.2)                          | 2.280                | 0.319   |           |       |       |
|  | No                              | 98 (32)                         | 31 (25.2)                            | 19 (26.8)                          |                      |         |           |       |       |
| 2. Current status                              | Employed                        | 282 (92.2)                      | 114 (92.7)                           | 67 (94.4)                          | 0.412                | 0.814   |           |       |       |
|  | Volunteer                       | 24 (7.8)                        | 9 (7.3)                              | 4 (5.6)                            |                      |         |           |       |       |
|  | Student                         | 0 (0)                           | 0 (0)                                | 1 (0)                              |                      |         |           |       |       |
| 3. Are you suffering from any chronic diseases | Yes                             | 30 (9.8)                        | 12 (9.8)                             | 7 (9.9)                            | 0.001                | 0.999   |           |       |       |
|  | No                              | 276 (90.2)                      | 111 (90.2)                           | 64 (90.1)                          |                      |         |           |       |       |
| 4. If yes determine the diseases               | Polycystic Ovary                | 2 (7.1)                         | 2 (16.7)                             | 0 (0)                              | 15.815               | 0.605   |           |       |       |
|  | Hypertension                    | 7 (25)                          | 4 (33.3)                             | 1 (14.3)                           |                      |         |           |       |       |
|  | DM                              | 7 (25)                          | 2 (16.7)                             | 0 (0)                              |                      |         |           |       |       |
|  | GERD, IBS                       | 2 (7.1)                         | 1 (8.3)                              | 3 (42.9)                           |                      |         |           |       |       |
|  | Hypothyroidism                  | 4 (14.3)                        | 2 (16.7)                             | 1 (14.3)                           |                      |         |           |       |       |
|  | Irregular Heartbeat             | 1 (3.6)                         | 0 (0)                                | 1 (14.3)                           |                      |         |           |       |       |
|  | Rheumatoid Arthritis            | 1 (3.6)                         | 0 (0)                                | 0 (0)                              |                      |         |           |       |       |
|  | Asthma                          | 2 (7.1)                         | 0 (0)                                | 1 (14.3)                           |                      |         |           |       |       |
|  | Hypercholesterolemia            | 1 (3.6)                         | 0 (0)                                | 0 (0)                              |                      |         |           |       |       |
|  | DVT                             | 1 (3.6)                         | 1 (8.3)                              | 0 (0)                              |                      |         |           |       |       |
|  | Heart Disease                   | 0 (0)                           | 0 (0)                                | 1 (0)                              |                      |         |           |       |       |
|  | 5. Are you taking chronic drugs | Yes                             | 28 (9.2)                             | 12 (9.8)                           |                      |         | 7 (9.9)   | 0.058 | 0.971 |
|  |                                 | No                              | 278 (90.8)                           | 111 (90.2)                         |                      |         | 64 (90.1) |       |       |
| 6. Determine which drugs                       | Spirolactone                    | 2 (7.1)                         | 2 (16.7)                             | 0 (0)                              | 15.815               | 0.605   |           |       |       |
|  | Antihypertensive Drugs          | 7 (25)                          | 4 (33.3)                             | 1 (14.3)                           |                      |         |           |       |       |
|  | Antidiabetic Drugs and Insulin  | 7 (25)                          | 2 (16.7)                             | 0 (0)                              |                      |         |           |       |       |
|  | Antacids and PPIs               | 2 (7.1)                         | 1 (8.3)                              | 3 (42.9)                           |                      |         |           |       |       |
|  | Levothyroxine                   | 4 (14.3)                        | 2 (16.7)                             | 1 (14.3)                           |                      |         |           |       |       |
|  | Heart rate control therapy      | 1 (3.6)                         | 0 (0)                                | 1 (14.3)                           |                      |         |           |       |       |
|  | Salazopyrin                     | 1 (3.6)                         | 0 (0)                                | 0 (0)                              |                      |         |           |       |       |

|                |                |                          |            |            |           |        |        |
|----------------|----------------|--------------------------|------------|------------|-----------|--------|--------|
|                |                | EN                       |            |            |           |        |        |
|                |                | Corticosteroid           | 2 (7.1)    | 0 (0)      | 1 (14.3)  |        |        |
|                |                | Inhalers                 |            |            |           |        |        |
|                |                | Antihyperlipidemic Drugs | 1 (3.6)    | 0 (0)      | 0 (0)     |        |        |
|                |                | Anticoagulant            | 1 (3.6)    | 1 (8.3)    | 0 (0)     |        |        |
|                |                | Drugs                    |            |            |           |        |        |
|                |                | CCBs                     | 0 (0)      | 0 (0)      | 1 (0)     |        |        |
| 7.Are you      | Yes            |                          | 73 (23.9)  | 37 (30.1)  | 30 (42.3) | 10.026 | 0.007* |
| smoker         | No             |                          | 233 (76.1) | 86 (69.9)  | 41 (57.7) |        |        |
| 8.If you       | Less than      | packet                   | 22 (30.6)  | 9 (24.3)   | 6 (20.7)  | 1.325  | 0.857  |
| determine your | One packet     |                          | 23 (31.9)  | 12 (32.4)  | 11 (37.9) |        |        |
| daily          | More than one  | packet                   | 27 (37.5)  | 16 (43.2)  | 12 (41.4) |        |        |
| consumption    | Yes            |                          | 5 (1.6)    | 3 (2.4)    | 5 (7)     | 6.673  | 0.036  |
| 9.Having a     | No             |                          | 301 (98.4) | 120 (97.6) | 65 (93)   |        |        |
| family history | Depression     |                          | 4 (80)     | 1 (33.3)   | 4 (80)    | 7.993  | 0.239  |
| of any mental  | Bipolar mania  |                          | 0 (0)      | 1 (33.3)   | 0 (0)     |        |        |
| disorders      | PTSD, OCD      |                          | 0 (0)      | 1 (33.3)   | 0 (0)     |        |        |
| 10.If you      | Schizophrenia  |                          | 1 (20)     | 0 (0)      | 2 (20)    |        |        |
| determine      | Yes            |                          | 11 (3.6)   | 9 (7.3)    | 4 (5.6)   | 2.786  | 0.248  |
| which          | No             |                          | 295 (96.4) | 114 (92.7) | 67 (94.4) |        |        |
| disorders      | Elderly family | members                  | 12 (100)   | 8 (80)     | 3 (75)    | 2.977  | 0.226  |
| 11.Do you live | Children with  | diabetes                 | 0 (0)      | 2 (20)     | 3 (25)    |        |        |
| with anyone    | Once a week    |                          | 59 (19.3)  | 32 (26)    | 7 (9.9)   | 12.682 | 0.123  |
| who is at high | Twice a week   |                          | 39 (12.7)  | 10 (8.1)   | 9 (12.7)  |        |        |
| risk of        | Three times    | weekly                   | 26 (8.5)   | 12 (9.8)   | 3 (4.2)   |        |        |
| infection      | Daily          |                          | 26 (8.5)   | 7 (5.7)    | 6 (8.5)   |        |        |
| 12.If you      | I do not       | practice                 | 156 (51)   | 62 (50.4)  | 46 (64.8) |        |        |
| determine      | exercise       |                          |            |            |           |        |        |
| whom           |                |                          |            |            |           |        |        |
| 13.Consider do |                |                          |            |            |           |        |        |
| you exercise   |                |                          |            |            |           |        |        |
| regularly      |                |                          |            |            |           |        |        |

\*. The mean difference is significant at the ( $\alpha=0.5$ ) level

**Table F8***Comparison between emotional support information regarding a total score of anxiety*

| Socio-demographic data            |                          | Total score of anxiety    |                                |                              | Statistical analysis |         |
|-----------------------------------|--------------------------|---------------------------|--------------------------------|------------------------------|----------------------|---------|
|                                   |                          | Normal Case (0-7) (n=302) | Borderline Case (8-10) (n=123) | Abnormal Case (11-21) (n=71) | $\chi^2$             | P-value |
| Gender                            | Male                     | 112 (43.2)                | 48 (42.5)                      | 49 (38.3)                    | 0.895                | 0.639   |
|                                   | Female                   | 147 (56.8)                | 65 (57.5)                      | 79 (61.7)                    |                      |         |
| Level of education                | Diploma                  | 34 (13.1)                 | 25 (22.1)                      | 30 (23.4)                    | 15.828               | 0.105   |
|                                   | Bachelors                | 173 (66.8)                | 67 (59.3)                      | 79 (61.7)                    |                      |         |
|                                   | Master                   | 23 (8.9)                  | 12 (10.6)                      | 12 (9.4)                     |                      |         |
|                                   | Ph.D.                    | 2 (0.8)                   | 1 (0.9)                        | 0 (0)                        |                      |         |
|                                   | Specialist (for doctors) | 13 (5)                    | 7 (6.2)                        | 5 (3.9)                      |                      |         |
|                                   | Consultant (for doctors) | 14 (5.4)                  | 1 (0.9)                        | 2 (1.6)                      |                      |         |
|                                   | Medicine                 | 77 (29.7)                 | 23 (20.4)                      | 19 (14.8)                    |                      |         |
| Nursing                           | 80 (30.9)                | 49 (43.4)                 | 66 (51.6)                      |                              |                      |         |
| Doctor of Pharmacy                | 6 (2.3)                  | 1 (0.9)                   | 9 (7)                          |                              |                      |         |
| Laboratory Medicine               | 37 (14.3)                | 9 (8)                     | 7 (5.5)                        |                              |                      |         |
| Radiology                         | 13 (5)                   | 8 (7.1)                   | 7 (5.5)                        |                              |                      |         |
| Pharmacy                          | 26 (10)                  | 12 (10.6)                 | 10 (7.8)                       |                              |                      |         |
| Other Health Specialty            | 20 (7.7)                 | 11 (9.7)                  | 10 (7.8)                       |                              |                      |         |
| Marital status                    | Married                  | 137 (52.9)                | 51 (45.1)                      | 74 (57.8)                    | 10.278               | 0.113   |
|                                   | Divorced                 | 4 (1.5)                   | 5 (4.4)                        | 4 (3.1)                      |                      |         |
|                                   | Widowed                  | 1 (0.4)                   | 1 (0.9)                        | 3 (2.3)                      |                      |         |
|                                   | Single                   | 117 (45.2)                | 56 (49.6)                      | 47 (36.7)                    |                      |         |
| Place of residency                | City                     | 156 (60.2)                | 61 (54)                        | 81 (63.3)                    | 12.912               | 0.012*  |
|                                   | Village                  | 91 (35.1)                 | 36 (31.9)                      | 41 (32)                      |                      |         |
|                                   | Camp                     | 12 (4.6)                  | 16 (14.2)                      | 6 (4.7)                      |                      |         |
| The family income per month (NIS) | Less than 3000           | 70 (27.5)                 | 41 (36.9)                      | 30 (24.2)                    | 7.579                | 0.108   |
|                                   | Between 3000-4000        | 84 (32.9)                 | 39 (35.1)                      | 49 (39.5)                    |                      |         |
|                                   | More than 4000           | 101 (39.6)                | 31 (27.9)                      | 45 (36.3)                    |                      |         |
| Number of children                | 1                        | 23 (8.9)                  | 16 (14.2)                      | 29 (22.7)                    | 25.924               | 0.004*  |
|                                   | 2                        | 33 (12.7)                 | 8 (7.1)                        | 21 (16.4)                    |                      |         |
|                                   | 3                        | 22 (8.5)                  | 12 (10.6)                      | 13 (10.2)                    |                      |         |
|                                   | 4                        | 24 (9.3)                  | 5 (4.4)                        | 7 (5.5)                      |                      |         |
|                                   | More than 4              | 10 (3.9)                  | 2 (1.8)                        | 3 (2.3)                      |                      |         |

|   |                        |            |           |           |       |       |  |
|---|------------------------|------------|-----------|-----------|-------|-------|--|
|   | children               |            |           |           |       |       |  |
|   | No children            | 147 (56.8) | 70 (61.9) | 55 (43)   |       |       |  |
| Level of experience                                 | 1 Year                 | 32 (12.4)  | 16 (14.2) | 13 (10.2) | 8.703 | 0.367 |  |
|   | 2 Years                | 37 (14.3)  | 10 (8.8)  | 14 (10.9) |       |       |  |
|   | 3 Years                | 22 (8.5)   | 16 (14.2) | 13 (10.2) |       |       |  |
|   | More than 3 Years      | 140 (54.1) | 62 (54.9) | 80 (62.5) |       |       |  |
|   | No Experience          | 28 (10.8)  | 9 (8)     | 8 (6.3)   |       |       |  |
| Do you have regular working shifts                  | Yes                    | 142 (54.8) | 50 (44.2) | 57 (44.5) | 5.432 | 0.066 |  |
|   | No                     | 117 (45.2) | 63 (55.8) | 71 (55.5) |       |       |  |
| If yes determine your regular shift time            | A Shift                | 92 (64.8)  | 40 (78.4) | 39 (68.4) | 3.231 | 0.199 |  |
|   | B shift                | 50 (35.2)  | 11 (21.6) | 18 (31.6) |       |       |  |
|   | Mixed shifts           | 0 (0)      | 0 (0)     | 0 (0)     |       |       |  |
| Are you working overload hours                      | Yes                    | 95 (36.7)  | 42 (37.2) | 43 (33.6) | 0.441 | 0.802 |  |
|   | No                     | 164 (63.3) | 71 (62.8) | 85 (66.4) |       |       |  |
| Are you working in a private or government hospital | Private hospital       | 192 (74.1) | 84 (74.3) | 99 (77.3) | 0.506 | 0.776 |  |
|   | Government al hospital | 67 (25.9)  | 29 (25.7) | 29 (22.7) |       |       |  |

\*. The mean difference is significant at the ( $\alpha=0.5$ ) level

**Table F9***Comparison between health history information regarding a total score of anxiety*

| Health history information                  |                                | Total score of anxiety    |                                |                              | Statistical analysis |         |            |       |       |
|---|--------------------------------|---------------------------|--------------------------------|------------------------------|----------------------|---------|------------|-------|-------|
|   |                                | Normal Case (0-7) (n=302) | Borderline Case (8-10) (n=123) | Abnormal Case (11-21) (n=71) | $\chi^2$             | P-value |            |       |       |
| Do you have health insurance                | Yes                            | 182 (70.3)                | 79 (69.9)                      | 91 (71.1)                    | 0.045                | 0.977   |            |       |       |
|   | No                             | 77 (29.7)                 | 34 (30.1)                      | 37 (28.9)                    |                      |         |            |       |       |
| Current status                              | Employed                       | 241 (93.1)                | 104 (92)                       | 118 (92.2)                   | 0.161                | 0.923   |            |       |       |
|   | Volunteer                      | 18 (6.9)                  | 9 (8)                          | 10 (7.8)                     |                      |         |            |       |       |
|   | Student                        | 0 (0)                     | 0 (0)                          | 0 (0)                        |                      |         |            |       |       |
| Are you suffering from any chronic diseases | Yes                            | 29 (11.2)                 | 7 (6.2)                        | 13 (10.2)                    | 2.252                | 0.324   |            |       |       |
|   | No                             | 230 (88.8)                | 106 (93.8)                     | 115 (89.8)                   |                      |         |            |       |       |
| If yes determine the diseases               | Polycystic Ovary               | 3 (11.1)                  | 1 (14.3)                       | 0 (0)                        | 21.445               | 0.258   |            |       |       |
|   | Hypertension                   | 9 (33.3)                  | 1 (14.3)                       | 2 (15.4)                     |                      |         |            |       |       |
|   | DM                             | 5 (18.5)                  | 1 (14.3)                       | 3 (23.1)                     |                      |         |            |       |       |
|   | GERD, IBS                      | 1 (3.7)                   | 0 (0)                          | 5 (38.5)                     |                      |         |            |       |       |
|   | Hypothyroidism                 | 3 (11.1)                  | 3 (42.9)                       | 1 (7.7)                      |                      |         |            |       |       |
|   | Irregular Heartbeat            | 1 (3.7)                   | 0 (0)                          | 1 (7.7)                      |                      |         |            |       |       |
|   | Rheumatoid Arthritis           | 1 (3.7)                   | 0 (0)                          | 0 (0)                        |                      |         |            |       |       |
|   | Asthma                         | 2 (7.4)                   | 1 (14.3)                       | 0 (0)                        |                      |         |            |       |       |
|   | Hypercholesterolemia           | 1 (3.7)                   | 0 (0)                          | 0 (0)                        |                      |         |            |       |       |
|   | DVT                            | 1 (3.7)                   | 0 (0)                          | 1 (7.7)                      |                      |         |            |       |       |
|   | Heart Disease                  | 0 (0)                     | 0 (0)                          | 0 (0)                        |                      |         |            |       |       |
|   | Are you taking chronic drugs   | Yes                       | 28 (10.8)                      | 6 (5.3)                      |                      |         | 13 (10.2)  | 2.911 | 0.233 |
|   |                                | No                        | 231 (89.2)                     | 107 (94.7)                   |                      |         | 115 (89.8) |       |       |
| Determine which drugs and                   | Spironolactone                 | 3 (11.1)                  | 1 (14.3)                       | 0 (0)                        | 21.445               | 0.258   |            |       |       |
|   | Antihypertensive Drugs         | 9 (33.3)                  | 1 (14.3)                       | 2 (15.4)                     |                      |         |            |       |       |
|   | Antidiabetic Drugs and Insulin | 5 (18.5)                  | 1 (14.3)                       | 3 (23.1)                     |                      |         |            |       |       |
|   | Antacids and PPIs              | 1 (3.7)                   | 0 (0)                          | 5 (38.5)                     |                      |         |            |       |       |
|   | Levothyroxine                  | 3 (11.1)                  | 3 (42.9)                       | 1 (7.7)                      |                      |         |            |       |       |
|   | Heart rate control therapy     | 1 (3.7)                   | 0 (0)                          | 1 (7.7)                      |                      |         |            |       |       |

|  |                            |            |            |            |        |        |
|--|----------------------------|------------|------------|------------|--------|--------|
|  | Salazopyrin EN             | 1 (3.7)    | 0 (0)      | 0 (0)      |        |        |
|  | Corticosteroid             | 2 (7.4)    | 1 (14.3)   | 0 (0)      |        |        |
|  | Inhalers                   |            |            |            |        |        |
|  | Antihyperlipidemic Drugs   | 1 (3.7)    | 0 (0)      | 0 (0)      |        |        |
|  | Anticoagulant Drugs        | 1 (3.7)    | 0 (0)      | 1 (7.7)    |        |        |
|  | CCBs                       | 0 (0)      | 0 (0)      | 0 (0)      |        |        |
| Are you a smoker   | Yes                        | 61 (23.6)  | 35 (31)    | 44 (34.4)  | 5.618  | 0.060  |
|  | No                         | 198 (76.4) | 78 (69)    | 84 (65.6)  |        |        |
| If you determine your daily consumption                  | Less than packet           | 19 (31.7)  | 7 (20)     | 11 (25.6)  | 3.235  | 0.519  |
|  | One packet                 | 19 (31.7)  | 15 (42.9)  | 12 (27.9)  |        |        |
|  | More than one packet       | 22 (36.7)  | 13 (37.1)  | 20 (46.5)  |        |        |
| Do you have a family history of any mental disorders     | Yes                        | 5 (1.9)    | 1 (0.9)    | 7 (5.5)    | 5.931  | 0.052  |
|  | No                         | 254 (98.1) | 112 (99.1) | 121 (94.5) |        |        |
| If you determine which disorders                         | Depression                 | 4 (80)     | 0 (0)      | 5 (71.4)   | 13.867 | 0.031* |
|  | Bipolar mania              | 0 (0)      | 1 (100)    | 0 (0)      |        |        |
|  | PTSD, OCD                  | 0 (0)      | 0 (0)      | 1 (14.3)   |        |        |
|  | schizophrenia              | 1 (20)     | 0 (0)      | 1 (14.3)   |        |        |
| Do you live with anyone who is at high risk of infection | Yes                        | 10 (3.9)   | 6 (5.3)    | 8 (6.3)    | 1.153  | 0.561  |
|  | No                         | 249 (96.1) | 107 (94.7) | 120 (93.8) |        |        |
| If you determine who                                     | Elderly family members     | 11 (100)   | 6 (100)    | 6 (66.7)   | 6.406  | 0.041* |
|  | Children with diabetes     | 0 (0)      | 0 (0)      | 3 (33.3)   |        |        |
| Consider do you exercise regularly                       | Once a week                | 50 (19.3)  | 27 (23.9)  | 21 (16.4)  | 7.074  | 0.528  |
|  | Twice a week               | 31 (12)    | 14 (12.4)  | 13 (10.2)  |        |        |
|  | Three times weekly         | 26 (10)    | 7 (6.2)    | 8 (6.3)    |        |        |
|  | Daily                      | 21 (8.1)   | 10 (8.8)   | 8 (6.3)    |        |        |
|  | I do not practice exercise | 131 (50.6) | 55 (48.7)  | 78 (60.9)  |        |        |

\*. The mean difference is significant at the ( $\alpha=0.5$ ) level

**Table F10***Comparison between emotional support information regarding a total score of anxiety*

| Emotional information                                | support | Total score of anxiety  |                        |                                   | Statistical analysis |         |
|--|---------|-------------------------|------------------------|-----------------------------------|----------------------|---------|
|  |         | Normal (0-7)<br>(n=302) | Case (8-10)<br>(n=123) | Borderline Case (11-21)<br>(n=71) | $\chi^2$             | P-value |
| Your family supports you psychologically during work | Yes     | 220 (84.9)              | 98 (86.7)              | 87 (68)                           | 19.146               | 0.000*  |
|  | No      | 39 (15.1)               | 15 (13.3)              | 41 (32)                           |                      |         |
| Do you have anyone who supports you during work      | Yes     | 187 (72.2)              | 71 (62.8)              | 72 (56.3)                         | 10.366               | 0.006*  |
|  | No      | 72 (27.8)               | 42 (37.2)              | 56 (43.8)                         |                      |         |
| If yes who supports you                              | Husband | 58 (30.5)               | 28 (36.8)              | 27 (37)                           | 5.050                | 0.282   |
|  | Friends | 74 (38.9)               | 30 (39.5)              | 33 (45.2)                         |                      |         |
|  | Others  | 58 (30.5)               | 18 (23.7)              | 13 (17.8)                         |                      |         |

**Table F11***Correlation between depression and anxiety among the study participants*

| Depression |         | Anxiety |
|------------|---------|---------|
|            | R       | 0.713   |
|            | P-value | 0.000*  |

r: Pearson correlation & \*. The mean difference is significant at the ( $\alpha=0.5$ ) level

**Table F12***Risk factors of depression*

| Variables          |                          | Total score of depression |       |                  |       | Statistical analysis |                   |                  |
|--------------------|--------------------------|---------------------------|-------|------------------|-------|----------------------|-------------------|------------------|
|                    |                          | Normal (n=306)            |       | Abnormal (n=194) |       | P-value              | OR (95%CI)        |                  |
|                    |                          | N                         | %     | N                | %     |                      |                   |                  |
| Age                | 20-30                    | 187                       | 61.1% | 116              | 59.8% | 0.070                | 4.03 (0.89-18.19) |                  |
|                    | 31-40                    | 63                        | 20.6% | 54               | 27.8% | 0.028*               | 5.57 (1.2-25.79)  |                  |
|                    | 41-50                    | 20                        | 6.5%  | 10               | 5.2%  | 0.167                | 3.25 (0.61-17.28) |                  |
|                    | 51-60                    | 23                        | 7.5%  | 12               | 6.2%  | 0.145                | 3.39 (0.66-17.56) |                  |
|                    | 61-70                    | 13                        | 4.2%  | 2                | 1.0%  |                      |                   |                  |
| Gender             | Male                     | 118                       | 38.6% | 91               | 46.9% | 0.066                | 1.41 (0.98-2.03)  |                  |
|                    | Female                   | 188                       | 61.4% | 103              | 53.1% |                      |                   |                  |
| Level of education | Diploma                  | 45                        | 14.7% | 44               | 22.7% | 0.024*               | 4.56 (1.23-16.99) |                  |
|                    | Bachelors                | 201                       | 65.7% | 118              | 60.8% | 0.119                | 2.74 (0.77-9.73)  |                  |
|                    | Master                   | 30                        | 9.8%  | 17               | 8.8%  | 0.168                | 2.64 (0.66-10.53) |                  |
|                    | Ph.D                     | 2                         | 0.7%  | 1                | 0.5%  | 0.539                | 2.33 (0.16-34.89) |                  |
|                    | Specialist (for Doctors) | 14                        | 4.6%  | 11               | 5.7%  | 0.084                | 3.67 (0.84-16.04) |                  |
| Profession         | Consultant (for Doctors) | 14                        | 4.6%  | 3                | 1.5%  |                      |                   |                  |
|                    | Medicine                 | 80                        | 26.1% | 39               | 20.1% | 0.656                | 0.84 (0.4-1.77)   |                  |
|                    | Nursing                  | 102                       | 33.3% | 93               | 47.9% | 0.197                | 1.58 (0.79-3.17)  |                  |
|                    | Doctor of Pharmacy       | 11                        | 3.6%  | 5                | 2.6%  | 0.705                | 0.79 (0.23-2.7)   |                  |
|                    | Labratory Medicine       | 43                        | 14.1% | 10               | 5.2%  | 0.057                | 0.4 (0.16-1.03)   |                  |
|                    | Radiology                | 15                        | 4.9%  | 13               | 6.7%  | 0.415                | 1.5 (0.57-3.99)   |                  |
|                    | Pharmacy                 | 29                        | 9.5%  | 19               | 9.8%  | 0.772                | 1.14 (0.48-2.68)  |                  |
|                    | Other Health Specialty   | 26                        | 8.5%  | 15               | 7.7%  |                      |                   |                  |
|                    | Marital status           | Married                   | 157   | 51.3%            | 105   | 54.1%                | 0.298             | 1.22 (0.84-1.76) |
|                    |                          | Divorced                  | 6     | 2.0%             | 7     | 3.6%                 | 0.189             | 2.12 (0.69-6.54) |

|   |                      |     |       |     |       |        |      |             |
|---|----------------------|-----|-------|-----|-------|--------|------|-------------|
|   | Widowed              | 1   | 0.3%  | 4   | 2.1%  | 0.078  | 7.28 | (0.8-66.29) |
| Place of residency                                | Single               | 142 | 46.4% | 78  | 40.2% |        |      |             |
|   | City                 | 182 | 59.5% | 116 | 59.8% | 0.118  | 0.57 | (0.28-1.16) |
|   | Village              | 108 | 35.3% | 60  | 30.9% | 0.063  | 0.49 | (0.23-1.04) |
| Family income per month                           | Camp                 | 16  | 5.2%  | 18  | 9.3%  |        |      |             |
|   | Less than 3000       | 81  | 27.1% | 60  | 31.4% | 0.455  | 1.19 | (0.76-1.86) |
|   | Between 3000-4000    | 109 | 36.5% | 63  | 33.0% | 0.730  | 0.93 | (0.6-1.43)  |
| NO of children                                    | More than 4000       | 109 | 36.5% | 68  | 35.6% |        |      |             |
|   | 1                    | 34  | 11.1% | 34  | 17.5% |        |      |             |
|   | 2                    | 37  | 12.1% | 25  | 12.9% | 0.023* | 1.86 | (1.09-3.19) |
| Level of experience                               | 3                    | 26  | 8.5%  | 21  | 10.8% | 0.425  | 1.26 | (0.72-2.22) |
|   | 4                    | 20  | 6.5%  | 16  | 8.2%  | 0.201  | 1.5  | (0.8-2.82)  |
|   | More than 4 children | 12  | 3.9%  | 3   | 1.5%  | 0.266  | 1.49 | (0.74-3.01) |
|   | No children          | 177 | 57.8% | 95  | 49.0% |        |      |             |
|   | 1 Year               | 40  | 13.1% | 21  | 10.8% | 0.907  | 1.05 | (0.47-2.37) |
|   | 2 Years              | 41  | 13.4% | 20  | 10.3% | 0.953  | 0.98 | (0.43-2.21) |
|   | 3 Years              | 29  | 9.5%  | 22  | 11.3% | 0.326  | 1.52 | (0.66-3.48) |
| Do you have regular working shifts                | More than 3 Years    | 166 | 54.2% | 116 | 59.8% | 0.323  | 1.4  | (0.72-2.71) |
|   | No Experience        | 30  | 9.8%  | 15  | 7.7%  |        |      |             |
| If yes determin your regular shift time           | Yes                  | 163 | 53.3% | 86  | 44.3% | 0.052  | 0.7  | (0.49-1)    |
|   | No                   | 143 | 46.7% | 108 | 55.7% |        |      |             |
| Are you working overload hours                    | A Shift              | 115 | 70.1% | 56  | 65.1% |        |      |             |
|   | B shift              | 49  | 29.9% | 30  | 34.9% | 0.419  | 1.26 | (0.72-2.19) |
| Are you working in private or government hospital | Yes                  | 112 | 36.6% | 68  | 35.1% | 0.725  | 0.93 | (0.64-1.36) |
|   | No                   | 194 | 63.4% | 126 | 64.9% |        |      |             |
| Do you have health insurance                      | Private              | 234 | 76.5% | 141 | 72.7% | 0.341  | 0.82 | (0.54-1.24) |
|   | Government           | 72  | 23.5% | 53  | 27.3% |        |      |             |
| Current status                                    | Yes                  | 208 | 68.0% | 144 | 74.2% | 0.136  | 1.36 | (0.91-2.03) |
|   | No                   | 98  | 32.0% | 50  | 25.8% |        |      |             |
| Are you suffering                                 | Employed             | 282 | 92.2% | 181 | 93.3% | 0.136  | 1.36 | (0.91-2.03) |
|   | Volunteer            | 24  | 7.8%  | 13  | 6.7%  |        |      |             |
|   | Yes                  | 30  | 9.8%  | 19  | 9.8%  | 0.997  | 1    | (0.55-      |

|  |                      |     |       |     |       |        |  |                  |
|--|----------------------|-----|-------|-----|-------|--------|--|------------------|
| from any chronic diseases                                | No                   | 276 | 90.2% | 175 | 90.2% |        |  | 1.83)            |
| Are you taking chronic drugs                             | Yes                  | 28  | 9.2%  | 19  | 9.8%  | 0.810  |  | 1.08 (0.58-1.99) |
| Are you smoker   | No                   | 278 | 90.8% | 175 | 90.2% |        |  |                  |
|  | Yes                  | 73  | 23.9% | 67  | 34.5% | 0.010* |  | 1.68 (1.13-2.5)  |
| If yes determine your daily consumption                  | Less than one packet | 22  | 30.1% | 15  | 22.1% | 0.329  |  | 0.66 (0.28-1.53) |
|  | One packet           | 24  | 32.9% | 25  | 36.8% | 0.991  |  | 1 (0.46-2.17)    |
|  | More than one packet | 27  | 37.0% | 28  | 41.2% |        |  |                  |
| Do you have a family history of any mental disorders     | Yes                  | 5   | 1.6%  | 8   | 4.1%  | 0.100  |  | 2.59 (0.83-8.03) |
|  | No                   | 301 | 98.4% | 186 | 95.9% |        |  |                  |
| Do you live with anyone who is at high risk of infection | Yes                  | 11  | 3.6%  | 13  | 6.7%  | 0.119  |  | 1.93 (0.84-4.39) |
|  | No                   | 295 | 96.4% | 181 | 93.3% |        |  |                  |
| Consider do you exercise regularly                       | Once a week          | 59  | 19.3% | 39  | 20.1% | 0.848  |  | 0.95 (0.59-1.53) |
|  | Twice a week         | 39  | 12.7% | 19  | 9.8%  | 0.252  |  | 0.7 (0.39-1.28)  |
|  | Three times weekly   | 26  | 8.5%  | 15  | 7.7%  | 0.600  |  | 0.83 (0.42-1.65) |
|  | Daily                | 26  | 8.5%  | 13  | 6.7%  | 0.369  |  | 0.72 (0.36-1.47) |
|  | I do not Exercise    | 156 | 51.0% | 108 | 55.7% |        |  |                  |
| Your family supports you psychologically during work     | Yes                  | 259 | 84.6% | 146 | 75.3% | 0.010* |  | 1.81 (1.15-2.84) |
|  | No                   | 47  | 15.4% | 48  | 24.7% |        |  |                  |
| Do you have anyone who supports you during work          | Yes                  | 224 | 73.2% | 106 | 54.6% | 0.000* |  | 2.27 (1.55-3.31) |
|  | No                   | 82  | 26.8% | 88  | 45.4% |        |  |                  |
| If yes who supports you                                  | Husband              | 70  | 31.3% | 40  | 37.7% | 0.189  |  | 1.49 (0.82-2.7)  |
|  | Friends              | 92  | 41.1% | 42  | 39.6% | 0.729  |  | 1.11 (0.62-1.98) |
|  | Others               | 62  | 27.7% | 24  | 22.6% |        |  |                  |

R: References: OR: odds ratio; 95%CI: confidence interval . \*. The mean difference is significant at the ( $\alpha=0.5$ ) level

**Table F13***Risk factors od anxiety*

| Variable           |                          | Total score of anxiety |       |                  |       | Statistical analysis |            |              |             |
|--------------------|--------------------------|------------------------|-------|------------------|-------|----------------------|------------|--------------|-------------|
|                    |                          | Normal (n=259)         |       | Abnormal (n=241) |       | P-value              | OR (95%CI) |              |             |
|                    |                          | N                      | %     | N                | %     |                      |            |              |             |
| Age                | 20-30                    | 157                    | 60.6% | 146              | 60.6% | 0.045*               | 3.72       | (1.03-13.45) |             |
|                    | 31-40                    | 49                     | 18.9% | 68               | 28.2% | 0.011*               | 5.55       | (1.49-20.73) |             |
|                    | 41-50                    | 17                     | 6.6%  | 13               | 5.4%  | 0.133                | 3.06       | (0.71-13.13) |             |
|                    | 51-60                    | 24                     | 9.3%  | 11               | 4.6%  | 0.413                | 1.83       | (0.43-7.84)  |             |
|                    | 61-70                    | 12                     | 4.6%  | 3                | 1.2%  |                      | References |              |             |
| Gender             | Male                     | 112                    | 43.2% | 97               | 40.2% | 0.498                | 0.88       | (0.62-1.26)  |             |
|                    | Female                   | 147                    | 56.8% | 144              | 59.8% |                      | References |              |             |
| Level of education | Diploma                  | 34                     | 13.1% | 55               | 22.8% | 0.003*               | 7.55       | (2.02-28.21) |             |
|                    | Bachelors                | 173                    | 66.8% | 146              | 60.6% | 0.034*               | 3.94       | (1.11-13.97) |             |
|                    | Master                   | 23                     | 8.9%  | 24               | 10.0% | 0.024*               | 4.87       | (1.24-19.2)  |             |
|                    | Ph.D                     | 2                      | 0.8%  | 1                | 0.4%  | 0.539                | 2.33       | (0.16-34.89) |             |
|                    | Specialist (for Doctors) | 13                     | 5.0%  | 12               | 5.0%  | 0.052                | 4.31       | (0.99-18.8)  |             |
| Profession         | Consultant (for Doctors) | 14                     | 5.4%  | 3                | 1.2%  |                      | References |              |             |
|                    | Medicine                 | 77                     | 29.7% | 42               | 17.4% | 0.074                | 0.52       | (0.25-1.07)  |             |
|                    | Nursing                  | 80                     | 30.9% | 115              | 47.7% | 0.362                | 1.37       | (0.7-2.69)   |             |
|                    | Doctor of Pharmacy       | 6                      | 2.3%  | 10               | 4.1%  | 0.444                | 1.59       | (0.49-5.18)  |             |
|                    | Labratory Medicine       | 37                     | 14.3% | 16               | 6.6%  | 0.040*               | 0.41       | (0.18-0.96)  |             |
|                    | Radiology                | 13                     | 5.0%  | 15               | 6.2%  | 0.848                | 1.1        | (0.42-2.88)  |             |
|                    | Pharmacy                 | 26                     | 10.0% | 22               | 9.1%  | 0.612                | 0.81       | (0.35-1.86)  |             |
|                    | Other Health Specialty   | 20                     | 7.7%  | 21               | 8.7%  |                      | References |              |             |
|                    | Marital status           | Married                | 137   | 52.9%            | 125   | 51.9%                | 0.845      | 1.04         | (0.72-1.48) |
|                    |                          | Divorced               | 4     | 1.5%             | 9     | 3.7%                 | 0.128      | 2.56         | (0.76-8.55) |
| Widowed            |                          | 1                      | 0.4%  | 4                | 1.7%  | 0.179                | 4.54       | (0.5-41.31)  |             |
| Place of residency | Single                   | 117                    | 45.2% | 103              | 42.7% |                      | References |              |             |
|                    | City                     | 156                    | 60.2% | 142              | 58.9% | 0.063                | 0.5        | (0.24-1.04)  |             |
|                    | Village                  | 91                     | 35.1% | 77               | 32.0% | 0.048*               | 0.46       | (0.21-0.99)  |             |
| Family income      | Camp                     | 12                     | 4.6%  | 22               | 9.1%  |                      | References |              |             |
|                    | Less than                | 70                     | 27.5% | 71               | 30.2% | 0.188                | 1.35       | (0.86-2.1)   |             |

|   |                      |     |       |     |       |        |            |             |
|---|----------------------|-----|-------|-----|-------|--------|------------|-------------|
| per month   | 3000                 |     |       |     |       |        |            |             |
|   | Between 3000-4000    | 84  | 32.9% | 88  | 37.4% | 0.124  | 1.39       | (0.91-2.12) |
|   | More than 4000       | 101 | 39.6% | 76  | 32.3% |        | References |             |
| NO of children                                    | 1                    | 23  | 8.9%  | 45  | 18.7% | 0.003* | 2.3        | (1.32-4.01) |
|   | 2                    | 33  | 12.7% | 29  | 12.0% | 0.907  | 1.03       | (0.59-1.8)  |
|   | 3                    | 22  | 8.5%  | 25  | 10.4% | 0.360  | 1.34       | (0.72-2.49) |
|   | 4                    | 24  | 9.3%  | 12  | 5.0%  | 0.156  | 0.59       | (0.28-1.22) |
|   | More than 4 children | 10  | 3.9%  | 5   | 2.1%  | 0.344  | 0.59       | (0.2-1.77)  |
|   | No children          | 147 | 56.8% | 125 | 51.9% |        | References |             |
| Level of experience                               | 1 Year               | 32  | 12.4% | 29  | 12.0% | 0.317  | 1.49       | (0.68-3.27) |
|   | 2 Years              | 37  | 14.3% | 24  | 10.0% | 0.870  | 1.07       | (0.48-2.36) |
|   | 3 Years              | 22  | 8.5%  | 29  | 12.0% | 0.063  | 2.17       | (0.96-4.92) |
|   | More than 3 Years    | 140 | 54.1% | 142 | 58.9% | 0.120  | 1.67       | (0.88-3.19) |
|   | No Experience        | 28  | 10.8% | 17  | 7.1%  |        | References |             |
| Do you have regular working shifts                | Yes                  | 142 | 54.8% | 107 | 44.4% | 0.020* | 0.66       | (0.46-0.94) |
|   | No                   | 117 | 45.2% | 134 | 55.6% |        | References |             |
| If yes determin your regular shift time           | A Shift              | 92  | 64.8% | 79  | 73.1% |        | References |             |
|   | B shift              | 50  | 35.2% | 29  | 26.9% | 0.160  | 0.68       | (0.39-1.17) |
| Are you working overload hours                    | Yes                  | 95  | 36.7% | 85  | 35.3% | 0.743  | 0.94       | (0.65-1.36) |
|   | No                   | 164 | 63.3% | 156 | 64.7% |        | References |             |
| Are you working in private or government hospital | Private              | 192 | 74.1% | 183 | 75.9% | 0.642  | 1.1        | (0.73-1.65) |
|   | Government           | 67  | 25.9% | 58  | 24.1% |        | References |             |
| Do you have health insurance                      | Yes                  | 182 | 70.3% | 170 | 70.5% | 0.947  | 1.01       | (0.69-1.49) |
|   | No                   | 77  | 29.7% | 71  | 29.5% |        | References |             |
| Current status                                    | Employed             | 241 | 93.1% | 222 | 92.1% | 0.690  | 0.87       | (0.45-1.71) |
|   | Volunteer            | 18  | 6.9%  | 19  | 7.9%  |        | References |             |
| Are you suffering from any chronic diseases       | Yes                  | 29  | 11.2% | 20  | 8.3%  | 0.278  | 0.72       | (0.39-1.31) |
|   | No                   | 230 | 88.8% | 221 | 91.7% |        | References |             |
| Are you taking chronic drugs                      | Yes                  | 28  | 10.8% | 19  | 7.9%  | 0.264  | 0.71       | (0.38-1.3)  |
|   | No                   | 231 | 89.2% | 222 | 92.1% |        | References |             |
| Are you smoker                                    | Yes                  | 61  | 23.6% | 79  | 32.8% | 0.022* | 1.58       | (1.07-2.35) |
|   | No                   | 198 | 76.4% | 162 | 67.2% |        | References |             |

|  |                      |     |       |     |       |        |                  |
|--|----------------------|-----|-------|-----|-------|--------|------------------|
| If yes determine your daily consumption                  | Less than one packet | 19  | 31.1% | 18  | 22.5% | 0.284  | 0.63 (0.27-1.46) |
|  | One packet           | 20  | 32.8% | 29  | 36.3% | 0.933  | 0.97 (0.44-2.12) |
|  | More than one packet | 22  | 36.1% | 33  | 41.3% |        | References       |
| Do you have a family history of any mental disorders     | Yes                  | 5   | 1.9%  | 8   | 3.3%  | 0.335  | 1.74 (0.56-5.41) |
|  | No                   | 254 | 98.1% | 233 | 96.7% |        | References       |
| Do you live with anyone who is at high risk of infection | Yes                  | 10  | 3.9%  | 14  | 5.8%  | 0.312  | 1.54 (0.67-3.53) |
|  | No                   | 249 | 96.1% | 227 | 94.2% |        | References       |
| Consider do you exercise regularly                       | Once a week          | 50  | 19.3% | 48  | 19.9% | 0.813  | 0.95 (0.59-1.5)  |
|  | Twice a week         | 31  | 12.0% | 27  | 11.2% | 0.598  | 0.86 (0.49-1.52) |
|  | Three times weekly   | 26  | 10.0% | 15  | 6.2%  | 0.103  | 0.57 (0.29-1.12) |
|  | Daily                | 21  | 8.1%  | 18  | 7.5%  | 0.623  | 0.84 (0.43-1.66) |
|  | I do not Exercise    | 131 | 50.6% | 133 | 55.2% |        | References       |
| Your family supports you psychologically during work     | Yes                  | 220 | 84.9% | 185 | 76.8% | 0.021* | 0.59 (0.37-0.92) |
|  | No                   | 39  | 15.1% | 56  | 23.2% |        | References       |
| Do you have anyone who supports you during work?         | Yes                  | 187 | 72.2% | 143 | 59.3% | 0.003* | 0.56 (0.39-0.82) |
|  | No                   | 72  | 27.8% | 98  | 40.7% |        | References       |
| If yes who supports you                                  | Husband              | 58  | 31.0% | 52  | 36.4% | 0.057  | 1.76 (0.98-3.16) |
|  | Friends              | 72  | 38.5% | 62  | 43.4% | 0.066  | 1.69 (0.97-2.97) |
|  | Others               | 57  | 30.5% | 29  | 20.3% |        | References       |

R: References: OR: odds ratio; 95%CI: confidence interval \*. The mean difference is significant at the ( $\alpha=0.5$ ) level



جامعة النجاح الوطنية  
كلية الدراسات العليا

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الصحية في مستشفيات مدينة نابلس في دولة فلسطين

إعداد

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إشراف

د. محمد مرعي

قدمت هذه الرسالة استكمالاً لمتطلبات الحصول على درجة الماجستير في علم النفس الاكلينيكي، من كلية الدراسات العليا، في جامعة النجاح الوطنية، نابلس - فلسطين.

2024

# مدى انتشار الاكتئاب والقلق لدى العاملين في مجال الرعاية الصحية في مستشفيات مدينة نابلس في دولة فلسطين

إعداد

زينة سامر بعارة

إشراف

د. محمد مرعي

## الملخص

**الخلفية:** على مستوى العالم، يعد الاكتئاب والقلق من المشاكل الصحية العقلية المهمة، حيث يواجه العاملون في مجال الرعاية الصحية تحديات خاصة بسبب الضغوطات المرتبطة بالعمل. تساهم عوامل مثل أعباء العمل الثقيلة والتعرض للأمراض المعدية وساعات العمل الطويلة في ارتفاع معدلات الاكتئاب والقلق بين العاملين في مجال الرعاية الصحية..

**الهدف:** تهدف هذه الدراسة إلى تحديد مدى انتشار أعراض الاكتئاب والقلق بين العاملين في مجال الرعاية الصحية في المستشفيات في مدينة نابلس، فلسطين.

**طرق البحث:** تم استخدام منهجية كمية، وصفية، مقطعية لدراسة مدى انتشار أعراض الاكتئاب والقلق بين العاملين في مجال الرعاية الصحية في مستشفى مدينة نابلس، فلسطين. كان حجم عينة مكون من 500 عامل في مجال الرعاية الصحية. تم التأكد من صحة وموثوقية الاستبيان من خلال تقييم الخبراء والاختبار التجريبي، مع تحليل البيانات باستخدام SPSS V25.0. تمت مراعاة الاعتبارات الأخلاقية بدقة، مما يضمن الأذونات والموافقة المستنيرة وضمانات الخصوصية.

**النتائج:** أظهرت النتائج أن متوسط معدلات الانتشار المرجح للاكتئاب والقلق 32.66% و 36.00% على التوالي. وأظهرت العوامل الاجتماعية والديموغرافية مثل العمر ( $p < 0.002$ ،  $p < 0.001$ ))،

المستوى التعليمي (( $p < 0.001$ ،  $p < 0.001$ ))، المهنة (( $p < 0.001$ ،  $p < 0.006$ ))، الحالة الاجتماعية (( $p < 0.05$ ،  $p < 0.010$ ))، عدد الأطفال (( $p < 0.001$ ،  $p < 0.049$ ))، وفترات العمل المنتظمة (( $p < 0.001$ ،  $p < 0.007$ ))، فروقاً ذات دلالة إحصائية في مستويات الاكتئاب والقلق على التوالي. بالإضافة إلى ذلك، تم تحديد بعض عوامل الخطر المرتبطة بأعراض الاكتئاب والقلق الشديد أو المتوسط، بما في ذلك الفئات العمرية الأكبر سناً، ومستويات التعليم المنخفضة، والحالة الاجتماعية كالمطلقات و الارامل، وعادات التدخين، ونقص الدعم الأسري.

**الاستنتاج:** من خلال إعطاء الأولوية للصحة العقلية للعاملين في مجال الرعاية الصحية وتنفيذ التدخلات القائمة على الأدلة، يمكن للمنظمات وصناع السياسات تنمية قوة عاملة أكثر مرونة ودعمًا، مما يعزز في نهاية المطاف رعاية المرضى واستدامة نظام الرعاية الصحية مع الحفاظ على المعايير الأخلاقية وحقوق المشاركين. إن البحث المستمر والإجراءات في هذا المجال أمر بالغ الأهمية لمعالجة تحديات الصحة العقلية التي يواجهها العاملون في مجال الرعاية الصحية بشكل فعال وتعزيز الرفاهية العامة.

**الكلمات المفتاحية:** معدل الانتشار، الاكتئاب، القلق، المستشفيات، نابلس، فلسطين، العاملون في مجال الرعاية الصحية.