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Coping Strategies of Cancer Patients at Shifa Hospital in Gaza Strip

Mohammed Tameem/ M. Al Jadili

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Coping Strategies of Cancer Patients at Shifa Hospital in Gaza Strip

Submitted by

Mohammed Tameem/ M. Al Jadili

B.S.N: Islamic University , Gaza - Palestine

Supervisor

Dr. Abdel Aziz Mousa Thabet MD,PH.D

Associate Professor of Psychiatry

School of Public Health

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Student name: **Mohammed Tameem/ M. Al Jadili**

Registration No.: **20511646**

Supervisor: **Dr. Abdel Aziz Mousa Thabet**

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The names and signatures of the examining committee members are as follow:

1. Dr Abdel Aziz M. Thabet — Head of Committee
2. Dr. Bassam Abu Hamad — Internal Examiner
3. Prof. Dr. Mohammed El Helo — External Examiner

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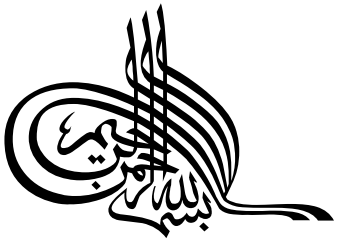

﴿ يَرْفَعِ اللَّهُ الَّذِينَ آمَنُوا مِنكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ

وَاللَّهُ بِمَا تَعْمَلُونَ خَبِيرٌ ﴾

المجادلة11

Dedication

I dedicate this work to all patients with cancer .

To my family specially my wife for her patience and

encouragement.

To my close friends for their encouragement and help .

To who's emerging in me, and giving the meaning for my life.

Declaration

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

Signed:……

Mohammed Al Jadili

Date: 10/03/2009

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Researcher

Mohammed M. Al-Jadili

Abstract

The study aimed to examine the mental health status of the patients with cancer and the coping strategies that adopted by them in front of stressful situations. The sample consisted of (358) patients from different types of cancer in the oncology clinic at Shifa Hospital in Gaza Strip by representative sample of (114) males and (244) females aged 41 or less-71and above years old. The researcher used descriptive analytical study for data collection using interviewed directed questionnaire. However, the researcher used some of modified scales from which; socioeconomic questionnaire for the patients with cancer developed by the researcher; State-Trait Anxiety Inventory Spielberger et al (1970), translated by Ahmed Abd Al Khaliq , PTSD scale (Davidson, 1987) translated by Dr. Abdel Aziz Thabet, Ways of coping (Folkman et al, 1986) which translated by Dr. Sameer Quta in 1997.

According to the demographic data for patients with cancer results revealed that from North Gaza were (24.9%), from Gaza (60.1%), and from middle area (15.1%).

the prevalence of mental health disorders among the study sample of cancer patients (Anxiety and PTSD), where State anxiety at the highest rank (60.8%), followed by trait anxiety (54.6%), re-experiencing of PTSD at the third rank (47.%), followed by PTSD (42.5%), hyper arousal of PTSD was at the sixth rank (40.5%), where avoidance of PTSD at the lowest rank (40.1%) among the study sample of patients with cancer.

The group of 40 years and less were significantly higher in re-experiences than 71 years and above among the study sample.

The prevalence of Anxiety and PTSD among the study sample of patients with cancer, found that affiliation at the highest rank (81.6%), followed by reinterpretation (75.5%), followed by self control coping strategy (75.3%), followed by problem solving (72.3%), wish and avoidance thinking was at the fifth rank (69.0%), trouble and escape was at the

sixth rank (61.8%), where accountability coping strategy was at the lowest rank (53.0%) among the study sample of cancer patients this may related to the high ratio among this study to female subjects more than male (female 68.2%, male 31.8%).

The group of 40 years and less were significantly higher in re-experiences than 71 years and above among the study sample.

The only significant differences coping strategies with sex was in trouble and escape according to sex (t= 2.58, p= 0.010) in favor of males of the study sample, While there was significant difference between accountability and marital status (f= 2.754, p= 0.042) in favor to married groups, from the main finding there is significant differences between coping strategies and both type of tumor or treatment use except thinking according to type of treatment (f= 6.228, p= 0.001)

In correlation between coping strategies; Wish and avoidance thinking, Problem solving, Re-interpretation, Affiliation, Accountability, Self control and Trouble and escape, and mental health problems represented by; State anxiety, Trait anxiety, PTSD (Re-experiencing, Avoidance, Hyper arousal), all were significant with exceptions of (Wish and avoidance thinking and affiliation to PTSD).

ملخص الدراسة

طرق التكيف لمرضى السرطان في مستشفى الشفاء بقطاع غزة

تهدف الدراسة إلى فحص طرق التكيف لمرضى السرطان وعلاقتها بالصحة النفسية في مستشفى الشفاء بقطاع غزة ، و التي استخدمت لمواجهة المواقف الضاغطة. و تهدف الدراسة إيجاد العلاقة بين المشاكل النفسية و المتغيرات الديموغرافية. تتكون عينة الدراسة من 358 مريض و تشمل جميع أنواع الأورام السرطانية في مستشفى الشفاء بقطاع غزة كعينة ممثلة (114) ذكور و (244) إناث و أعمارهم تتراوح بين أقل من 40 و أكثر من 70 عاما. واستخدمت الدراسة الطريقة الوصفية التحليلية التي أعدت للمستوفين الشروط.

وقد تم إعداد الاستبانة و التي ركزت على معرفة طرق التكيف لمرضى السرطان في مستشفى الشفاء بقطاع غزة ، وطلب منهم تعبئة الاستبانة حيث كان معدل الاستجابة (89.5%) ودرجة ثبات الاستبانة حسب عامل اختبار كرنبخ لحالة القلق (0.828) وسمة القلق (0.773) وكذلك درجة ثبات الاستبانة حسب عامل اختبار كرنبخ لكرب ما بعد الصدمة 0.908 ودرجة ثبات الاستبانة حسب عامل اختبار كرنبخ لطرق التكيف كانت تتراوح بين (0.419 – 0.869) و جميعها تعطى المصداقية المقررة للدراسة باستخدام عامل ارتباط 0.4 و ما فوق باعتبارها نقطة الحسم.

استخلصت الدراسة بعض النتائج لحالة القلق وكانت تتراوح بين (66.7% إلى 69.7%) بشكل عام ،ونسبة سمة القلق كانت تتراوح بين (63.2% إلى 69.5%) ونسبة كرب ما بعد الصدمة تتراوح بين (57.0% إلى 60.7%) وكانت جميعها نتائج مرضية تدل على حالة هؤلاء المرضى. كما وأظهرت النتائج ظهور بعض المشاكل النفسية حسب العمر حيث أن مجموعة الأعمار 40 سنة أو اقل كانت أعلى في إعادة التجربة من اللذين أعمارهم 70 أو أكثر. كذلك النتائج حسب الحالة

الاجتماعية و كرب ما بعد الصدمة و أبعادة الثلاثة وهى إعادة التجربة ، التجنب ، و الاستثارة بين الفئة المتزوجة و الأرامل لصالح الفئة المتزوجة. وهناك اختلافات هامة في حالة القلق و سمة القلق حسب العمل ، المتقاعدين مقابل الفئات الأخرى وهم " العاطلين ، العاملين ، وأخرى " لصالح الفئات الثلاثة الأخرى.

هناك اختلافات هامة في نتائج كرب ما بعد الصدمة و أبعادها الثلاثة بين المتقاعدين و الفئات الثلاثة الأخرى لصالح الفئات الثلاثة. كما انه هناك اختلافات هامة في الانزعاج والهروب حسب الجنس لصالح الذكور. كذلك يوجد اختلافات هامة في تحمل المسؤولية بين مجموعة الأعزب و الأرامل لصلح مجموعة الأعزب في عينة الدراسة.

يوجد اختلافات هامة في أغلب طرق التكيف ، تفكير التمني ،التجنب ، حل المشكلات إعادة التفسير ، تحمل المسؤولية و الانزعاج و الهروب طبقا لعينة الدراسة. هناك ارتباط هام ايجابي بين تفكير التمني و التجنب ، و حالة القلق و سمة القلق، و إعادة التجربة في كرب ما بعد الصدمة بين أفراد العينة. هناك ارتباط هام ايجابي بين تحمل المسؤولية ، حالة القلق ، سمة القلق ، كرب ما بعد الصدمة و أبعادها الثلاثة بين أفراد العينة، أيضا يوجد ارتباط هام ايجابي بين الانزعاج والهروب ، حالة القلق، سمة القلق ، و كرب ما بعد الصدمة بأبعادها الثلاثة.

كان الاختلاف في طرق التكيف ، حل المشكلات ، إعادة التفسير ، الارتباط طبقا لكرب ما بعد الصدمة لصالح اللذين لم يتعرضوا للصدمة ، بينما الاختلاف في الانزعاج والهروب حسب كرب ما بعد الصدمة لصالح المرضى اللذين لم يتعرضوا للصدمة في عينة الدراسة.

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Chapter 1

Introduction

Introduction

Globally, cancer is and will become an increasingly important cause of mortality in the global burden of disease in the decades to come. The estimated number of new cancer cases each year is expected to rise from 10 million in 2000 to 15 million by 2020. sixty percent of all these new cases will occur in the developed parts of the world . (MOH-PCR & HMIS, 2002).

When confronted with stressful or traumatic life events such as war, fatal diseases (cancer, liver failure), individuals normally restore range of coping strategies to alleviate the resultant stress or outside support from family, friends and society.

The conceptual underpinnings of much of the recent empirical developments in the field of coping with stress can be traced to the work of Lazarus and his coworkers (Lazarus, 1993; Lazarus & Folkman, 1984). These writers viewed the process of coping as comprised of two distinct phases: first of all; primary appraisal, which refers to a set of cognitions concerning the significance or impact of the stressful event for the individual, and secondary appraisal, which refers to a set of cognitions regarding the availability of resources or options (e.g., coping skills) for dealing with the stressful situation. Billings & Moos, 1981; Pearlin & Schooler, 1978, first generation coping theoreticians and researchers often viewed coping dimensions as comprised of two separate classes, namely, emotion-focused (i.e., efforts directed at affect regulation) and problem-focused (i.e., strategies directed at minimizing or solving the impact of the stressful event) coping. More recent efforts at conceptualizing coping included the addition of a third dimension (Endler and Parker, 1992), as well as other two-dimensional configurations, coping plays a significant role during the process of psychosocial adaptation to both sudden and gradual onset of chronic illnesses and cancer (Krohne, 1996; Tobin, et al, 1989).

Cancer is the most extensively researched as chronic illness. Cancer has been consistently implicated in the coping literature as necessitating a wide range of coping options to deal with shifting functional abilities, medical implications, treatment modalities, and psychosocial reactions.

Coping with cancer; individuals use frequently the psychological defense mechanisms (projection, suppression, denial, displacement, reaction formation) in adapting to the disease (Bahnson and Bahnson, 1969; leim, et al 1978; Weisman and Worden, 1976-77). These investigations particularly emphasized the role of psychological defense mechanisms in reducing emotional distress and containing fears of death, pain, and disfigurement. Ego-strength and problem-solving behaviors were associated with better psychosocial adaptation to cancer. On the other hand, pessimism, passivity, stoic submission, and self-blame were related to increased emotional distress (Weisman et al, 1976-77; Worden and Sobel, 1978).

1.2 Problem statement:

The most considerable problem over the world generally and in Gaza strip mainly was patients with cancer who suffer from variety of psychosocial and mental health problems. However, a lot of problems appear in this specific area because of the closed narrow area; also, the laconic recourses and other medical health facilities.

The importance of the problem that researcher discussed her in this work inspired from the misery situation of coping failure between the patient and himself and others, while there is so helpful roles for health care givers in resolving or helping in this as asserted by Kadan-Lottick et al (2005), "advanced patients with cancer experience major psychiatric disorders at a prevalence similar to the general population, but affected individuals have a low rate of utilizing mental health services. Oncology providers can enhance utilization of mental

health services, and potentially improve clinical outcomes, by discussing mental health concerns with their patients" Kadan-Lottick et al (2005).

So this study will give the answers about the main coping strategies and defense mechanisms among cancer patients in Gaza.

1.3 Study Justification:

Coping plays a significant role during the process of psychosocial adaptation to both sudden and gradual onset of chronic illnesses and cancer. Furthermore, this study tries to provide clear-cut of coping strategies that used and modified by patients with cancer.

More specifically, this study tries to determine that:

Wide range of coping efforts has been employed by persons with disabilities to deal with the stresses engendered by their conditions, these numerous efforts, both problem-solving and emotional-focused coping, as well as engagement- and disengagement- types of coping have been found to be adaptive, different coping efforts assume different roles and are, therefore, differentially employed to regulate stressful emotions and solve problems during the adaptation process, coping efforts have played both a direct role (i.e., are directly linked to measures of psychosocial adaptation to disability) and a mediator role (i.e., act as mediators between socio-demographic variables, personality attributes, disability-related factors, environmental conditions, and outcomes of psychosocial adaptation), and different disabling conditions imply different functional (e.g., mobility, manipulation, fatigue, cognitive) limitations, medical courses and prognostic indicators (e.g. deteriorating, unpredictable, stable), related health problems, treatment modalities, and psychosocial reactions.

1.4 Objectives

Main goal

To examine the types of coping strategies used by patients diagnosed with cancer and its relationship with their mental health at Al Shifa Hospital in Gaza Strip.

Specific objective:

1.4.1 To determine types and severities of mental health problems of patients with cancer.

1.4.2 To determine the relationship between mental health problems and socio-demographic variables.

1.4.3 To identify types of coping strategies used by patients with cancer.

1.4.4 To find the association between types of mental health problems and the types of coping strategies used.

1.4.5 To find relationship between mental health problems, coping and socio-demographic variables among patients with cancer.

1.5 Research questions:

1.5.1 What is the rate of types and severities of mental health problems of patients with cancer?

1.5.2 What is the relationship between mental health problems and socio-demographic variables.

1.5.3 What are the types of coping strategies used by patients with cancer?

1.5.4 What is the association between types of mental health problems and the coping strategies used?

1.5.5 What is the relationship between mental health problems, coping and socio-demographic variables?

1.6 Definitions:

1.6.1 Coping

- Constantly changing cognitive and behavioral efforts to manage specific external/or internal demands that are apprised as taxing or exceeding the resources of the person (Lazarus and Folkman, 1984), the researcher adopt this definition. because it is a comprehensive measurement to the reality of Gaza people life
- Coping as how people regulate their behavior, emotions and orientation under conditions of psychological stress (Skinner and Wellborn, 1994)
- Coping strategies refer to the specific efforts, both behavioral and psychological, that people employ to master, tolerate, reduce, or minimize stressful events (Taylor, 1998).
- Coping: individuals have consistent coping preferences or dispositions that are employed across a wide range of situations. This term and its dimensions explained fully in chapter three (Carver et al, 1989).

1.6.2 Mental health:

- Mental health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community (WHO, 2007).

1.7 Background of the study area and population:

The Israel-PLO Declaration of Principles on Interim Self-Government Arrangements (the DOP), signed in Washington on 13 September 1993, provided for a transitional period not exceeding five years of Palestinian interim self-government in the Gaza Strip and the West Bank. Under the DOP, Israel agreed to transfer certain powers and responsibilities to the Palestinian Authority, which includes the Palestinian Legislative Council elected in

January 1996, as part of the interim self-governing arrangements in the West Bank and Gaza Strip. A transfer of powers and responsibilities for the Gaza Strip and Jericho took place pursuant to the Israel-PLO 4 May 1994 Cairo Agreement on the Gaza Strip and the Jericho Area and in additional areas of the West Bank pursuant to the Israel-PLO 28 September 1995 Interim Agreement, the Israel-PLO 15 January 1997 Protocol Concerning Redeployment in Hebron, the Israel-PLO 23 October 1998 Wye River Memorandum, and the 4 September 1999 Sharm el-Sheikh Agreement. The DOP provides that Israel will retain responsibility during the transitional period for external and internal security and for public order of settlements and Israeli citizens. Direct negotiations to determine the permanent status of Gaza and West Bank that began in September 1999 after a three-year hiatus, were derailed by a second Intifadah that broke out in September 2000. The resulting widespread violence in the West Bank and Gaza Strip, Israel's military response, and instability within the Palestinian Authority continue to undermine progress toward a permanent agreement. Following the death of longtime Palestinian leader Yasir ARAFAT in November 2004, the election of his successor Mahmuod Abbas in January 2005 could bring a turning point in the conflict. In January 2006, the Islamic Resistance Movement, HAMAS, won control of the Palestinian Legislative Council (PLC). The international community refused to accept the HAMAS-led government. In June 2007, HAMAS militants succeeded in takeover of all military and governmental institutions in the Gaza Strip. During a November 2007 international meeting in Annapolis Maryland, ABBAS and OLMERT agreed to resume peace negotiations with the goal of reaching a final peace settlement by the end of 2008 (The World fact Book, 2008).

1.7.1 Area of study background:

Palestine is situated in Eastern of the Mediterranean Sea about 26,323 square kilometers in size. It has an important strategic geographic location as extremely of the Mediterranean Sea.

Palestine is bordered by Lebanon in North, Syria and Jordan in the East. The Gulf of Aqaba in the South and by Egypt and Mediterranean Sea in the West (MOH 2002) politically and legally the territory has been under the Israeli military occupation since 1967 until 1993 when peace agreement between the Palestinian liberation organization and Israeli government gives the Palestinians some control over part of the Gaza Strip and West Bank.

The West Bank lies within an area of 5800 sq.km. is divided into four geographical regions.

The North region including the districts of Nablus, Jenin, and Toulkarim, the central region that including the districts of Ramallah and Jerusalem the Southern region including the districts of Bethlahem and Elkhalil district and sparsely populated at the region of Jordan valley including Jericco (MOH, 2002).

Shifa commutative medical center

Shifa commutative medical center is the biggest in Palestine. Its located in the west part of Gaza, it was established on 1946, developed over years until it reaches to higher universal level over 45,000 sq.m. It has 590beds, Total man power :1285 Drs 400 Nurses, 432 Pharmacist, 23 Admin. Members, 143 Tech, 109 Worker, 112 Anther Members 22. Shifa hospital consists of 3 hospitals: Surgical hospital, Gyn. Obst. Hospital, and Medical hospital.

Demographic context:

Palestine is situated on the Eastern Coast of the Mediterranean Sea. It is of an ancient and of strategic important location. Now, Palestine comprises two areas separated geographically; the West Bank and Gaza Strip, the total area is 6,020 sq. Km. with total population living in is 3,761,646'individuals in 2007 (PCBS, 2007). Gaza Strip is a narrow piece of land lying on coast of the Mediterranean sea. Its position on the crossroads between Africa and Asia made it a target for invaders and conquerors over the centuries. The last of these was the Israeli occupation of the Gaza Strip from Egyptians in 1967 (PCBS, 2007).

Gaza Strip is very crowded place with an area of 365 sq. Km and constitutes 6.1% of the total area of the Palestinian Territories. In 2007 the population number was 1,416,539 mainly concentrated in the cities, small villages and eight refugee camps that contain two thirds of the population of Gaza Governorates with a population density of 3,808 inhabitants/km2 that comprises the following main five governorates: North of Gaza, Gaza City, Mide-Zone, Khan-younis and Rafah. (PCBS,2007).

The Palestinian Centre Bureau of Statistic (PCBS) reported that the current natural increase rate in Palestine was 3.3% (3.0% in WB and 3.8% in GS), the percentage of population under 15 years old was 46.3% of the total population (44.2% in WB and 49.1%in GS). There is a slight increase in the median age for population in Palestine between 1997 and 2005, where it increased from 16.4 years in 1997 to 16.7 years in 2005. The Palestinian Ministry of Health has reported that, the crude birth rate (CBR) in Palestine was 27.5/1000 population in 2005 (33.7 GS and 23.9 WB). MOH has reported that, the crude death rate CDR) in Palestine was 2.7/1000 population in 2005 (3.1 GS and 2.5 WB) (MOH, 2006).

1.7.2 Health indices in Gaza Strip

Crude birth rate is the number of live births per 1000 population per year. In year 2002 the average crude birth rate in the Gaza Strip is about 31.5 / 1000 (MOH. 2002). Infant mortality rate in the Gaza Strip was 22.9 / 1000 in year 2001. Prematurity and low birth weights are considered the main contributors to infant mortality in the Gaza Strip. They are responsible for 6.8 infant moralities per 1000 live births, followed by congenital anomalies that represent 5.8 /, pneumonia and other respiratory disease that represent 3.2 /1000, septicemia and other infectious diseases that represent 1.1 / 1000, gastroenteritis and diarrhea diseases that represent 0.1 / 1000 and finally, delivery related causes represent 0.08 / 1000 in year 2002.

Maternal mortality ratio is one of the most important indicators of women's health status.

In the period of (1995 -2000) according to the statistical mortality rate data were reported on cancer in Gaza Strip:

1.About 1,972 deaths of Cancer: 1,035 in male (52.5%) and 937 in female (47.5%).

2. Mortality rate per 100,000 population was 32.4 in general population, 33.7 in male and 31.1 in female.

3. Mortality rate per 100,000 persons aged 50 year and above was 247.2 in general population 327 in male and 184 in female.

4. About 82.3% of cancer mortality was solid cancer and the rest 17.7% were hematological malignances.

1.7.3 Socio-economic background:

The World Bank stated that the Gross National Product (GNP) in Palestine has been subjected to high fluctuations during the last five years. GNP was 5,454 million US$ in 1999 and decreased to 4,169 million US$ in 2005. Gross Domestic Product (GDP) was 517

million US$ in 1999 and decreased to 3,832 million US$ in 2005. Gross National product per capita (GNP/capita) was 1,806 US$ in 1999 and decreased to 1,039 US$, in Gross Domestic Product per capita (GDP/capita) was 1,496 US$ in 1999 and decreased to 955 US$ in 2005 (World Bank, 2005).

The number of workers in Israel decreased from 135,000 in 1999 to 36,000 in WB. And completely stopped from GS. in 2005. The workers in Palestine also decreased from 453,000 in 1999 to 135,000 in 2005 (World Bank, 2005). The World Bank reported that the unemployment rate was 32%. This revealed sharply increasing of the unemployment rate from 11.8% in 1999 to 32% and the poverty rate in Palestine was 44% in 2005. This situation is a result of Israeli enforced restriction on the Palestinian movement, military operations, land confiscation and leveling and the construction of Barrier in addition to other escalating activities imposed on Palestinian people (World Bank, 2005). the latest development after the Palestinian elections and the winning of Hamas have had a great impact on health situation as the Quartet has imposed a comprehensive siege on the government depriving Palestinians from the financial support that used to come from international donors for the government, the fact that deepened the socioeconomic crises in the country.

1.8 Cancer morbidity in adults

In the period 1998 and 1999, the following data were reported:

In Palestine: about 3,474 cases were reported (1,741 in male and 1,733 in female) with an incidence rate per 100,000 population 58.7 (58.3 in male and 59.2 in female). In West Bank: about 2,283 cases were reported (1,185in male and 1,098in female) with an incidence rate per 100,000 population 60.2 (61.9 in male and 58.5 in female). In the period 1995-2000, the following data were reported on cancer in Gaza Strip: about 3,646 cases of

cancer: 1,750 in male (48%) and 1,896 cases in female (52%). Incidence rate per 100,000 population was 59.9 in general population, 57 in male and 62.9 in female. About 81% of cancer was solid cancer and the rest (19%) were hematological malignancies

1.8.1 Distribution of cancer by category:

Carcinoma: 2,539 cases with a proportion of 69.6% of total cancer cases, (1,131 cases in male; 64.6% of total cancer in male and 1,408 cases in female; 74.3% of total female cancer).

Sarcoma: 423 cases with a proportion of 11.6% of total cancer cases, (234 cases in male; 134% of total cancer in male and 189 cases in female; 10.0% of total female cancer).

Hematological malignancies: 684 cases with a proportion of 18.8% of total cancer cases, (385 cases in male; 22% of total cancer in male and 299 cases in female; 15.8% of total female cancer).

1.8.2 Distribution of carcinoma by age:

Only 17 cases were reported in children under 15 year (0.7% of total cases). 36 cases were reported in adults aged 15-24 year (1.4% of total cases). About 1,189 cases were reported in adults aged 25-59 year (46.8%) of total cases. Most of cases, about 1,298 were reported in persons aged 60 year and above (5 1.1%).

1.8.3 Distribution of sarcoma by age:

Most of cases (170) were reported in children under 15 year (40.2% of total cases). 53 cases were reported in adults aged 15-24 year (12.6% of total cases). About 139 cases were

reported in persons aged 25-59 year (32.9%) of total cases. Only 61 cases were reported in persons aged 60 year and above (14.4%).

1.8.4 Distribution of hematological malignancies by age:

About 215 cases were reported in children aged under 15 year (31.4% of total cases). 71 cases were reported in adults aged 15-24 year (10.4% of total cases). Most of cases (248) were reported in adults aged 25-59 year (36.2%) of total cases. About 151 were reported in persons aged 60 year and above (2 1.9%).

1.8.5 Distribution of Hematological malignancies by category:

Lymphomas: 359 cases with a proportion of 9.8% of total cancer cases, (217 cases in male; 12.4% of total cancer in male and 142 cases in female; 7.5% of total female cancer). Leukemia: 280 cases with a proportion of 7.7% of total cancer cases, (146 cases in male; 8.3% of total cancer in male and 134 cases in female; 7.1 % of total female cancer). Myeloma: 45 cases with a proportion of 1.2% of total cancer cases, (22 cases in male; 1.3% of total cancer in male and 23 cases in female; 1.2% of total female cancer). Melanoma: Only 45 cases of melanoma were reported, 13% in children under 15 year, 8.7% in adults aged 15-24 year, 65.2% in adults aged 25-59 year and the rest (13%) in persons aged 60 year and above.

1.8.6 International comparison:

The average incidence rate per 100,000 of Melanoma cancer was 12.5 in WHO regions, 49.9 in Malta, 10.4 in Israel, 0.7 in Gaza governorates, 0 in Jordan and 0 in Kuwait.

1.8.7 Distribution of cases by marital status showed that:

75% were married

14% were single

- Basis of diagnosis showed that:

1. Histopathology of primary 79.8%
2. Cytology/hematology 7.3%
3. Death certificate only 3.6%
4. Histopathology of metastases 3.5%

1.8.8 The most common cancer morbidity were:

In general population: Breast (15.7%), lymphomas (9.1%), bone marrow (9.1%), bronchus and lung (8.7%), colorectal (7.4%), brain and other nervous system (4.8%) urinary bladder (4.7%), stomach (3.5%), liver (3.3%), and prostate (2.9%).

In male: bronchus and lung (14.7%), lymphomas (11.2%), bone marrow (9.8%), urinary bladder (8.8%), colorectal (7.4%), prostate (6.1%), brain and other nervous system (5.8%), liver (4.1%), stomach (3.9%), pancreas (2.9%) and larynx (2.9%).

In female: Breast (30%), bone marrow (8.5%), colorectal (7.3%), lymphomas (7.2%), uterus (5.9%), thyroid (4.5%), brain and other nervous system (3.9%), bronchus and lung (3.1%), stomach (3%) and ovary (3%).

Median age at diagnosis: for all cancer was 55 year (60 year for male and 51 year for female).

International comparison: the average incidence rate per 100,000 population of all cancer was 1417.4 in WHO regions, 59.9 in Gaza governorates, 298.1 in Israel, 276.9 in Malta, 64.3 in Jordan, 52.4 in Kuwait, 58.7 in Palestine and 60.2 in West Bank (MOH-PCR&HMIS, 2002).

General overview:

In this chapter the researcher mentioned the problem statement of the thesis and hints the general and specific objectives of the study. Also, the justification of the study was clear in this section. Furthermore, some of the demographic data were pointed out concerning the core of his problem. In chapter two the researcher will mention some of the theories concerning the coping strategies and previous studies in this filed. But in chapter three the researcher will join the conceptual framework that take a part of this thesis. Chapter four will focus on the sampling process, instruments and piloting of the instruments that will be used in data collection. In chapter five the researcher will display the main results of his study and by which analyzed. However, in chapter six the researcher will comment of the results and compare other results of such filed concerning the coping strategies of patients with cancer and then will make the recommendation and future direction about the study.

Chapter 2

Conceptual framework

&

Literature review

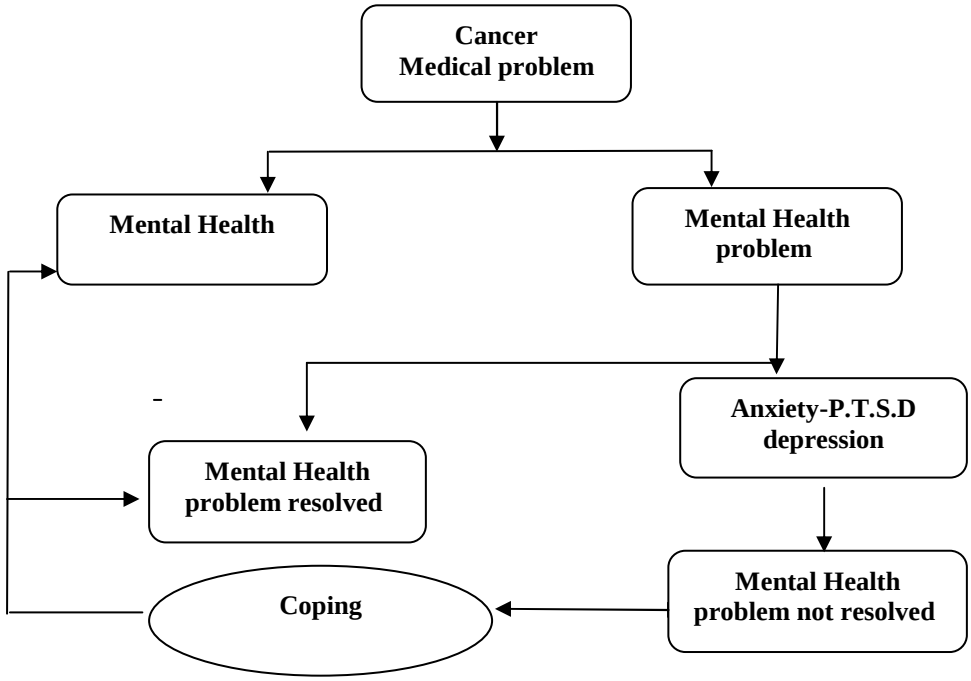
Chapter 2

Conceptual framework

In this chapter we will focus on three major concerns of mental health problems specifically; anxiety and posttraumatic stress disorder. and we will mention some of the Cancer impacts from various dimensions from which; social, spiritual, physical, demographic cancer mortality , morbidity, classification of cancer as well as psychological effects. Also, we will go for some clarifications for the reactions that undertaken by the patients with cancer in response to stressful situations and traumatic events that occur due to their illness and their life expectancy form which; definition of cancer, mental health ,and mental disorder followed such kind of illness. And of the most the researcher will explain the coping background and the main coping strategies adapted by Patients with cancer in response to such events ,its relation to health, and we will make some detail about the coping strategies that used by the patients with cancer .

Furthermore, the researcher will hold in this session the burden of cancer in Palestine, mental health as part of community effect dealing with cancer and risk factors, and the coping strategies of patients with cancer living in Gaza Strip. In this chapter we presented some of the theories that concerning the coping strategies in general. Furthermore, we will introduce our comments about it and will be followed by the basic studies that related to those patients especially in Gaza Strip and some of international studies that concerning this theme. The studies discussed some of the different types of cancer including all patients with cancer male or female and different organs that affected by cancer.

Conceptual Framework



2.2 The nature of cancer:

The term is used generically for more than 100 different diseases including malignant tumors of different sites (such as breast, cervix, prostate, stomach, colon/rectum, lung, mouth, leukemia, sarcoma of bone, Hodgkin disease, and non-Hodgkin lymphoma).

Common to all forms of the disease is the failure of the mechanisms that regulate normal cell growth, proliferation and cell death. Ultimately, there is a progression of the resulting tumor from mild to severe abnormality, with invasion of neighboring tissues and , eventually , spread other areas of the body (MOH, 2002).

The disease arises principally as a consequence of exposure of individuals to carcinogenic (cancer-causing) agents in what they inhale, eat and drink, and are exposed to it in their work or environment. Personal habits, such as tobacco use and dietary patterns, rather than inherited genetic factors, play the major roles in the etiology of cancer, as may

occupational exposure to carcinogens and biological factors such as viral hepatitis B infection and human papilloma virus infection.

Knowledge of many of these factors can serve as the basis of cancer control .Vacation against hepatitis B, for instance, can protect against liver cancer (MOH, 2002).

2.3 The burden of cancer:

Of the 10 million new cancer cases each year, 4.7 million are in the more developed countries & nearly 5.5 million are in the less developed countries. Although the disease has often been regarded principally as a problem of the developed world, in fact, more than half of all cancers occur in the developing countries. In developed countries, cancer is the second most common cause of death, and epidemiological evidence points to the emergence of a similar trend in developing countries(MOH, 2002).

Cancer is currently the cause of 12% of all deaths worldwide. In approximately 20 year time, the number of cancer deaths annually will increase from about 60 million to 10 million. The principal factors contributing to this projected increase are the increasing proportion of elderly people in the world (in whom cancer occurs more frequently than in the young), an overall decrease in deaths from communicable diseases, the decline in some countries in mortality from cardiovascular diseases, and the rising incidence of certain forms of cancer, notably lung cancer resulting from tobacco use. Approximately 20 million people are alive with cancer at present ; by 2020 there will probably by more than 30 million .The impact of cancer is far greater than the number of cases alone would suggest. Regardless of prognosis , the initial diagnosis of cancer is still perceived by many patients as a life-threatening event , with over one-third of patients experiencing clinical range anxiety and depression. Cancer can be equally if not more distressing for the family , profoundly affecting both the family's daily functioning and economic situation . The

economic shock often include both the loss of income and the expenses associated with health care costs(MOH, 2002).

2.4 Relative importance of various causes of cancer

cancer of the oral cavity, which is the commonest from of the disease in much of south – east Asia ,account for half of the total incidence of cancer in some parts of India, with 90% of cases attributable to smoking or chewing tobacco.

A quarter of all cancer deaths in North America are from lung cancer, and 80-90% of these are the result of cigarette smoking. Recent evidence suggests that the proportion of cancers related to diet is less than 35% although a definitive value is not yet available. Diet-related factors are now thought to account for about causes of cancer 15-30% of cancers in developed counties and perhaps 20% of cancers in developing countries. Infectious agents may account for about 15% of cancers in the world. The vast majority of these cases occur in the developing counties where communicable diseases are much more prevalent. There would be 21% fewer cases of cancer in developing countries and 9% fewer cases in developed countries if these cancer related infectious diseases were prevented (MOH, 2002).

In industrialized countries, primary liver cancer – though relatively uncommon – is mainly the result of excessive alcohol consumption. The incidence of esophageal and lung cancer and cancers of the colon and rectum, breast and prostate increases in parallel with economic development. In the developing countries, an increased development is usually associated with many changes in diet and lifestyle. As a result, patterns of cancer tend to shift towards those of economically developed countries. The risk of cancer can also be multiplied by risk factors acting simultaneously. For example, the effect of alcohol on oral,

pharyngeal, laryngeal and esophageal cancer risk is multiplied by the combined use of tobacco (MOH, 2002).

2.5 Background of Cancer in Palestine:

2.5.1 Geographical Distribution:

Palestine comprises two areas separated geographically: the West Bank and Gaza governorates (GS). West Bank (WB) lies within an area of 5,800 Km^2 west of the river Jordan. Gaza governorates are a narrow piece of land lying on the coast of the Mediterranean Sea. Gaza governorates are very crowded place with an area of 360 sq. Km2. The population is mainly concentrated in the cities, small village, and eight refugee camps that contain two thirds of the population. In WB, up to sixty percent of the population lives in approximately 400 villages and rural refugee camps, and the reminder in urban refugee camps and cities of which Nabalus, East Jerusalem and Al Khaleil are the most populous. A part from the weak economic situation and its consequences for the public health, the population of Palestine has lived through several consecutive wars (1948), (1956) and (1967)and long stressful periods (the Israeli occupation) (MOH, 2002).

2.5.2 Mortality:

The crude death rate (CDR) is about 2.9 per 1000population and infant mortality rate (IMR) is 22 per 1000 live births. The leading cause of death in Palestine is heart diseases, with a proportion of 20 % (24.9% in WB Vs. 12.6% in GS). The other leading causes are, cerebrovascular disease 10.7%(9.9% in WB Vs. 9.5% GS), malignant neoplasm 9.3% (9.5% in WB Vs. 9% in GS) and hypertension disease 7.6% (6.4% in WBVs. 9.5% in GS).(Ministry of Health-PCR&HMIS;2002).

2.5.3 Cancer mortality :

In the period 1995-2000, the following data were reported on cancer mortality in Gaza Strip: About 1,972 deaths of cancer: 1,035 in male (52.5%) and 937 in female (47.5%), mortality rate per 100,000 population was 32.4 in general population, 33.7 in male and 31.1 in female. Mortality rate per 100,000 persons aged 50 year and above was 247.2 in general population, 327 in male and 184 in female. About 82.3% of cancer mortality was solid cancer and the rest (17.7%) were hematological malignancies.

2.5.4 Distribution of cancer mortality by category:

- **Carcinoma:** 1,398 deaths with a proportion of 70.9% of total cancer deaths, (716deaths in male; 69.2% of total deaths in male and 682 deaths in female; 72.8% of total female cancer deaths).
- **Sarcoma**: 224 deaths with a proportion of 11.4% of total cancer deaths, (124 deaths in male; 12% of total deaths in male and 100 deaths in female; 10.7% of total female deaths).
- **Hematological malignancies** 350 deaths with a proportion of 17.7% of total cancer deaths, (195 deaths in male; 18.8% of total deaths in male and 155 deaths in female; 16.5% of total female deaths).

2.5.5 Distribution of carcinoma by age:

Only 12 deaths were reported in children under 15 year (0.8%), 24 deaths were reported in adults aged 15-24 year (1.7%), about 623 deaths were reported in adults aged 25-59 year (44.6%). Most of deaths 739 were reported in persons aged 60 year and above (52.9%).

2.5.6 Distribution of sarcoma by age:

Most of deaths (84) were reported in children under 15 year (37.5%), 24 deaths were reported in adult aged 15-24 year (10.7%), about 75 deaths were reported in persons aged

25-59 year (33.5%). Only 41 deaths were reported in persons aged 60 year and above (18.3%).

2.5.7 Distribution of hematological malignancies by age:

82 deaths were reported in children aged under 15 year (23.4%), 37 deaths were reported in adults aged 15-24 year (10.6% of total deaths), most of deaths (130) were reported in persons aged 25-59 year (37.1%) and about 101 deaths were reported in persons aged 60 year and above (28.9%).

2.5.8 Distribution of hematological malignancy deaths by category:

- **Lymphomas**: 154 deaths with a proportion of 7.8% of total cancer deaths, (91 deaths in male; 8.8% of total cancer deaths in male and 63 deaths in female; 6.7% of total female cancer deaths).
- **Leukemia:** 167 deaths with a proportion of 8.5% of total cancer deaths, (91 deaths
- in male; 8.8% of total cancer deaths in male and 76 deaths in female; 8% of total female cancer deaths).
- **Myeloma:** 29 deaths with a proportion of 1.5% of total cancer deaths, (13 deaths in male; 1.3% of total cancer deaths in male and 16 deaths in female; 1.7% of total female cancer deaths).

2.5.9 The most common cancer mortality were:

In general population: Bronchus and lung (12.7%), breast (11.1%), bone marrow (9.9%), lymphomas (7.2%), colorectal (7.1%), urinary bladder (3.9%), liver (5.2%), stomach (4.2%), brain and other nervous system (5.8%) and pancreas (3.8%).

In male: bronchus and lung (19.9%), bone marrow (10.1%) lymphomas (7.7%) colorectal (7.2%), urinary bladder (6.8%), brain and other nervous system (6.6%), prostate (6.4%), liver (5.9%), pancreas (4.6%). and stomach (4.2%)

In female: Breast (23.1%), bone marrow (9.7%), colorectal (7%), lymphomas (6.5%), uterus (5.5%), brain and other nervous system (4.9%), bronchus and lung (4.8%), liver (4.4%), stomach (4.2%) and ovary (4.3%).

Median age at death: Median age at death for all cancer was 59 year (63 year for male and 54 year for female).

Case fatality rate: Case fatality rate of all cancer in Gaza Strip was 54.1%

International comparison: the average mortality rate per 100,000 population of all cancer was 87.3 WHO regions, 38.7 in EMR, 32.4 in Gaza Strip, 27.4 in Palestine and 26.4 in West Bank.(Ministry of Health-PCR&HMIS;2000)

2.6 Cancer morbidity and mortality:

According to cancer registry centers (CRS) in West Bank and Gaza Strip in 2006,. epidemiology of cancer morbidity indicated the following: .

2.6.1 Cancer reported cases:

The total reported new cases were 1,623 (1,168 in the west bank, and 455 in Gaza Strip), with an incidence rate of 43.1 per 100,000 population, (49.2 per 100,000
in the West Bank, 32.7 per 100,000 in Gaza Strip) (M.O.H, 2006)

Distribution by sex showed that incidence rate for male was 37.7 per 100,000 with proportion of 44.8% of total reported cases, and incidence rate among female was 48.3 per 100,000 with proportion of 55.2% of total reported cases.

The most common malignancies in total population:

Breast cancer occupied the first type of cancer among population(17.3%)with an incidence rate of 7.5 per100,000popula1ion (M.O.H, 2006)

The most common adult male malignancies:

Lung cancer occupied the first type of male cancer; which constitute 13.8% of total males' cancer with an incidence rate of 5.2 per 100,000 males. (M.O.H, 2006)

The most common adult female malignancy:

Breast Cancer occupied the first type of female cancer (31.4%) with an incidence rate of 15.1 per 100,000 population (M.O.H, 2006)

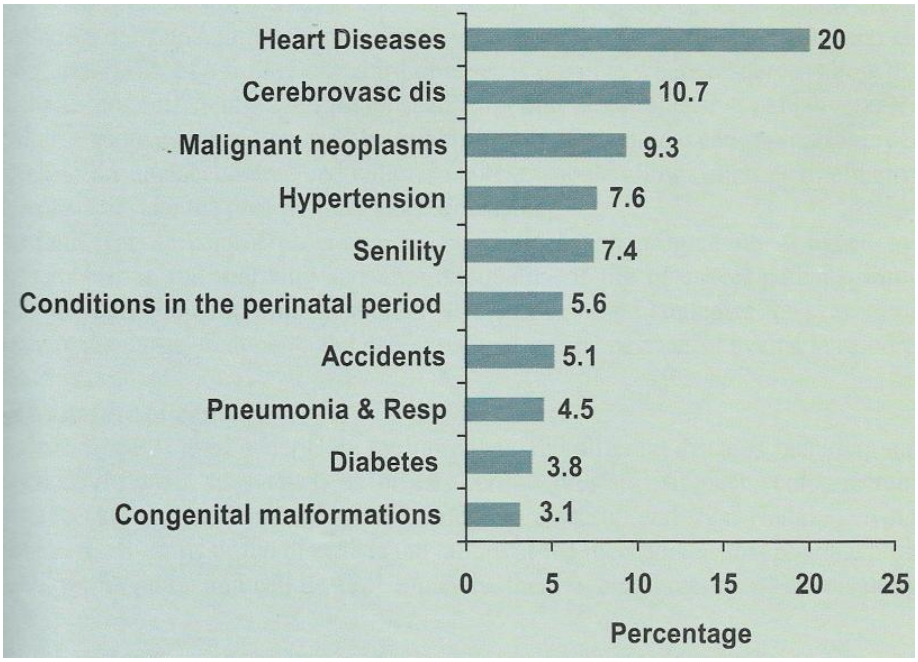
2.6.2 Cancer mortality

In 2005, there were 1,048 persons died in Palestine from cancer with a mortality rate of 27.8 per 100,000. Since this figure was 27.4 per 100,000.population in the year 2000.

Trachea, Bronchus& lung cancer occupied the first leading cause of death from cancer deaths (15.4%),with a mortality rate of 4.3 per 100,000 population..

Among Palestinian males. Trachea, Bronchus & lung cancer was the first leading cause of cancer deaths (22.8%) with a mortality rate of 7.1 per 100,000 males.

Among Palestinian females, breast cancer was the first leading cause of cancer deaths (21.1%) with a mortality rate of 5.2 per 100.000 females (M.O.H, 2006).



Graph (2) Leading causes of death among population in Palestine, 2000
(Proportional of total deaths)

2.7 Mental health among patients with cancer:

Mental health is considered one of the most important dimensions and branches that must be studied and taken in consideration among patients with cancer. Patients with cancer suffer from various categories of mental health problems may include anxiety, stress, depression, PTSD and other mental problems that generated at the first touch with disease and continue in diagnosis and treatment process. Even so, people with cancer face the risk of substantial and permanent physical impairment, disability, and inability to perform routine activities of daily living, as well as the psychological and social problems that can result from the diagnosis and its sequelae. Additionally worrisome, the remarkable advances in biomedical care for cancer have not been matched by achievements in providing high-quality care for the psychological and social effects of cancer.(Maly et al, 2005)

The emotional stress of living with a diagnosis of cancer and its treatment, fear of recurrence, and the distress imposed by living with the day-to-day physical problems described above can create new or worsen preexisting psychological distress for people living with cancer, their families, and other informal caregivers. Physical and psychological impairments can also lead to substantial social problems, such as the inability to work or fulfill other normative social roles. .(Segrin et al, 2007)

2.7.1 Anxiety:

Anxiety disorders are the most common psychiatric mental health disorder in the world. The concept of anxiety is one of the most often-used and loosely defined concepts in psychology. It can be used to describe a temporary state or an enduring personality trait or used to assign cause and to describe an effect (Piotrowski, 2005). It is seen as the result of discrete objects or situations, such as snakes or heights, or as evolving from basic existential problems such as the trauma of birth, and permanent medical problems or the

fear of death. Anxiety is a pathological state characterized by a feeling of dread accompanied by somatic sings that indicate a hyperactive autonomic nervous system. The term anxiety is used to describe feelings of uncertainty, uneasiness, apprehension, or tension that a person experiences in response to an unknown object or situation. A (fight-or-flight) decision is made by the person in an attempt to overcome conflict, stress, trauma, or frustration (Shives, 2005).

Anxiety itself is experienced as a kind of psychological fire alarm (Bruno, 2002). The individual thinks, "Something terrible is going to happen!" Freud distinguished between neurotic anxiety and rational anxiety. Neurotic anxiety is irrational, and it is the kind of anxiety that plays a significant role in the anxiety disorders. Rational anxiety is identical to realistic fear. Anxiety may be described by many dimensions that considered the initiators of anxiety (theories of anxiety): genetics, biologic, psychological, and cognitive. Psychoanalytic theory originates in the work of Sigmund Freud, who suggested that anxiety is the result of unresolved, unconscious conflicts between impulses for aggressive or libidinal gratification and the ego's recognition of the external damage that could result from gratification (Shives, 2005). The cognitive behavior theory, developed by Aaron Beck, suggests that anxiety is a learned or conditioned response to a stressful event or perceived danger. For example, individuals may perceive certain somatic sensations, such as heart palpitations or jittery feelings, as considerably more dangerous as they truly are (Shives, 2005).

2.7.2 Posttraumatic Stress Disorder (PTSD):

Post-traumatic stress disorder (PTSD) is a syndrome that develops after an individual sees, is involved in, or hears about a traumatic experience. Although PTSD can appear at any

age (children have also experienced PTSD), it is most prevalent in young adults, because they tend to be exposed to precipitating situations (Shives, 2005).

The more common antecedents of PTSD include sexual abuse; assaultive violence; accidents; traumatic losses such as the sudden death of a spouse; diagnosis of a life-threatening illness in self or loved ones; acts of terrorism; witnessing a violent act; natural disaster; and war-related trauma (Davidson, 2001; Mellman, 1999).

Women appear to be more susceptible to PTSD because they are exposed to more personal violence than men. Individuals with a history of a psychiatric disorder who lack social support, respond negatively to life events, perceive themselves as helpless, or have a history of a prior trauma exposure are at risk for the development of PTSD (Davidson, 2001; Mellman, 1999).

2.8 Emotional Problems:

Although the majority of cancer patients and their families have normal psychological functioning (Kornblith, 1998), distressed psychological states are common in individuals with cancer. The prevalence of psychological distress varies by type of cancer, time since diagnosis, degree of physical and role impairment, amount of pain, prognosis, and other variables. In one U.S. comprehensive cancer center's study of nearly 4,500 patients aged 19 and older, the prevalence of significant psychological distress ranged from 29 to 43 percent for patients with the 14 most common types of cancer (Zabora et al., 2001). These rates are consistent with those found in subsequent studies of diverse populations with cancer that have reported high rates of psychological symptoms meeting criteria for such clinical diagnoses as depression, adjustment disorders, and anxiety (Spiegel and Giese-Davis, 2003; Carlsen et al., 2005; Hegel et al., 2006). Studies have also documented the presence of symptoms meeting the criteria for post-traumatic stress disorder (PTSD) and

post-traumatic stress symptoms (PTSS) in adults and children with cancer, as well as in the parents of children diagnosed with the illness (Kangas et al., 2002; Bruce, 2006). Indeed, experiencing a life-threatening medical illness or observing it in another to whom one is close can be a qualifying event for PTSD according to the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) (APA, 2000).

Even patients who do not develop clinical syndromes may experience worries, fears, and other forms of psychological stress. Chronic illness can bring about guilt, feelings of loss of control, anger, sadness, confusion, and fear (Charmaz, 2000; Stanton et al., 2001). Anxiety, mood disturbance, fear of recurrence, concerns about body image, and communication and other problems with family members are common in cancer patients as well (Kornblith, 1998). Patients may also experience more generalized worry; fear for the future; inability to make plans; uncertainty and a heightened sense of vulnerability; and other worries, such as the possible development of a second cancer, changes in sexual function and reproductive ability, and changes in one's role within the family and other relationships (IOM and NRC, 2001). Moreover, cancer patients can face spiritual and existential issues involving their faith, their perceived relationship with God, and the possibility and meaning of death. Some cancer survivors report feelings of anger, isolation, and diminished self-esteem in response to such stress (NCI, 2004).

Psychological distress is common among individuals with cancer. However, mental health problems and other types of psychological distress (which sometimes predate illness) (Hegel et al., 2006) are not unique to patients with cancer. People with chronic conditions such as diabetes, heart disease, HIV-related illnesses, and neurological disorders also are found to have high rates of depression, adjustment disorders, severe anxiety, PTSS or PTSD, and subclinical emotional distress (Katon, 2003).

Depressed or anxious individuals with a variety of comorbid general medical illnesses (including cancer) report lower social functioning, more disability, and greater overall functional impairment than patients without depression or anxiety (Katon, 2003). Distressed emotional states also often generate additional somatic problems, such as sleep difficulties, fatigue, and pain (Spitzer et al., 1995; APA, 2000), which can confound the diagnosis and treatment of physical symptoms. Among patients with a variety of chronic medical conditions other than cancer, those with depressive and anxiety disorders have significantly more medically unexplained symptoms than those without depression and anxiety, even when severity of illness is controlled for. Patients with depressive and anxiety disorders also have greater difficulty learning to live with chronic symptoms such as pain or fatigue; data suggest that depression and anxiety are associated with heightened awareness of such physical symptoms. Multiple studies of patients with major depression have also found higher-than-normal rates of unhealthy behaviors such as smoking, sedentary lifestyle, and overeating (Katon, 2003).

2.8.1 Weakened coping abilities and increased mental illness:

Psychological adjustment to an illness involves "adaptation to disease without continued elevations of psychological distress (e.g., anxiety, depression) and loss of role function (i.e., social, sexual, vocational)" (Helgeson and Cohen, 1996:136). Positive emotional support is linked to good psychological adjustment to chronic illnesses generally and cancer specifically, and to fewer symptoms of depression and anxiety (Helgeson and Cohen, 1996; Wills and Fegan, 2001; Maly et al., 2005). Conversely, higher rates of post-traumatic stress disorder (PTSD) and post-traumatic stress symptoms (PTSS) in children with cancer (Bruce, 2006).

2.8.2 Weakened Motivation:

Distressed psychological states can limit patients' concern about the importance of their health behaviors and contribute to their belief that the benefits of adherence are not worth the trouble (Fink et al., 2004). Distressed psychological states can also lead to diminished self-perceptions and limitations in personal self-efficacy,[5] which in turn negatively affect health behaviors and adherence. Pessimism about the future and about oneself can forestall the adoption of new health practices and interfere with health behaviors and adherence (Peterman and Cella, 1998; DiMatteo et al., 2000; Taylor et al., 2004). Limitations in personal self-efficacy that derive from both anxiety and depression can interfere with the behavioral commitment essential to the adoption and maintenance of new health practices. Distressed psychological states can also amplify somatic symptoms, causing additional functional disability and further reducing patients' motivation to change behavior.

2.8.3 Less Effective Coping:

Self-efficacy and emotional resilience contribute to greater engagement in health-promoting behaviors, including adherence to treatment regimens. Conversely, these behaviors can be undermined by ineffective coping with psychological distress. Optimism and positive coping also have been explored as mechanisms through which ill individuals can become more emotionally resilient and better able to cope with and manage the course of their disease. Coping (which involves seeking of social support, positive reframing, information seeking, problem solving, and emotional expression) can bolster one's adjustment to chronic illness (Holahan et al., 1997), and improving patients' coping strategies can be effective in reducing symptoms of psychological distress that hinder health behaviors and the management of illness (Barton et al., 2003). For patients with

cancer, optimism also predicts improved quality of life and functional status and the effective management of pain (Astin and Forys, 2004).

Finding meaning in the illness experience is another coping mechanism that can improve a patient's psychological adjustment (Folkman and Greer, 2000), contributing to a greater sense of control, improved psychological adjustment, and more positive focus (Fife, 1995). As many as 83 percent of patients with breast cancer come to realize at least one benefit following their diagnosis (Sears et al., 2003); such a realization involves positive reappraisal of their situation and results in better coping, mood, and health status. Research on patients with tuberculosis in South Africa found a significant relationship between assessment of meaning in life and adherence to treatment for the disease (Corless et al., 2006). Finding benefit also is linked to patients' adherence to antiretroviral therapy for HIV (Stanton et al., 2001; Luszczynska et al., 2006).

Conversely, coping mechanisms that are less adaptive can help in dealing with the immediate emotional distress associated with illness but create longer-term problems. Avoidant coping, which involves denial, emotional instability, avoidant thinking (avoiding thoughts about the reality of the illness), and immature defenses, is associated with less engagement in healthy behaviors (e.g., healthy diet, exercise, adherence to treatment), as well as the adoption of unhealthful behaviors (e.g., smoking, drinking alcohol to excess, abusing psychotropic medications) in an effort to cope with emotional distress (Stanton et al., 2007). Avoidant thinking about the illness is considered "harmful coping" because problems are not faced and solutions are not found, contributing to unhealthy behaviors and non-adherence (Carver et al., 1993).

2.9 Theories of coping strategies:

There is a major relationship between trauma and stress are directly linked to coping. The study of coping has evolved to encompass large variety of disciplines beginning with all areas of psychology such as health psychology, environmental psychology, neuro–psychology and developmental psychology to areas of medicine spreading into the area of anthropology and sociology. Dissecting coping strategies into three broad components, (biological/physiological, cognitive, and learned) will provide a better understanding of what the seemingly immense area is about.

2.9.1 Biological/physiological theory:

The body has its own way of coping with stress. Any threat or challenge that an individual perceives in the environment triggers a chain of neuro-endocrine events (Naughton, 1997). These events can be conceptualized as two separate responses, that being of sympathetic/adrenal response, with the secretion of catecholamine (epinephrine, nor epinephrine) and the pituitary/adrenal response, with the secretion of corticosteroids (Frankanhauser, 1986). The sympathetic/adrenal response takes the message from the brain to the adrenal medulla via the sympathetic nervous system, which secretes epinephrine and norepinephrine. This is the basic "fight or flight" response (Cannon, 1929), where the heart rate quickens and the blood pressure rises. In the pituitary/adrenal response, the hypothalamus is stimulated and produces the corticotrophin releasing factor (CRF) to the pituitary gland through the blood veins, then the adrenal corticotropic hormone (ACTH) is released from the pituitary gland to the adrenal cortex. The adrenal cortex in turn secretes cortisol, a hormone that will report back to the original brain centers together with other body organs to tell it to stop the whole cycle. But since cortisol is a potent hormone, the

prolonged secretion of it will lead to health problems such as the break down of cardiovascular system, digestive system, musculoskeletal system, and the recently established immune system. Also when the organism does not have a chance for recovery, it will lead to both catecholamine and corisol depletion and result in the third stage of the General Adaptation Syndrome of exhaustion that exceed the alarm reaction (Seyle, 1956). Social support has also been established by studies to be linked to stress (Bolger & Eckenrole, 1991). This can be seen as a dimension of the biological component since it is closely linked to the biological environment of that individual. There are many aspects to social support; the major categories would be of emotional, tangible, and informational. Personality types as so called Type A Personality have been defined to have such characteristics as competitive, impatient and hostile. Hostility has been linked to coronary heart disease which is thought be caused by stress (Rosenman, 1978). Eysenck (1988) has coined the term Type C Personality for those who are known to be repressors and are prone to cancer. Hardiness also is a personality that seems to have much to do with how an individual handles stress. Hardiness is defined as having a sense of control, commitment, and challenge towards life in general.. Although it may be possible to modifying ones personality, research has shown it to be heritable (Rahe, Herrig, & Rosenman, 1978).

2.9.2 Cognitive theory :

The cognitive approach to coping is based on a mental process of how the individual appraises the situation. Where the level of appraisal determines the level of stress and the unique coping strategies that the individual partakes. (Lazarus & Folkman, 1984). There are two types of appraisals, the primary and the secondary. A primary appraisal is made when the individual makes a conscious evaluation of the matter at hand of whether it is either a harm or a loss, a threat or a challenge. Then secondary appraisal takes place when the individual asks him/herself "What can I do?" by evaluating the coping resources around

him/her. These resources include, physical resources, such as how healthy one is, or how much energy one has, social resources, such as the family or friends one has to depend on for support in his/her immediate surroundings, psychological resources, such as self-esteem and self-efficacy, and also material resources such as how much money you have or what kind of equipment you might be able to use. How much personal control one perceives to have is another factor to consider when looking at coping from the cognitive perspective. Usually an individual will find themselves feeling more stressful in uncontrollable situations (Naughton, 1997). Also, since personal control is a cognitive process, the more one has a sense of personal control, better sense of coping ability one will have. The categories of the attribution theory give a good picture of the extreme ends of the "in control/lack of control" continuum. An individual will perceive to have the most control where the situations fit the categories of internal, transient, and specific. At the opposite end of the scale are the categories of external, stable, and global where the person will perceive lack of control. There are other ways of to approach coping from a cognitive perspective such as that of constructive and destructive thinking as conceptualized by Epstien and Meier (1989) a similar concept to that of optimistic versus pessimistic (Taylor, 1991), the perceived level of self-efficacy and self-esteem and so on.

2.9.3 Learned theory:

The learned component of coping includes everything from various social learning theories, which assume that much of human motivation and behavior is the result of what is learned through experiential reinforcement, learned helplessness phenomena which is believed to have a relationship to depression, and even implications of the particular culture or society that the stress at hand is affected by can also be included in this component (Naughton, 1997). Some of the examples for the social learning theories would be the wide range of stress management techniques that have been found to help ease

stress. Changing how you cognitively process a particular situation, so called cognitive restructuring, changing how you behave in a particular situation, so called behavior modification, biofeedback which uses operant conditioning to alter involuntary responses mediated by the autonomic nervous system, and the numerous relaxation techniques such as meditation, breathing, and exercise are all part of what is learned through experiential reinforcement. The learned helplessness phenomena has been linked to depression by such researchers as Coyne, Aldwin, and Lazarus (1981) when they studied subjects who tried to exert control when it was not possible to do so. Cultures and societies have their own set of rule of what they perceive to be stressful or not (Colby, 1987). People will have different responses in a monogamous culture to that of a polygamous culture. In Africa, where polygamy is the norm, when they find out that the significant other has another partner, it means more workforces to take care of the children and the household chores. If the husband does not take on many wives, it can become a strain on the rest of the wives. An interesting study was done by using Holmes and Rahe's (1967) stressful life event measure in South Africa, and found that it correlated very little with standard distress measures (Swartz, Elk, & Teggin, 1983). This suggests the existence of such cultural/societal differences.

2.10 Previous studies:

2.10.1 Studies concerning mental health and cancer:

In this section the researcher will put on the hand some of the relative studies concerning the mental health of patients suffering from cancer. Mental health considered one of the most important aspects among general people and especially among patients suffering from severe illnesses such as cancer.

Noyes et al (1990) The study aimed to examine distress associated with cancer patients. Over 400 cancer patients were given the Illness Distress Scale (IDS), a brief measure of the physical and emotional distress related to serious illness. Physical manifestations of the disease proved to be the source of greatest discomfort among these patients**.** Greater distress was reported by younger patients and by those who were unmarried. Also, patients with more advanced disease scored higher on the scale. The IDS appeared to measure four dimensions of distress related to the experience of illness, including loss of meaning, physical disease, medical treatment and social isolation. Scores on the instrument correlated highly with a measure of depression, the Beck Depression Inventory. The IDS appears to be a reliable and valid measure of distress associated with serious illness.

Hyodo et al (1996) The study aimed to assess the anxiety level among patients with cancer given information about their disease Using the State-Trait Anxiety Inventory (STAI). One hundred and sixty-one patients were solicited for participation in this study and complete answers to the Inventory were obtained from 118 patients. The STAI was administered twice, on the day of admission and after a precise explanation of the patient's disease, and was later compared. The findings showed that Many patients showed high State (43–72%) and Trait (21–46%) anxiety levels on admission. There was, however, no difference in the STAI scores between the groups. The State anxiety scores in most of the patients with benign diseases were reduced to the normal range after explanation. Scores for those

patients told euphemistically about their condition were also decreased significantly after admission, but their overall anxiety levels were still high. The patients diagnosed with cancer before admission and those newly diagnosed showed no significant changes in their STAI score.

Pitman et al (2001) The study aimed to assess PTSD among patients with breast cancer and to performed psycho-diagnostic, psychometric, and psycho-physiologic evaluations on 37 patients referred by local surgeons approximately 2 years after tissue diagnosis of Stage I to III breast cancer. The Clinician-Administered Posttraumatic Stress Disorder (PTSD) Scale (CAPS) was used to classify patients into the following groups: "Current PTSD" (n=5) "Past PTSD" (n=7), and "Never had PTSD" (n=25). Individualized "scripts" portraying personal life events were tape recorded and played back to the patients in the laboratory. Current PTSD patients showed significantly higher heart rate, skin conductance, and corrugator electro-myogram responses during imagery of their personal breast cancer experiences than Past and Never patients. Physiologic responses were significantly and positively correlated with CAPS scores. These results provide psycho-physiologic support for the proposition that a diagnosis of with a life-threatening illness can cause PTSD.

In a study by Wellisch et al (2001) This study examines the difference on several demographic and psychosocial variables between women at high risk for breast cancer above and below the cut-off point of a depression measure (Center for Epidemiological Study Depression Scale). Data are presented for 430 consecutive patients from the UCLA Revlon Breast Center High Risk Clinic. Women scoring above the depression cut-off point were younger, had more relatives with breast cancer, reported more symptoms of anxiety, and had more self-perceived vulnerability to breast cancer. In addition, women above the depression cut-off point were more likely to be single, childless, to have not viewed the

results of the surgical treatment of their relative, and to feel more anxiety regarding screening practices (mammography, pap smears, and breast self-examinations).

Maunsell et al (2001) in a study aimed to identify the stressful life events and survival after breast cancer. This study was based on women with histologically confirmed, newly diagnosed, localized or regional stage breast cancer first treated in 1 of 11 Quebec City (Canada) hospitals from 1982 through 1984. Among 765 eligible patients, 673 (88%) were interviewed 3 to 6 months after diagnosis about the number and perceived impact of stressful events in the 5 years before diagnosis. The results showed that stress was conceptualized as life events presumed to be negative, undesirable, or to require adjustment by the person confronting them. Furthermore the researchers found no evidence indicating that this kind of stress during the 5 years before diagnosis negatively affected survival among women with non metastatic breast cancer.

Lindberg et al (2004) The study was conducted to establish the degree to which women at increased familial risk for breast cancer showed traumatic reactions and to establish which demographic or psychological variables may contribute to the experience of such traumatic reactions in at-risk individuals. Seventy-three women from the Revlon UCLA Breast Center High Risk Clinic were assessed for traumatic reactions that might be consistent with the DSM-IV criteria for PTSD. The results showed that women at increased risk for breast cancer exhibited traumatic responses similar to those reported by cancer patients. When the authors used a self-report instrument that maps onto DSM-IV criteria, 4% of the study subjects reported symptoms consistent with criteria for a potential diagnosis of PTSD, and an additional 7% of the subjects reported symptoms consistent with potentially subclinical levels of PTSD, according to DSM-IV criteria.

Roth et al (2005) The study aimed to Identifying which men with prostate cancer might benefit from mental health treatment has proven to be a challenging task. The authors

developed the Memorial Anxiety Scale for Prostate Cancer (MAX–PC) in order to facilitate the identification of prostate cancer-related anxiety. A revised version of this scale was tested in a more clinically varied population. Ambulatory men with prostate cancer (N=367) completed a baseline assessment packet that included the MAX–PC and other psychosocial questionnaires. PSA levels were not correlated with anxiety overall; however, anxiety was significantly higher among patients whose PSA levels were changing (i.e., rising, falling, and unstable), versus those with stable PSA levels.

While Anderson et al (2005) in a study aimed to examine the psychological responses to cancer recurrence. An ongoing randomized clinical trial provided the context for prospective study. Women with Stage II/III breast carcinoma (N = 227) were initially assessed after their diagnosis/surgery and before adjuvant therapy and then reassessed every 6 months. Eight years into the trial, 30 patients had recurred (R) and were assessed shortly after receiving their second diagnosis. Their data were compared with a sample of trial patients who had no evidence of disease (disease free [DF]; n = 90). The groups were matched on study arm, disease stage, estrogen receptor status, menopausal status, and time since initial diagnosis. As hypothesized, patients' cancer-specific stress at recurrence in the R group was higher ($P < 0.05$) than stress levels for the DF group at the equivalent point in time. In contrast, analyses for emotional distress and social functioning showed no pattern of disruption for the R group at cancer recurrence and levels equivalent to that of the DF group.

Kadan-Lottick et al (2005) in a study aimed to identify the psychiatric disorders and mental health service use in patients with advanced cancer. This was a cross-sectional, multi-institutional study of 251 eligible patients with advanced cancer. Trained interviewers administered the Structured Clinical Interview for the Diagnostic Statistical Manual IV (DSM-IV) modules for major depressive disorder, generalized anxiety disorder,

panic disorder, Post-traumatic stress disorder, and a detailed questionnaire regarding mental health service utilization. The results showed that overall, 12% met criteria for a major psychiatric condition and 28% had accessed a mental health intervention for a psychiatric illness since the cancer diagnosis. Seventeen percent had discussions with a mental health professional; 90% were willing to receive treatment for emotional problems. Mental health services were not accessed by 55% of patients with major psychiatric disorders.

Couper et al (2006) in a study aimed to identify the psychosocial impact of prostate cancer on patients and their partners. Observational, prospective study at Time 1 and 6 months later at Time 2 of two groups of couples facing PCA. Time 1 was when patients were first diagnosed with histologically confirmed localised (potentially curable) PCA or metastatic (incurable) PCA. Depression and anxiety disorders according to the diagnostic and Statistical Manual of Mental Disorders 4th edition (DSM-IV); psychological distress; marital satisfaction. At Time 1, partners had rates of DSM-IV major depression and generalised anxiety disorder twice those of women in the Australian community, and considerably higher than the patients' rates. At Time 2, psychological distress in partners had lessened but that in patients had increased. On the other hand, at Time 2, partners' marital satisfaction had deteriorated.

Also the study of Blank and Bellizzi (2006)in a study aimed to examine how hope, optimism, use of coping strategies, and primary treatment predict well-being, positive and negative affect, impact, depression, and adaptive changes among PCa survivors. The final sample included 490 men. Basic univariate analyses demonstrated that the men reported being happy, hopeful, and positive, with low levels of negative outcomes. Regression analyses demonstrated that positive outcomes were influenced primarily by personality. Negative outcomes were found to be affected by both personality and coping strategies.

Adaptive changes were the only ones found to be significantly affected by primary treatment. Although longer-term survivorship of PCa does not appear to be a highly traumatic experiences, personality factors and the use of coping strategies years after treatment were found to introduce variability to well-being in complex ways, differing in relation to positive and negative outcomes.

Schreier and Williams (2007) The study aimed to examine quality of life (QOL) and anxiety in a sample of women receiving radiation or chemotherapy for breast cancer. Longitudinal, descriptive design used with 48 women with cancer in southern united state. The Ferrans and Powers Quality of Life Index (QLI) and Speilberger's State-Trait Anxiety Inventory (STAI) were administered. The major findings showed that Total QOL improved significantly over time for the entire sample, as did scores on the health/functioning, psychological/spiritual, and family subscales of the QLI. No significant differences existed for total QOL or any subscales by treatment. Trait anxiety was significantly higher for women receiving chemotherapy, and state anxiety was significantly higher at all three measurement times for the women. State anxiety did not decrease significantly over the course of the treatment for either group. Trait anxiety and state anxiety at the start of treatment were significantly negatively correlated with total QLI score and the psychological/spiritual subscale. State anxiety at the start of treatment also was significantly negatively correlated with total QOL and the health/functioning and psychological/spiritual QLI subscales both at the start of treatment and one year later.

2.10.2 Coping strategies of patients with cancer:

The following are some of the previous studies of coping strategies of patients with cancer. Coping strategies highly valued if used appropriately by those patients. Also coping are

important mechanism for normal population, and play major role in their life; so it is very important mechanisms among patients with cancer.

Reardon and Aydin (1993) The purpose of this study was to explore the factors that might influence cancer patients to make health-promoting changes in their own behavior. Three factors — Coping Strategies, Social Support, and Patient Attitudes concerning responsibility for their own recovery — were hypothesized to influence changes in stress levels, diet, exercise, and mental outlook. Findings indicate that coping strategies are significant predictors of changes in stress level, diet, and mental outlook, and patient attitudes concerning responsibility for recovery contribute to positive changes in exercise. The latter finding suggests that taking responsibility for one's own health is important in motivating breast cancer patients to engage in health-promoting physical activity.

Feher et al (1999) in a study to identify religious and spiritual coping strategies among elderly women with newly diagnosed breast cancer. A convenience sample of 33 women age 65 years was recruited within 6 months of diagnosis. The findings showed that participants' religious background was varied: 17 Protestant, five Catholic, six Jews, and four other. There was great variation in the frequency of religious service attendance. Religious and/or spiritual belief either increased or stayed the same during the time of health crisis. Religious and spiritual faith provided respondents with the emotional support necessary to deal with their breast cancer (91%), with social support (70%), and with the ability to make meaning in their everyday life, particularly during their cancer experience (64%). Religious and spiritual faith provides elderly women newly diagnosed with breast cancer with important tools for coping with their illness and should be recognized by diagnosing physicians.

Reynolds et al (2000) The study aimed to evaluate the association between coping strategies and breast cancer survival among Black and White women in a large population-

based study. A total of 442 Black and 405 White US women diagnosed with invasive breast cancer during 1985–1986 and actively followed for survival through 1994 were administered a modified Folkman and Lazarus Ways of Coping questionnaire. Coping strategies were characterized via factor analyses of the responses. Hazard ratios associated with coping strategies were estimated using Cox proportional hazards models, with adjustment for age, race, tumor stage, study location, tumor hormone responsiveness, comorbidity, health insurance status, smoking, relative body weight, and alcohol consumption. Emotion-focused coping strategies were significantly associated with survival. Expression of emotion was associated with better survival. When it was considered jointly with the presence or absence of perceived emotional support, women reporting low levels of both emotional expression and perceived emotional support experienced poorer survival than women reporting high levels of both. Similar risk relations were evident for Blacks and Whites and for patients with early and late stage disease.

And in another study by Reynolds et al (2000) in a study aimed to examine the use of coping strategies and breast cancer survival: Results from the Black/White Cancer Survival Study. A total of 442 Black and 405 White US women diagnosed with invasive breast cancer In study during 1985–1986 and actively followed for survival through 1994 were administered a modified Folkman and Lazarus Ways of Coping questionnaire(1984). Coping strategies were characterized via factor analyses of the responses. Emotion-focused coping strategies were significantly associated with survival. Expression of emotion was associated with better survival. When it was considered jointly with the presence or absence of perceived emotional support, women reporting low levels of both emotional expression and perceived emotional support experienced poorer survival than women

reporting high levels of both. Similar risk relations were evident for Blacks and Whites and for patients with early and late stage disease.

Leydon et al (2000) in a study aimed to identify Cancer patients' information needs and information seeking behaviour: in depth interview study. Qualitative study based on in-depth interviews. Outpatient oncology clinics at a London cancer centre. 17 patients with cancer diagnosed in previous 6 months. Analysis of patients' narratives to identify key themes and categories. The findings show that while all patients wanted basic information on diagnosis and treatment, not all wanted further information at all stages of their illness. Hope was essential for patients to carry on with life as normal and could be maintained through silence and avoiding information, especially too detailed or "unsafe" information.

In similar study concerning breast cancer done by Ben-Zur and Gilber (2001) in a study aimed to explore the coping with breast cancer: patient, spouse, and dyad models. 73 patients with breast cancer and their spouses completed questionnaires that measured distress (Brief Symptom Inventory), psychosocial adjustment, and coping strategies. The findings show that the patients' distress was greater than their spouses', but a similar level of psychosocial adjustment was reported. The patients used more strategies involving problem-focused coping than their spouses. The use of emotion-focused coping, which included ventilation and avoidance strategies, was highly related to distress and poor adjustment on the part of the patient. The spouses' emotion-focused coping and distress were related to that of the patients. Dyad emotion-focused coping measures were highly associated with the patients' distress and adjustment.

Hee-Seung et al (2002) The study aimed to identify the coping strategies and stress level among patients with cancer residing in South Korea using cross-sectional study for 257 patient with cancer. Lazarus and Folkman's theory of stress and coping was used as the theoretical framework. The data were collected from November 1999 to March 2000 by

face-to-face interviews. Study participants were primarily male (62.6%) and married (91.4%). Cancer of the gastrointestinal system was the most prevalent type of cancer (31.3%). Women and the patients in the third-stage of cancer showed higher stress but less coping than other groups. Stress was negatively correlated with both problem-focused coping and emotion-focused coping. Korean patients with cancer used emotion-focused coping strategies more than problem-focused coping strategies.

List et al (2002) the aim of this study was to examine the coping strategies of patients with cancer in head and neck (HNC). Seventy-nine patients with HNC were assessed for quality of life (QOL) and coping strategy. Measures included the Functional Assessment of Cancer Therapy-Head and Neck, the Performance Status Scale for Head and Neck Cancer Patients, and the Ways of Coping-Cancer Version. Coping strategies were summarized and related to patient demographics and QOL. The results suggested that patients with HNC used a wide range of coping strategies, with social support seeking behaviors representing the greatest proportion of total coping effort (25%). The use of avoidant coping strategies (both cognitive and behavioral escape) was associated with poorer overall QOL.

While in another study concerning the cancer of neck and head; List et al (2002) in a study of carcinoma of the head and neck" (HNC). 79 patients with HNC were assessed for quality of life (QOL) and coping strategy. Measures included the Functional Assessment of Cancer Therapy-Head and Neck, the Performance Status Scale for Head and Neck Cancer Patients, and the Ways of Coping-Cancer Version. Coping strategies were summarized and related to patient demographics and QOL. The results suggested that patients with HNC used a wide range of coping strategies, with social support seeking behaviors representing the greatest proportion of total coping effort (25%). The use of avoidant coping strategies (both cognitive and behavioral escape) was associated with poorer overall QOL. Although further examination of these issues in larger groups of patients with HNC is warranted, the

current findings suggested the adaptability of this group of patients and the potential benefit of social support-based assistance or intervention.

Perczek et al (2002) in a study aimed to investigate the relationship between patients Facing a prostate cancer diagnosis: and who is at risk for increased distress?". The study followed patients across 4 weeks, from prebiopsy to 2 weeks post diagnosis, using these two time points as measurements. Data were collected between 1995 and 1998 at the Miami and Palo Alto VA Medical Center urology clinics. Biopsies were performed on 101 men (ages 46-87) to determine whether prostate cancer was present. These men completed prebiopsy and post diagnosis questionnaires. The findings show that coping, and cancer status, the only significant predictor of increased distress at post diagnosis was dispositional avoidance at prebiopsy for both cancer and noncancer groups.

Furthermore, Absetz et al (2002) in a study aimed to examine the associations of vicarious breast cancer experience, risk factor knowledge, and use of different coping styles with risk perception and psychological distress among 1544 women, shortly before they were invited to participate in a nationwide breast cancer screening program. In analyses of variance, experience and risk factor knowledge had a significant effect on risk perception but not on psychological distress; optimistic and emotion-focused coping styles had an effect on both. Risk perception had a strong association with distress with a 13% effect size, and not only with illness-related distress but also with anxiety and depression.

Henderson et al (2003) The aim of the study were to determine the coping strategies used by African American women with breast cancer and to explore socio-demographic variables such as age, income, education, marital status, and length of time since diagnosis on coping strategies among African American women with breast cancer. A cross-sectional design was used to study relationships among these variables. The sample consisted of 86 African American women with a diagnosis of breast cancer living in the southeastern

United States. Participants were surveyed with a demographic data sheet and the Ways of Coping Questionnaire (WCQ). The results indicated that positive reappraisal and seeking social support are the most commonly used coping strategies among African American women with breast cancer. No significant relationships were found among sociodemographic variables and coping strategies among African American women. Also, a comparison of our mean coping strategy scores among African American women with breast cancer are higher than the mean coping strategy scores from a previous study of mostly Caucasian women with breast cancer.

But new study concerning oral cancer done by Manoj et al;(2003) that aimed to identify the concern and coping strategies in patients with oral cancer: in a pilot study. The pilot study was carried out between April and July 1998 Aspects of cancer treatment beyond prolonging the survival have emerged with a focus on quality, not just quantity, of survival through the identification of psychosocial needs. The study was consists of 15 patients were married and have families Trivandrum Quality of Life Study (TQOLS) was started in April 1998 and the pilot was completed in July 1998. For this study 15 patient with head and neck cancers admitted to Surgical Oncology ward for primary surgery were included.. The study showed that religion was the most common coping mechanism among 80% of the patients.

Others such as Tatsumura et al (2003) in a study aimed to identify the Religious and spiritual resources (RSR) , CAM (complementary and alternative medicine), and conventional treatment in the lives of cancer patients". Cancer patients in Hawaii were recruited from a group who had previously completed a questionnaire on CAM use. In-depth interviews were conducted with a selected subset of survey participants. 143 cancer patients were interviewed 2 to 3 years following diagnosis. The findings show that Participants reported using a variety of RSR, including personal faith, individual (self)

prayer, relationship/dialog with God, prayers from fellow church members and others, counseling from pastor/priest or leader of faith, reading the bible, attending religious services, meditation, finding and spending time at locations of spiritual energy (i.e., churches, specific geographical locations, or certain natural settings), and help or counseling by ancestor(s).

Holly et al (2003) in a study aimed to compare the psychological outcome of breast cancer treatment in women who had either received mastectomy or immediate reconstruction using autogenous tissue (n = 30), or mastectomy alone (n= 34), and also determine adjustment factors in this population as a whole. Participants completed measures of depression, anxiety, body image, self-esteem, coping and perceived social support at a time point 3 – 15 months after initial surgery. No significant differences were revealed between the two groups on any of the outcome measures. Poor body image, low self-esteem, and a tendency to use coping strategies characterized by helpless/hopelessness and anxious preoccupation, rather than fighting spirit, were highly predictive of distress.

But in another study for Lavee, Y. et al (2003) in a study aimed to examine the Patterns of Change in Marital Relationships among Parents of Children with cancer. The study consisted of 35 couples; 33 in their first marriage, and 2 were married with length of marriage ranging between 5-28 years. The scale of the study were; Marital quality" and "change in marital quality" were measured by two questionnaires ENR.JCH is a 10-item Likert-type scale assessing the respondent's perceived quality of his or her marriage across 10 dimensions of the relationship. The result finding indicated that the largest negative effect of the child's illness, reported equally by mothers and fathers, was on their sexual relationship. Also, There was relatively little change in the marital quality of parents whose children had been ill for a year or less, and a positive change (improvement) in the relationship for those whose child had been ill for two or three years.

Trace et al (2004) in a study aimed to identify the Coping strategies and quality of life in women with advanced breast cancer and their family caregivers. The sample consisted of 189 patient-family member dyads with advanced breast cancer. Profile analysis showed that patients reported greater use of emotional support, religion, positive reframing, distraction, venting, and humor coping while family members reported greater use of alcohol/drug coping. Regression analyses showed that among both patients and family caregivers, active coping was associated with higher quality of life and avoidant coping was associated with lower quality of life. In addition, the patient's level of symptom distress moderated the relationship between coping and quality of life. The negative relationship between family caregivers' avoidant coping strategies and family caregivers' mental quality of life was strongest when patients had low levels of symptom distress and weakest when patients had high levels of symptom distress.

A study by Anagnostopoulos et al (2004) attempts to identify those coping strategies that distinguish breast cancer patients from non-malignant controls. A sample of 180 breast cancer patients was assessed on how it coped with health threats. The control group was composed of 268 women who were diagnosed as having either a benign disease or were disease free. The Ways of Coping Questionnaire was administered in order to record the frequency of the coping strategies used under the health conditions. Univariate analyses were conducted to compare mean scores in coping strategies among the diagnostic groups. Multivariate analyses were performed to identify those variables that distinguish one group from the other. The findings indicated that Compared with women with benign breast disease and those who were disease free, breast cancer patients significantly infrequently exhibited attributions of blame to self, whereas they did not differ from controls in other ways of coping such as self-isolation, passive acceptance, seeking social support, problem-focused coping, positive reappraisal, distancing, and wishful thinking.

Catherine et al (2005), in a study aimed to identify factors that impact on the sexual relationship, to explore coping strategies used by patients and partners, and to highlight service needs. In total, 12 women who had undergone breast reconstructive surgery within the last three years and their partners (10 men) took part in the study. Grounded theory methodology was used to analyze the data and identify key categories for both patients and partners. Patients' key categories included anxiety and worry, influencing factors, self-image and sexual changes. All women experienced some degree of sexual change and sexual anxiety, and a minority reported a loss of sexual self. Partners' key categories included anxiety and stress, influencing factors and negotiating sexual changes. The majority of partners reported that initially, their priority was their partner's survival rather than sexual concerns; however the majority of men acknowledged some degree of sexual anxiety.

Case et al (2005) in a study aimed to identify the relationship of information seeking to avoidance, blunting, coping and dissonance among studies that concerning patients with cancer. A historical review (1890-2004) of theory literature in communication and information studies, coupled with searches of recent studies on uptake of genetic testing and on coping strategies of cancer patients, was performed. The assumption that individuals actively seek information underlies much of psychological theory and communication practice, as well as most models of the information-seeking process. Cancer information in general and genetic screening for cancer in particular are discussed as examples to illustrate this pattern. Some patients avoid knowledge of imminent disease makes avoidance behavior an important area for social and psychological research, particularly with regard to genetic testing.

McMillan et al (2005) in a study aimed to identify the impact of coping skills intervention with family caregivers of hospice patients with cancer. three group randomized controlled

trial was conducted including baseline, 16 day, and 30 day assessments conducted from March 1999 to May 2003. The sample consisted of 354 family caregivers of community dwelling hospice patients with advanced cancer. Patient/caregiver dyads were randomly divided into three groups, including a control group (n = 109) who received standard hospice care, a group (n = 109) who received standard hospice care plus three supportive visits, and a group (n = 111) who received standard care plus three visits to teach a coping skills intervention. At the 30-day follow-up, the coping skills intervention led to significantly greater improvement in caregiver QOL. None of the groups showed significant change in overall care-giving mastery, caregiver mastery specific to care-giving tasks, problem-focused or emotion-focused coping.

Cameron et al (2005) in a study aimed to identify the Cognitive and Affective Determinants of Decisions to Attend a Group Psychosocial Support Program for Women with Breast Cancer. The sample were women recruited during clinic visits 2 to 4 weeks after diagnosis completed measures of affective and cognitive factors identified by Leventhal's Common-Sense Model of illness self-regulation: cancer-related distress, avoidance tendencies, beliefs that the breast cancer was caused by stress and altered immunity, and personal control beliefs. Measures of general anxiety and depression, social support, and demographic characteristics were also completed; prognostic status information was obtained from medical records. All women were encouraged to participate in a free, 12-week program offering coping skills training and group support. Participation was recorded by program staff. The findings show that Of the 110 women, 54 (49%) participated in the group support program and 56 (51%) did not. Logistic regression analyses revealed that participation was predicted by stronger beliefs that the cancer was caused by altered immunity, higher cancer-related distress, lower avoidance tendencies, and younger age.

In a study by Mytko et al (2005) That aimed to provide normative coping data, controlling for situation-specific variables with a homogeneous sample, targeted stressor, and fixed time point, using the Ways of Coping Questionnaire; and to identify coping strategies associated with distress before high-dose chemotherapy. Subjects were 49 patients scheduled to receive high-dose chemotherapy and an autologous bone marrow transplant. Consistent with previous coping research, we found that escape-avoidance was related to psychological distress on several measures. Item endorsement analyses of the escape-avoidance subscale suggest that patients may have used more passive than active avoidance strategies. Subsequent participation in a longitudinal study was not affected by initial levels of avoidant coping.

Büssing et al (2005) The aim of the study was examine the basic attitudes of patients with severe diseases towards spirituality/religiosity (SpR) and their adjustment to their illness. In order to re-validate our previously described SpREUK instrument, reliability and factor analysis of the new inventory (Version 1.1) were performed according to the standard procedures. The test sample contained 257 German subjects (53.3 ± 13.4 years) with cancer (51%), multiple sclerosis (24%), other chronic diseases (16%) and patients with acute diseases (7%). The findings showed that As some items of the SpREUK construct require a positive attitude towards SpR, these items (item pool 2) were separated from the others (item pool 1). The reliability of the 15-item the construct derived from the item pool 1 respectively the 14-item construct which refers to the item pool 2 both had a good quality. Factor analysis of item pool 1 resulted in a 3-factor solution (i.e. the 6-item sub-scale 1: "Search for meaningful support"; the 6-item sub-scale 2: "Positive interpretation of disease"; and the 3-item sub-scale 3: "Trust in external guidance") which explains 53.8% of variance. Generally, women had significantly higher SpREUK scores than male patients.

De Faye et al (2006) The goal of this study was to examine patterns of coping across different dimensions of stress. Fifty-two patients who were receiving palliative care for cancer were asked to indicate their most significant stressors within social, physical, and existential dimensions. A structured interview was then conducted to describe how the participants coped with these stressors. The findings show that stressor severity ratings were correlated significantly across the three dimensions, although physical symptoms received the highest mean rating. Participants generally used a range of coping strategies to deal with their stressors, but there were clear differences across dimensions in the relative use of problem-focused versus emotion-focused strategies. Problem-focused coping was less frequent for existential issues, whereas emotion-focused strategies were used less frequently for physical stressors. Coping efforts were not clearly related to psychological distress.

Rntmsc et al (2006) The aim of this study was to test the feasibility of two instruments within an Icelandic context, the Brief Symptom Inventory 18 (BSI 18) and the Ways of Coping Inventory - Cancer Version (WOC-CA) with specific focus on gender and type of treatment and coping techniques among cancer patients during time of treatment. The sample consisted of 40 cancer patients in three oncology outpatient clinics in Iceland, 53% were women and 47% men. The majority of the participants belonged to the age group 51-70. Anxiety was the factor causing the greatest distress, mainly reported by patients receiving chemotherapy. More women experienced depression than men, women (18.4%), men (8.3%). Distancing was the most frequently reported coping strategy, and men seemed to focus on the positive side more often than women did.

Silva et al (2006) This study aimed to assess coping strategies and to identify stress levels of patients with psoriasis. This is a cross-sectional study of a sample of 115 patients, which included 61 patients with psoriasis and 54 patients with other chronic dermatoses as

controls. Instruments: The Ways of Coping Questionnaire and the Lipp Stress Symptoms Inventory for Adults. The coping strategies of self-control (p=0.027) and escape-avoidance (p=0.014) were the most used by patients with psoriasis and both groups present high stress levels (p=0.838).

Fariba et al (2006) in a study aimed to identify the coping with breast cancer in newly diagnosed Iranian women. In this qualitative study, 19 women with newly diagnosed breast cancer were interviewed during the period May–September 2004 about coping with their disease. Interviews were analysed using a content analysis method. The findings show that the main themes emerging from this qualitative study included coping using a religious approach (acceptance of disease as God's will; spiritual fighting), thinking about the disease (positive thinking: positive suggestion, hope, intentional forgetfulness; negative thinking: hopelessness, fear, impaired body image), accepting the fact of the disease (active acceptance; passive acceptance), social and cultural factors and finally finding support from significant others.

Vidhubala et al (2006) in a study aimed to identify the coping preferences of head and neck cancer patients - Indian context". A prospective study was conducted at the Cancer Institute (WIA), Chennai. 176 HNC patients participated in the study. The age group ranged from 19 to 87 years. The questionnaire used for assessing coping preferences was Jalowiec coping preference scale containing 40 items, with responses ranging on a 5-point scale. The variables chosen were treatment, site, education, survival, age and gender. SPSS 9.0 version was used for both descriptive and multivariate analysis. The findings show that No significant difference was observed in the preference of Emotion-Oriented Coping (EOC) in relation to age, treatment, site, education and survival. Treatment, site, education and gender showed significant differences in the preference of Problem-Oriented Coping (POC).

Tarakeshwar et al (2006) in a study aimed to examine the association between religious coping and QOL among 170 patients with advanced cancer. Both positive religious coping (e.g., benevolent religious appraisals) and negative religious coping (e.g., anger at God) and multiple dimensions of QOL (physical, physical symptom, psychological, existential, and support) were studied. Structured interviews were conducted with 170 patients recruited as part of an ongoing multi-institutional longitudinal evaluation of the prevalence of mental illness and patterns of mental health service utilization in advanced cancer patients and their primary informal caregivers. Patients completed measures of QOL (McGill QOL questionnaire), religious coping (Brief Measure of Religious Coping [RCOPE] and Multidimensional Measure of Religion/ Spirituality), self-efficacy (General Self-Efficacy Scale), and socio-demographic variables. The findings show that greater use of positive religious coping was also related to more physical symptoms. In contrast, greater use of negative religious coping was related to poorer overall QOL and lower scores on the existential and psychological QOL dimensions. Religious coping plays an important role for the QOL of patients and the types of religious coping strategies used are related to better or poorer QOL.

Thomas and Kieth (2006) in a study aimed to examine how hope, optimism, use of coping strategies, and primary treatment predict well-being, positive and negative affect, impact, depression, and adaptive changes among PCa survivors. Questionnaire tapping personality, primary treatment, and coping strategy predictor variables and outcome variables of both positive and negative aspects of well-being was sent to 1-8-year PCa survivors. The final sample included 490 men. The results show that Basic univariate analyses demonstrated that the men reported being happy, hopeful, and positive, with low levels of negative outcomes. Regression analyses demonstrated that positive outcomes were influenced primarily by personality. Negative outcomes were found to be affected by both personality

and coping strategies. Adaptive changes were the only ones found to be significantly affected by primary treatment.

In a study by Büssing, Ostermann, and Koeing (2007) the study aimed to examine self-categorizations of SpR (Spiritual/Religious) among patients with cancer for meaningful support, trust in higher source, positive interpretation of disease, and support in relations of life through SpR, as measured with the SpREUK questionnaire, in German medical patients. The sample consisted of 710 West-German patients with a mean age of 54. Forty-two percent had chronic pain diseases, 25% cancer, 10% multiple sclerosis, 21% other chronic diseases, and 3% acute diseases. The findings showed that interest in search for meaningful support was moderate. Trust in a higher source and support in life through SpR were rated higher, while almost all patients had a positive interpretation of their diseases, i.e, hint to change life. The interest in SpR issues was highest in cancer patients and lowest in patients with multiple sclerosis. Univariate analyses confirmed that the SpR self-categorization was the strongest predictor of all four factors, while trust in a higher source was also affected by religious affiliation and age. Positive interpretations of disease correlated well with search for meaningful support.

Tan (2007) This study aimed to determining the relationship between social support and coping strategies in cancer patients and that between the sociodemographic and medical properties of patients. One hundred forty-eight cancer patients admitted to an oncology and hematology clinic in Erzurum were studied. The data were collected using a questionnaire that determines sociodemographic features: the Ways of Coping Inventory and the Perceived Social Support From Family Scale. Among the coping strategies, patients were found to use unconfident approach (emotion focused) the most and seeking social support (problem focused) the least. Significant correlations were found among social support and coping strategies. While a negative correlation between social support and emotion-

focused coping strategies (unconfident approach and submissive approach). As the social support scores increased, scores regarding emotion-focused coping strategies decreased. On the other hand, there was a positive correlation between social support and problem-focused coping strategies (confident approach, optimistic approach, and seeking social support); that is, mean social support scores increased as the mean problem-focused coping strategy scores increased.

Büssing et al (2007) The aim of the study was to investigate the impact of spirituality and religiosity (SpR) in Arabic patients with a Muslim background as compared to patients from Western Germany. A total of 66 Arabic patients with hypertension were recruited between November 2005 and June 2006 consecutively at Al-Razi Hospital and Khalil Sulaiman Hospital in Jenin (Palestine) and completed the translated SpREUK questionnaire (SpREUK is an acronym of the German translation of spiritual and religious attitudes in dealing with illness). One hundred and eighty German patients were matched according to age, marital status, gender, and chronic diseases. Results: Arabic patients with a Muslim background had significantly higher scores for all 4 SpREUK scales than German patients, namely, "Search for meaningful support", "Trust in higher source", "Positive interpretation of disease", and "Support in relations of life through SpR".

Aquino et al (2007) in a study aimed to investigate the meaning of religious beliefs for a group of cancer patients during rehabilitation. The study consisted of an ethnographic case with the participation of six laryngectomized male and female patients between 51 and 72 years old, who had been operated on two to five years earlier. Data were collected by semi-structured interviews and analyzed on the basis of the concepts of culture and religion. The results were synthesized into three descriptive categories: the moral representation of cancer, religious beliefs about the cancer trajectory, and negotiation with religion for survival. These categories give rise to the meaning "the hope for a second chance", which

emphasizes the importance of religion as part of the support networks that articulate with the patient's coping with the stigma of cancer, with the hope for cure, and with the ways of organizing everyday life, during survival.

Hoff et al (2007) in a study aimed to identify the impact of bad news - views of patients with acute leukaemia, myeloma or lung cancer about information, from diagnosis to cure or death". Twelve patients with malignant hematological diseases or lung cancer were followed with interviews from diagnosis to recovery or into the terminal phase or at most for two years. The method is qualitative, using semi-structured interviews. Orebro University Hospital or the patient's home. The findings show that all patients described themselves as well informed from the start but in later phases of their disease some of them came to express a great uncertainty about the progressing disease and about the approaching death. Different strategies for coping with information, however, affected how they then dealt with the information received. Four such coping strategies were found: 1) Information-dependent and accepting;2) Information-dependent but denying; 3) Medically informed and accepting; 4) Medically informed but denying.

Aleksandra et al (2007) in a study aimed to examine Patients' coping profiles and partners' support provision. Cluster analysis based on 321 patients yielded three distinct coping patterns: Accommodative Coping, Disengaging Coping, and Assimilative Coping. These encapsulate ways and extent of coping during the week after cancer surgery. Accommodative Coping was characterized by low levels of active problem-directed strategies but a high degree of acceptance and humour, whereas Assimilative Coping represented positive reframing and active strategies. Based on 122 couples, associations between patients' coping profiles and subsequent spousal support provision were examined. Partners provided least support to patients in the Accommodative Coping category and most support to patients in the Assimilative Coping category. Female partners

provided more support than did male partners. Patients' coping behaviours in the week after cancer surgery affected subsequent provision of support by their partners.

Pagona et al (2007) in a study aimed to examine the Patterns of Coping, Flexibility in Coping and Psychological Distress in Women Diagnosed with Breast Cancer". Greek women diagnosed with breast cancer reported on their coping efforts and levels of distress the day before surgery, 3 days after surgery, and 3 months later. Acceptance and humor were negatively related to distress at all three time points, whereas denial and emotional expression were positively related to distress post-surgery and 3 months later. The relationship between patterns of coping and distress was also examined. Specifically, participants who used emotion-focused engagement coping at pre-surgery, that is, acceptance or emotional expression combined with social support, experienced less distress 3 months later than participants who did not use any emotion-focused engagement coping. The results indicate that pre-surgery use of emotion-focused engagement coping can be adaptive and that the adaptiveness of each strategy may vary as the stressor evolves.

Diane et al (2007) in a study aimed to identify Illness and treatment beliefs in head and neck cancer: Is Leventhal's common sense model a useful framework for determining changes in outcomes over time?" Fifty patients completed the following measures prior to treatment, 1 month and 6–8 months after treatment: IPQ-R, BMQ, Brief COPE, LOT-R, SCIP, EORTC QLQ-C30, SF-12, Patient Generated Index (PGI), and HADS. Results: Baseline illness and treatment beliefs were not predictive of HR-QoL, individualized QoL, or anxiety 6–8 months after treatment; however, beliefs about the chronicity of the disease (timeline beliefs) were predictive of depression after treatment. Coping strategies employed and levels of satisfaction with information before treatment were significant predictors of several outcomes. The findings suggest that a common sense model may be a useful framework for eliciting and understanding patients' beliefs regarding HNC;

however, there are concerns regarding the use of a 'dynamic' model to predict longitudinal outcomes from baseline factors that may change over the course of an illness.

Summary of the previous studies:

Sample size:

The mentioned studies have various sample size depend on the measured variable and the availability of the members of the sample.

From which many studies used small sample size such as Manoj et al (2003) n= 15 patients with oral cancer , Catherine et al (2005) n= 12 women with breast cancer, Hoff et al (2007) n=12 patients with malignant hematological disease/or lung cancer , Leydon et al (2000) n= 17 patients with unspecified cancer, Fariba et al (2006) n= 19 women with breast cancer, Feher et al (1999) n= 33 women aged 65 year with breast cancer , Lavee et al (2003) n= 35 couples with children suffering cancer, Mytko et al (2005) n= 49 patients with cancer receiving chemotherapy, Holly et al (2003) n= 64 women with breast cancer and Diane et al (2007) n = 50 patients with head and neck cancer, De Faye et al (2006) n= 52 cancer patients, Lindberg et al (2004) n= 73 breast cancer patienst, Ben-Zur et al (2001) n= 73 patient with breast cancer, List et al (2002) n= 79 cancer patients and list et al (2002) n= 79 patient with head and neck cancer; and Henderson et al (2003) n= 86 breast cancer.

But another studies have a medium sample size including Perczek et al (2002) n= 101 men aged 46-87 year with prostate cancer, Cameron et al (2005) n= 110 women with breast cancer, Hyodo et al (1996) 118 patients with cancer, Tatsumura et al (2003) n= 143 patients with unspecified cancer, Tan (2007) n= 148 patients with cancer, Tarakeshwar et al (2006) n= 170 patients with unspecified advanced cancer, Vinduhbala et al (2006) n=

176 patients with neck and head cancer, Anagnostopoulos et al (2004) n=180 breast cancer, Trace et al (2004) n= 189 patients with advanced breast cancer, Anderson et al (2005) n= 227 patients with cancer recurrence, Hee-Seung et al (2002) n= 257 patients with cancer and Kadan-Lottick et al (2005) n= 251 patients with advanced cancer.

However, few studies conducted large sample size such as Aleksandra et al (2007) n=321 patient with cancer, Roth et al (2005) n= 367 prostate cancer, Noyes et al (1990) n= 400 patients with cancer Reynolds et al ?(2000) n= 442 black, and 405 white US women wit breast cancer, Wellisch et al (2001) n= 430 patients treating from cancer, Blank et al (2006) n= 490 men with prostate cancer, Büssing, Ostermann, and Koeing (2007) n= 710 patients with cancer, Maunsell et al (2001) n= 765 patients with breast cancer, Reynolds et al (2000) n= 847 patients with breast cancer and Absetz et al (2002) n= 1544 women with breast cancer.

Tools of the previous studies:

The tools that used in the studies depend on what measured exactly or what reflection of the cancer on mental health and coping among the analyzed samples for patients with different types of cancer.

Some of the studies used interviews such as Maunsell et al (2001) used inspected interview 3-6 months for the patients with cancer, Kadan-Lottick et al (2005) used structured clinical interview for (DSM-IV) modules, Tatsumura et al (2003) used in-depth interview conducted with a selected subset of survey participants, Fariba et al (2006) used interview using a content analysis method, Tarakeshwar et al (2006) structured interview, and

Aquino et al (2007) used semi-structured interviews and Hoff et al (2007) used qualitative semi-structured interview.

But, Hyodo et al (1996); Schreier and Williams (2007); Wellisch et al (2001) used State-Trait Anxiety Inventory, while Roth et al (2005) used Memorial Anxiety Scale for Prostate Cancer (MAX–PC); and Lindberg et al (2004); Pitman et al (2001) used PTSD scale and DSM IV criteria.

Where Anderson et al (2005) used Randomized clinical trial, Sauan et al (2005) and McMillan et al (2005) used Random selection and division the group into three groups control group who receive standard hospice care, a group who receive standard hospice care plus three supportive visits, and a group who receive standard care plus three visit approach.

However, Reynolds et al (2000); Anagnostopoulos et al (2004); Henderson et al (2003) ; Mytko et al (2005); Tan (2007); Hee-Seung et al (2002); Rntmsc et al (2006); List et al (2002); Silva et al (2006) used Folkman and Lazarus Ways of coping Questionnaire, Ben-Zur et al (2001) used brief symptom inventory, Psychological Adjustment Questionnaire, List et al (2002) used Functional Assessment of cancer (head and neck) ; the performance status scale (head and neck); and ways of coping –cancer Version., Holly et al (2003) used depression and anxiety scales and coping inventory, Lavee et al (2003) used ENR. JCH two questionnaire like a likert scale, Diane et al (2007) used IPQ-R, BMQ, Brief COPE, LOT-R, SCIP, EORTC QLQ-C30, SF-12.

Other studies used screening program test like Absetz et al (2002) and Case et al (2005) but Cameron et al (2005) used completed measures of affective and cognitive factors identified by Leventhal's Common-sense model of Illnes self –regulation.

Büssing, Ostermann, and Koeing (2007); Büssing et al (2005); Büssing et al (2007) used SpR (Spiritual/Religious) scale among patients with cancer.

Results of the previous studies:

Hyodo et al (1996); Schreier and Williams (2007) found that the State anxiety scores in most of the patients with benign diseases were reduced to the normal range after explanation in the first study but didn't decrease after explanation in the second study. anxiety was significantly higher among patients whose PSA levels were changing in Roth et al (2005).

Lindberg et al (2004); and Pitman et al (2001) found that patients with cancer exhibit the traumatic experience and symptoms of PTSD.

The studies of Maunsell et al (2001), Andreson et al (2005), and Couper et al (2006) showed that patients with cancer have high rate of stress among the analyzed sample and they usually distressed and anxious about the disease. Furthermore, they have mental health problem related to their illness characterized by their behavioral style.

But, Kadan-Lottick et al (2005) mention that patients with cancer have psychological problems that need mental health intervention which observed among the most of them during the phase of the disease.

The religious and spiritual coping were found significant and increased among patients with cancer in the studies of Feher et al (1999), List et al (2002), Tatsumura et al (2003), Aquino et al (2007), and Fariba et al (2006).

But in Reynolds et al (2000), Absetz et al (2002), Ben-Zur and Gilber (2001) and McMillan et al (2005) the patients with cancer use mechanism of emotion-focused coping. While problem focused coping were found in Ben-Zur and Gilber (2001), McMillan et al (2005) and Vidhubala et al (2006).

And seeking behavior coping were found in Leydon et al (2000), Pagona et al (2007), and Case et al (2005).

Chapter 3

Methodology

Chapter 3

Methodology

The researcher will focus in this chapter on description of study design, setting of the study, sample, population, ethical consideration and the instrument that used in data collection.

3.1 Design:

This descriptive analytical study with cross sectional method for data collection using interviewed directed questionnaire applied by the researcher and three (G P) doctors. Cross-sectional studies can be through providing a "snapshot" of the frequency and characteristics of the event in a population at a particular point in time. This type of data can be used to assess the prevalence of acute or chronic conditions in a population. And to answer the study questions about assessing the coping strategies of cancer patients at Shifa Hospital in Gaza Strip. However, the scientific method for the analysis of data gathered.

3.2 Setting of the study:

Researcher chose Shifa Hospital in the study period between September (2007) and August (2008), and the data were collected in the period between 3/24/2008 till 4/23/2008 the questionnaire fulfilled by the researcher through interview directed questionnaire, which had given to all attendants to the oncology clinic. Suitable environment will be considered for all subjects in fulfilling the questionnaire.

The settings were:

Interviews done for one month between 3/24/2008 till 4/23/2008 and Interviewing days were Monday and Wednesday weekly, The time of interview was 8 Am to 12:30 Pm and interview interval for each subject was 10 to 15 minutes, However, the interviewers were

the researcher and his assistants (three GP Physicians), Each subject was assessed for the vulnerability for interviewing with no embarrassments, In addition all the subjects were exhibited the willingness for this study after they inform about the study and the goals of it, The interview accompanied by refreshments paid by the researcher and tired subjects were excluded from the interview, Also the place of interview was comfortable and air conditioned, and the researcher made the interviews up on the fluency of the subjects with no previous preparation.

3.3 Population:

All attendants to the oncology clinic in Shifa Hospital as a convenient sample.

3.3.1 Study sample:

The researcher selected cluster random sample will have (all attendants to the oncology clinic were around 6,000 case and the researcher will have 400 subject from the total population), they are chosen in certain period and certain time, the researcher chose the first arriving subject to the clinic randomly while each other subject from the referral files in the oncology clinic (when each subject receive his file from the clerk).

3.3.2 Sample size:

Sample size: 400 subjects from all attendants to the oncology clinic as simple random sample.

3.3.3 Real sample size:

A convenient sample of 358 of patients with cancer 114 males and 244 females adult age group were enrolled in this study as respondents by rate 89.5 %, while the irrespondents were 42 by rate 10.5 % from proposed sample as shown in the table

3.4 Instruments:

Interviewed directed questionnaire; this questionnaire was contains the following:

- Socio-demographical data (developed by the researcher) socio-demographical status for patients with cancer (subjects of the study) to assess; age, sex, place of residence, income, shelter status, … etc (annex, 3).
- Anxiety scale containing (Anxiety State and Anxiety Trait) have the validity and reliability previously, (annex 4, annex)
- PTSD Scale, have the validity and reliability previously. (annex 6)
- Ways of coping strategies used with stressful situations. (annex 7)

3.4.1 State-Trait Anxiety Inventory

By: Spielberger et al (1970)

Description: The State-Trait Anxiety Inventory (STAI) was initially conceptualized as a research instrument for the study of anxiety in adults. It is a self-report assessment device which includes separate measures of state and trait anxiety. According to the author, state anxiety reflects a "transitory emotional state or condition of the human organism that is characterized by subjective, consciously perceived feelings of tension and apprehension, and heightened autonomic nervous system activity." State anxiety may fluctuate over time and can vary in intensity. In contrast, trait anxiety denotes "relatively stable individual

differences in anxiety proneness." and refers to a general tendency to respond with anxiety to perceived threats in the environment.

Scoring and Norms: Scores on the STAI have a direct interpretation: high scores on their respective scales mean more trait or state anxiety and low scores mean less. Both percentile ranks and standard (T) scores are available for male and female working adults in three age groups (19-39, 40-49, 50-69), male and female high school and college students, male military recruits, male neuropsychiatric patients, male medical patients, and male prison inmates.

Reliability: The stability of the STAI scales was assessed on male and female samples of high school and college students for test-retest intervals ranging from one hour to 104 days. The magnitude of the reliability coefficients decreased as a function of interval length. For the Trait-anxiety scale the coefficients ranged from .65 to .86, whereas the range for the State-anxiety scale was .16 to .62. This low level of stability for the State-anxiety scale is expected since responses to the items on this scale are thought to reflect the influence of whatever transient situational factors exist at the time of testing.

Validity: Correlations are presented in the manual between this scale and other measures of trait-anxiety: the Taylor Manifest Anxiety Scale, the IPAT Anxiety Scale, and the Multiple Affect Adjective Check List. These correlations are .80,.75, and .52, respectively.

3.4.2 PTSD scale (Davidson et al 1989) translated by Dr. Abdel Aziz Thabet

The PTSD scale consisted of 17 sections concerning PTSD that experienced by person. Each section related to the previous traumatic event. Each section have 5 answers start the first answer with never, rarely, sometimes, most times, always. The interviewee put mark (X) in front of the statement that agree and express his feeling. all the statement are correct

and have scale start from absolute never and ends with assertiveness for these feelings. The answers concerned with one correct statement for each section.

Scale correction

The scale degrees ranged from (0- 68) that the highest scores for those who experienced traumatic events and (0) Zero for whom never experience the traumatic events. The answers start with never scored zero (0), rarely (1), sometimes (2), most times (3), and always (4).

The scale divided in to three main subscale:

Re-experience the traumatic events that include the following items 1, 2, 3, 4, 17.

Avoidance of traumatic events that include the following items 5, 6, 7, 8, 9, 10, 11.

Hyper-arousal that include the following item 12, 13, 14, 15, 16.

The items calculated according to scale formulated from five points (from 0-4) the sum of the items grades will be 136 point. The diagnosis of PTSD confirmed as follow

One symptom of re-experiencing the traumatic events

Three symptoms from avoidance symptoms.

Two symptoms from the hyper-arousal symptoms.

Saidam (2005) estimated the alpha Cronbach for the translated PTSD scale version (17 item) and its subscales on a group of university students in Gaza governorates. The researcher found that alpha Cronbach (0.82) which indicate the good stability for this scale.

3.4.3 Ways of coping (Folkman et al, 1986):

The Ways of Coping (Revised) is a 66-item questionnaire containing a wide range of thoughts and acts that people use to deal with the internal and/or external demands of specific stressful encounters. Usually the encounter is described by the subject in an

interview or in a brief written description saying who was involved, where it took place and what happened. Sometimes a particular encounter, such as a medical treatment or an academic examination, is selected by the investigator as the focus of the questionnaire. Each administration, however, is focused on coping processes in a particular stressful encounter and not on coping styles or traits.

The revised Ways of Coping (Folkman & Lazarus, 1985) differs from the original Ways of Coping Checklist (Folkman & Lazarus, 1980) in several ways. The response format in the original version was Yes/No; on the revised version the subject responds on a 4-point Likert scale (0 = does not apply and/or not used; 3 = used a great deal). Redundant and unclear items were deleted or reworded, and several items, such as prayer, were added.

The Way of Coping that used in this study shortened to 44 items divided in 7 subscale as follow:

1) Wish and avoidance thinking including the following items (3,11,19,21,34,39,42).
2) Problem solving including the following items (7,12,15,23,43,44)
3) Reinterpretation including the following items (5,8,9,16,20,31,32,38,40)
4) Affiliation including the following items (1,17,24,30,33)
5) Accountability including the following items (2,10,18,26,41)
6) Self control including the following items (6,13,14,22,28,35,37)
7) Trouble and escape including the following items (4,25,27,29,36)

In study by Folkman et al (1986) they were studied the ways of coping among community sample of people and show their alphas independently as follow; confronting coping (alpha= 0.70); Distancing (alpha =0.61); self-controlling (alpha=0.70); seeking social support (alpha=0.76); accepting responsibility (alpha= 0.66); escape and avoidance (alpha=0.72); planful problems solving (alpha=0.68); and positive reappraisal (alpha=0.79). The eight scales accounted for 46.2% of the variance.

3.5 Pilot study:

The researcher applied the instruments of this study on a 52 of cancer patients as a pilot sample from the original population of the study sample; 20 males and 32 females, where this technique used to estimate and discuss the validity and reliability of the instruments used in this study.

3.5.1 Validity and Reliability of anxiety scale "state and trait"

3.5.1.1 Validity of anxiety scale "state and trait"

To compute the internal consistency of the anxiety scale; the researcher calculate the correlation coefficients of every item of the scale with the total scores of every scale, as shown in the following table:

Table (1): Internal consistency of items with total scores of every anxiety scale "state and trait"

Anxiety state No. of items	Correlation coefficients	Sig. Level	Anxiety trait No. of items	Correlation coefficients	Sig. Level
1	0.606	0.001***	**1**	0.660	0.001***
2	0.718	0.001***	**2**	0.637	0.001***
3	0.744	0.001***	**3**	0.458	0.001***
4	0.620	0.001***	**4**	0.762	0.001***
5	0.494	0.001***	**5**	0.731	0.001***
6	0.661	0.001***	**6**	0.650	0.001***
7	0.722	0.001***	**7**	0.538	0.001***
8	0.536	0.001***	**8**	0.618	0.001***
9	0.736	0.001***	**9**	0.326	0.018*

*p< 0.05 **p< 0.01 ***p< 0.001

As shown in table (1); there are all of items of two scales of anxiety "state and trait" had good levels of internal consistency validity with total score of every scale, were the

correlation coefficients ranged R= (0.494 - 0.744) for anxiety state and (0.326 – 0.762) for anxiety trait; and most of items significant at 0.01.

3.5.1.2 Reliability of anxiety scale "state and trait"

To calculate the reliability of the anxiety scale; the researcher uses the following two methods:

1- Split half method

Researcher calculated the reliability of anxiety scale by using split half method (part1 = 5 items & part2 = 4 items for every image of anxiety scale); where the reliability coefficient was (R = 0.793) for anxiety state and (R= 0.699) for anxiety trait.

2- Cronbach's alpha equation

Researcher estimated the reliability of the anxiety scale by using the equation of Cronbach's alpha (No. of items = 9 for every image of anxiety); the value of alpha was (0.828) for anxiety state and (0.773) for anxiety trait. The previous results of validity and reliability were revealed that the anxiety scale is valid and reliable.

3.5.2 Validity and Reliability of PTSD scale

3.5.2.1 Validity of PTSD

To compute the internal consistency of the PTSD scale; the researcher calculate the correlation coefficients of every item of the scale with the total score of scale, as shown in the following table:

Table (2): Internal consistency of items with total score of PTSD

No. of items	Correlation coefficients	Sig. Level	No. of items	Correlation coefficients	Sig. Level
1	0.498	0.001***	**10**	0.698	0.001***
2	0.511	0.001***	**11**	0.715	0.001***
3	0.462	0.001***	**12**	0.692	0.001***
4	0.626	0.001***	**13**	0.516	0.001***
5	0.589	0.001***	**14**	0.757	0.001***
6	0.559	0.001***	**15**	0.752	0.001***
7	0.355	0.01**	**16**	0.784	0.001***
8	0.638	0.001***	**17**	0.800	0.001***
9	0.826	0.001***			

*p< 0.05 **p< 0.01 ***p< 0.001

As shown in table (2); there are all of items of PTSD scales had good levels of internal consistency validity with total score of the scale, were the correlation coefficients ranged R= (0.355 - 0.826) and all of items significant at 0.01.

3.5.2.2 Reliability of PTSD:

To calculate the reliability of PTSD scale; the researcher uses the following two methods:

1- Split half method

Researcher calculated the reliability of PTSD scale by using split half method (part1 = 9 items & part2 = 8 items); where the reliability coefficient was (R = 0.809).

2- Cronbach's alpha equation

Researcher estimated the reliability of the PTSD scale by using the equation of Cronbach's alpha (No. of items = 17); the value of alpha was (0.908), were this results revealed that the scale is valid and reliable.

3.5.3 Validity and Reliability of coping strategies scale

3.5.3.1 Validity of coping strategies

To estimate the Internal consistency of the coping strategies scale; the researcher calculate the correlation coefficients of every item of the subscale with the total score of every subscale, as shown in the following table:

Table (3) : Internal consistency of items with total score of coping strategies

Sub scale	No. of items	Correlation coefficients	Sig. Level	Sub scale	No. of items	Correlation coefficients	Sig. Level
1- Wish and avoidance thinking	3	0.869	0.001***	4- Affiliation	1	0.630	0.001***
	11	0.890	0.001***		17	0.446	0.001***
	19	0.647	0.001***		24	0.578	0.001***
	21	0.732	0.001***		30	0.674	0.001***
	34	0.496	0.001***		33	0.754	0.001***
	39	0.732	0.001***	5- Accountability	2	0.630	0.001***
	42	0.854	0.001***		10	0.611	0.001***
2- Problem solving	7	0.670	0.001***		18	0.362	0.008 **
	12	0.793	0.001***		26	0.664	0.001***
	15	0.733	0.001***		41	0.524	0.001***
	23	0.532	0.001***	6- Self control	6	0.768	0.001***
	43	0.463	0.001***		13	0.788	0.001***
	44	0.567	0.001***		14	0.393	0.004 **
3- Reinterpretation	5	0.637	0.001***		22	0.739	0.001***
	8	0.490	0.001***		28	0.772	0.001***
	9	0.427	0.002 **		35	0.636	0.001***
	16	0.632	0.001***		37	0.702	0.001***
	20	0.490	0.001***	7- Trouble and escape	4	0.626	0.001***
	31	0.681	0.001***		25	0.677	0.001***
	32	0.624	0.001***		27	0.731	0.001***
	38	0.522	0.001***		29	0.663	0.001***
	40	0.574	0.001***		36	0.620	0.001***

*p< 0.05 **p< 0.01 ***p< 0.001

As shown in table (3); there are all of items of coping strategies scales had good levels of internal consistency validity with total score of its every subscale, were the correlation coefficients ranged R= (0.362 - 0.890) and all of items significant at 0.01.

3.5.3.2 Reliability of coping strategies

The researcher estimated the reliability of the subscales of coping strategies scale by using the equation of Cronbach's alpha as shown in the following table:

Table (4): Reliability by Cronbach's alpha

Subscale	No. of items	Alpha
1- Wish and avoidance thinking	7	0.869
2- Problem solving	6	0.674
3- Reinterpretation	9	0.734
4- Affiliation	5	0.568
5- Accountability	5	0.419
6- Self control	7	0.806
7- Trouble and escape	5	0.675

*p< 0.05 **p< 0.01 ***p< 0.001

As shown in table(4), all of values of alpha were significant at 0.01., which means that the scale of coping strategies and its subscales is valid and reliable.

3.6 Ethical considerations:

Permission from ministry of health (MOH), approval from Helsinki Committee (annex 1). approval from subjects (the approval taken at the time of interview and each one have the right to refuse the interview, and approval from health sectors for field study administration and clinic medical team (approval to search for the subjects data mainly in their files) (annex 2).

3.7 Data entry and analysis

After data collection of the researcher used SPSS (version 13) computer program for data entry and analysis . While the researcher used different methods of statistical analysis that clarifying the differences between the groups such as frequencies, t- independent test,

comparing means, one way A NOVA, and chi-square that also denoted the differences between the groups and within the groups of the study variables

3.8 Eligibility criteria:

3.8.1 Inclusion criteria:

All oncology clinic attendants in AL 'Shifa Hospital, all subjects experience disease two years or more, ages of subjects were more than 12 years old, and all subjects who have files in the clinic

3.8.2 Exclusion criteria

Critical cases were haven't the ability to do interview and patients who haven't files in the clinic.

3.9 Limitations

3.9.1 Transportations for both researcher and subjects.

3.9.2 Time and money consuming.

3.9.3 Validity and reliability to the instrument used .

3.9.4 Subjects intolerance for interview.

3.9.5 Security invasion" for some subjects during data collection because they don't want to tell about their illness .

Chapter 4

Results

Chapter 4

Results

In this chapter the researcher will view the results of the study in four models; the first is the socio-demographic characteristics of the study sample, the second about mental health problems "state and trait anxiety and PTSD and there relations with socio-demographic data of cancer patients, the third about the coping strategies and their relations with socio-demographic data of cancer patients, while the fourth is about the relationship between mental health problems and coping strategies among the study sample.

4.1 Demographic results of the study sample:

The following table shows the demographic results of the study sample, which described the study sample according to Place of residence, sex, age, marital status, educational level type of work, and monthly income.

The sample consisted of 358 patients with cancer, 114 were males (31.8%) and 244 were females (68.2%). patients with cancer from North Gaza were (24.9%), from Gaza (60.1%), and from middle area (15.1%). According to marital status were married (82.4%), single (3.4%), Divorced (0.6%), and Widowed (13.7%). According to educational level were Primary and less (26.8%), Preparatory (27.7%), Secondary (38.0%), and University (7.5%). According to type of work were Unemployed (17.9%), Employee (10.9%), Worker & private work (8.9%), Retired (5.9%), and Others "cannot, house wife" (56.4). According to monthly income, were (39.4%) of patients had monthly income 1000 and less NIS, (35.5%) monthly income was from 1001-2000 NIS, (22.3 %) of patients were from 2001-3000, (2.8%) were 3001 NIS and above.

Table (5)

Demographic characteristics of the study Sample (N=358)

Place of residence	N	**%**
North	89	24.9
Gaza	215	60.1
Middle	54	15.1
Total	358	100.0
Sex		
Males	114	31.8
Females	244	68.2
Total	358	100.0
Age		
40 and less	39	10.9
41-50	80	22.3
51-60	105	29.3
61-70	84	23.5
71 and above	50	14.0
Total	358	100.0
Marital status		
Married	295	82.4
Single	12	3.4
Divorced	2	0.6
Widowed	49	13.7
Total	358	100.0
Educational level		
Primary and less	96	26.8
Preparatory	99	27.7
Secondary	136	38.0
Diploma	-	0.0
University	27	7.5
Post graduate	-	0.0
Total	358	100.0
Work		
Unemployed	64	17.9
Employee	39	10.9
Worker & private work	32	8.9
Retired	21	5.9
Others "cannot, house wife"	202	56.4

Total	358	100.0
Monthly income		
1000 and less	141	39.4
1001-2000	127	35.5
2001-3000	80	22.3
3001 NIS and above	10	2.8
Total	358	100.0

Table (6)

Medical conditions of patients with cancer

Type of tumor	N	%
Lung	21	5.9
Breast	164	45.8
Colon	45	12.6
Uterus	7	2.0
Ovary	3	0.8
Larynx	5	1.4
Liver	3	0.8
Thyroid gland	28	7.8
Other	82	22.9
Total	358	100.0
Duration of illness		
less than 2 years	139	38.8
2-5 years	116	32.4
6-10 years	68	19.0
more than 10 years	35	9.8
Total	358	100.0
Type of treatment		
Hormonal	3	.8
Chemotherapy	38	10.6
Radiation	3	0.8
Surgical	3	0.8
Mixed	311	86.9
Total	358	100.0

4.2 Mental health problems according to demographic variables among the study sample

4.2.1 Symptoms and Prevalence of mental health problems among the study sample

4.2.1.1 Symptoms of state of anxiety among the study sample

The following table shows that the symptoms of state of anxiety among the study sample of cancer patients, where the ratio scales plays the role of this step. Symptom of disturbed at what may happen is unfortunate at the highest rank (69.7%), followed by very nervous (67.5%), and tense (66.7%) among the study sample of cancer patients.

Table (7) : Symptoms of anxiety state among the study sample

Symptoms	**N of items**	**Mean**	**St. Dev.**	**Ratio scale %**
Now I am disturbed at what may happen is unfortunate	1	2.79	1.056	69.7
I'm very nervous (asses)	1	2.70	1.023	67.5
I'm tense	1	2.67	1.061	66.7
I feel relaxed	1	2.67	1.018	66.7
I feel disturbance	1	2.64	0.990	66.0
I feel (relax)	1	2.63	1.136	65.7
I feel safe	1	2.31	1.070	57.7
feel complacent	1	1.76	0.926	44.0
I feel confident in the soul	1	1.69	0.928	42.2

4.2.1.2 Frequency of anxiety trait among the study sample:

The following table shows that the symptoms of trait of anxiety items, where the symptom of feel comfortable at the highest rank (69.5%), followed by wounded of a state of tension or trouble when I think of my interests and concerns in the recent period (64.5%), and feel nervous and instability at the third rank (63.2%) among the study sample of cancer patients.

Table (8) : frequency of Anxiety trait among the study sample

Symptoms	N of items	Mean	St. Dev.	Ratio scale %
I feel comfortable	1	2.78	0.939	69.5
Wounded of a state of tension or trouble when I think of my interests and concerns in the recent period	1	2.58	0.893	64.5
I feel nervous and instability	1	2.53	0.893	63.2
I feel safe	1	2.41	1.018	60.2
I have disturbing ideas	1	2.26	0.925	56.5
I feel that the difficulties to accumulate so I can not overcome	1	2.13	0.909	53.2
I feel convinced myself	1	2.07	0.955	51.7
I feel incompetent	1	1.56	0.809	39.0
I feel as if I failed	1	1.31	0.629	32.7

4.2.1.3 Symptoms of PTSD among the study sample:

The following table shows that the symptoms of PTSD, where avoiding any thoughts or feelings about the event is the highest rank symptom (60.7%), followed by avoiding doing things or going into situations which remind you by the events (59.5%), and upset by some things which reminded you of the events at the third rank (57.0%) among the study sample of cancer patients.

Table (9) : Symptoms of PTSD among the study sample

Symptoms	N of items	Mean	St. Dev.	Ratio scale %
Avoiding any thoughts or feelings about the event.	1	2.43	1.274	60.7
Avoiding doing things or going into situations which remind you by the events.	1	2.38	1.284	59.5
Upset by some things which reminded you of the events.	1	2.28	1.231	57.0
Painful imagoes or memories of the events.	1	2.23	1.168	55.7
Irritable or had outbursts of anger.	1	1.93	1.080	48.2
Thoughts of the events was reoccurring.	1	1.91	1.254	47.7
Jumble easily started.	1	1.70	1.170	42.5
Difficulty enjoying things.	1	1.60	1.173	40.0

Trouble falling a sleep or staying sleep.	1	1.58	1.136	39.5
Physically up set by reminders of the event.	1	1.56	1.334	39.0
Distressing dreams of the events.	1	1.54	1.075	38.5
On edge been easily distracted or hade to stay.	1	1.46	1.230	36.5
Difficulty in concentration.	1	1.43	1.132	35.7
Found it hard to imagine having along life span fulfilling your goals.	1	1.41	1.239	35.2
Distant or cut off from others people.	1	1.38	1.202	34.5
Unable to have sad or loving feeling.	1	1.27	1.142	31.7
Found your self unable to recall important parts of the event.	1	0.74	1.109	18.5

4.2.1.4 Prevalence of mental health problems among the study sample:

The following table shows that the prevalence of mental health problems among the study sample of cancer patients, where the ratio scales plays the role of this step. State anxiety at the highest rank (60.8%), followed by trait anxiety (54.6%), re-experiencing of PTSD at the third rank (47.%), followed by PTSD (42.5%), hyper arousal of PTSD was at the sixth rank (40.5%), where avoidance of PTSD at the lowest rank (40.1%) among the study sample of cancer patients.

Table (10) : Prevalence of mental health problems among the study sample

Variables	**N of items**	**Mean**	**St. Dev.**	**Ratio scale %**	Arrange-ment
State anxiety	9	21.91	6.690	60.8	**1**
Trait anxiety	9	19.67	5.466	54.6	**2**
PTSD	17	28.91	14.358	42.5	**5**
Re- experiencing	5	9.55	4.757	47.7	**3**
Avoidance	7	11.25	6.070	40.1	**7**
Hyper arousal	5	8.11	4.795	40.5	**6**

4.2.2 Mental health problems according to sex:

The researcher adopts t-independent test to investigate the differences between male (n=

114) and female (n= 244) in demonstrating dependent variables State anxiety; trait anxiety; and PTSD (Re-experiencing, avoidance, hyper arousal).

As shown in following table; the result found that there were no significant differences in state anxiety (t= 1.21, p= 0.223), trait anxiety (t= 1.65, p= 0.099) according to sex of the study sample. There were no significant differences in PTSD (t= 0.31, p= 0.753) and its dimensions re-experiences (t= 0.49, p= 0.622), avoidance (t= 0.38, p= 0.704), hyper arousal (t= 0.95, p= 0.342) according to sex of the study sample.

Table (11): Independent t-test comparing means of mental health problems according to sex

Variable	Sex	N	Mean	Std. Dev	*t-value*	*p-value*
State anxiety	Male	114	22.54	7.459	1.21	0.223
	Female	244	21.61	6.294		
Trait anxiety	Male	114	20.36	6.016	1.65	0.099
	Female	244	19.34	5.169		
PTSD	Male	114	29.26	15.595	0.31	0.753
	Female	244	28.75	13.772		
Re-experiencing	Male	114	9.36	5.199	0.49	0.622
	Female	244	9.63	4.544		
Avoidance	Male	114	11.42	6.590	0.38	0.704
	Female	244	11.16	5.823		
Hyper arousal	Male	114	8.46	5.164	0.95	0.342
	Female	244	7.94	4.615		

*p< 0.05 **p< 0.01 ***p< 0.001

4.2.3 Mental health problems according to age of the study sample:

In order to investigate the difference in mental health problems according to age of the study sample (40 years and less, 41 – 50, 51 – 60, 61 – 70, 71 years and above) the researcher demonstrate one-way ANOVA analysis.

The following table shows that: there were no significant differences in state anxiety (f = 2.029; P= 0.090) and trait anxiety (f = 2.286; P= 0.060) according to the groups of ages of the study sample.

There were no significant differences in PTSD (f= 1.856, p= 0.118), avoidance (f= 1.497,

p= 0.202), and hyper arousal (f= 0.872, p= 0.481) according to age of the study sample. While there was significant difference in re-experiences dimension of PTSD according to age of the study sample (f= 3.519, p= 0.008).

Table (12): One-way ANOVA comparing mental health problems according to age

Variable	Source of variance	Sum of Squares	Df	Mean Square	F- value	Sig. Level
State anxiety	Between Groups	359.267	4	89.817	2.029	0.090
	Within Groups	15623.048	353	44.258		
	Total	15982.316	357			
Trait anxiety	Between Groups	269.342	4	67.336	2.286	0.060
	Within Groups	10397.764	353	29.455		
	Total	10667.106	357			
PTSD	Between Groups	1516.070	4	379.018	1.856	0.118
	Within Groups	72080.245	353	204.193		
	Total	73596.316	357			
Re-experiencing	Between Groups	309.800	4	77.450	3.519	** 0.008
	Within Groups	7768.795	353	22.008		
	Total	8078.595	357			
Avoidance	Between Groups	219.478	4	54.870	1.497	0.202
	Within Groups	12935.896	353	36.646		
	Total	13155.374	357			
Hyper arousal	Between Groups	80.386	4	20.097	0.872	0.481
	Within Groups	8131.144	353	23.034		
	Total	8211.531	357			

*p< 0.05 **p< 0.01 ***p< 0.001

Post –hoc analysis using Scheffee statistical test was done and indicated; the means of re-experiences according to age of the study sample (40 years and less, 41 – 50, 51 – 60, 61 – 70, 71 years and above).

As shown in the following table; the group of 40 years and less were significantly higher in re-experiences than 71 years and above among the study sample.

Table(13): Means of re-experiencing according to age

Variable		N	Mean	S.D
Re-experiencing	40 years and less	50	10.820	4.077
	41 – 50 years	80	10.650	4.647
	51 – 60 years	105	9.085	4.422
	61 – 70 years	84	9.440	4.885
	71 years and above	50	7.960	5.375

4.2.4 Mental health problems according to marital status of the study sample:

In order to investigate the difference in mental health problems according to marital status of the study sample (single, married, divorced, widowed) the researcher demonstrate one-way ANOVA analysis. The following table shows that: there were no significant differences in state anxiety (f = 1.978; P= 0.117) and trait anxiety (f = 2.258; P= 0.081) according to marital status of the study sample. While there were significant differences in PTSD (f= 4.623, p= 0.003), and its dimensions re-experiences (f= 4.677, p= 0.003), avoidance (f= 3.629, p= 0.013), and hyper arousal (f= 4.421, p= 0.005) according to marital status of the study sample.

Table (14): One-way ANOVA comparing mental health problems according to marital status

Variable	Source of variance	Sum of Squares	Df	Mean Square	F- value	Sig. Level
State anxiety	Between Groups	263.451	3	87.817	1.978	0.117
	Within Groups	15718.865	354	44.404		
	Total	15982.316	357			
Trait anxiety	Between Groups	200.386	3	66.795	2.259	0.081
	Within Groups	10466.720	354	29.567		
	Total	10667.106	357			
PTSD	Between Groups	2774.643	3	924.881	4.623	** 0.003
	Within Groups	70821.673	354	200.061		
	Total	73596.316	357			
Re-experiencing	Between Groups	308.012	3	102.671	4.677	** 0.003
	Within Groups	7770.583	354	21.951		
	Total	8078.595	357			
Avoidance	Between Groups	392.484	3	130.828	3.629	* 0.013
	Within Groups	12762.890	354	36.053		
	Total	13155.374	357			
Hyper arousal	Between Groups	296.538	3	98.846	4.421	** 0.005
	Within Groups	7914.993	354	22.359		
	Total	8211.531	357			

*p< 0.05 **p< 0.01 ***p< 0.001

Post –hoc analysis using Scheffee statistical test was done and indicated; the means of PTSD and its dimensions according to marital status of the study sample (Single - married - widowed - divorced).

As shown in the following table; Scheffee statistical test indicate that the differences in PTSD and its dimensions were between married group and widowed group, in favor to married group of the study sample.

Table (15): Means of PTSD according to marital status

Variable		N	Mean	S.D
PTSD	Single	12	31.916	13.520
	Married	295	29.935	14.108
	Widowed	49	21.979	14.527
	Divorced	2	30.000	12.727
Re-experiencing	Single	12	10.666	4.141
	Married	295	9.891	4.718
	Widowed	49	7.367	4.626
	Divorced	2	6.000	2.828
Avoidance	Single	12	12.166	6.630
	Married	295	11.647	5.962
	Widowed	49	8.632	6.163
	Divorced	2	11.500	2.121
Hyper arousal	Single	12	9.083	3.752
	Married	295	8.396	4.758
	Widowed	49	5.979	4.661
	Divorced	2	12.500	7.778

4.2.5 Mental health problems according to educational level of the study sample:

In order to investigate the difference in mental health problems according to educational level of the study sample (Primary and less, Preparatory, Secondary, University) the researcher demonstrate one-way ANOVA analysis.

The following table shows that: there were no significant differences in state anxiety (f = 0.300; P= 0.825) and trait anxiety (f = 0.593; P= 0.620) according to educational level of the study sample.

There were no significant differences in PTSD (f= 0.676, p= 0.567), and its dimensions re-experiences (f= 1.060, p= 0.366), avoidance (f= 0.708, p= 0.548), and hyper arousal (f= 0.272, p= 0.846) according to educational level of the study sample.

Table (16): One-way ANOVA comparing mental health problems according to educational level

Variable	Source of variance	Sum of Squares	Df	Mean Square	F- value	Sig. Level
State anxiety	Between Groups	40.556	3	13.519	0.300	0.825
	Within Groups	15941.760	354	45.033		
	Total	15982.316	357			
Trait anxiety	Between Groups	53.298	3	17.766	0.593	0.620
	Within Groups	10613.808	354	29.983		
	Total	10667.106	357			
PTSD	Between Groups	419.138	3	139.713	0.676	0.567
	Within Groups	73177.178	354	206.715		
	Total	73596.316	357			
Re-experiencing	Between Groups	71.898	3	23.966	1.060	0.366
	Within Groups	8006.697	354	22.618		
	Total	8078.595	357			
Avoidance	Between Groups	78.487	3	26.162	0.708	0.548
	Within Groups	13076.888	354	36.940		
	Total	13155.374	357			
Hyper arousal	Between Groups	18.854	3	6.285	0.272	0.846
	Within Groups	8192.677	354	23.143		
	Total	8211.531	357			

*p< 0.05 **p< 0.01 ***p< 0.001

4.2.6 Mental health problems according to work of the study sample:

In order to investigate the difference in mental health problems according to work of the study sample (un-employed, employed, retired, others) the researcher demonstrate one-way ANOVA analysis.

The following table shows that: there were significant differences in state anxiety (f = 5.365; P= 0.001) and trait anxiety (f = 8.465; P= 0.001) according to work of the study sample. There were significant differences in PTSD (f= 7.712, p= 0.001), and its dimensions re-experiences (f= 6.162, p= 0.001), avoidance (f= 7.534, p= 0.001), and hyper-arousal (f= 6.030, p= 0.001) according to work of the study sample.

Table (17): One-way ANOVA comparing mental health problems according to work

Variable	Source of variance	Sum of Squares	Df	Mean Square	F- value	Sig. Level
State anxiety	Between Groups	695.010	3	231.670	5.365	*** 0.001
	Within Groups	15287.306	354	43.184		
	Total	15982.316	357			
Trait anxiety	Between Groups	713.984	3	237.995	8.465	*** 0.001
	Within Groups	9953.122	354	28.116		
	Total	10667.106	357			
PTSD	Between Groups	4514.856	3	1504.952	7.712	*** 0.001
	Within Groups	69081.459	354	195.145		
	Total	73596.316	357			
Re-experiencing	Between Groups	400.909	3	133.636	6.162	*** 0.001
	Within Groups	7677.686	354	21.688		
	Total	8078.595	357			
Avoidance	Between Groups	789.527	3	263.176	7.534	*** 0.001
	Within Groups	12365.847	354	34.932		
	Total	13155.374	357			
Hyper arousal	Between Groups	399.245	3	133.082	6.030	*** 0.001
	Within Groups	7812.286	354	22.069		
	Total	8211.531	357			

*p< 0.05 **p< 0.01 ***p< 0.001

Post –hoc analysis using Scheffee statistical test was done and indicated; the means of PTSD and its dimensions according to work of the study sample (un-employed, employed, retired, others).

As shown in the following table; Scheffee statistical test indicate that the differences in all mental health problems were between retired group versus other three groups, in favor to the three groups "unemployed, employed, other" of the study sample.

Table (18): Means of mental health problems according to work

Variable		N	Mean	S.D
State anxiety	Unemployed	64	22.156	7.400
	Employed	71	23.619	6.225
	Retired	21	17.142	7.786
	Others	202	21.732	6.273
Trait anxiety	Unemployed	64	19.984	5.945
	Employed	71	21.366	5.032
	Retired	21	14.809	5.259
	Others	202	19.480	5.183
PTSD	Unemployed	64	29.718	15.720
	Employed	71	30.704	13.129
	Retired	21	14.809	13.418
	Others	202	29.495	13.721
Re-experiencing	Unemployed	64	9.281	5.078
	Employed	71	9.957	4.451
	Retired	21	5.428	5.343
	Others	202	9.920	4.513
Avoidance	Unemployed	64	11.906	6.955
	Employed	71	12.070	5.391
	Retired	21	5.428	5.626
	Others	202	11.361	5.752
Hyper arousal	Unemployed	64	8.531	5.291
	Employed	71	8.676	4.656
	Retired	21	3.952	4.043
	Others	202	8.212	4.573

4.2.7 Mental health problems according to monthly income of the study sample:

In order to investigate the difference in mental health problems according to monthly income of the study sample (1000 NIS and less, 1001 - 2000, 2001- 3000, 3001 and above) the researcher demonstrate one-way ANOVA analysis.

The following table shows that: there were no significant differences in state anxiety (f = 0.877; P= 0.453) and trait anxiety (f = 1.321; P= 0.267) according to monthly income of

the study sample.

There were no significant differences in PTSD (f= 0.794, p= 0.498), and its dimensions re-experiences (f= 0.291, p= 0.832), avoidance (f= 1.364, p= 0.254), and hyper-arousal (f= 0.693, p= 0.557) according to monthly income of the study sample.

Table (19): One-way ANOVA comparing mental health problems according to monthly income

Variable	Source of variance	Sum of Squares	Df	Mean Square	F- value	Sig. Level
State anxiety	Between Groups	117.876	3	39.292	0.877	0.453
	Within Groups	15864.440	354	44.815		
	Total	15982.316	357			
Trait anxiety	Between Groups	118.104	3	39.368	1.321	0.267
	Within Groups	10549.002	354	29.799		
	Total	10667.106	357			
PTSD	Between Groups	492.079	3	164.026	0.794	0.498
	Within Groups	73104.237	354	206.509		
	Total	73596.316	357			
Re-experiencing	Between Groups	19.876	3	6.625	0.291	0.832
	Within Groups	8058.719	354	22.765		
	Total	8078.595	357			
Avoidance	Between Groups	150.324	3	50.108	1.364	0.254
	Within Groups	13005.050	354	36.737		
	Total	13155.374	357			
Hyper arousal	Between Groups	47.964	3	15.988	0.693	0.557
	Within Groups	8163.567	354	23.061		
	Total	8211.531	357			

*p< 0.05 **p< 0.01 ***p< 0.001

4.2.8 Mental health problems according to type of tumor of the study sample:

In order to investigate the difference in mental health problems according to type of tumor of the study sample (lung, breast, colon, uterus, ovary, larynx, liver, thyroid, other) the researcher demonstrate one-way ANOVA analysis.

The following table shows that: there were no significant differences in state anxiety (f = 0.578; P= 0.796) and trait anxiety (f = 0.548; P= 0.820) according to type of tumor of the study sample.

There were no significant differences in PTSD (f= 0.635, p= 0.748), and its dimensions re-experiences (f= 0.554, p= 0.815), avoidance (f= 0.853, p= 0.557), and hyper-arousal (f= 0.667, p= 0.720) according to type of tumor of the study sample.

Table (20): One-way ANOVA comparing mental health problems according to type of tumor

Variable	Source of variance	Sum of Squares	Df	Mean Square	F- value	Sig. Level
State anxiety	Between Groups	209.052	8	26.131	0.578	0.796
	Within Groups	15773.264	349	45.196		
	Total	15982.316	357			
Trait anxiety	Between Groups	132.375	8	16.547	0.548	0.820
	Within Groups	10534.731	349	30.185		
	Total	10667.106	357			
PTSD	Between Groups	1055.523	8	131.940	0.635	0.748
	Within Groups	72540.792	349	207.853		
	Total	73596.316	357			
Re-experiencing	Between Groups	101.307	8	12.663	0.554	0.815
	Within Groups	7977.288	349	22.858		
	Total	8078.595	357			
Avoidance	Between Groups	252.207	8	31.526	0.853	0.557
	Within Groups	12903.167	349	36.972		
	Total	13155.374	357			
Hyper arousal	Between Groups	123.681	8	15.460	0.667	0.720
	Within Groups	8087.850	349	23.174		
	Total	8211.531	357			

*p< 0.05 **p< 0.01 ***p< 0.001

4.3 Coping strategies "State according to socio-demographic variables among the study sample

4.3.1 Types of coping strategies among the study sample

The following table shows that the prevalence of mental health problems among the study

sample of cancer patients. The results found that affiliation at the highest rank (81.6%), followed by reinterpretation (75.5%), followed by self control coping strategy (75.3%), followed by problem solving (72.3%), wish and avoidance thinking was at the fifth rank (69.0%), trouble and escape was at the sixth rank (61.8%), where accountability coping strategy was at the lowest rank (53.0%) among the study sample of cancer patients.

Table (21): Types of coping strategies among the study sample

Variables	**N of items**	**Mean**	**St. Dev.**	**Ratio scale %**	Arrange-ment
Wish and avoidance thinking	7	19.33	2.452	69.0	**5**
Problem solving	6	17.37	3.764	72.3	**4**
Reinterpretation	9	27.19	5.088	75.5	**2**
Affiliation	5	16.33	2.807	81.6	**1**
Accountability	5	10.60	2.766	53.0	**7**
Self control	7	21.09	3.339	75.3	**3**
Trouble and escape	5	12.36	2.505	61.8	**6**

4.3.2 Coping strategies according to sex

The researcher adopts t-independent test to investigate the differences between male (n= 114) and female (n= 244) in demonstrating coping strategies according to sex.

As shown in following table; the result found that there were no significant differences in most of coping strategies; wish and avoidance thinking (t= 0.36, p= 0.716), problem solving (t= 0.78, p= 0.434), reinterpretation (t= 1.21, p= 0.227), affiliation (t= 1.29, p= 0.198), accountability (t= 1.26, p= 0.205), and self control (t= 0.71, p= 0.473) according to sex of the study sample.

There is significant differences in trouble and escape according to sex (t= 2.58, p= 0.010) in favor to males of the study sample.

Table (22): Independent t-test comparing means of coping strategies according to sex

Variable	Sex	N	Mean	Std. Dev	*t-value*	*p-value*
Wish and avoidance thinking	Male	114	19.26	2.627	0.36	0.716
	Female	244	19.36	2.371		
Problem solving	Male	114	17.60	3.630	0.78	0.434
	Female	244	17.27	3.828		
Reinterpretation	Male	114	26.71	4.892	1.21	0.227
	Female	244	27.41	5.171		
Affiliation	Male	114	16.05	2.862	1.29	0.198
	Female	244	16.46	2.777		
Accountability	Male	114	10.87	2.723	1.26	0.205
	Female	244	10.47	2.782		
Self Control	Male	114	20.91	3.271	0.71	0.473
	Female	244	21.18	3.374		
Trouble and Escape	Male	114	12.85	2.516	2.58	0.010 **
	Female	244	12.13	2.471		

*p< 0.05 **p< 0.01 ***p< 0.001

4.3.3 Coping strategies according to age of the study sample:

In order to investigate the difference in coping strategies according to age of the study sample (40 years and less, 41 – 50, 51 – 60, 61 – 70, 71 years and above) the researcher demonstrate one-way ANOVA analysis.

The following table shows that: there were no significant differences in all of coping strategies; wish and avoidance thinking (f = 1.520; P= 0.196), problem solving (f = 0.312; P= 0.870), Reinterpretation (f= 0.707, p= 0.587), Affiliation (f= 0.373, p= 0.828), and accountability (f= 1.876, p= 0.114), self control (f= 1.046, p= 0.383), and trouble and escape (f= 0.516, p= 0.724) according to age of the study sample.

Table (23): One-way ANOVA comparing coping strategies according to age

Variable	Source of variance	Sum of Squares	Df	Mean Square	F-value	Sig. Level
Wish and avoidance thinking	Between Groups	36.358	4	9.090	1.520	0.196
	Within Groups	2111.086	353	5.980		
	Total	2147.444	357			
Problem solving	Between Groups	17.832	4	4.458	0.312	0.870
	Within Groups	5042.260	353	14.284		
	Total	5060.092	357			
Reinterpretation	Between Groups	73.475	4	18.369	0.707	0.587
	Within Groups	9168.838	353	25.974		
	Total	9242.313	357			
Affiliation	Between Groups	11.851	4	2.963	0.373	0.828
	Within Groups	2801.593	353	7.937		
	Total	2813.444	357			
Accountability	Between Groups	56.849	4	14.212	1.876	0.114
	Within Groups	2674.617	353	7.577		
	Total	2731.466	357			
Self control	Between Groups	46.634	4	11.658	1.046	0.383
	Within Groups	3934.945	353	11.147		
	Total	3981.578	357			
Trouble and escape	Between Groups	13.018	4	3.254	0.516	0.724
	Within Groups	2227.776	353	6.311		
	Total	2240.793	357			

*p< 0.05 **p< 0.01 ***p< 0.001

4.3.4 Coping strategies according to marital status of the study sample:

In order to investigate the difference in coping strategies according to marital status of the study sample (single, married, divorced, widowed) the researcher demonstrate one-way ANOVA analysis.

The following table shows that: there were no significant differences in most of coping strategies; wish and avoidance thinking (f = 0.552; P= 0.647), problem solving (f = 1.689; P= 0.169), Reinterpretation (f= 0.454, p= 0.715), Affiliation (f= 1.082, p= 0.357), self control (f= 0.911, p= 0.436), and trouble and escape (f= 0.934, p= 0.424) according to

marital status of the study sample.

While there is significant difference in accountability (f= 2.754, p= 0.042) according to marital status of the study sample.

Table (24): One-way ANOVA comparing coping strategies according to marital status

Variable	Source of variance	Sum of Squares	Df	Mean Square	F-value	Sig. Level
Wish and avoidance thinking	Between Groups	10.008	3	3.336	0.552	0.647
	Within Groups	2137.437	354	6.038		
	Total	2147.444	357			
Problem solving	Between Groups	71.417	3	23.806	1.689	0.169
	Within Groups	4988.675	354	14.092		
	Total	5060.092	357			
Reinterpretation	Between Groups	35.436	3	11.812	0.454	0.715
	Within Groups	9206.877	354	26.008		
	Total	9242.313	357			
Affiliation	Between Groups	25.561	3	8.520	1.082	0.357
	Within Groups	2787.883	354	7.875		
	Total	2813.444	357			
Accountability	Between Groups	62.296	3	20.765	2.754	* 0.042
	Within Groups	2669.170	354	7.540		
	Total	2731.466	357			
Self control	Between Groups	30.511	3	10.170	0.911	0.436
	Within Groups	3951.068	354	11.161		
	Total	3981.578	357			
Trouble and escape	Between Groups	17.594	3	5.865	0.934	0.424
	Within Groups	2223.199	354	6.280		
	Total	2240.793	357			

*p< 0.05 **p< 0.01 ***p< 0.001

Post –hoc analysis using Scheffee statistical test was done and indicated; the means of accountability coping strategy according to marital status of the study sample (Single - married - widowed - divorced).

As shown in the following table; Scheffee statistical test indicate that the difference in

accountability was between single group and widowed group, in favor to single marital status group of the study sample.

Table (25): Means of accountability according to marital status

Variable		N	Mean	S.D
Accountability	Single	12	12.25	3.744
	Married	295	10.65	2.722
	Widowed	49	9.85	2.483
	Divorced	2	11.50	6.363

4.3.5 Coping strategies according to educational level of the study sample:

In order to investigate the difference in coping strategies according to educational level of the study sample (Primary and less, Preparatory, Secondary, University) the researcher demonstrate one-way ANOVA analysis. The following table shows that: there were no significant differences in all of coping strategies; wish and avoidance thinking (f = 0.380; P= 0.767), problem solving (f = 0.246; P= 0.864), Reinterpretation (f= 1.093, p= 0.715), Affiliation (f= 1.727, p= 0.161), accountability (f= 1.618, p= 0.185), self control (f= 1.143, p= 0.332), and trouble and escape (f= 0.084, p= 0.969) according to educational level of the study sample.

Table (26): One-way ANOVA comparing coping strategies according to educational level

Variable	Source of variance	Sum of Squares	Df	Mean Square	F-value	Sig. Level
Wish and avoidance thinking	Between Groups	6.899	3	2.300	0.380	0.767
	Within Groups	2140.545	354	6.047		
	Total	2147.444	357			
Problem solving	Between Groups	10.527	3	3.509	0.246	0.864
	Within Groups	5049.565	354	14.264		
	Total	5060.092	357			
Reinterpretation	Between Groups	84.842	3	28.281	1.093	0.352
	Within Groups	9157.471	354	25.869		
	Total	9242.313	357			

Affiliation	Between Groups	40.578	3	13.526	1.727	0.161
	Within Groups	2772.866	354	7.833		
	Total	2813.444	357			
Accountability	Between Groups	36.958	3	12.319	1.618	0.185
	Within Groups	2694.509	354	7.612		
	Total	2731.466	357			
Self control	Between Groups	38.203	3	12.734	1.143	0.332
	Within Groups	3943.376	354	11.139		
	Total	3981.578	357			
Trouble and escape	Between Groups	1.591	3	0.530	0.084	0.969
	Within Groups	2239.202	354	6.325		
	Total	2240.793	357			

*p< 0.05 **p< 0.01 ***p< 0.001

4.3.6 Coping strategies according to work of the study sample:

In order to investigate the difference in coping strategies according to work of the study sample (un-employed, employed, retired, others) the researcher demonstrate one-way ANOVA analysis. The following table shows that: there were significant differences in most of coping strategies; wish and avoidance thinking (f = 3.298; P= 0.021), problem solving (f = 3.442; P= 0.017), Reinterpretation (f= 2.818, p= 0.039), accountability (f= 3.365, p= 0.019), and trouble and escape (f= 3.652, p= 0.013) according to work of the study sample. While there were no significant differences in Affiliation (f= 1.562, p= 0.198) and self control (f= 0.038, p= 0.990) according to work of the study sample.

Table (27): One-way ANOVA comparing coping strategies according to work

Variable	**Source of variance**	**Sum of Squares**	**Df**	**Mean Square**	**F-value**	**Sig. Level**
Wish and avoidance thinking	Between Groups	58.383	3	19.461	3.298	* 0.021
	Within Groups	2089.061	354	5.901		
	Total	2147.444	357			
Problem solving	Between Groups	143.405	3	47.802	3.442	* 0.017
	Within Groups	4916.688	354	13.889		
	Total	5060.092	357			
Reinterpretation	Between Groups	215.565	3	71.855	2.818	* 0.039
	Within Groups	9026.748	354	25.499		

	Total	9242.313	357			
Affiliation	Between Groups	36.757	3	12.252	1.562	0.198
	Within Groups	2776.687	354	7.844		
	Total	2813.444	357			
Accountability	Between Groups	75.735	3	25.245	3.365	* 0.019
	Within Groups	2655.732	354	7.502		
	Total	2731.466	357			
Self control	Between Groups	1.280	3	.427	0.038	0.990
	Within Groups	3980.298	354	11.244		
	Total	3981.578	357			
Trouble and escape	Between Groups	67.272	3	22.424	3.652	* 0.013
	Within Groups	2173.522	354	6.140		
	Total	2240.793	357			

*p< 0.05 **p< 0.01 ***p< 0.001

Post –hoc analysis using Scheffee statistical test was done and indicated; the means of coping strategies according to work of the study sample (un-employed, employed, retired, others). As shown in the following table; Scheffee statistical test indicate that the differences in wish and avoidance thinking, accountability, and trouble and escape coping strategies were between retired group versus employed group, in favor to the employed group of the study sample. While the difference reinterpretation coping strategy were between retired group versus employed group in favor to the retired group of the study sample.In addition; the difference problem solving coping strategy were between retired group versus group of other in favor to the retired group of the study sample.

Table (28): Means of coping strategies according to work

Variable		**N**	**Mean**	**S.D**
Wish and avoidance thinking	Unemployed	64	18.87	2.875
	Employed	71	19.95	2.134
	Retired	21	18.42	3.668
	Others	202	19.35	2.208
Problem solving	Unemployed	64	17.51	3.450
	Employed	71	17.38	3.563
	Retired	21	19.80	3.043

	Others	202	17.07	3.922
Reinterpretation	Unemployed	64	26.79	4.902
	Employed	71	26.56	4.789
	Retired	21	30.09	4.826
	Others	202	27.24	5.202
Accountability	Unemployed	64	10.96	2.845
	Employed	71	11.32	2.791
	Retired	21	9.76	1.670
	Others	202	10.32	2.771
Trouble and escape	Unemployed	64	12.82	2.394
	Employed	71	12.95	2.492
	Retired	21	11.57	2.038
	Others	202	12.08	2.537

4.3.7 Coping strategies according to monthly income of the study sample:

In order to investigate the difference in coping strategies according to monthly income of the study sample (1000 NIS and less, 1001 - 2000, 2001- 3000, 3001 and above) the researcher demonstrate one-way ANOVA analysis.

The following table shows that: there were no significant differences in all of coping strategies; wish and avoidance thinking (f = 0.431; P= 0.731), problem solving (f = 0.407; P= 0.748), Reinterpretation (f= 0.338, p= 0.708), Affiliation (f= 0.316, p= 0.814), accountability (f= 0.978, p= 0.403), self control (f= 1.266, p= 0.286), and trouble and escape (f= 0.062, p= 0.980) according to monthly income of the study sample.

Table (29): One-way ANOVA comparing coping strategies according to monthly income

Variable	Source of variance	Sum of Squares	Df	Mean Square	F-value	Sig. Level
Wish and avoidance thinking	Between Groups	7.819	3	2.606	0.431	0.731
	Within Groups	2139.625	354	6.044		
	Total	2147.444	357			
Problem solving	Between Groups	17.376	3	5.792	0.407	0.748
	Within Groups	5042.716	354	14.245		
	Total	5060.092	357			
Reinterpretation	Between Groups	26.398	3	8.799	0.338	0.798

	Within Groups	9215.915	354	26.034		
	Total	9242.313	357			
Affiliation	Between Groups	7.509	3	2.503	0.316	0.814
	Within Groups	2805.936	354	7.926		
	Total	2813.444	357			
Accountability	Between Groups	22.453	3	7.484	0.978	0.403
	Within Groups	2709.013	354	7.653		
	Total	2731.466	357			
Self control	Between Groups	42.262	3	14.087	1.266	0.286
	Within Groups	3939.316	354	11.128		
	Total	3981.578	357			
Trouble and escape	Between Groups	1.181	3	0.394	0.062	0.980
	Within Groups	2239.612	354	6.327		
	Total	2240.793	357			

*p< 0.05 **p< 0.01 ***p< 0.001

4.3.8 Coping strategies according to type of tumor of the study sample:

In order to investigate the difference in coping strategies according to type of tumor of the study sample (lung, breast, colon, uterus, ovary, larynx, liver, thyroid, other) the researcher demonstrate one-way ANOVA analysis.

The following table shows that: there were no significant differences in all of coping strategies; wish and avoidance thinking (f = 0.990; P= 0.443), problem solving (f = 1.160; P= 0.323), Reinterpretation (f= 1.898, p= 0.059), Affiliation (f= 1.354, p= 0.216), accountability (f= 0.661, p= 0.726), self control (f= 0.526, p= 0.837), and trouble and escape (f= 0.588, p= 0.788) according to type of tumor of the study sample.

Table (30): One-way ANOVA comparing coping strategies according to type of tumor

Variable	Source of variance	Sum of Squares	Df	Mean Square	F-value	Sig. Level
Wish and avoidance thinking	Between Groups	47.662	8	5.958	0.990	0.443
	Within Groups	2099.782	349	6.017		
	Total	2147.444	357			
Problem solving	Between Groups	131.075	8	16.384	1.160	0.323
	Within Groups	4929.017	349	14.123		
	Total	5060.092	357			
Reinterpretation	Between Groups	385.363	8	48.170	1.898	0.059

	Within Groups	8856.950	349	25.378		
	Total	9242.313	357			
Affiliation	Between Groups	84.665	8	10.583	1.354	0.216
	Within Groups	2728.779	349	7.819		
	Total	2813.444	357			
Accountability	Between Groups	40.778	8	5.097	0.661	0.726
	Within Groups	2690.688	349	7.710		
	Total	2731.466	357			
Self control	Between Groups	47.461	8	5.933	0.526	0.837
	Within Groups	3934.117	349	11.273		
	Total	3981.578	357			
Trouble and escape	Between Groups	29.801	8	3.725	0.588	0.788
	Within Groups	2210.992	349	6.335		
	Total	2240.793	357			

*p< 0.05 **p< 0.01 ***p< 0.001

4.3.9 Coping strategies according to type of treatment of the study sample:

One-way ANOVA analysis test demonstrated to investigate the difference in coping strategies according to type of treatment of the study sample. The following table shows that: there were no significant differences in most of coping strategies; problem solving (f = 0.948; P= 0.436), Reinterpretation (f= 0.293, p= 0.883), Affiliation (f= 0.772, p= 0.544), accountability (f= 0.436, p= 0.782), self control (f= 2.287, p= 0.060), and trouble and escape (f= 0.594, p= 0.667) according to type of treatment of the study sample. However; there is significant difference in wish and avoidance thinking according to type of treatment of the study sample (f= 6.228, p= 0.001).

Table (31): One-way ANOVA comparing coping strategies according to type of treatment

Variable	Source of variance	Sum of Squares	Df	Mean Square	F-value	Sig. Level
Wish and avoidance thinking	Between Groups	141.567	4	35.392	6.228	*** 0.001
	Within Groups	2005.878	353	5.682		
	Total	2147.444	357			
Problem solving	Between Groups	53.765	4	13.441	0.948	0.436
	Within Groups	5006.327	353	14.182		
	Total	5060.092	357			
Reinterpretation	Between Groups	30.578	4	7.644	0.293	0.883

	Within Groups	9211.735	353	26.096		
	Total	9242.313	357			
Affiliation	Between Groups	24.396	4	6.099	0.772	0.544
	Within Groups	2789.048	353	7.901		
	Total	2813.444	357			
Accountability	Between Groups	13.439	4	3.360	0.436	0.782
	Within Groups	2718.027	353	7.700		
	Total	2731.466	357			
Self control	Between Groups	100.568	4	25.142	2.287	0.060
	Within Groups	3881.010	353	10.994		
	Total	3981.578	357			
Trouble and escape	Between Groups	14.976	4	3.744	0.594	0.667
	Within Groups	2225.817	353	6.305		
	Total	2240.793	357			

*p< 0.05 **p< 0.01 ***p< 0.001

Post –hoc analysis using Scheffee statistical test was done and indicated; the means of wish and avoidance thinking according to type of treatment of the study sample (hormonal, chemotherapy, radiation, surgical, mixed).

Scheffee statistical test indicate that the difference in wish and avoidance thinking coping strategy was between group who hormonal treated side versus the three groups who chemotherapy, surgical, and mixed treated. in favor to the three groups of the study sample.

Table(32): Means of coping strategies according to type of treatment

Variable		**N**	**Mean**	**S.D**
Wish and avoidance thinking	Hormonal	3	12.66	5.507
	Chemotherapy	38	19.05	2.865
	Radiation	3	18.66	4.163
	Surgical	3	19.00	1.000
	mixed	311	19.44	2.275

4.4 correlation between coping strategies and mental health problems among the study sample:

As shown in the following table, there were positive significant correlation between wish and avoidance thinking and state anxiety (Person's correlation r= 0.178, p=0.001), trait anxiety (r= 0.193, p=0.001), re-experience of PTSD (r= 0.125, p=0.05). In addition there were positive significant correlation between accountability and state anxiety (r= 0.276, p=0.001), trait anxiety (r= 0.353, p=0.001), PTSD (r= 0.184, p=0.001), re-experience of PTSD (r= 0.127, p=0.05), avoidance of PTSD (r= 0.159, p=0.001), hyper-arousal of PTSD (r= 0.225, p=0.001). In addition there were positive significant correlation between Trouble and escape and state anxiety (r= 0.213, p=0.001), trait anxiety (r= 0.263, p=0.001), PTSD (r= 0.158, p=0.01), re-experience of PTSD (r= 0.109, p=0.05), avoidance of PTSD (r= 0.135, p=0.05), hyper-arousal of PTSD (r= 0.194, p=0.001). While; there were negative significant correlation between problem solving and state anxiety (r= -0.507, p=0.001), trait anxiety (r= -0.494, p=0.001), PTSD (r= -0.585, p=0.001), re-experience of PTSD (r= -0.466, p=0.001), avoidance of PTSD (r= -0.591, p=0.001), hyper-arousal of PTSD (r= -0.541, p=0.001). In addition there were negative significant correlation between Re-interpretation and state anxiety (r= -0.335, p=0.001), trait anxiety (r= -0.393, p=0.001), PTSD (r= -0.507, p=0.001), re-experience of PTSD (r= -0.347, p=0.001), avoidance of PTSD (r= -0.538, p=0.001), hyper-arousal of PTSD (r= -0.494, p=0.001). In addition there were negative significant correlation between affiliation and PTSD (r= -0.209, p=0.001), avoidance of PTSD (r= -0.304, p=0.001), hyper-arousal of PTSD (r= -0.198, p=0.001). In addition there were negative significant correlation between self control and state anxiety (r= -0.168, p=0.001), trait anxiety (r= -0.173, p=0.001), PTSD (r= -0.154, p=0.01), avoidance of PTSD (r= -0.190, p=0.001), hyper-arousal of PTSD (r= -0.136, p=0.01).

That means the high incidence of mental health problems will combined with high incidence of wish and avoidance thinking, accountability and trouble and escape.

While the high incidence of mental health problems will combined with low incidence of problem solving, re-interpretation, affiliation and self control.

Table(33) : Correlation between coping strategies and mental health problems

Variable	State anxiety	Trait anxiety	PTSD	Re-experiencing	Avoidance	Hyper arousal
Wish and avoidance thinking	0.178***	0.193***	0.089	0.125*	0.054	0.073
Problem solving	- 0.507***	- 0.494***	-0.585***	- 0.466***	- 0.591***	- 0.541***
Re-interpretation	- 0.335***	- 0.393***	- 0.507***	- 0.347***	- 0.538***	- 0.494***
Affiliation	- 0.027	- 0.082	- 0.209***	- 0.044	- 0.304***	- 0.198***
Accountability	0.276***	0.353***	0.184***	0.127*	0.159***	0.225***
Self control	- 0.168***	- 0.173***	- 0.154**	- 0.085	- 0.190***	- 0.136**
Trouble and escape	0.213***	0.263***	0.158**	0.109*	0.135*	0.194***

*p< 0.05 **p< 0.01 ***p< 0.001

4.4.1 Coping strategies according to PTSD

T-independent test demonstrated to investigate the differences between Traumatized (n= 95) and non traumatized (n= 263) in coping strategies.

As shown in following table; the result found that there were significant differences in most of coping strategies; problem solving (t= 7.27, p= 0.001), reinterpretation (t= 6.58, p= 0.001), and affiliation (t= 2.42, p= 0.016) according to PTSD, in favor to non traumatized cancer patients of the study sample, while the difference in trouble and escape (t= 3.21, p= 0.001) according to PTSD was in favor to non traumatized cancer patients of the study sample. Where; there were no significant differences in wish and avoidance thinking (t= 0.36, p= 0.817), accountability (t= 0.66, p= 0.505), and self control (t= 0.54, p= 0.584) according to PTSD.

Table (34) : Independent t-test comparing means of coping strategies according to PTSD

Variable	PTSD	N	Mean	Std. Dev	*t-value*	*p-value*
Wish and avoidance thinking	No	263	19.30	2.524	0.36	0.817
	Yes	95	19.41	2.252		
Problem solving	No	263	18.19	3.405	7.27	0.001***
	Yes	95	15.12	3.812		
Reinterpretation	No	263	28.20	5.086	6.58	0.001***
	Yes	95	24.41	3.942		
Affiliation	No	263	16.54	2.841	2.42	0.016*
	Yes	95	15.73	2.634		
Accountability	No	263	10.54	2.774	0.66	0.505
	Yes	95	10.76	2.750		
Self Control	No	263	21.15	3.402	0.54	0.584
	Yes	95	20.93	3.171		
Trouble and Escape	No	263	12.11	2.568	3.21	0.001***
	Yes	95	13.06	2.187		

*p< 0.05 **p< 0.01 ***p< 0.001

Chapter 5

Discussion & Recommendations

chapter 5

discussion and recommendations

In this chapter the researcher will show the results of the study in four models; the first is the socio-demographic characteristics of the study sample, the second about mental health problems "state and trait anxiety, PTSD, " and their relations with socio-demographic data of patients with cancer, the third about the coping strategies and their relations with socio-demographic data of patients with cancer, while the fourth is about the relationship between mental health problems and coping strategies among the study sample.

5.1 Main results

- The sample consisted of 358 patients with cancer, 114 were males (31.8%) and 244 were females (68.2%). patients with cancer from North Gaza were (24.9%), from Gaza (60.1%), and from middle area (15.1%). According to marital status were married (82.4%), single (3.4%), Divorced (0.6%), and Widowed (13.7%). According to educational level were Primary and less (26.8%), Preparatory (27.7%), Secondary (38.0%), and University (7.5%). According to type of work were Unemployed (17.9%), Employee (10.9%), Worker & private work (8.9%), Retired (5.9%), and Others "cannot, house wife" (56.4). According to monthly income, were (39.4%) of patients had monthly income 1000 and less NIS, (35.5%) monthly income was from 1001-2000 NIS, (22.3 %) of patients were from 2001-3000, (2.8%) were 3001 NIS and above.
- The symptoms of state of anxiety among the study sample of patients with cancer. Symptom of disturbed at what may happen is unfortunate at the highest rank (69.7%), followed by very nervous (67.5%), and tense (66.7%) among the study sample of

cancer patients.

- The symptoms of trait of anxiety, where the symptom of feel comfortable at the highest rank (69.5%), followed by wounded of a state of tension or trouble when I think of my interests and concerns in the recent period (64.5%), and feel nervous and instability at the third rank (63.2%) among the study sample of cancer patients.
- The symptoms of PTSD, where avoiding any thoughts or feelings about the event is the highest rank symptom (60.7%), followed by avoiding doing things or going into situations which remind you by the events (59.5%), and upset by some things which reminded you of the events at the third rank (57.0%) among the study sample of cancer patients.
- The prevalence of mental health problems among the study sample of cancer patients. State anxiety at the highest rank (60.8%), followed by trait anxiety (54.6%), re-experiencing of PTSD at the third rank (47.%), followed , PTSD (42.5%), hyper arousal ,PTSD was at the sixth rank (40.5%), where avoidance of PTSD at the lowest rank (40.1%) among the study sample of cancer patients.
- While there was significant difference in re-experiences dimension of PTSD according to age of the study sample (f= 3.519, p= 0.008). the group of 40 years and less were significantly higher in re-experiences than 71 years and above among the study sample.
- There were significant differences in PTSD (f= 4.623, p= 0.003), and its dimensions re-experiences (f= 4.677, p= 0.003), avoidance (f= 3.629, p= 0.013), and hyper arousal (f= 4.421, p= 0.005) according to marital status of the study sample. Scheffee statistical test indicate that the differences in PTSD and its dimensions were between married group and widowed group, in favor to married group of the study sample.
- There were significant differences in state anxiety (f = 5.365; P= 0.001) and trait anxiety (f = 8.465; P= 0.001) according to work for retired group versus other three

groups, in favor to the three groups "unemployed, employed, other" of the study sample.

- There were significant differences in PTSD (f= 7.712, p= 0.001), and its dimensions re-experiences (f= 6.162, p= 0.001), avoidance (f= 7.534, p= 0.001), and hyper-arousal (f= 6.030, p= 0.001) according to work of the study sample. Scheffee statistical test indicate that the differences in all mental health problems were between retired group versus other three groups, in favor to the three groups "unemployed, employed, other" of the study sample.
- The results found that affiliation at the highest rank (81.6%), followed by reinterpretation (75.5%), followed by self control coping strategy (75.3%), followed by problem solving (72.3%), wish and avoidance thinking was at the fifth rank (69.0%), trouble and escape was at the sixth rank (61.8%), where accountability coping strategy was at the lowest rank (53.0%) among the study sample of cancer patients.
- There is significant differences in trouble and escape according to sex (t= 2.58, p= 0.010) in favor to males of the study sample.
- There is significant difference in accountability (f= 2.754, p= 0.042) according to marital status of the study sample. Scheffee statistical test indicate that the difference in accountability was between single group and widowed group, in favor to single marital status group of the study sample.
- There were significant differences in most of coping strategies; wish and avoidance thinking (f = 3.298; P= 0.021), problem solving (f = 3.442; P= 0.017), Reinterpretation (f= 2.818, p= 0.039), accountability (f= 3.365, p= 0.019), and trouble and escape (f= 3.652, p= 0.013) according to work of the study sample. Scheffee statistical test indicate that the differences in wish and avoidance thinking, accountability, and trouble and escape coping strategies were between retired group versus employed group, in

favor to the employed group of the study sample. While the difference reinterpretation coping strategy were between retired group versus employed group in favor to the retired group of the study sample.

- There were positive significant correlation between wish and avoidance thinking and state anxiety (Person's correlation r= 0.178, p=0.001), trait anxiety (r= 0.193, p=0.001), re-experience of PTSD (r= 0.125, p=0.05), among the study sample of patients with cancer.
- There were positive significant correlation between accountability and state anxiety (r= 0.276, p=0.001), trait anxiety (r= 0.353, p=0.001), PTSD (r= 0.184, p=0.001), re-experience of PTSD (r= 0.127, p=0.05), avoidance of PTSD (r= 0.159, p=0.001), hyper-arousal of PTSD (r= 0.225, p=0.001), among the study sample of patients with cancer.
- There were positive significant correlation between trouble and escape and state anxiety (r= 0.213, p=0.001), trait anxiety (r= 0.263, p=0.001), PTSD (r= 0.158, p=0.01), re-experience of PTSD (r= 0.109, p=0.05), avoidance of PTSD (r= 0.135, p=0.05), hyper-arousal of PTSD (r= 0.194, p=0.001) among the study sample of cancer patients.
- The result found that there were significant differences in most of coping strategies; problem solving (t= 7.27, p= 0.001), reinterpretation (t= 6.58, p= 0.001), and affiliation (t= 2.42, p= 0.016) according to PTSD, in favor to non traumatized patients with cancer of the study sample, while the difference in trouble and escape (t= 3.21, p= 0.001) according to PTSD was in favor to non traumatized patients with cancer of the study sample.

5.2 Discussion:

The symptoms of anxiety state scale among patients with cancer who feel disrupted at what may happened at unfortunate at high rank followed by nervous, and tense due to the current problems (cancer). The researcher hypothesized that related to the severity of the disease, the clients' future, and the responsibilities of the patients with cancer that they carried in relation to their occupation, families, sons, and significant others. The anxiety state increased due to different issues identified by the patients with cancer from which the diagnosis of disease, treatment, and follow-up in the hospital. All these factor contribute to high level of anxiety state among patients with cancer. Furthermore, they experienced specific situation that different from other which reflected on their mood and behavior, so they appeared to have high level of anxiety especially in their treatment regime at the hospital.

Hyodo et al (1996) found that the State anxiety scores in most of the patients with benign diseases were reduced to the normal range after explanation. And Scores for those patients told euphemistically about their condition were also decreased significantly after admission, but their overall anxiety levels were still high which indicate the consistency with our results.

But in the symptoms of trait anxiety we found that the patients with cancer feel comfortable comes on high rank, trouble when thinking on the interest and concern, and followed by nervous and instability comes on the third rank. The researcher hypothesized that because they attribute their disease to God test to justify their believe (in Allah) and this give them security and psychological stability. Also, they described it as God choice and they instructed to be patient with disease to have the paradise. While, they trouble when thinking about interest and concern of life because they frightened about their children's future, occupation and the successful achievement they reach in their life. So it

reflected on their psychological aspects which increased anxiety level among them. They become nervous and instable due to their values among the community and the attitude of the community about them as patients with cancer. All these contribute to high level of anxiety among patients with cancer. But Hyodo et al (1996) found that Many patients showed high State (72%) and Trait (46%) anxiety levels on admission and there were no difference in the STAI scores between the groups. Also, The patients diagnosed with cancer before admission and those newly diagnosed showed no significant changes in their STAI scores.

While the study of Schreier et al (2004) found that trait anxiety was significantly higher for women receiving chemotherapy, and state anxiety was significantly higher at all three measurement times for the women. State anxiety did not decrease significantly over the course of the treatment for either group but in our results it was high for both male and female patients.

Roth et al (2006) found that anxiety was significantly higher among patients whose PSA levels were changing (i.e., rising, falling, and unstable), versus those with stable PSA levels but in our results not specified for specific gender. In total it comes relevant and compatible.

The symptoms of PTSD among patients with cancer were prevalent, since they since they avoid any thoughts or feelings about the disease comes on high rank followed by avoiding doing things or situations remind them by the disease, and upset by things reminded them by the disease. The researcher hypothesized that related to instability of the psychological dimension of patients with cancer, so they try to forget the consequences of disease and its concerns. However, cancer represented as traumatic event and dangerous disease so they try to avoid thoughts, feelings, or actions that remind the patient with it. Patients with cancer struggle to survive and they try to avoid the thoughts or situation that may repeat

their experience with such disease. Unfortunately, they know that their avoidance not beneficial but they try to avoid instant reminders. Which thought to be consistent with the results of Lindberg et al (2004) who found that women at increased risk for breast cancer exhibited traumatic responses similar to those reported by cancer patients. When the authors used a self-report instrument that maps onto DSM-IV criteria, 4% of the study subjects reported symptoms consistent with criteria for a potential diagnosis of PTSD, and an additional 7% of the subjects reported symptoms consistent with potentially subclinical levels of PTSD, according to DSM-IV criteria.

The re-experience of PTSD symptoms were found significant among patients with cancer according to age group, since 40 years and less have higher rate of re-experience of PTSD symptom than 70 years and more. The researcher attribute this to that young patients thinking about their future, life concerns, disease progress. While the 70 years and more didn't think about such thoughts of the disease since they feel that they reached the maximum age to live and they didn't care about the situations they live. Which agreed with the results of Noyes et al (1990) who found that greater distress was reported by younger patients and by those who were unmarried. Also, patients with more advanced disease scored higher on the scale.

PTSD dimensions re-experience, avoidance, and hyper-arousal were found significant according to marital status in favor of married. The researcher hypothesized that married patients carried a great responsibility towards their families, children, occupation, and other live concern. But widowed patients have less concerns about their children and occupation and there is no direct contact with close relative such as (siblings, daughters, husband/wife). However, the differences in PTSD symptoms among married and widowed patients reflected cultural background and the connectivity between the family.

In addition PTSD dimensions were significant according to work status in favor employed, and unemployed patients. The researcher hypothesized that the retired patients with cancer have less PTSD symptoms because they don't thought about their work since they finished their services toward their work, so they have been secured and stable income. But others who are unemployed they have more PTSD symptoms because they suffer in financial covering for the treatment of cancer. While other who employed they exhibit PTSD symptoms since they thought in their occupation and the future of their work because they are mostly at young ages. Which differ from the results of Pitman et al (2001) regarding work status and consistent regarding the symptoms of PTSD who found that Current PTSD patients showed significantly higher heart rate, skin conductance, and corrugators electro-myogram responses during imagery of their personal breast cancer experiences than Past and Never patients. Physiologic responses were significantly and positively correlated with CAPS scores. These results provide psycho-physiologic support for the proposition that a diagnosis of with a life-threatening illness can cause PTSD.

The most widely used coping strategy according to ratio scale was affiliation (81.6%) which comes on the highest rank followed by reinterpretation (75.5%), self—control (75.3%), problem solving (72.3%), wish and avoidance thinking (69%), trouble and escape (61.8%), and finally accountability (53%). The researcher hypothesized that because patients with cancer have high spirituality and attribute their disease to God significance not others. They believe in Allah and the causes in which they are diseased, so they demonstrate affiliation on their behavior and socializing process. However, these patients accommodated to various aspects of their disease because of their use for affiliation and coped effectively to their cancer. However, a study by Büssing, Ostermann and Koenig (2007) found that trust in a higher source was also affected by religious affiliation and age that agreed on this subscale. Also, another study by Büssing et al (2007) found that Arabic

patients with a Muslim background had significantly higher scores for all 4 SpR(Spirituality and religious Questionnaire) scales than German patients, namely, "Search for meaningful support", "Trust in higher source", "Positive interpretation of disease", and "Support in relations of life through SpR" scale which demonstrate the consistency with our results.

But Henderson et al (2003) found that positive reappraisal and seeking social support are the most commonly used coping strategies among African American women with breast cancer.

Reinterpretation came next to affiliation due to the connection between the two dimensions, so positive reinterpretation express the meaning of the life and make great deal with socializing process among those patients. In the study of Büssing, Ostermann and Koenig (2007) they found the general interest in search for meaningful support was moderate. Trust in a higher source and support in life through SpR were rated higher, while almost all patients had a positive interpretation of their diseases, i.e, hint to change life which different from the results of our study. The interest in SpR issues was highest in patients cancer. But another study by Büssing et al (2005) found that the main important strategies were “Search for information and medical help” and “Positive arrangement of life,” while “Religious support” and “Positive interpretation of illness” were less important. However another different study by Büssing et al (2007) found that Positive interpretation of disease have high significance among Arab Muslim Background which demonstrate the general consistency for the scale.

Furthermore, self—control also play major role in the coping process, the patients with cancer demonstrated high self control to their feelings, emotions, and social skills. This reflect their ability to cope effectively with their cancer, since they try to seek medical consultation looking for treatment and also trying to achieve their wellness through the

medical help. In a study by Silva et al (2006) found that The coping strategies of self-control was the most used coping by patients with psoriasis and both groups present high stress levels thought to be highly consistent with our study.

Problem—solving considered a positive coping strategy that patients with cancer use it effectively during their disease process. They appeared to solve their problems regarding their disease process and deal with their cancer effectively since they didn't appear to be depressed. But in wish and avoidance thinking they appeared to be realistic trying to get rid of their disease and they make the possible for treating the cancer which suffering from. De Faye et al (2006) found that Problem-focused coping was less frequent for existential issues, whereas emotion-focused strategies were used less frequently for physical stressors. This study demonstrate the importance of problem solving subscale in both studies.

Trouble and escape come on sixth rank because they suffering from a real problem and which restrict them and make them in from of a big dilemma. They trying to forget the disease process and think that they bypassing the problem during their existence in the hospital. But the study of Silva et al (2006) found that The coping strategies of escape-avoidance and self-control was the most used coping by patients with psoriasis and both groups present high stress levels which indicate the difference between the cultures in using ways of coping. But in another study by Mytko et al (2005) found that escape-avoidance was related to psychological distress on several measures. Item endorsement analyses of the escape-avoidance subscale suggest that patients may have used more passive than active avoidance strategies which demonstrate the importance of the traumatic cause and its related consequences. While in a study of Rntmsc et al (2006) found that distancing was the most frequently reported coping strategy, and men seemed to focus on the positive side more often than women did. These results indicate the importance of the coping strategies according to community and its depend on culture or belief of people.

Accountability coping strategy, patients with cancer appeared to take the complete accountability regarding their disease and determined by their insist to resolve this problem and contributing this problems as mentioned before (God choice) that helped them to take the positive and negative aspects of the disease. We found a study of Anagnostopoulos et al (2004) that suggest under the conditions of a cancer diagnosis, patients do not tend to assign responsibility on themselves and their character, since they possibly need to avoid guilt, low self-esteem, and social distance, and to maintain a potential to invest in the adjustment process appeared to be consistent with our results regardless the priority of the coping strategies.

But the study of Reardon et al (1993) found that taking responsibility for one's own health is important in motivating breast cancer patients to engage in health-promoting physical activity which indicate the consistency of the results.

Fortunately the study of Anagnostopoulos et al (2004) found that when Comparing women with benign breast disease and those who were disease free, breast cancer patients significantly infrequently exhibited attributions of blame to self, whereas they did not differ from controls in other ways of coping such as self-isolation, passive acceptance, seeking social support, problem-focused coping, positive reappraisal, distancing, and wishful thinking.

Trouble and escape coping strategy were significant for sex in favor for male group in the study sample. The researcher hypothesized that because male patients more active than female also they socialized more than female, so this reflected on their socialization and working in the society. But the female usually isolated or have no direct contact or touch with others as male do.

But accountability coping was significant for marital status in favor for singles among the study sample. The researcher hypothesized that because singles not dependent on others

and they have no wives or children who may complain because of their loss, also they have not connections in work, institutions, or others that may affected by their illness. Which come consistent with the results of Wellisch et al (2001) who found that Women scoring above the depression cut-off point were younger, had more relatives with breast cancer, reported more symptoms of anxiety, and had more self-perceived vulnerability to breast cancer. In addition, women above the depression cut-off point were more likely to be single, childless, to have not viewed the results of the surgical treatment of their relative, and to feel more anxiety regarding screening practices (mammography, pap smears, and breast self-examinations).

There were significant differences in most of coping strategies; wish and avoidance thinking, problem solving , Reinterpretation , accountability , and trouble and escape, according to work of the study sample for work variable in favor of employed on the expense of the retired group. The researcher hypothesized that for the importance of work to the patients with cancer and its connectivity with their life. Also, patients with cancer feel inadequacy with others because their illness, so they try to cope effectively during the disease process. But retired patients have nothing to think about as a source of problems or stressful situations.

There were positive significant correlation between wish and avoidance thinking and state anxiety, trait anxiety, re-experience of PTSD among the study sample of patients with cancer. The researcher hypothesized that because patients with cancer have stressful life events which different from other people and this cause them feel with anxiety on both state and trait and re—experience PTSD as a result of their disease so they cope ineffectively with these situations.

The researcher hypothesized that the positive correlation between accountability and state anxiety, trait anxiety, re-experience of PTSD, avoidance of PTSD, hyper-arousal of PTSD

among the study sample of patients with cancer came from the nature of cancer that they experience and its consequences. Furthermore, it depend on the severity of the cancer and its type and at what stage the cancer ends. Which exhibit inconsistency with the results of Schreier et al (2005) found that trait anxiety and state anxiety at the start of treatment were significantly negatively correlated with total QLI score and the psychological/spiritual subscale. State anxiety at the start of treatment also was significantly negatively correlated with total QOL and the health/functioning and psychological/spiritual QLI subscales both at the start of treatment and one year later.

The researcher hypothesized that the positive correlation between trouble and escape and state anxiety, trait anxiety , re-experience of PTSD, avoidance of PTSD, hyper-arousal of PTSD among the study sample of patients with cancer depend on the socio-demographic variables for these patients, since it differs according age, sex, marital status and work. Which come consistent with the results of Tan (2007) who found that there was a positive correlation between social support and problem-focused coping strategies (confident approach, optimistic approach, and seeking social support); that is, mean social support scores increased as the mean problem-focused coping strategy scores increased. But in consistent with the results of Hee-Seung et al (2002) found that Stress was negatively correlated with both problem-focused coping and emotion-focused coping. Korean patients with cancer used emotion-focused coping strategies more than problem-focused coping strategies.

The result found that there were significant differences in most of coping strategies; problem solving, reinterpretation, and affiliation according to PTSD in favor to non traumatized patients with cancer of the study sample. The researcher hypothesized that the differences related to the type of cancer which the patients suffering and at what age the cancer start and/or who the patient (male/female) also the marital status. All these factors

play significant role in the connection between the type of coping strategies used and PTSD subtypes. Non traumatized patients usually have simple or mild cancer type and/or may be old age and singles or widowed patients. These patients accommodated effectively with cancer.

5.3 Recommendations:

- Therapeutic and educational programmes – including counseling for those patients with cancer and their families, support groups, and behavioural therapy for patients with anxiety , P.T.S.D, and other psychiatric disorders.
- Family therapy programmes – these programmes are aimed at improving communications and interactions between family members, as well as teaching problem-solving skills to assist the family members in confronting the mental health problems associated with cancer.
- Home visitation programmes – these programmes include regular visits from specialist or psychiatric a nurse or other health professional to the homes of patients with cancer for support and guidance. Interventions can include counselling, training and referrals to specialists or other agencies.
- Public educational programmes using the media to target entire communities for the pre-disposing and risk factors of cancer .
- Special activities for young patients with cancer to relief their anxiety, such as sports, art and music.
- Educational programmes for the caregivers and the employees to detect early signs and symptoms of anxiety and other psychological phenomena's associated with cancer..

- Community and health arrangement to create partnerships between the community and different health centers at community level.
- Coordinated community interventions – involving many sectors and geared toward improving services and programmes.

5.4 Suggested research studies:

- Impact of cancer on the mental health.
- Longitudinal research of patients with cancer to determine further mental health problems.
- Effects of the sudden onset of cancer on mental health.
- Identifying the risk and protective factors that link with the patients with cancer.
- Factors that promote resilience or positive outcome to the patients with cancer after exposure to chemotherapy and radiotherapy.

References & Annexes

References:

1. Abestz, P., Aro, A., and Sutton,S. (2002): Factors associated with breast cancer risk perception and psychological distress in a representative sample of middle-aged finnish women. *Journal of Anxiety Stress and Coping*, 15, pp. 61–73.
2. Aleksandra, L., Gerstorf, D., Sonja, B., Nina, K., and Ralf, S. (2007): Patients' coping profiles and partners' support provision. *Psychology & Health Journal*, Oct2007, 22 ,749-764.
3. American Psychiatric Association. (1994): Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author.
4. Anagnostopoulos, F., Vaslamatzis, G. and Markidis, M. (2004): Coping Strategies of Women with Breast Cancer: A Comparison of Patients with Healthy and Benign Controls. *Journal of psychotherapy and psychosomatic*, 73:43-52.
5. Andersen, B. (1992): Psychological interventions for cancer patients to enhance the quality of life. *Journal of Consulting and Clinical Psychology*,7,552-568.
6. Andersen, B.L. ,. Shapiro, C.L., Farrar, W.B., Crespin, T., Wells-DiGregorio, S. (2005): Psychological responses to cancer recurrence. *Journal of American Cancer Society*, 1, 1-6.
7. APA (American Psychiatric Association). (2000): *Diagnostic and statistical manual of mental disorders, text revision (DSM-IV-TR).* 4th ed. Washington, DC: APA.
8. Aquino, V., Zago, M.(2007): The meaning of religious beliefs for a group of cancer patients during rehabilitation. *Journal of Rev Lat AM Enfermangem*, 15-42-7.
9. Astin, J. and Forys, K. (2004): Psychosocial determinants of health and illness: Integrating mind, body, and spirit. *Advances in Mind–Body Medicine Journal* 20(4):14–21.
10. Bahnson, C., and Bahnson, M. (1966): "Role of the ego defenses: Denial and repression in the etiology of malignant neoplasm. *Annals of the New York Academy of Science,*125,827-845.
11. Bahnson, M., and Bahnson, C. (1969): "Ego defenses in cancer patients. Annals of the New York Academy of Science. 164,546-557.
12. Barton CA, Clarke D, Sulaiman **N**, Abramson M. (2003): "Coping as a mediator of psychosocial impediments to optimal management and control of asthma." Respiratory Medicine, 97(7): 747-862.

13. Ben-Zur H, Gilbar O, Lev S. (2001): Coping with breast cancer: patient, spouse, and dyad models. *Psychosomatic medical Journal*, 63, 32-41.
14. Ben-Zur, H., Rappaport, B., Arnmar, R., and Tiretzky, G., (2000): "Coping strategies, life style changes and pessimism after open heart surgery". *National Association of Social Workers*, 25,201-205.
15. Billings, A., and Moos, R., (1981): "The role of coping responses and social resources in attenuating the stress of life events. *Journal of Behavioral Medicine*, 4, 139-157.
16. Blank, TO., and Bellizzi, KM. (2006): After prostate cancer: Predictors of well-being among long-term prostate cancer survivors. *Journal; of American Cancer Society*, 106, 2128 – 2135**.**
17. Bolger, N., & Eckenrole, J. (1991): Social relationships, personality, and anxiety during a major stressful event. *Journal of Personality and Social Psychology*, 61, 440-449.
18. Bruce, M. (2006): A systematic and conceptual review of posttraumatic stress in childhood cancer survivors and their parents. *Clinical Psychology Review* 26(3):233–256
19. Bruno, Frank. (2002): Psychology—A Self-Teaching Guide. John Wiley & Sons, Inc., Hoboken, New Jersey.
20. Bussing, A., Abu-Hassan, W., Matthiessen, P. and Ostermann T. (2007): Spirituality, religiosity, and dealing with illness in Arabic and German patients. *Saudi medical journal*, 28, 6, 933-942.
21. Büssing, A., Keller, N., Michalsen, A., Moebus, S., Ostermann, T., Matthhiessen, P. (2005): Spirituality and Adaptive Coping Styles in German Patients with Chronic Diseases in a CAM Health Care Setting. *Journal of health Quality*, 4(10): 5-15.
22. Büssing, A., Ostermann, T. and Koeing, H. (2007): Relevance of Religion and Spirituality in German Patients with Chronic Diseases. *The International Journal of Psychiatry in Medicine*, 37(1): 39-57.
23. Büssing, A., Ostermann, T., and Matethiessen, P. (2005): Role of religion and spirituality in medical patients: Confirmatory results with the SpREUK questionnaire. *Journal Health Quality of Life*, 3:10.
24. Cameron, L., Booth, R., Schlatter, M., Ziginskas, D., Harman, J., and Stephen. (2005): Cognitive and Affective Determinants of Decisions to Attend a Group Psychosocial Support Program for Women with Breast Cancer. American Psychosomatic Society, 67, 584-589.

25. Cannon, W. B. (1929): *Bodily Changes in Pain, Hunger, Fear and Rage: An Account of Recent Research into the Function of Emotional Excitement*, 2nd ed. New York: Appleton.
26. Carlsen, K., Jensen, A., Jacobsen, E., Krasnik, M., and Johansen. C. (2005): Psychosocial aspects of lung cancer. *Journal ofLung Cancer* 47(3):293–300.
27. Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989): Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology, 56*, 267-283.
28. Carver, C., Pozo, C., Harris, S., Noriega, V., Scheier,M., Robinson,D., Ketcham, A., Moffat ,F., and Clark, K. (1993): How coping mediates the effect of optimism on distress: A study of women with early stage breast cancer. *Journal of Personality and Social Psychology* 65(2):375–390.
29. Case D., Andrews J., Johnson J., Allard S.(2005): Avoiding versus seeking: the relationship of information seeking to avoidance, blunting, coping, dissonance, and related concepts. *Journal of medical library associations*, 93, 353- 362.
30. Catherine, M., and Gundi, K. (2005): Breast reconstruction following cancer: Its impact on patients' and partners' sexual functioning. *Journal of Sexual & Relationship Therapy*, 20, p155-179.
31. Charmaz, K. (2000): Experiencing chronic illness. In *Handbook of social studies in health and medicine*. Edited by G. L. Albrecht, R. Fitzpatrick, and S. C. Scrimshaw. Thousand Oaks, CA: Sage Publications.
32. Colby, B. N. (1987): Well-being: A theoretical program. *American Anthropologist Journal*, 89, 879-895
33. Corless, I, Nicholas,P., Wantland, D., McInerney,P., Ncama, B. , Bhengu, B., McGibbon,C. and Davis, S. (2006): The impact of meaning in life and life goals on adherence to a tuberculosis medication regimen in South Africa. *The International Journal of Tuberculosis and Lung Disease* 10(10):1159–1165.
34. Couper, JW., Bloch, S., Love, A., Duchesne, G., Macvean, M. and David W Kissane. (2006): the psychosocial impact of prostate cancer on patients and their partners. *The Medical Journal of Australia*, 185: 428-432.
35. Cowen, E. L. (1994): The enhancement of psychological wellness: Challenges and opportunities. *American Journal of Community Psychology*, 22, 149–179.
36. Coyne, J., Aldwin, C., & Lazarus, R. S. (1981): Depression and coping in stressful episodes. *Journal of Abnormal Psychology*, 90, 439-447.

37. Davidson, M. R. (2001): The nurse practitioner's role in diagnosing and facilitating treatment in patients with post-traumatic stress disorder. American Journal for Nurse Practitioners, 5(9), 10--17.
38. Davidson, J.,Smith, R., and Rudler, H. (1989): The validity and reliability of the DSM-III-R criteria for posttraumatic stress disorder. *Journal of nervous and mental disease*, 177, 336-341.
39. De Faye, B., Wilson, K., Chater, S., Viola, R. and Hall, P. (2006): Stress and coping with advanced cancer. .Journal of *Palliative & Supportive Care*, **4** , 239-249
40. Diane, L.C., Mark, M., and John, W. (2007): Illness and treatment beliefs in head and neck cancer: Is Leventhal's common sense model a useful framework for determining changes in outcomes over time?. *Journal of Psychosomatic Research*, 63, p17-26.
41. DiMatteo, M., Lepper,H. and Croghan, T.(2000): Depression is a risk factor for non-compliance with medical treatment: Meta-analysis of the effects of anxiety and depression on patient adherence. *Archives of Internal Medicine* 160(14):2101–2107.
42. Endler, N., and Parker, J., (1992): "Multidimensional assessment of coping: A critical evaluation. *Journal of Personality and Social Psychology*, 5, 844-854.
43. Epstein, S., & Meier, P. (1989): Constructive thinking: A broad coping variable with specific coping components. *Journal of Personality and Social Psychology*, 57, 332-350
44. Eysenck, H. J. (1988): Personality and stress as causal factors in cancer and coronary heart disease. *In*: M. P. Jaisse, ed. *Individual Differences, Stress, and Health Psychology*. New York: Springer-Verlag.
45. Fariba, T., Parsa, Y., and Nikbakht, N. (2006): Coping with breast cancer in newly diagnosed Iranian women. *Journal of Advanced Nursing*, 54, 265-272.
46. Feher S, Maly RC. (1999): Coping with breast cancer in later life: the role of religious faith. Journal of psycho-oncology, 8, 408-416.
47. Fife, B. L. (1995): The measurement of meaning in illness. *Social Science and Medicine* 40(8): 1021–1028.
48. Fink, B., Manning, J.T., Neave, N. & Grammer, K. (2004): Second to fourth digit ratio and facial asymmetry. *Evolution and Human Behavior, 25(2),* 125-132
49. Folkman, S., & Lazarus, R. S. (1980): An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior, 21,* 219-239

50. Folkman, S., and Greer, S. (2000): Promoting psychological well-being in the face of serious illness: When theory, research and practice inform each other. *Journal of Psycho-Oncology* 9(1):11–19.
51. Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. (1985): The dynamics of a stressful encounter: Cognitive appraisal, coping and encounter outcomes. *Journal of Personality and Social Psychology*, 50, 992-1003.
52. Frankanhauser, M. (1986): A psychobiological framework for research on human stress and coping. *In*: M. H. Appley & R. Trumbull, eds. *Dynamic of Stress: Physiological, Psychological, and Social Perspectives*. New York: Plenum.
53. Hee-Seung, K., Hye-A, Y., Young-Sun, S., Nam-Cho, K. and Yang-Suk, Y. (2002): Stress and Coping Strategies of Patients With Cancer: A Korean Study. *Cancer Nursing Journal*, 25(6):425-431.
54. Hegel, M. T., Moore, C., Collins,E., Kearing, S., Gillock, K., Riggs, R., Clay, K. and Ahles, T. (2006): Distress, psychiatric syndromes, and impairment of function in women with newly diagnosed breast cancer. *Journal of Cancer* 107(12):2924–2931.
55. Heim, E., Moser, A., and Adler, R., (1978): "Defense mechanisms and coping behavior in terminal illness: An overview" *Journal Psychotherapy and Psychosomatics, 3*0, 1-17.
56. Helgeson, V. and Cohen, C. (1996): Social support and adjustment to cancer: Reconciling descriptive, correlational, and intervention research. *Health Psychology Journal* 15(2):135–148.
57. Henderson, P., Fogel, J. and Edwards, Q. (2003): Coping Strategies Among African American Women with Breast Cancer. *southern Online Journal of Nursing Research,3,4: 115-120.*
58. Hodges, L., Humphris,G., and Macfarlane. G. (2005): A meta-analytic investigation of the relationship between the psychological distress of cancer patients and their carers. *Social Science and Medicine* 60(1):1–12.
59. Hoff L, Tidefelt U, Thaning L, Hermerén G. (2007): In the shadow of bad news - views of patients with acute leukaemia, myeloma or lung cancer about information, from diagnosis to cure or death. *BMC Palliat Care Journal*, 24,1.
60. Holahan, C., Moos, R. , Holahan, C. and Brennan, P. (1997): Social context, coping strategies, and depressive symptoms: An expanded model with cardiac patients. *Journal of Personality and Social Psychology* 72(4):918–928.

61. Holly, P., Kennedy, P., Taylor, A., and Beedie, A. (2003): Immediate breast reconstruction and psychological adjustment in women who have undergone surgery for breast cancer: a preliminary study . *Journal of psychology, health & medicine*, 8.
62. Holmes, D., & Rahe, R. (1967): The Social readjustment rating scale. *Journal of Psychosomatic Research*, 11, 213-218.
63. (http://www.cancerlynx.com/10steps.html), accessed in September 15 / 2008.
64. http://www.who.int/countryfocus/resources/ccsbrief west_bank_and_gaza_en.pdf).
65. Hyodo, I., Jinno, K., Tanimizu, M., Okada, M., Doi, T., Hosokawa, Y. and Nishikawa, Y. (1996): Analysis of anxiety in cancer patients: The effects of telling the truth. *International Journal of Clinical oncology*,1,2: 113-117.
66. IOM (Institute Of Medicine) and NRC (National Research Council). (2001): *Improving palliative care for cancer.* Edited by K. M. Foley and H. Gelband. Washington, DC: National Academy Press.
67. Kadan-Lottick,NS, Vanderwerker, LC, Block, SD, Zhang, B., Prigerson, HG. (2005): Psychiatric disorders and mental health service use in patients with advanced cancer**.** *Journal of American Cancer Society*, 104:2872-81.
68. Kangas, M., Henry,J., and Bryant, R. (2002): Posttraumatic stress disorder following cancer. A conceptual and empirical review. *Clinical Psychology Review* 22(4):499–524.
69. Katon, W. J. (2003): Clinical and health services relationships between major depression, depressive symptoms, and general medical illness. *Biological Psychiatry* 54(3):216–226.
70. Kornblith, A. B. (1998): Psychosocial adaptation of cancer survivors. In *Psycho-oncology*. Edited by J. C. Holland. New York and Oxford: Oxford University Press.
71. Krohne, H., (1996): Individual differences in coping. In lvi Zeidner & N S. End/er (Edsj, Handbook of coping: Theory, research, applications. pp38l- 409). New York: John Wiley and Sons.
72. Lavee, S., Mackman, Y., and Karam, J. (2003): ”The Patterns of Change in Marital Relationships among Parents of Children with cancer. *Journal of Personality and Social Psychology*, 70, 744-748.
73. Lazarus, RS, & Folkman S. (1984): *Stress, appraisal, and coping*. New York: Springer.
74. Lederberg, M. S. (1998): The family of the cancer patient. In *Psycho-oncology*. Edited by J. C. Holland. New York and Oxford: Oxford University Press. Pp. 981–993.

75. Leydon GM, Boulton M, Moynihan C, Jones A, Mossman J, Boudioni M, McPherson K. (2000): Cancer patients' information needs and information seeking behaviour: in depth interview study. *BMJ*, 1, 909 -913.
76. Lindberg, N. and Wellisch, D. (2004): Identification of Traumatic Stress Reactions in Women at Increased Risk for Breast Cancer. *Journal of Psychosomatics* 45:7-16
77. List M., Lee Rutherford J, Stracks J, Haraf D, Kies M., Vokes E.(2002): An exploration of the pretreatment coping strategies of patients with carcinoma of the head and neck. *Cancer Journal*, 1, 98-104.
78. List, M., Rutherford, J., Stracks, J., Haraf, D., kies, M,.((2002): An exploration of the pretreatment coping strategies of patients with carcinoma of the head and neck. *Journal of American Cancer Society*, 95:98-104.
79. Luszczynska, A., Sarkar, Y. and Knoll, N. (2006): Received social support, self-efficacy, and finding benefits in disease as predictors of physical functioning and adherence to anti-retroviral therapy. *Patient Education and Counseling* 66(1):37–42.
80. Maly, R., Umezawa,Y., Leake, B. and Silliman, R. (2005): Mental health outcomes in older women with breast cancer: Impact of perceived family support and adjustment. *Psycho-Oncology* 14(7):535–545.
81. Manoj, P., Latha, P., Aleyamma, M., Ramdas, K., Santosh, C., lypeE., and Krishnan, N. (2003): "Concerns and coping strategies in patients with oral cancer: A pilot study. *Indian Journal of Surgery*, 65, 496-499.
82. Maunsell, E., Brisson, J., Mondor, M., Verreault, R., and Deschênes, L. (2001): Stressful Life Events and Survival After Breast Cancer. *Journal of Psychosomatic Medicine*, 63:306-315.
83. McMillan, S., Small, B., Weitzner, M., Schonwetter, R., Tittle, M., Moody, L., and Haley, W. (2005): Impact of coping skills intervention with family caregivers of hospice patients with cancer. *American Cancer Society*, 106, 214-222.
84. Mellman, T. A. (1999): Emerging clinical strategies for the comprehensive treatment of PTSD. In CME, Inc. (Ed.), New approaches to the management of PTSD and panic disorder(p. 5). King of Prussia, PA: SmithKline Beecham Pharmaceuticals.
85. MOH, (2006): Health Status in Palestine; Ministry of Health Annual report 2003.
86. MOH-PCR and HMIS, (2002): Cancer in Palestine 1995-2000.
87. Mytko, J., knight, S., Chastain, D., Mumby, P., Sisto, A. and Williams, S. (2005): Coping strategies and psychological distress in cancer patients before autologous bone marrow transplant. Journal of Clinical Psychology in Medical Settings, 3, 4, 355-366.

88. Naughton, F.O. (1997): *Stress and coping*. California State University, Northridge
89. NCI (National Cancer Institute). (2004): *Living beyond cancer: Finding a new balance. President's cancer panel 2003–2004 annual report.* Bethesda, MD: Department of Health and Human Services, National Institutes of Health.
90. Noyes, R., Kathol, R., Debelius-Enemark, P., Williams, J., Mutgi, A., Suelzer, M. and Clamon, G. (1990): Distress associated with cancer as measured by the illness distress scale. *Journal of Psychosomatics*, 31:321-330
91. Pagona, R., Vagi, K., Christina, H., and Ifigeneia, K. (2007): Patterns of Coping, Flexibility in Coping and Psychological Distress in Women Diagnosed with Breast Cancer. *Journal of Cognitive Therapy & Research*,31, 97-109.
92. Perczek R., Burke M., Carver C., Krongrad A, Terris M.(2002): Facing a prostate cancer diagnosis: who is at risk for increased distress?. *Cancer Journal*, 1;94, 2923-2932.
93. Peterman, A. and Cella, D. (1998): Adherence issues among cancer patients. In *The handbook of health behavior change*. 2nd ed. Edited by S. Shumaker, E. B. Schron, J. K. Ockene, and W. L. McBee. New York: Springer. Pp. 462–482.
94. Piotrowski, Nancy .(2005): Psychology Basics. Salem Press Pasadena, California Hackensack, New Jersey.
95. Pitman, R., Lanes, D., Williston, S., Guillaume, J., Metzger, L., Gehr, G. and Orr, S. (2001): Psychophysiologic Assessment of Posttraumatic Stress Disorder in Breast Cancer Patients. *Journal of Psychosomatics* 42:133-140.
96. PNA, Ministry of Health, (2006): the status of health in Palestine: Annual Report (2006), Palestine.
97. PNA, PCBS (2007): The population survey in the West Bank and Gaza Strip: PCBs.
98. Rahe, R. H., Herrig, L., & Rosenman, R. H. (1978): Heritability of type A behavior. *Psychosomatic Medicine*, 40, 478-486.
99. Reardon, K. and Aydin, C. (1993): Changes in Lifestyle Initiated by Breast Cancer Patients: Who Does and Who Doesn't. *Journal of Health communication*, 5, 4, 263-282.
100. Reynolds, P., hurley, S., Torres, M., Jackson, J., Boyd, P., and Chen, V. (2000): Use of Coping Strategies and Breast Cancer Survival: Results from the Black/White Cancer Survival Study. *American Journal of Epidemiology*,152, 940-949.

101. Rntmsc, H., Hallberg, I., Bolmsjo, I. and Gunnarsdottir, E. (2006): Distress and coping in cancer patients: feasibility of the Icelandic version of BSI 18 and the WOC-CA questionnaires. *European Journal of Cancer Care*. 15(1):80-89.

102. Rodin, G. (2000): Review of General Psychiatry , 5th Edition. McGraw-Hill, Medical Publishing Division, Lange Medical Books, Two Penn Plaza, 12th Floor, New York, NY 10121.

103. Roseman, R. H. (1978): The interview method of assessment of the coronary-prone behavior pattern. *In*: T. M. Dembroski et al., eds. *Coronary-prone Behavior*. New York: Springer- Verlag

104. Roth, A., Nelson, C., Rosenfeld, B., Warshowski, A., O'shea, N., Scher, H., Holland, J., Slovin, S. and Curley-Smart, T. (2005): Assessing Anxiety in Men With Prostate Cancer: Further Data on the Reliability and Validity of the Memorial Anxiety Scale for Prostate Cancer (MAX–PC*). Journal of Psychosomatics* 47:340-347.

105. Schreier, A. and Williams, S. (2004): Anxiety and Quality of Life of Women Who Receive Radiation or Chemotherapy for Breast Cancer. *Journal of Oncology Nursing Forum*, 31, 1: 127-130.

106. Sears, S, Stanton, A., and Danoff-Burg, S(2003): The yellow brick road and the emerald city: Benefit finding, positive reappraisal coping and posttraumatic growth in women with early-stage breast cancer. *Health Psychology* 22(5):487–497.

107. Secker, J. (1998): Current conceptualizations of mental health and mental health promotion. *Health Education Research*, 13, 57–66.

108. Segrin, C., Badger,. Dorros, S., Meek, P. and Lopez, A. (2007): Interdependent anxiety and psychological distress in women with breast cancer and their partners. *PsychoOncology* 16(7):634–643.

109. Seyle, H. (1956): *The Stress of Life*. New York: McGraw-Hill.

110. Shives, L.R. (2005): Basic Concepts of Psychiatric-Mental Health Nursing, 6th Edition. Lippincott Williams & Wilkins

111. Silva, J., Muller, M., Bonamigo, R. (2006): Coping strategies and stress levels in patients with psoriasis. *Journal of clinical Epidemiology and labratory*, 81(2): 315-325.

112. Skinner, E.A., & Wellborn, J.G. (1994): Coping during childhood and adolescence: A motivational perspective. In D. Featherman, R. Lerner, & M. Perlmutter (Eds.), Life-span development and behavior. Hillsdale, NJ: Erlbaum.

113. Spiegel, D., and Giese-Davis, J.(2003): Depression and cancer: Mechanism and disease progression. *Biological Psychiatry* 54(3):269–282.

114. Spielberger, C. D., Gorsuch, R.L., and Lushene. R.E. (1970): *Manual for the State-Trait Anxiety Inventory.* Palo Alto, CA: Consulting Psychologists Press

115. Spitzer, R., Kroenke,K., Linzer, M., Hahn, M. Williams, B., deGruy, F., Brody, D. and Davies, M.(1995): Health-related quality of life in primary care patients with mental disorders. Results from the PRIME-MD 1000 study. *Journal of the American Medical Association* 274(19):1511–1517.

116. Stanton, A. , Collins, C., and Sworowski, L.(2001): Adjustment to chronic illness: Theory and research. In *Handbook of Health Psychology*. Mahwah, NJ: Lawrence Erlbaum Associates.

117. Stanton, A., Revenson, T. and Tennen, H. (2007): Health psychology: Psychological adjustment to chronic disease. *Annual Review of Psychology* 58(13):13.11–13.28.

118. Swartz, L., Elk, R., & Teggin, A. F. (1983): Life events in Xhosas in Cape Town. *Journal of Psychosomatic Research*, 27, 223-232.

119. Tan, M. (2007): Social support and coping in Turkish patients with cancer. *Cancer –Nursing Journal*, 30(6): 498-504.

120. Tarakeshwar N, Vanderwerker L., Paulk E, Pearce M., Kasl S., Prigerson H. (2006): Religious coping is associated with the quality of life of patients with advanced cancer. *Journal of palliative Medicine*,9, 646-657.

121. Tatsumura, Y., Maskarinec, G., Shumay, D., Kakai, H. (2003): Religious and spiritual resources (RSR) , CAM (complementary and alternative medicine), and conventional treatment in the lives of cancer patients. *Alternative Therapy Health Medicine Journal*, 9,64-71.

122. Taylor, K., Shelby, R., Gelmann, E., and McGuire, C. (2004): Quality of life and trial adherence among participants in the prostate, lung, colorectal, and ovarian cancer screening trial. *Journal of the National Cancer Institute* 96(14):1083–1094.

123. Taylor, S. (1991): *Health Psychology*, 2nd ed. New York: McGraw-Hill.

124. The world Fact Book, (2008): [(https://www.cia.gov/library/publications/the-world-factbook/geos/gz.html) accessed 11-14-2008 at 10 PM]

125. Taylor, S. E. (1983): Adjustment to threatening events: A theory of cognitive adaptation. American Psychologist, 38, 1161-1173.

126. Tannock, IF; de Wit R, Berry WR, Horti J, Pluzanska A, Chi KN, Oudard S, Theodore C, James ND, Turesson I, Rosenthal MA, Eisenberger MA; TAX 327 Investigators (2004): "Docetaxel plus prednisone or mitoxantrone plus prednisone for advanced prostate cancer". *N Engl J Med* **351** (15): 1502–12.

127. Thomas, B., and Kieth, B. (2006): After prostate cancer: Predictors of well-being among long-term prostate cancer survivors. *Journal of American society,* 106, 2128-2135.

128. Thuné-Boyle, I. , Stygall, J., Keshtgar, M, Newman, S. (2006): Do religious/spiritual coping strategies affect illness adjustment in patients with cancer? A systematic review of the literature. *Social Science and Medicine Journal,* 63, 151-164.

129. Tobin, D., Holroyd, K., Reynolds, R., and Wigal, J. (1989): The hierarchical factor structure of the coping strategies inventory. *Cognitive Therapy and Research,*13, 343-361.

130. Trace, K., Laurel,N., Charuwan, K., Ann, S., and Darlene, M.(2004): Coping strategies and quality of life in women with advanced breast cancer and their family caregivers. *Psychology & Health Journal*, 19, p139-155, 17p.

131. Vidhubala, E., Latha, Ravikannan, R., Mani C.S., Karthikesh, M. (2006): Coping preferences of head and neck cancer patients - Indian context. *Indian Journal Of Cancer*, 43, 6-11.

132. Weisman, A., and Worden, J. (1977): "The existential plight in cancer: Significance of the first 100 days. *International Journal of Psychiatry in Medicine*, 7,I-15.

133. Wellisch, D. and Lindberg, N. (2001): A Psychological Profile of Depressed and Non-depressed Women at High Risk for Breast Cancer. *Journal of Psychosomatics* 42:330-336.

134. WHO (2007): Mental Health Global Action Program.

135. Wills, T. A., and Fegan, M.F. (2001): Social networks and social support. In *Handbook of health psychology*. Edited by A. Baum, T. A. Revenson, and J. E. Singer. Mahwah, NJ: Lawrence Erlbaum Associates. Pp. 209–234.

136. Wood C, Harrington W (2005): "AIDS and associated malignancies". Cell Res. 15 (11-12): 947-52.

137. Worden, J., and Sobel, H. (1978): Ego Strength and psychosocial adaptation to cancer. *Psychosomatic Medicine,* 40,585-592.

138. Zabora, J., Brintzenhofeszoc, K., Curbow, B., Hooker, C. and S. Piantadosi (2001): The prevalence of psychological distress by cancer site. *Psycho-Oncology* 10(1):19–28.

Annex (1)

Palestinian National Authority
Ministry of Health
Helsinki Committee

السلطة الوطنية الفلسطينية
وزارة الصحة
لجنة هلسنكي

Date: 5/3/2008

التاريخ: ٢٠٠٨/ ٣/٥

Name: Mohammed El-Jadili

I would like to inform you that the committee has discussed your application :

Coping Strategies of Cancer Patients at Shifa Hospital in Gaza Strip.

الاسم: محمد الجديلي

نفيدكم علما بان اللجنة قد ناقشت مقترح دراستكم حول:

In it\s meeting on _____ and decided the following :-

و ذلك في جلستها المنعقدة لـشهر _____ و قـد قررت ما يلي :

25.3.2008

To approve the above mentioned research study

الموافقة على البحث المذكور عاليه

Ministry of Health Halsinki Committee

Signature
التوقيع

Acting Chairperson

Ministry of Health Halsinki Committee

Conditions:-

- Valid for two years from the date of approval to start
- It is necessary to notify the committee in any change in the admitted study protocol
- The committee appreciate receiving one copy of your final research when it is completed

Gaza Etwam – Telefax 972-7-2878166

Annex (2)

Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

2008/3/25

الأخ/د. محمد الكاشف المحترم
مدير عام المستشفيات – وزارة الصحة
تحية طيبة وبعد،،،

الموضوع: مساعدة الطالب محمد تميم الجد يلي

يقوم الطالب المذكور أعلاه بإجراء بحث بعنوان:

"Coping strategies of cancer patients at Al-Shifa Hospital in Gaza Strip"

كمتطلب للحصول على درجة الماجستير في الصحة النفسية المجتمعية علماً بأن المعلومات ستكون متوفرة لدى الباحث فقط. و عليه نرجو التكرم للإيعاز لمن ترونه مناسب لتسهيل مهمة الطالب في جمع البيانات.

و اقبلوا فائق التحية و الاحترام،،،

د. بسام أبو حمد
منسق عام برامج الصحة العامة

نسخة:
- الملف

Jerusalem Branch/Telefax 02-24799234
Gaza Branch/telefax 08-2884422-2884411
Sphealth@admin.alquds.edu
فرع القدس/تلفاكس 02-2799234
فرع غزه/تلفاكس 08-2884422-2884411
ص.ب/51000-القدس

Annex (3)

استمارة المعلومات الديموغرافية

العنوان شمال غزة❐ غزة ❐ الوسطى❐ خانيونس❐ رفح❐

العمر عاما.....

الجنس ذكر❐ أنثى❐

الحالة الاجتماعية أعزب❐ متزوج❐ أرمل❐ مطلق❐

سنوات التعليم أمي❐ إعدادي ❐ ثانوي ❐ جامعي❐ دراسات عليا❐

الوظيفة عاطل عن العمل❐ موظف حكومي❐ عامل ❐ عمل خاص❐

عمل آخر حدد: .....❐

الدخل الشهري بالشيكل أقل من ❐ 1000 ش 1001❐ – 2000 ش 2001– 3000 ش❐ أكثر من 3001 ❐ ش

نوع البيت باطون❐ اسبست❐ زينكو❐ أخرى❐

مياه الشرب بلدية❐ معدنية❐ مفلترة❐

التشخيص الطبي للمرض : .

. **نوع الورم** الرئة❐ الثدي❐ القولون❐ الرحم❐ المبيض❐

الحنجرة❐ الكبد❐ الدرقية❐ أخري حدد❐

_____

. **ما هي الفترة الزمنية للمرض** أقل من سنتان❐ من 2–5 ❐ من 5–10 ❐ أكثر من 10 ❐ سنوات سنوات سنوات

. **نوع العلاج** هرمونات❐ كيميائي❐ إشعاعي ❐ جراحي ❐ مختلط ❐

هل تعاني من أمراض مزمنة أخرى . نعم ❐ لا ❐

هل هناك احد من أفراد الأسرة يعاني من أورام مسبقا؟ . نعم ❐ لا ❐

إذا كانت إجابة 15 نعم فما العلاقة . الأب❐ الأم ❐ الجد❐ الأخ❐ الأخت❐ العم/ الخال❐

Annex (4)
Anxiety State scale

تعليمات :

فيما يلي عدد من العبارات التي اعتاد الناس و صف أنفسهم بها ، اقرأ كل عبارة ، ثم ضع علامة × داخـــل أحـــد المربعات التالية لكل منها ، لتبين ما الذي تشعر به فعلاً الآن ، أي في هذه اللحظة ، ليست هناك إجابات صحيحة و أخرى خاطئة ، و لا تفكر طويلاً في أي عبارة منها ، و لكن ضع الإجابة التي يبدو أنها تصف مشاعرك الحاليـــة على أفضل وجه.

م	البند	لا مطلقاً	إلى حد ما	بدرجة متوسطة	كثيراً جداً
1	أشعر بالأمان				
2	أنا متوتر				
3	أشعر أنني (على راحتي)				
4	أشعر بالاضطراب				
5	أنا الآن منزعج مما قد يحدث من سوء حظ				
6	أشعر أني قانع (راضي)				
7	أشعر بالثقة في النفس				
8	أنا شديد العصبية (مستنفر)				
9	أشعر بالاسترخاء				

Annex (5)
Anxiety trait scale

تعليمات :

فيما يلي عدد من العبارات التي اعتاد الناس و صف أنفسهم بها ، اقرأ كل عبارة ، ثم ضع علامة × داخـــل أحـــد المربعات التالية لكل منها ، لتبين ما الذي تشعر به بوجه عام ، ليست هناك إجابات صحيحة و أخرى خاطئة ، و لا تفكر طويلاً في أي عبارة منها ، و لكن ضع الإجابة التي يبدو أنها تصف مشاعرك الحالية على أفضل وجه .

م	البند	أبداً	أحياناً	كثيراً	دائماً
1	أشعر بالعصبية و عدم الاستقرار				
2	أشعر أنني مقتنع بنفسي				
3	أشعر كأنني فاشل				
4	أشعر بالراحة				
5	أشعر أن الصعوبات تتراكم عليّ بحيث لا أستطيع التغلب عليها				
6	لديّ (عندي) أفكار مزعجة				
7	أشعر بالأمان				
8	أشعر أنني غير كفء				
9	تصيبني حالة من التوتر أو الاضطراب عندما أفكر في مشاغلي و اهتماماتي في الفترة الأخيرة				

Annex (6)
PTSD scale

عزيزتي/

الأسئلة التالية تتعلق بالخبرة الصادمة التي تعرضت لها خلال الفترة الماضية وهي التعرض للقصف . كل سؤال يصف التغيـرات التي حدثت في صحتك و مشاعرك خلال الفترة السابقة من فضلك أجب علي كل الأسئلة. علما بأن الإجابات تأخذ أحد الاحتمالات 0= أبدا، 1= نادرا، 2= أحيانا، 3= غالبا، 4= دائما

		1	2	3	4	5
الرقم	**الخبرة الصادمة**	**أبدا**	**نادرا**	**أحيانا**	**غالبا**	**دائما**
1-	هل تنتابك صور، ذكريات، وأفكار عن المرض؟					
2-	هل تنتابك أحلام مزعجة عن المرض ؟					
3-	هل تنتابك مشاعر فجائية أو خبرات بأن ما حدث سيحدث مرة أخرى؟					
4-	هل تتضايق من الأشياء التي تذكرك بما تعرضت له من المرض ؟					
5-	هل تتجنب الأفكار أو المشاعر التي تذكرك بالمرض ؟					
6-	هل تتجنب المواقف و الأشياء التي تذكرك بالمرض ؟					
7-	هل لديك فقدان للذاكرة للأحداث الصادمة التي تعرضت لها (فقـدان ذاكـرة نفـسي محدد)					
8-	هل لديك صعوبة في الاستمتاع بالحياة والنشاطات اليومية؟					
9-	هل تشعر بالعزلة وبأنك بعيد عن الآخرين لا يستطيع الشعور بالحب أو الانبساط؟					
10-	هل أنت غير قادر على الشعور بمشاعر الحزن و الحب (متلبد الإحساس)					
11-	هل تجد من الصعوبة تخيل بأنك ستعيش لفترة طويلة لتحقـق أهـدافك فـي العمـل، الزواج إنجاب أطفال ؟					
12-	هل لديك صعوبة في النوم أو البقاء نائما؟					
13-	هل تنتابك نوبات ن التوتر و نوبات من الغضب؟					
14-	هل تعاني من صعوبات في التركيز؟					
15-	هل تشعر بأنك على حافة الانهيار(واصلة معاك على الأخر) ، مـن الـسهل تـشتيت انتباهك؟					
16-	هل تستثار لأتفه الأسباب ودائما متحفز؟					
17-	هل الأشياء أو الأشخاص الذين يذكرونك بالخبرة الصادمة تجعلك في نوبة من ضـيق التنفس، الرعشة، العرق الغزير وسرعة في ضربات القلب؟					

Annex (7)
Coping scale

هنالك استراتيجيات كثيرة يستخدمها الناس في التعامل مع المواقف الضاغطة أو المشكلات القاسية التي تمر بهم وهنالك أربع احتمالات بالنسبة لاستخدامك أنت لكل أسلوب .

1- أما انك لا تستخدمه إطلاقا 2- تستخدمه أحيانا قليلة . 3- تستخدمه بدرجة متوسطة .4- تستخدمه كثيراً .

الرقم	العبـــارة	لم افعل ذلك مطلقاً (1)	فعلت ذلك نادراً (2)	فعلت ذلك أحيانا (3)	فعلت ذلك كثيراً (4)
1	تحدثت لبعض الأشخاص وذلك بغرض معرفة المزيد من المعلومات عن الموقف الضاغط.				
2	انتقدت نفسي.				
3	تمنيت أن ينتهي الموقف المزعج بأي طريقة.				
4	لقد عبرت عن ضيقي للأشخاص الذين سببوا المشكلة.				
5	حاولت أن أنظر للجانب المشرق للأمور.				
6	حاولت الاحتفاظ بمشاعري لنفسي.				
7	لقد كنت اعرف ما ينبغي أن افعله ولذلك ضاعفت جهودي كي تسير الأمور.				
8	لقد تغيرت ونموت كشخص يتصرف بشكل أفضل.				
9	تحدثت لبعض الأشخاص الذين يمكن أن يفعلوا شيئاً ما بشأن المشكلة.				
10	أدركت أنني جلبت لنفسي مشكلة.				
11	تمنيت حدوث معجزة.				
12	وقفت صلباً وناضلت من اجل ما أريد.				
13	حاولت أن أنسى كل الأمور السيئة أو المزعجة.				
14	حاولت عدم إخبار الآخرين عن الأمور السيئة .				
15	لقد وضعت خطة عمل واتبعتها .				
16	بدأت اشعر أن الموقف جعلني أقوى مما كنت عليه في السابق.				
17	لقد طلبت النصيحة من بعض الأشخاص الذين أكن لهم الاحترام.				
18	وعدت نفسي أن تكون الأمور أفضل في المرة القادمة.				
19	كان عندي بعض التصورات الخيالية والأماني عن كيفية انتهاء الموقف .				
20	انتظرت حدوث فرصة، حتى لو كانت تنطوي على مخاطرة لمواجهة المشكلة.				
21	حاولت أن أنسى كل ما يتصل بالموقف.				
22	حاولت عدم قطع خط الرجعة وان أبقي جميع الخيارات مفتوحة.				

23	لقد ركزت جهودي بما ينبغي أن افعله لاحقاً .				
24	لقد تلقيت تعاطفاً وتفهماً من شخص ما.				
25	لقد نمت ساعات طويلة أكثر من المعتاد .				
26	لقد اعتذرت أو فعلت شيئاً ما لتصحيح الخطأ .				
27	حاولت أن أكون بوضع أحسن بواسطة الأكل أو التدخين أو استخدام الأدوية.				
28	لقد حاولت عمل شيء ما وان لم يكن مجدياً فأنني على الأقل حاولت .				
29	لقد استسلمت لقدري حيث يكون أحيانا حظي سيئاً .				
30	حاولت ألا أكون متهوراً ومتسرعاً خلال الموقف الضاغط .				
31	لقد قمت بتغيير بعض الأمور وهكذا بدأت تسير الأمور نحو الأفضل .				
32	اكتشفت من جديد ما هو الشيء المهم في الحياة .				
33	لقد طلبت المساعدة .				
34	تجنبت الناس بشكل عام .				
35	بدأت أفكر كيف يمكن لشخص احترمه وأعجب به ، كيف يتصرف في مثل هذا الموقف وعملت مثله.				
36	رفضت أن أفكر في الموقف ككل .				
37	حاولت ضبط مشاعري قدر الإمكان وعدم تحويلها إلى تصرفات وأمور أخرى.				
38	اتجهت إلى الصلاة والدعاء .				
39	لم اصدق أن الموقف أو المشكلة قد حدثت .				
40	بدأت أفكر بما ينبغي أن افعله أو أقوله .				
41	بدأت أغير بعض الأشياء في نفسي .				
42	ألقيت اللوم على الآخرين .				
43	بدأت استرجاع خبراتي السابقة عندما كنت في موقف مشابه .				
44	مضيت وكأن شيئاً لم يحدث .				

Annex (8)
Distribution of cases by(type , sex and age).

Distribution of cases by type/ sex				Distribution of cases by age			
Cancer type	**Total cases**	**male**	**female**	**Under 15 year**	**15-24**	**25-59**	**Above 60**
Carcinoma	2539	1131	1408	17	36	1189	1298
Sarcoma	423	234	189	170	35	139	61
Hematological malignancies	684	385	299	215	71	248	151
Lymphomas	359	217	142	-	-	-	-
Leukemia	280	146	134	-	-	-	-
Myeloma	45	22	23	-	-	-	-
Melanoma	45	-	-	6	4	29	6
Cancer Morbidity	**General pop.**	**Male**	**Female**				
Breast	15.7%	-	30%				
Lymphomas	9.1%	11.2%	7.2%				
Bone marrow	9.1%	9.8%	8.5%				
Bronchus/lung	8.7%	14.7%	3.1%				
Colorectal	7.4%	7.4%	7.3%				
Brain/ nervous system	4.8%	5.8%	3.9%				
Urinary bladder	4.7%	8.8%	-				
Stomach	3.5%	3.9%	3%				
Liver	3.3%	4.1%	-				
Prostate	2.9%	6.1%	-				
Pancreas	-	2.9%	-				
Larynx	-	2.9%	-				
Ovary	-	-	3%				
Uterus	-	-	5.9%				
Thyroid	-	-	4.5%				

Causes of cancer (MOH-PCR &HMIS, 2002)