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Coping Strategies of Palestinians Adolescents and Young Adults with Cancer

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Coping Strategies of Palestinians Adolescents and Young Adults with Cancer

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Dedication

For Adolescent and Young Adults who suffered and still suffering from cancer in Palestine and all over the world.

Amal Salman

Declaration

I certify that this thesis submitted for the degree of the master is a result of my own research except where otherwise acknowledged and that this study has not been submitted for a higher degree to any other universities or institutions.

Signed: …………………….
Amal Ali Ibrahim Salman
Date: 1/12/2018

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Abstract

Background

Cancer is increasing at a very high rate around the world (Fitzmaurice et al, 2015). In Palestine, cancer is the second leading cause of death accounting for 13.8% of all deaths (MOH, 2016). Cancer inflicting adolescents and young adults (AYAs) is the leading disease-related cause of mortality (Clinton-McHarg et al., 2010). Diagnosing cancer at any age is an inevitable stressor. In the case of AYA, fears related to futuristic and developmental consequences grow as they intersect with developmental normative tasks of this period (Zebrack et al., 2009).

Methods

The study aims to identify coping strategies among adolescents and young adults aged 15-39 years old with cancer. The study was conducted in two main hospitals available for oncology services in the West Bank in Palestine; Beit-Jala governmental hospital and Augusta Victoria private hospital.

Twelve qualitative in-depth interviews were done to reveal a deeper understanding of coping strategies used by AYAs Palestinians cancer patients. Additionally, 165 cross-sectional quantitative questionnaires were filled using the Brief COPE scale and the Arabic version of a SpREUK-P assessment tool to which socio-demographic data was added. The response rate was (84.18 %). Quantitative data was used to reveal more information related to the factors with coping strategies.

Findings

Results from the quantitative part of the study revealed that the most frequently utilized coping strategies by AYAs respondents were “religion” and “acceptance” (mean 3.77± 0.5), followed by “use of emotional support” (mean 3.65 ± 0.7), “active coping” (mean 3.55 ± 0.6) and “planning” (mean 3.43 ± 0.9). The least strategies used by respondents were on “behavioral disengagement” (mean 1.46 ± 0.8), “self-blame”(mean 1.56 ± 0.8), “substance use” (mean 1.69 ± 1.0) and “humor” (mean 1.78 ± 0.8). The interviewed patients indicated that they utilized strategies that supported the quantitative results above. The major themes of coping were religious related coping mechanisms; faith and acceptance (Qada & Qadar) and reliance on God (Tawakkul), social support and affiliation; using emotional social support and using and seeking information, acceptance; as cancer becomes a common disease and have a cure, positive reinterpretation and growth, self-distraction, planning, and spirituality coping. In addition, the findings revealed a significant relationship between some strategies of coping and age group of the participants, gender, degree of religiosity, educational levels, ownership of the hospital, departments of care, living condition, marital status, having children for married participants, person taking care of the patient, site of cancer, duration of treatment, and professional support. No significant relationship was found between coping strategies and place of residence, income, or employment status.

Conclusion

The findings underline the importance of efforts which should be made to encourage AYAs with cancer to use coping strategies that have been found to be helpful to them (e.g. religion, social support, active coping).

The results of this study highlight that not only should the patient's families support and understand their loved ones coping strategies and needs, but health-care providers must also be prepared to better understand and support their patients during their stressful journey of treatment and living with cancer.

استراتيجيات تكيف المراهقين والشباب الفلسطينيين مع مرض السرطان

إعداد الطالبة: أمل علي إبراهيم سلمان

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الملخص

الخلفية

يرتفع معدل مرض السرطان بشكل كبير حول العالم (Fitzmaurice et al, 2015). ويعد السرطان ثاني أكثر مسبب للوفاة وهو ما يمثل 13.8% من مجموع الوفيات (وزارة الصحة، 2016). حيث أن السرطان الذي يصيب المراهقين والشباب هو المرض الأكثر تسببًا في الوفاة (Clinton-McHarg et al., 2010). فعند تشخيص مرض السرطان في أي مرحلة عمرية لا بد من الشعور بالتوتر والضغط. وتنمو مثل هذه المخاوف المتعلقة بالعواقب المستقبلة والتطورية لدى المراهقين والشباب بشكل خاص وذلك لأنها تتعارض مع الوظائف التطورية الطبيعية لهذه الفترة (Zebrack et al., 2009).

منهج البحث

تهدف هذه الدراسة إلى تحديد استراتيجيات التكيف مع مرض السرطان والتي يعتمدها المراهقين والشباب الذين تتراوح أعمارهم بين 15 و39 سنة. وقد تم إجراء الدراسة في مستشفيين رئيسيين لخدمات الأورام في الضفة الغربية في فلسطين، وهما مستشفى بيت جالا الحكومي ومستشفى أوغستا فكتوريا الخاص.

وقد تم إجراء اثني عشر مقابلة معمقة نوعية من أجل التعمق في فهم استراتيجيات التكيف التي يستخدمها المرضى الفلسطينيين من فئتي المراهقين والشباب. وبالإضافة إلى ذلك فقد تم ملء 165 استبيانًا مستعرضًا كميًا باستخدام مقياس (Brief COPE) والنسخة العربية من أداة التقييم (SpREUK-P)، حيث تم إضافة البيانات الاجتماعية الديموغرافية إليها. وكان معدل الاستجابة جيداً (84.18%). وقد تم استخدام هذه البيانات الكمية للكشف عن المزيد من المعلومات المتعلقة بعوامل استراتيجيات التكيف مع المرض.

النتائج

أظهرت نتائج الجزء الكمي من هذه الدراسة أن استراتيجيات التكيف مع المرض الأكثر استخداما من قبل المراهقين والشباب الذين شاركوا في الاستبيان هي "الدين" و"التقبل" (بمعدل 3.77 ± 0.5)،

يتبعها "استخدام المساندة الانفعالية" (بمعدل 3.65 ± 0.7)، و"التعامل النشط" (بمعدل 3.55 ± 0.6)، و"التخطيط" (3.43 ± 0.9). وكانت أقل الاستراتيجيات المستخدمة هي: عن "الامتناع عن السلوك" (بمعدل 1.46 ± 0.8)، و "لوم الذات" (بمعدل 1.56 ± 0.8)، و"استعمال المواد" (بمعدل 1.69 ± 1.0)، و"الفكاهة" (بمعدل 1.78 ± 0.8). وجاءت نتائج المقابلات المعمقة متوافقة مع هذه النتائج الكمية في استخدام نفس الإستراتيجيات. وقد كانت المستخلصات الرئيسية من هذه المقابلات المعمقة في موضوع التأقلم مع مرض السرطان، وقد كانت مواضيع التكيف الأساسية مواضيع متعلقة بالدين والتقبل; الإيمان والتقبل (القضاء والقدر) والاعتماد على الله (التوكل). وكان هذا بالإضافة إلى الدعم الاجتماعي والانتماء، استخدام المساندة الانفعالية ;استخدام والسعي للمساندة الوسيلية، والتقبل، وإعادة التشكيل الإيجابي والنضوج، وإشغال الذات، والتخطيط، والتكيف الروحاني.

بالإضافة إلى ذلك فقد أظهرت النتائج وجود علاقة واضحة بين بعض استراتيجيات التكيف مع المرض وبين والمجموعة العمرية للمشاركين، وجنسهم، ودرجة التدين، والمستويات التعليمية، وملكية المستشفى، وأقسام الرعاية، والحالة المعيشية، والحالة الزوجية، ووجود أطفال لدى المشاركين المتزوجين، والشخص الذي يعتني بالمريض، ومكان وجود السرطان في الجسم، ومدة العلاج، والدعم المحترف. ولم تكن هناك أي علاقة مهمة بين استراتيجيات التكيف ومكان الإقامة، الديانة، أو الدخل، أو الحالة الوظيفية.

الخاتمة

يحدد هذا القسم أهمية الجهود التي يتوجب خلقها لتشجيع المراهقين والشباب المصابين بمرض السرطان للقيام باستخدام إحدى استراتيجيات التكيف مع المرض التي تم إيجادها ليستفيدوا منها (كالدين، استخدام الدعم الاجتماعي، والتعامل النشط).

وتسلط نتائج هذه الدراسة الضوء على أن تقديم الدعم والتفهم لطرق التكيف مع المرض واحتياجات المرضى لا يقتصر على العائلة فقط، بل يتوجب على مزودي خدمات الرعاية الطبية أيضا أن يكونوا على استعداد تام لتفهم مرضاهم ودعمهم بشكل أفضل خلال رحلة العلاج الناجحة والعيش مع مرض السرطان.

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Table of Abbreviations

ANOVA	Analysis of Variance
AVH	Augusta Victoria Hospital
AYA	Adolescent and Young Adult
AYAs	Adolescents and Young Adults
AYAO PRG	Adolescent and Young Adult Oncology Progress Review Group
BMT	Bone Marrow Transplant
Ca	Cancer
CML	Chronic Myeloid Leukemia
CMSS	Computer-Mediated Social Support
CT	Computed Tomography
HL	Hodgkin Lymphoma
LAF	Lance Armstrong Foundation
MOH	Ministry of Health
NHL	Non-Hodgkin Lymphoma
NCCN	National Comprehensive Cancer Network®
NCI	National Cancer Institute
oPt	Occupied Palestinian Territory
PCBS	Palestinian Central Bureau of Statistics
Ph.D.	Doctoral Degree
PHIC	Palestinian Health Information Center
PTSD	Post-Traumatic Stress Disorder
SD	Standard Deviation
SPSS	Statistic Package for Social Science
TBL	Tracheal, Bronchus, and Lung Cancer
TV	Television
UK	United Kingdom
USA	Unites States of America

US	United States
WB	West Bank
WCQ	Ways of Coping Questionnaire
W&S	‘Wait and See’
YA	Young Adults

Chapter One: Introduction

This chapter presents the background, the problem statement, study justification, and the purpose of the study. Moreover, this chapter includes research objectives and the hypothesis of the study.

Background

Cancer poses a major global threat to public health and is becoming a public health concern that accounts for one in eight deaths per day, according to the Union for International Cancer Control (2012). Low- and middle-income countries mostly suffer from the highest cancer rates and it increases consistently (Terzioğlu & Hammoudeh, 2017). Approximately 70% of deaths from cancer occur in low-and-middle-income countries (Al Jadili & Thabet, 2017).

Cancer disease is increasing worldwide at a very high rate, according to Fitzmaurice et al (2015). In 2015, there were 17.5 million cancer cases around the world and 8.7 million cancer deaths (Fitzmaurice et al., 2017). Statistics indicate that approximately one million new cancer cases occur worldwide among those who aged 15 to 39-year-olds (Patterson et al., 2015). Worldwide, cancer is resulting each year in approximately 134,000 deaths, and cancer among adolescents and young adults (AYAs), is the leading disease-related cause of mortality (Clinton-McHarg et al., 2010).

According to the Palestinian annual report of health status (2017), the total number of newly reported cases of cancer in West Bank were 2,923 with an incidence rate of 113.7 per 100,000 of the population. The total cancer cases diagnosed in 2017 were 4,000, in which 1,077 cancer cases were previously diagnosed (MOH, 2018). Furthermore, among cancer new reported cases in West Bank in 2017, 146 cases were less than 15 years of age which formed 5.0% out of total cases, 1,849 cases (63.3%) were between 15 – 64 years of age and 828 (31.7%) cases were among 65 years old and above (MOH, 2018). Moreover, it is mentioned that in 2015, cancer was the second leading cause of death among Palestinian which account for 13.8% of the reported cancer mortality in Palestinians from the total deaths (MOH, 2016).

As defined by the Adolescent and Young Adult Oncology Progress Review Group (AYAOPRG), AYAs includes individuals diagnosed with cancer between 15 and 39 years of age (Livestrong Young Adult Alliance, 2006). AYA is a term used in oncological studies to describe cancer patients spanning from adolescence to young adulthood (Saarelainen, 2017)

In their report on cancer disease, as an organization operating in the USA, (AYAOPRG, 2006) reported that exclusion to homicide, unintentional injury, and suicide, cancer is the leading disease-related cause of death in the AYA those aged 15 to 39 years. Moreover, the most common cancers in AYAs are "lymphoma, leukemia, germ cell tumors (including testicular cancer), melanoma, central nervous system tumors, sarcomas (bone and soft tissue), breast, cervical, and thyroid and colorectal cancers" ("AYA", 2018).

At the point when AYAs do have signs of cancer, these can be misdiagnosed, in light of the fact that harmless markers, for example, a long-term cough or vague pain can be early indications of cancer (Saarelainen, 2017). Furthermore, unclear strategies of appropriate detection and treatment of cancer disease among AYAs delay its diagnosis and treatment (Parsons et al., 2011). Part of the delay is due AYAs belief that they are remote from having fatal illness or harm, which in turn leads them to disregard or underestimate symptoms and tend to postpone seeking medical attention. On the other hand, some of them feel shy or not encouraged to look for treatment for symptoms that comprise the genitalia or bowel functions. Personal preference or traditions might be reasons that hamper needed tests. For example examination of sexual organs in some female cases if a male is involved in the process (Livestrong Young Adult Alliance, 2006).

A cancer diagnosis for individuals and their families is an agonizing stress. The reaction to cancer diagnosis varies from person to person based on their coping style (Vadsaria et al., 2017). An individual can feel stunned or damaged as the possibility of an approaching demise. Others deny the truth and shroud malignancies presence and choose not to go for treatment (Vadsaria et al., 2017).

Diagnosing cancer is a stressor in own right at different stages of life, nonetheless, AYAs feel prudent due to their worries about their future and effect of their development because it interferes with the natural development of their growing tasks at this stage of their lives (Zebrack et al., 2009). Therefore, cancer diagnosis during AYA years impacts issues involving their education or ability to maintain their work (Parsons et al., 2012), and also this is eminent that will impact their dreams endangered in many ways: " career goals, finding a life partner, and raising a family to become jeopardized" (Saarelainen, 2017, p. 12).

Generally, patients’ struggle with symptoms of chronic illness can bring about, among many others, "feelings of guilt, loss, loss of role-function, sadness, anxiety, diminished self-esteem, communication problems with their families and friends, questions about meaning in life, and religious struggles (“Why me?”), etc." (Büssing et al., 2010, p. 19).

Coping methods must be determined by the patient and the other family members once the diagnosis is confirmed and treatment plans are initiated, as they know what the cancer diagnosis means to them and their future (Rufener, 2014). Due to their complete inability to remedy the continuous pain by themselves either in recovery or repair, and they feel they should challenge none-positive feelings that accompany pain, hence, they look for strategies to get used to a course of the disease that takes a long time (Büssing et al., 2010).

Coping is defined as "the cognitive and behavioral efforts made to master, tolerate, or reduce external and internal demands and conflicts among them", and people adopt different coping strategies to overcome stress (Vadsaria et al., 2017, p. 71). On the other hand, and in the case of chronic diseases such as cancer, coping is defined as "the way in which the people respond to the diagnosis and how she/he deals with the disease" (Chittem, 2014, p.6). Therefore, some other methods are devised to cope or adapt (Elsheshtawy et al., 2014).

The coping process described by Lazarus and Folkman (1984) in general terms to be implemented in three stages; appraisal for the situation stemming from their esteem, faith, and purpose after that adopt a solution and resources at hand being conscious or not and only then conclude a coping response. There are two coping strategies; problem-focused and emotion-focused coping (Vadsaria et al., 2017). "Problem-focused coping involves the stressor itself like eliminating or running away from it or minimize its effect. Emotion-focused coping aims to reduce the agony caused by the stressor. This constitutes several alternatives such as actions that lead to relaxation or looking for help, or reacting by yelling or crying, or center on negative thoughts such as suicide, and in order to evade stressful situation by wishful thinking or avoidance” (Vadsaria et al., 2017,p.71).

In another definition, Anderson (2014) classified coping mechanisms into two sections: adaptive or maladaptive in accordance with the results of coping being a positive or negative effect on people’s psychological or physical conditions. Such coping actions affect emotions and hence affect people's psychological adaptation. There are other issues that can be considered effective in the process of appraisal and coping such as the personality of the person and the surroundings which define the person's ability to evaluate the situation properly and choose a strategy to use effectively (Versano, 2011). A better understanding of the consequences of different strategies to cope with various demands that patients face after a cancer diagnosis is important (Kvillemo et al., 2017).

This research focuses on the coping strategies of AYAs cancer patients. The study utilizes two methods; a quantitative and qualitative in-depth interview where both are directly dealt with the patient himself/herself.

Problem Statement

After searching the literature, it is evident that information pertaining to how adolescents and young adults with cancer cope with their illness in Palestine are generally lacking, specifically during their treatment and survivorship phase. Therefore, without studies covering this age group of patients with cancer, no intervention can be conducted to improve their coping positively.

This study will investigate the coping strategies adopted by Palestinian AYAs with cancer using two different methods; quantitative by using a questionnaire and qualitative by using an in-depth interview. Hence, the current study aimed to investigate the frequently used coping strategies among AYAs cancer patients in the West Bank of Palestine.

Study justification

People and their environment are in constant interaction, along with their stress and coping mechanisms, have been researched intensively by researchers in the past several decades (Su-kerb, 2014). In case of having a life-threatening illness such as cancer, the way of responding to an apparent threat to oneself is coping (Trevino et al., 2012). Generally, people appraise the process of stressors with consideration to culture and social beliefs that influence the appraisal of the stressor. Member's diverse backgrounds may lead them to respond to stressors as per the coping strategy and its results (Johansson et al., 2013).

Cancer survival is a high priority on the research agenda of improving cancer survival. Medical development and improvement in this direction helped millions diagnosed with cancer to become survivors (Hauck Perez, 2016). Development of treatment gave chance as far as five more years of living after a diagnosis of AYAs with a percentage of 73-82%. Because of the high rate of survival meant that AYAs will live longer with the physical, psychological complications in cancer diagnosis and treatment (Clinton-McHarg et al., 2010). These cancer survivors continue to live longer, healthier and fulfilled live (Hauck Perez, 2016).

Since cancer occurs during a critical stage of AYAs life, as they experience physical, psychological, social and spiritual concerns of survivors, they often have additional and unique needs (Clinton-McHarg et al., 2010). Several psychological challenges AYAs face when confronted with cancer, especially when this interferes with their normal maturation process, physical, psychosocial or interpersonal (Hauck Perez, 2016).

Cognitive and emotional growth as main developmental stages in adolescence and young adulthood lives constantly change and are volatile periods and particularly susceptible to disturbance. Many of the after-effects of cancer disease diagnosis can be distressing for adolescents and young adults; the possibility of dying prematurely, general look effects, more help-seeking from parents, social life such as school or employment disarray due to treatment, reduction in productivity and future worries (Mbuh & Kahugu, 2015).

According to the statistics of Annual Health Report (2017) in West Bank, approximately 1,849 cases (63.3%) were between 15 – 64 years of age, and there were 453 adolescents and young adults (AYA) who aged 15-39 years are diagnosed with cancer in West Bank (MOH, 2018). In 2017, 92 cancer deaths were occurred among who aged from 15 to 39 years old in West Bank of Palestine (MOH, 2018). According to the number of AYAs cancer patients in Palestine, the research and focus on studying coping strategies among adolescent and young adult patients with cancer is an area that does not receive it is appropriate attention. Despite the availability of some previous local studies, in fact, there was no specific focusing on coping strategies of AYAs patients with cancer. Nonetheless, this particular age-group and their coping mechanisms had not been previously studied in Palestine.

Recently and for the past 60 years, coping mechanisms with cancer and all the linked stressors has become a targeted field of study (Anderson, 2014). As patients of cancer in Palestine suffer from the effects of the disease and as they have many aspects of the disease to cope with, they additionally have an external factor that adds more difficulties to coping and that is the stress and agony of the occupation. It was noted by The National Mental Health Strategy 2015 report that there is an increase of acute and chronic stress caused by the continued occupation and the other political violence that is happening in Palestine (Manenti et al., 2016). Consequently, Palestinians AYAs living under the distress of political situation will be more distressed when they have to cope with both political and cancer stressors. Furthermore, not all healthcare institutions house psychosocial care for Palestinian cancer patients, as with other diseases; in fact, chemotherapy is the only available cancer treatment at government hospitals, with little capacity for a wider range of treatment options (Hammoudeh et al., 2016).

It is important to understand the experiences of patients suffering from a chronic illness similar to cancer in order to guide care to define survivors' needs and promote health outcomes according to Roux and Dingley (2011) (Rufener, 2014).

The cost of effective intervention, targeting stress and related symptoms of cancer diagnosis, must be evaluated and budgeted effectively after the cancer diagnosis, to facilitate the transition back into everyday life and long-term health (Kvillemo, 2017). Intervention is definitely needed to assist patients and their close ones to deal with and overcome the situation in organized risk-free strategies. In order to be able to define coping strategies, information about the patients and their families are needed. AYAs are the most difficult patients' age groups to deal with due to the critical stage of life as they are either at school times or university or apprenticeship and looking forward to their future and life (Mon Kywa, 2012). By understanding how AYAs cope with their cancer with challenges is important in ensuring a comprehensive care for AYAs with cancer. Furthermore, the recognition of coping mechanism by healthcare professionals may enable appropriate information and intervention to be provided at an optimal time for each individual (Mon Kywa, 2012).

The study findings might provide specific relevant information regarding Palestinian adolescents and young adult's coping strategies and resources they use to cope with cancer. The results of the study can be used when planning and implementing the care plans for adolescents and young adults and provide a foundation for cultural-based care of AYA patients with cancer in Palestine. Furthermore, it is expected that this study might improve the national understanding of the needs of this vital segment of our society.

Research, aims, objectives, and hypotheses

The aim of the study

The main aim of this triangulated study (quantitative, qualitative) was to identify coping strategies among adolescent and young adult patients with cancer in the West Bank of Palestine, who aged between 15-39 years. The results of the study can be used when planning and implementing the care plans of adolescents and young adults with cancer.

Objectives

Using a qualitative method, the specific objectives were:

- To obtain a more in-depth understanding of the coping strategies used by Palestinian adolescent and young adult patients with cancer.
- To describe the reaction of AYAs cancer survivors have toward their cancer diagnosis and

Using a quantitative method, the specific objectives were:

- To determine the adolescent and young adult patients with cancer coping strategies.
- To determine factors influencing coping strategies of adolescent and young adult patients with cancer.

Hypothesis

H0: There is no significant relationship (at $P<0.05$) between coping strategies of adolescent and young adult patients with cancer and the socio-demographic variables (age, gender, education level, place of residence, income, marital status, number of children, employment, caregivers, religion, and religiosity).

H0: There is no significant relationship (at $P<0.05$) between coping strategies of adolescent and young adult patients with cancer and the sitting-related factors (health-care providers support, ownership of the hospital, and department of treatment).

H0: There is no significant relationship (at $P<0.05$) between coping strategies of adolescent and young adult patients with cancer and the cancer-related factors (site of cancer, duration since diagnosis, and type of treatment).

Chapter Two: Literature Review

Introduction

This chapter includes an overview of cancer, its burden, the global burden of adolescent and young adult cancer patients, an overview of cancer types in AYAs and in Palestine, and the most common types of cancer treatment. In addition to the physiologic characteristics and possible biologic influences on cancers in AYAs, stressors of AYA cancer diagnosis and treatment, psychosocial aspects of AYA cancer diagnosis and treatment, and adolescent and young adult cancer healthcare needs.

Moreover, this chapter includes AYAs definitions, coping strategies forms, the process of coping, briefly trace it is, and a review of previous studies.

Cancer Overview

Cancer is defined by the WHO Cancer Control Programme as:

> "A generic term for a large group of diseases characterized by the growth of abnormal cells beyond their usual boundaries that can then invade adjoining parts of the body and/or spread to other organs" ("WHO Cancer Control Programme", 2018).

Other terms used include malignant tumors and neoplasms for cancer ("WHO Cancer Control Programme", 2018). The size and extent of the tumor spreading to other parts of the body define cancer staging. An inevitable death can be caused if the spread of cancer is not well controlled (Su-kerb, 2014).

Types of Cancer

There are more than 100 specific types of cancer. Most cancers are named after the organ or type of cell from which they originated. For example, cancer originating in the lung is called lung cancer while cancer originating in the colon is called colon cancer. Classification done by the National Cancer Institute in 2012 classified the 12 most common types of cancer to be bladder, lung, breast, melanoma, colon and rectal, non-Hodgkin lymphoma, endometrial, pancreatic, kidney, prostate, leukemia, and thyroid (Su-kerb, 2014).

MOH report in 2018 included the three most commonly reported cancer cases in 2017 in the West Bank of Palestine:

1: Breast Cancer

Breast cancer is cancer cells that grow from the functional tissue elements of the breast. Generally, breast cancer amounts to 14% of cancers in AYAs (Quinn, 2012). There were 1.8 million incidents cases of breast cancer in 2013 with 464,000 deaths. Only one woman developed breast cancer out of 18 between birth and the age of 79 years (Fitzmaurice et al., 2015).

The first type of cancer in the West Bank among all types of cancer in 2016 was breast cancer. There were 388 cases that constituted 15.3% of the total reported cancer cases. However, the first type of cancer among females was breast cancer and it accounted for 28.9% of the total reported cancer cases in Palestinian females (MOH, 2017). There were 503 new cancer cases of breast cancer in 2017 that consisted 17.2% of the total cancer cases (MOH, 2018). In 2017, among females, breast cancer was the first common with 498 reported cancer cases.

2: Colon Cancer

There were 771,000 deaths worldwide in 2013 as there were 1.6 million incidents cases of colon and rectum cancer (Fitzmaurice et al., 2015). Being the rafter, ranked the second with 262 cases is colorectal cancer that accounted for 10.3% of all reported cancer cases (MOH, 2017). Colon was the second common cancer that accounted for 241 cases; 8.2% of all reported cancer cases in 2017 (MOH, 2018).

3: Leukemia

In 2013, it was found that throughout the world, there were 414,000 new cases of leukemia and 265,000 deaths as a result of the condition. It has been ranked the 10th most common type of cancer and the 9th most common cause of cancer deaths in the same year. In developed countries, leukemia was the 12th most common form of cancer and 8th cause of death caused by cancer (Fitzmaurice et al., 2015). However, leukemia ranked the third in reported cancer cases in West Bank, and 214 new cases and that amounted to 8.4% of the total reported cancer cases (MOH, 2017). Leukemia ranked the third common cancer cases in West Bank that 239 (8.2% of all reported cancer cases) in 2017 (MOH, 2018).

4: Lung Cancer

It was estimated that 1.8 million incident cases of tracheal, bronchus, and lung cancer (TBL) cancer in 2013 with 1.6 million deaths (Fitzmaurice et al., 2015). In West Bank, 13.6% of reported cancer cases were reported among Palestinian males and which was ranked the first among them (MOH, 2017). Lung ranked the most common cancer among male with 174 cancer cases reported; representing 12.5% of the total cancer cases among males (MOH, 2018).

5: Lymphomas

Lymphomas are any type of cancer that is caused by lymphocytes of the immune system. There are two main types of lymphomas. The first is Hodgkin lymphoma (HL) and includes the presence of Reed-Sternberg cells. The second is non-Hodgkin lymphoma (NHL) and includes all other lymphocytic cancers. In AYAs, lymphomas constitute 13% of cancer. Risk factors are unknown still (Quinn, 2012).

Common Types of Cancer Treatment

There are several methods to treat cancer and the most common of them is surgery, radiation, chemotherapy, hormone therapy, biological therapy, and/or targeted therapy (Sukerb, 2014).

1. Chemotherapy

This is commonly known as “chemo”. Chemotherapy is a treatment that entails strong medication usually administered orally or through injection. There is usually more than one drug used in the treatment and the purpose of chemotherapy is to treat cancer that has spread throughout the body, and unlike radiation therapy or surgery, these drugs travel through the bloodstream. The type of cancer and the stage of cancer in which the patient is in determine whether chemo may be beneficial to their treatment (American Cancer Society, 2015). Chemotherapy is used to treat, control, and cure cancer and is one of the most common reasons for increased survival rates of patients. It employs cytotoxic agents, hormonal blockers, and receptor-specific targeted therapy. These drugs may have an effect on normal cell reproduction and lead to myelosuppression, immunosuppressant, mucositis, and alopecia. In the worst cases, the effect may be death (Stefani et al., 2017).

2. Surgery

Surgery is considered a foundation of cancer treatment that applied to any individual has cancer. Also, surgery including a removal of the localized tumor (contained in one area), and it may be applied to remove the tumor along with any nearby tissue that might contain the cells of cancer (Stefani et al., 2017). Treatments such as radiation therapy and chemotherapy may be used along with surgery, or they may be applied before or after the surgery (American Cancer Society, 2015).

3. Radiation Therapy

Localized cancers (contained in one area) are mostly treated by radiation just like in surgery. Radiation is used to destroy or damage cancer cells in order to prevent them from growing. It can be used alone or along with surgery or chemotherapy. More than half of all people with cancer get radiation at some point (American Cancer Society, 2015).

4. Hormone Therapy

Using medicine to block or lower the number of hormones in the body is used to slow or stop cancer from growing (Cancer Research UK, 2017).

The Burden of Cancer

Since 1990, the incidence rates of cancer in most countries have increased and are posing a major threat to public health (Kvillemo, 2017). Cancer is classified as the second major cause of death worldwide ("WHO Cancer Control Programme", 2018). There were 17.5 million cancer cases and 8.7 million deaths worldwide in 2015. An increase of 33% in cancer cases from 2005 to 2015, where aging contributed to only 16% and a population growth of 13% and changes in age-specific rates contributed to 4% (Fitzmaurice et al., 2017). In men, the most common types of cancer are lung, prostate, colorectal, stomach and liver. In women, the most common types of cancer include breast, colorectal, lung, cervix, and stomach. One in six deaths is caused by cancer worldwide ("WHO Cancer Control Programme", 2018).

In Palestine, in the past decade, cancer is seen to be a substantial health problem and a major cause of death (Tantitrakul & Thanasilp, 2009). According to MOH, the total number of reported cases of cancer in West Bank was 2,400 with an incidence rate of 83.8 per 100,000 of the population in 2015 (MOH, 2016). In the following year (2016), the total number of reported cancer cases in West Bank was 2,536, with an increase of 5.7% from the 2,400 of total new reported cases in the previous year (2015) (MOH, 2017). In 2017, the total number of newly reported cases of cancer in West Bank was 2,923 cancer cases with an incidence rate of 113.7 per 100,000 of the population (MOH, 2018). In addition, there was a 15.3 % increase from 2016 to 2017 of cancer cases that indicate is more than double increase in cancer cases in 2016 (MOH, 2018).

The Global Burden of Cancer among Adolescents and Young Adults

Among AYAs, cancer is the leading cause of disease-related deaths (Smith et al., 2013). It is the major cause of mortality among adolescents and young adults (AYAs) worldwide as it results to approximately 134,000 deaths each year (Clinton-McHarg, et al., 2010). In Europe and the United States, the incidence of cancer among AYAs has increased in the past decade (Richter et al., 2015). In 2011, an estimate of 69,212 Adolescents and Young Adults (AYAs) aged 15–39 were diagnosed with cancer in the United States. This is around 6 times the number of cases diagnosed in younger ages such as children between 0-14 (Mbuh & Kahugu, 2015). In Germany, there are 15,000 patients aged 15-39 years old who are diagnosed with cancer each year. These constitute about 3% of the diagnosed cancer cases there (Richter et al., 2015).

Cancer type defines survival which means that the survival rate can be lower among younger or older cancer patients such as in the case of acute lymphoblastic leukemia or non-Hodgkin lymphoma. The site of cancer has a higher occurrence during older adulthood that increased incidence of types of cancer among them (2010, Germany; source: RKI (Richter et al., 2015). It has been shown in Jordan that the incidence of cancer among adolescents is 159 new cases per 100,000, where 15% of them die within one year of diagnosis (Al Jadili & Thabet, 2017).

Cancer Types in AYAs

The incidence of cancer types differs among AYAs. It has been stated that "the most common cancers in AYAs are lymphoma, leukemia, germ cell tumors (including testicular cancer), melanoma, central nervous system tumors, sarcomas (bone and soft tissue), breast, cervical, thyroid and colorectal cancers" ("AYA", 2018). The incidence of specific cancer types also varies considerably across the AYA range. For example, leukemia, lymphoma, thyroid cancer, and testicular cancer (germ cell tumors) are the most common cancer types among younger AYAs aged between 15 to 24 years old. While breast cancer and melanoma comprise a growing share of cancers among AYAs aged between 25 to 39 years old (Mbuh & Kahugu, 2015). In the West Bank of Palestine, the cancer types reported in 2017 among those who age from 15 to 39 years old were; 41 new cancer cases of leukaemia, 39 cases of non-Hodgkin's lymphoma, 55 cases of Hodgkin's disease, 20 cases of colon, 16 cases of bone, 5 cases of stomach, 23 cases of brain and nervous system, 49 cases of thyroid, 68 cases of breast, and 10 cases of lung cancer (MOH, 2018).

Stress and Psychosocial Aspects of AYAs Lives

Adolescence and young adulthood are periods characterized by complex physical and psychological development as well as substantial lifestyle changes. In many developed countries, adolescents leave their home for school or work and start becoming more independent from their parents. This is where young adults appear to focus on completing their education, pursuing employment, getting married, and having children (Kirchhoff et al., 2014).

When diagnosed with cancer, adolescents and young adults lives are often disrupted (Nass et al., 2015). A cancer diagnosis often means that daily life including school or work is disrupted in addition to isolation from peers and family (Richter et al., 2015). There are different sorts of feelings including anger, depression, hopelessness, and helplessness that cancer patients are exposed to and that require significant adjustments. Yet, there are many coping strategies that could help them deal with their life-threatening situation (Livneh, 2000).

Stress is always mentioned when exploring cancer responses (Greeff & Theil, 2012). When facing this experience for the first time, they are confronted with challenges stemming from their development currently taking place and a fatal illness, diagnosed adolescents and young adults are at risk of distress (Kwak et al., 2012). Additionally, as a result of the cancer treatment, AYAs experience disruptions in psychological and social maturation, diminished autonomy in relationships with their parents, stifled educational attainment and employment, concerns related to sexuality and fertility, social isolation, and physical changes (Kwak et al., 2012). Furthermore, adolescents and individuals in their 20s will suffer from this dilemma more than younger or older patients will, especially while coping with treatment that may leave them with hair loss, increase in weight, acne or growth issues as they already experience self-consciousness in relation to bodily changes and body image (National Institutes of Health, 2006). Hence, good support, sufficient coping strategies, and increased sensitivity by others are required to help in coping with developmental changes tasks alongside the experience of a cancer diagnosis and treatment (Richter et al., 2015). As coping played an important role in eliminating emotional distress relevant to fear of death, pain, or defacement, effective coping strategies could also eliminate stress (Su-kerb, 2014).

Coping Processes

It is typical for people to spend more effort in trying to comprehend their problem as they appraise the nature of the stressor when confronted with a cancer diagnosis. This is when cognitive processes such as; threat, actual harm, or loss, and whether they have the capabilities or resources to cope with it (Hoffman et al., 2013). The appraisal and personal factors are used to choose the strategy to cope with forming the individual’s available coping resources (HanevoldBjørkløf, 2017). During the mediation process, that a person makes in the appraisal process of the stressor combined with the psychological, social and cultural resources available. Therefore, he or she suffers from stressful experiences in a person’s environment. As a person who is confronted with a stressor evaluates it using two types of appraisals. A primary appraisal happens when evaluating potential threats or harms and a secondary appraisal depends on the power to change the present status and deal with unfavorable emotional reactions (Hoffman et al., 2013).

The coping efforts that are targeted to manage the problem and emotional adjustment make up the results of the coping process; such as the psychological health, functional status, and adherence. There are two issues that the appraisal process involves. One is about the success of the treatment sought information about that treatment. The second is related to the financial capabilities, social support and the ease of access to treatment that can affect the assessment of the appraisal and their availability and adequacy to meet the threat. In some instances treatment supersedes available resources as it may require repeated appointments in clinics, sufferings from pain, change of personal appearance or loss of functions, moving to distant places. Should the patient be without any relatives or spouse to assist problems will be greater. Furthermore, problems may arise at the post-treatment stages such as the effect on valued goals when having a biological child, role in life, and basic self-esteem. This type of appraisal is often referred to as meaning-making (Hoffman et al., 2013).

Coping is a process, not a habit. Generally, persons change in their strategies based on the appraisals of the situations, as illustrated in the dual process model of coping. Persons are, however, found to have different coping styles or individual profiles of preferred copings strategies (HanevoldBjørkløf, 2017).

Coping Strategies

Different people react in diverse ways to perceptions of threat and harm, and many view the label “coping” in a broad way (Foster, 2014). Coping was defined by Lazarus and Folkman (1984) as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands of situations considered stressful" (Su-kerb, 2014, p.23). Coping strategies are utilized to reduce stress (Frank, 2014). In order to handle challenges, several attempts would be made to measure the various strategies i.e., coping strategies (Kvillemo et al., 2017).

In another definition, coping strategies refer to " the thoughts and actions people use to manage the experience of stress, manage the problem causing the perceived stress, and sustain positive well-being" (Kvillemo et al., 2017, p.3). The way in which individuals adapt, manage, and/or resolve their stress depends on one’s cultural factors and may differ accordingly (Frank, 2014). There are two distinct strategies that involve different approaches. The first one is aimed at altering the stressful situation and is called “problem-focused coping strategies”. The other strategy utilizes some extra power to adjust the emotional distress linked to the situation and is called “emotion-focused coping strategies” (HanevoldBjørkløf, 2017). Beside those major coping styles, there are even more specific coping strategies available. A variety of possible coping behaviors are commonly understood such as; use of instrumental social support, use of emotional social support, positive reinterpretation and growth, behavioral disengagement, venting, religion, humor, behavioral disengagement, active coping, denial, planning, suppression of competing activities, use of emotional social support, substance use, and acceptance coping (Anderson, 2014).

It is important to note that the patient seldom uses one and only coping strategy as coping includes several ones (Foster, 2014). While an individual may engage in one coping process, both processes of problem-focused and emotion-focused are used interchangeably due to the dynamic nature of coping (Anderson, 2014).

Coping Strategies Forms

Religious and Spiritual Coping

Religious coping is one strategy used to cope with stress. This means that the person will develop behavioral and/or doctrinal methods stemming from his/her particular belief used as methods to cope (Frank, 2014). The reference to religion in literature is “religiosity”, and it is defined as "both formal, institutional beliefs and set of values, or informal acts and behaviors of religious participation such as prayers, religious service attendance, and meditation" (Frank, 2014, p.3). Spirituality is related to the person's emotional expressions and could be estimated by measuring the person's spiritual connectedness, peace and spiritual status (Frank, 2014).

It is difficult to define "spirituality" and "religion" in practical terms since either term are often used differently depending on different situations (Saarelainen, 2016). Consequently, it is appropriate to suggest that a full study must be conducted on both terms in order to find out their impact on one's life. In spite of the challenges that a person would face in finding a single definition, both will ultimately affect the lives of many people where this includes growing adults and must be further investigated (Frank, 2014). Generally, exposes itself in specific situations. Therefore, Hence, coping method using religious beliefs would affect our understanding of it and the relationship with health and well-being, particularly with patients with critical problems (Pargament et al., 2011).

The most frequently coping response to cancer as a coping strategy is performing "religious activities" (Trevino et al., 2012). The very high rate is seen among patients that of religious coping origins as compared to people with other serious illnesses (Al Jadili & Thabet, 2017). As for AYAs, God and faith became an important part of coping with cancer, and many started retrieving the earlier belief methods. Religiosity and spirituality appear to have a positive impact on the health-related behavior of young patients (Saarelainen, 2017).

In the West Bank and Gaza Strip, Islam and Christianity are the primary religions. Community members have faith in Allah (God) and this is reflected in how they perceive illness. Hence, religion has a great effect on cancer patients as they believe that a person is rewarded in this life and the after life for his/her tolerance of the pain and disease (Kharroubi & Abu Seir, 2016). In the context of the Gaza Strip, for example, Shamallkh (2014) found that the major way to get rid of the depression and accept cancer diagnosis is by the patient's faith in Allah. Participants with cancer tried to be patient in order to be deserving of Allah's forgiveness (Shamallkh, 2014). Saarelainen (2017) also suggests that religiosity and spirituality they have a positive impact on health-related behaviors. Saarelainen (2017) adds that God and faith became an important part of coping with cancer among AYAs as a large number of them reaffirmed their doctrine. Young people reported that their faith strengthened and alleviated their loneliness and fear. While cancer improved their lives in terms of attitude, behavior, relationships, and reduced risky behavior, AYA survivors still perceive that cancer happened for a reason. Some believe that cancer was written for them by God (Saarelainen, 2017).

Similar to spiritual support and religious reframing, religious coping can be viewed positively or negatively. For example, some will view the illness as a punishment from God. Yet, people with religious backgrounds and professions who have organizational involvement with religious salience and intrinsic religious motivation appeared to have less risk for depressive symptoms and disorders (Saarelainen, 2017).

Reinforcing the effect of spiritual behaviors, Frank (2014) reported that the seen adults showed greater use of spiritual behaviors as they use prayers for self and others, acknowledging blessings, and avoiding sins. Moreover, Frank (2014) illustrated that those emerging adults highly endorsed the practices of religious coping such as asking for God's love and care and seeking forgiveness. Taleghani, et al. (2006) found that among Asian American women experiencing breast cancer, spiritual beliefs helped them cope.

The data collected on Palestinian cancer patients found by Khleif and Imam (2013) suggest that the faith and religious beliefs (spirituality) of patients were evident in supporting and providing them with strength and power to confront such diseases.

Seeking Social Support Coping

Problem-focused coping also includes seeking social support (Carver et al., 1989, p.269). There are several ways to provide social support through helping others and caring for them. This may require adequate differentiation among subcategories, including cognitive, religious and emotional support (Namkoong et al., 2013). There are two reasons as to why people go after social support, however, they deviate from each other when it comes to implying problem focus. The first reason for seeking social support is instrumental in the form of seeking advice, assistance, or information, which is classified as problem-focused coping. The second reason is emotional in the form of receiving moral support, sympathy, or understanding, which is considered as emotion-focused coping. Those two social support functions are conceptually distinct from one another. In practice, however, they often co-occur (Carver et al., 1989). It is evident that emotional support is considered particularly significant for cancer patients due to its effect in facilitating coping with stressors and help the sustainability of well-being (Namkoong et al., 2013).

Adolescent and Young Adult with Cancer Healthcare Needs

Great efforts are made to reduce the high level of distress among young people diagnosed with cancer (McDonald & Patterson, 2015). A specific model of care must be adopted to help adolescents when facing the unique situation of being an adolescent or young adult with a cancer diagnosis. This is because of the difference in cancer experience between AYA cancer patients and children or older adults. Due to the rarity of cancer disease among AYAs, most oncology health professionals are not familiar with caring for them (Quinn, 2012). In addition, professionals acknowledge that AYAs cancer patients are a unique group and have different needs from cancer patients of other age groups (Quinn, 2012). After AYAs diagnosis of cancer, inconsistencies arise in the treatment approach where they are either treated by an adult or pediatric oncologists or radiation, a surgical or gynecological oncologist. AYAs feel isolated and that their physical, psychological and emotional needs are being neglected when they treated in pediatric or adult units (Quinn, 2012). While providing cancer treatment, there are a variety of distinct health care needs that must be understood and addressed for AYAs (AYAOPRG, 2006). The requests of AYA cancer patients are dynamic and include physical, mental, social, and educational needs.

Furthermore, AYAs have particular needs that are being neglected. Those most referred to are psychosocial and information needs. For example, bolster from family and companions, mental advising, accepting age-suitable data from services and internet websites, and meeting associates and cancer survivors (Zebrack & Isaacson, 2012). Cancer patients have a variety of needs. Many of them need help coping with emotions associated with illness and treatment while many others need help in managing their illness. Moreover, material and logistical resources (i.e., transportation) and managing disruptions in work, school, and family life are important factors in providing assistance for them (Su-kerb, 2014).

AYAs have different requests for information as well as considerable capacities to deal with the information related to their illness and how to deal with it compared to younger children (McDonald & Patterson, 2015). As those needs are often overlooked, AYAs are left worried about acquiring information about cancer, as to what treatment is required and how it is implemented, peer relationships and psychological support, in addition to extra related general information (Quinn, 2012). In that regard, there are many defiance issues that the AYA patients and survivors that they may go through to remain active and independent, cope with the difficulties associated with treatment, manage stress, collect information, and sustain the situation. It is the lack of necessary experience that leaves AYA cancer patients confused or feeling incompetent to effectively cope with challenges (Zebrack & Isaacson, 2012).

Previous Studies Review

Because **coping** differs according to the individual, environment, and context (Anderson, 2014), the next sub-section will review how coping has been studied in the context of cancer.

International Studies

Trevino et al. (2012) conducted structured clinical interviews to study coping strategies and the relationship between coping and psychological distress in YAs with advanced cancer using the Brief Cope scale. The YAs investigated were between the ages of 20 and 40 years old, were (66%) were females, with a mean age of 33.89 years (M=33.89, SD=5.7). Trevino et al.’s results showed that "acceptance coping" followed by "support seeking" and "proactive coping" were most frequently used. The least used strategies were "negative expression" and "respite-seeking". The authors hypothesized that the high frequency of reported use of "proactive coping" indicated that YAs often attempted to directly intervene on cancer-related stressors. The distancing factor indicated a potentially contradictory response by which YAs attempt to avoid confronting the cancer experience. The author suggested that the emergence of these coping responses as unique factors showed that YAs are able to actively cope but may also need a reprieve from cancer.

In order to explore the correlation between coping strategies and health-related quality of life among Korean adolescent and young adult cancer survivors, Min Ah & Jaehee (2017) conducted a cross-sectional study where 218 respondents aged 15-39 years were examined using the Brief Cope scale and the Medical Outcomes Study Short-form- 8. The study revealed that the most frequently reported coping strategy was self-distraction (97.2%), followed by positive reframing (95.9%), and finally active coping (95.9%).

Kaal et al. (2017) conducted a study to evaluate the empowerment of AYAs aged 18-35 years old with cancer who had been seen by at least one of the members of the AYA team of the Radboud University Medical Center in the Netherlands were invited to participate in the current study. The mean age was 27 years old and the vast majority treated with chemotherapy (86%). The study sample consisted of 83 cancer patients, 43 male (52%) and 40 females (48%). The results revealed that males used more effective "problem-focused or instrumental" methods to handle stressful experiences compared to females who attempted to use less effective "emotion-focused coping" strategies to handle their stressful situations. The research suggested that females need additional support similar to males. The research also shed light on the necessary provision of support for AYA cancer patients as they are unable to develop skills that can assist them in coping with new and challenging situations.

A participatory study (qualitative incorporated grounded theory) was conducted by Lam et al. (2013) to explore the interest of adolescent cancer patients to engage in the study and their perceived coping needs. The adolescents investigated were between the age of 13 and 19 years old. The study concluded that there are potential key coping needs with adolescents aged 13–19 years. The themes that generated were; treatment for cancer that helps adjustments related to physical and social participation, social perceptions, physical effects, and health-related communication needs.

Furthermore, quantitative and qualitative approaches were conducted by Drageset (2012) to describe coping, psychological distress, and social support among women with breast cancer in the diagnostic and preoperative phases. In-depth semi-structured interviews with 21 women with breast cancer were conducted for the qualitative part of the study and surveys were distributed to 117 women for the quantitative part. Findings from the quantitative part revealed that the women with breast cancer had a high score on “instrumental-oriented coping” followed by “emotion-focused coping”. Through qualitative data analysis, themes within coping were generated including pushing away, business as usual, enjoying life, dealing with emotions, preparing for the worst, and positive focus.

A randomized trial of early palliative care was conducted by Nipp et al. (2016) to investigate how patients with incurable cancer cope with their illness. Three hundred and fifty patients who aged 18 years and above (mean age, 64.9 years) with incurable cancer were assessed using the Functional Assessment of Cancer Therapy-General, Hospital Anxiety and Depression Scale, and Brief COPE. The results demonstrated that emotional support (77.0%), positive reframing (49.1%) active (48.5%), and acceptance (44.8%), and self-blame coping were most frequently used by patients with incurable cancer. On the other hand, behavioral disengagement, self-blame, and denial were the least used strategies to cope with incurable cancer. Results indicated that patients with a lung cancer diagnosis were expected to report high use of self-blame, which confirms literature suggesting that these patients experience more guilt and shame related to their cancer diagnosis.

A cross-sectional survey by Acquati (2016) was conducted in the United States to examine the differential impact of the illness; mutuality, dyadic coping, and quality of life on 86 breast cancer patients (younger dyads), by comparing them to their partners (a group of older couples). Eighty-six dyads of breast cancer patients (M=48.2, SD=9.83) and their partners were examined using the Dyadic Coping questionnaire. Results demonstrated that the younger partners the more they experienced higher maladaptive dyadic coping. In addition, the results revealed that younger partners experienced higher interdependence in the relationship in younger couples.

Namkoong et al. (2013) conducted a randomized clinical trial to illustrate how computer-mediated social support CMSS group participation improved 237 breast cancer patients positive coping strategies. From their results, researchers showed that CMSS group participation was positively associated with perceived bonding. In addition, those findings uphold the notion that emotional support is critical to social support. An emotional support facilitates the coping mechanisms with stressors and improves overall well-being.

A narrative method conducted by Saarelainen (2016) to describe using of religion in the coping process among Finnish Lutheran young adults with cancer. This study sample including 16 young adults with cancer, who were aged between 18 and 35 years old as defined by the Finnish Cancer Society for young cancer patients. The researcher found that the coping process was linked to religion, spirituality, and personal worldview.

Regional Studies

A cross-sectional study was conducted in Egypt by Elsheshtawy et al. (2014) to determine the different coping strategies among 56 females with breast cancer (M= 52 ± SD=13.3 years) using the Brief COPE scale. The study also estimated the presence of anxiety and depression by using Hospital anxiety and depression scales (HADS). Results of this study revealed that the most commonly used coping strategies were religion, acceptance, and emotional support followed by self-distraction. The lowest scores were on substance use, behavioral disengagement, and self-blame.

Furthermore, a qualitative study conducted by Al-Azri et al. (2013) interviewed 19 Adult women aged 18 years old and above through semi-structured interviews. The purpose of this study was to identify coping strategies experienced by Omani women after a breast cancer diagnosis. The findings of the study included the use of coping strategies such as; denial, optimism, withdrawal, Islamic beliefs and practices, and the support of family members and health-care providers. The results also found that Islamic beliefs and practices were the most common coping related strategies.

In Iran, Ahadi et al. (2014) conducted a causative-comparative study to compare differences in coping styles between cancer patients and healthy people. Coping styles were examined using the Coping Strategies Questionnaire (CSQ). The sample population consisted of all patients who were referred to Laleh Hospital and the Breast Cancer Research Center. Eighty patients were selected using the convenience sampling method. Healthy participants were selected using the random method. Both groups were matched in age and education levels. The researchers demonstrated that cancer patients mostly used emotion-focused coping strategies as compared to the healthy group. They generally used the subscale of confronting coping, escape-avoidance, and seeking social support while they hardly use the subscales of self-controlling, accepting responsibility, playful problem solving and positive reappraisal.

An interpretive phenomenological analysis methodology was conducted by Al Omari et al. (2016) to examine the coping strategies used by hospitalized Jordanian adolescents with cancer receiving chemotherapy in Jordan. The authors conducted in-depth face-to-face interviews with 10 adolescent patients with cancer aged 13-18 years (5 males and 5 females). The study sample of participants of adolescent patients was diagnosed with leukemia, Hodgkin’s, and non-Hodgkin’s lymphoma. The findings related four major themes that described coping strategies used by the participants including “strengthening spiritual convictions, being optimistic and rebuilding hope, enhancing appearance, and finding self again. Al Omari et al. (2016) concluded that most participant patients confirmed that it strengthened their spiritual belief and relied on their religion as they made use of their Islamic rituals to confront and cope to live with cancer. Islamic rituals helped bring peace to their souls and gave them hope for the future. They also affirmed their belief that Allah always chooses what is best for his people. A female patient was not afraid of having cancer as saw it as a test from Allah.

Further, a descriptive qualitative study was conducted by Shosha (2016) to explore the impact of psychosocial support on Jordanian adolescents with cancer. The study including twenty participants (female=11 and male= 9), who were aged from 13 to 17 years old, the mean age of adolescents was 15.15 years. The author valued all psychosocial support done for them by their families and friends in order to enhance their coping with cancer. This helped in particular in a substantial requirement for adapting to stressful feelings.

Local Studies in Coping with Cancer

In order to assess anxiety and coping mechanisms, Shehadeh (2017) conducted a cross-sectional study of 214 women (who aged 18 years old and above) with breast cancer attending the Beit-Jala Governmental Hospital in West Bank. Coping mechanisms were examined using the Brief Cope scale. The study revealed that the most commonly used coping strategies were religion, use of emotional support, use of instrumental support, and self-distraction. This is in addition to active coping and acceptance, humor, and planning. Results showed that the lowest scores were for venting, denial, self-blame, behavioral disengagement and substance use. As a conclusion, Shehadeh (2017) recommended that support groups are necessary as they are considered a strong factor for adaptation to cancer.

Terzioğlu and Hammoudeh (2017) explored the illness narratives of women with breast cancer in Turkey and the occupied Palestinian territory (oPt). They underlined the similarities and differences in the ways in which patients make sense of their diagnosis and cope with treatment through two qualitative studies. The studies were conducted separately in Turkey and OPt. Between 2010 and 2012, 30 and 35 semi-structured interviews were conducted in Turkey and the oPt respectively. Findings showed that women participating in the Palestinian study included younger women than the participants in Turkey. Those Palestinian women with ages spanning from 25 to 71, and from 31 to 71 years of age in the Turkish study. In both settings, faith and spirituality were important ways that women used to draw meaning out of cancer, to understand what was happening to them, and accept their fate.

Hammoudeh et al. (2016) conducted a qualitative inductive approach to explore women’s experiences with breast cancer in the oPt. They found that both Christian and Muslim Palestinian women who were interviewed had faith that played a major role in their coping. They relied on God (tawakkul) which was important in terms of coping.

Summary

The present chapter offered a review of the literature related to cancer, and especially among adolescent and young adult. Also, the present chapter shed light on the coping process with a cancer diagnosis in general, and specifically among AYAs patients with cancer. Additionally, the chapter provides an examining the literature about, studies of coping among cancer patients, and among AYAs population. Furthermore, a summary of studies is shown in the table (Annex 15).

Chapter Three: Conceptual Framework

Conceptual Definitions

"A conceptual framework is described as a set of broad ideas and principles taken from relevant fields of inquiry and used to structure a subsequent presentation". It can be used effectively in research to help make sense of the study findings (Smyth, 2004, p.1).

Coping strategies do not stay the same across the stages of cancer diagnosis and treatment from the adjustment period where those strategies become ineffective, therefore, as time progresses, alternative coping strategies may be adopted (Drageset, 2012). The interactive theory of Lazarus of mental pressure and coping is widely accepted where it changed the way they are perceived. The theory does not consider coping with a fixed behavioral method. Alternatively, it considers it a way to create personal cognitions and behaviors as a reaction to situations causing stress. As a result, coping is considered "a dynamic trend varying by time and in response to objective demands and mental assessment of conditions" (Ahadi et al., 2014, p. 3468).

The conceptual framework of this study was designed to study factors that have an impact it on the coping strategies that used among AYAs cancer patients based on previous literature. A model based on the literature of coping with stress, particularly with respect to cancer, shows that patients coping strategies and its domains were directly affected by the socio-demographic characteristic, cancer-related factors, and setting-related factors, as shown in figure (3.1).

Conceptual Framework

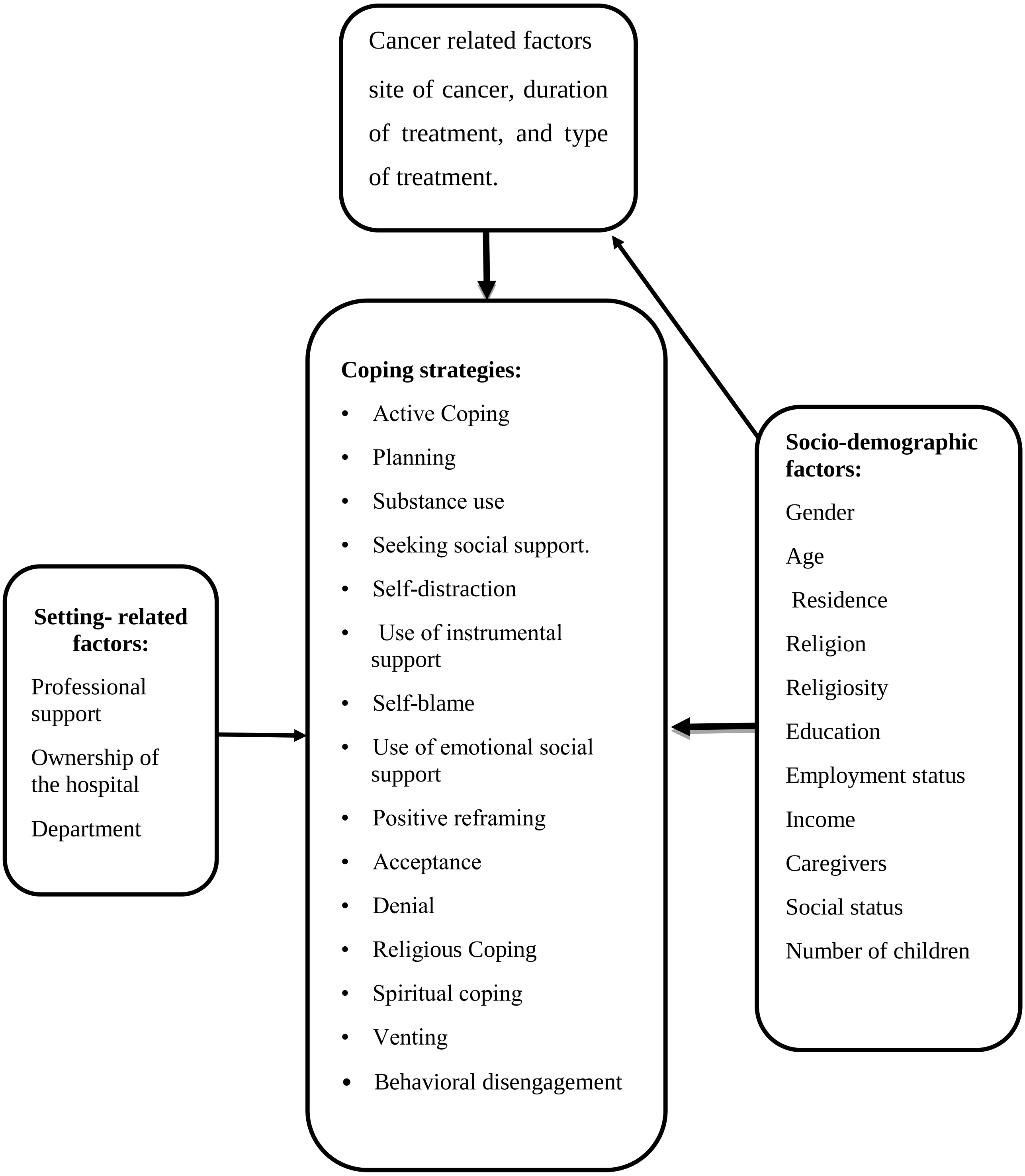

Figure (3.1): Conceptual framework of the study; factors affecting coping strategies.

Conceptual Definitions

AYAs Definition

Due to the different age ranges that have been used in published studies, it is difficult to define the AYA population in cancer care. In most clinical investigators and organizations such as the National Cancer Institute and the National Comprehensive Cancer Network (NCCN), the AYA population is considered to include individuals between the ages of 15 and 39 (M. Park & L. Rosenstein, 2015, Richter et al., 2015). Yet, inconsistencies still appear when defining the age range for AYAs. The current specific age range was selected based on exemplary issues and needs relevant to this group. It has been shown that, as opposed to younger and older cancer patients, AYAs have different biological, psychosocial and socio-behavioral characteristics (Richter et al., 2015). A common factor in the age range of 15-39 years, it was found that "since the entire age range continues to experience a relative lack of improvement in survival and because a chief concern of AYAs with cancer is the lack of a home in research and healthcare" (Hauck Perez, 2016, p.7).

Coping

Coping strategies are defined as "cognitive and behavioral efforts to master, reduce, or tolerate the internal and/ or external demands that are created by the stressful transaction" (HanevoldBjørkløf, 2017, p.32).

Coping Domains Definition

To appreciate the method or action adopted by cancer patients in their confrontation of the situation, the following are definitions of types of coping methods used by patients:

Active coping: defined as "taking action, exerting efforts, to remove or circumvent the stressor" (Donoghue, 2004, p. 40).

Planning: defined as "thinking about how to handle a stressor. It engages with the action strategies, thinking about what steps to get hold of and how best to cope with the problem" (Yusoff, Low & Yip, 2010, p. 41).

Substance use: defined as "turning to the use of alcohol or other drugs as a way of disengaging from the stressor" (Donoghue, 2004, p. 40).

Self-distraction: defined as "psychological disengagement from the goal that the stressor is interfering with, through daydreaming, sleep, or self-distraction" (Donoghue, 2004, p. 40).

Use of instrumental support: defined as "seeking assistance, information, or advice about what to do (Donoghue, 2004), and looking for advice, help or information on coping with cancer" (Yusoff, Low & Yip, 2010, p. 41).

Self-blame: defined as "the process by which individuals place blame either on themselves or outside resources" (Engelstatter, 2004, p. 10).

Use of emotional social support: defined as "getting sympathy or emotional support from someone" (Donoghue, 2004, p. 40).

Positive reframing: defined as "making the best of the situation by growing from it, or viewing it in a more favorable light" (Donoghue, 2004, p. 40).

Acceptance: defined as "accepting the fact that the stressful event has occurred and is real" (Donoghue, 2004, p. 40).

Denial: defined as an attempt to reject the reality of the stressful event" (Donoghue, 2004, p. 40).

Religious coping: defined as "an increased engagement in religious activities" (Donoghue, 2004, p. 40).

Spiritual coping: defined as "an express and/or seek meaning, meditation, and the way they connect to the moment, to self, to others, to nature, to the significant and/or the sacred" (King et al., 2013, p. 2506).

Venting: defined as "an increased awareness of one's emotional distress, and a tendency to ventilate or discharge those feelings" (Donoghue, 2004, p. 40).

Behavioral disengagement: defined as "giving up, or withdrawing effort from trying to attain the goal that the stressor is interfering with" (Donoghue, 2004, p. 40).

Humor: defined as "making jokes about the stressor" (Donoghue, 2004, p. 40).

Operational Definitions

Dependent Variables:

Brief COPE Scales distributed their order and appearance in the questionnaire ("The University of Miami, Psychology", 2018) and also added an extra scale, i.e. the last two items, for spiritual domain taken from SpREUK-P Questionnaire of Arabic version as follows:

Table (3.1): The major domain of coping strategies and the questions that assess each one.

Positive Reframing

Item 12. I've been trying to see it in a different light, to make it seem more positive.

Item 17. I've been looking for something good in what is happening.

Self-Distraction

Item 1. I've been turning to work or other activities to take my mind off things.

Item 19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.

Venting

Item 9. I've been saying things to let my unpleasant feelings escape.

Item 21. I've been expressing my negative feelings.

Use of Instrumental Support

Item 10. I’ve been getting help and advice from other people.

Item 23. I’ve been trying to get advice or help from other people about what to do.

Active Coping

Item 2. I've been concentrating my efforts on doing something about the situation I'm in.

Item 7. I've been taking action to try to make the situation better.

Denial

Item 3. I've been saying to myself “this isn't real.”

Item 8. I've been refusing to believe that it has happened.

Religion

Item 22. I've been trying to find comfort in my religion or spiritual beliefs.

Item 27. I've been praying or meditating.

Humor

Item 18. I've been making jokes about it.

Item 28. I've been making fun of the situation.

Behavioral Disengagement

Item 6. I've been giving up trying to deal with it.

Item 16. I've been giving up the attempt to cope.

Use of Emotional Social Support

Item 5. I've been getting emotional support from others.

Item 15. I've been getting comfort and understanding from someone.

Substance Use

Item 4. I've been using alcohol or other drugs (sedatives) to make myself feel better.

Item 11. I've been using alcohol or other drugs (sedatives) to help me get through it.

Acceptance

Item 20. I've been accepting the reality of the fact that it has happened.

Item 24. I've been learning to live with it.

Planning

Item 14. I've been trying to come up with a strategy about what to do.

Item 25. I've been thinking hard about what steps to take.

Self-blame

Item 13. I’ve been criticizing myself.

Item 26. I’ve been blaming myself for things that happened.

Spiritual Coping

Item 29. I try to get insight (also into myself).

Item 30. My thoughts are with those in need.

Independent Variables

Links between independent variables and coping strategies offer practical information as to how AYA patients are coping with cancer. The three groups of independent variables of the questionnaire are as follows:

Socio-demographic variables such as gender, age, marital status, number of children, education, income, employment status, residence, caregivers, religion, and religiosity.

Cancer-related factors such as the site of cancer, duration of treatment, and type of treatment.

Setting-related variables such as helath-care providers support, ownership of the hospital (governmental or private), and department of treatment (inpatient, outpatient).

The specific items in the questionnaire representing those three independent variables are:

Age: From 15-39; later in the analysis ages were categorized into three age groupings as early young adulthood (15–18 years old), young adulthood (19–29), and late young adulthood (30–39).

Gender: Male or Female.

Religion: Islam, Christian, or others.

Religiosity: Ranging on a scale from 1 to 5 (1 & 2= low, 3= moderate, 4 & 5= high).

Residence: A city, village, or camp.

Educational level: Illiterate, primary school, preparatory school, secondary school, or university.

Employment status: Unemployed, full-time work, part-time work, or working but on sick leave.

Ownership of the hospital: Governmental or nongovernmental (private).

Income: Less than 3000 NIS, from 3000 to 5000 NIS, or more than 5000 NIS.

Living condition: Living alone, living with family, or other.

Caregiver: the patient is self-dependent, family member taking care of the patient, a paid person takes care of the patient, charity institutions, or other.

Marital status: Married or single.

Married with Children: Yes or no.

A number of children, married: The sum of daughters and sons.

Place of treatment: the hospital which offering treatment is either Beit-Jala Hospital or Augusta Victoria Hospital.

Department of treatment: The ward; inpatient or outpatient.

The site of cancer: The organ from which cancer originated. Classified as, breast, lung, colon, lymphoma, Testis, Larynx, leukemia, brain & nervous system, thyroid & other endocrine glands, bone, multiple myeloma, thorax, sarcoma, cervical, or stomach.

Duration of treatment: Less than three months, from 3 months to 6 months, or more than 6 months.

Type of treatment: Treatment received after diagnosis, chemotherapy, radiation therapy, surgical therapy, or hormonal therapy.

Health-care providers support: Participants were asked "how often they have information about their cancer from health care providers (e.g., doctors, nurses, social workers)?", ranging from not at all (1) to completely supported (10). In the analysis, coding was as follows; (1, 2, 3 = Very low, 4, 5, 6, 7= Average, and 8, 9, 10= Very high). Patients who responded “completely supported” were coded as having support.

Chapter Four: Methodology

Introduction

This chapter presents and discusses the research design of this study followed by the population and sampling methodology, data collection criteria, and data analysis for both the quantitative and qualitative parts.

Research Design

The design of this study is based on triangulation including the data collected, analyzed, and discussed from both quantitative descriptive cross-sectional and qualitative in-depth interviews.

In cross-sectional studies, "all the measurements on each participant are carried out at a one-time point or over a short period" (Mann, 2003, p. 56). On the other hand, qualitative research' is "an umbrella term that encompasses a range of theoretical approaches and methods" (Povee & Roberts, 2013, p. 29). Qualitative methods in contrast to quantitative research, especially in the psychology field it can donate importance by providing in-depth contextualized understandings of individual actions and accounts of personal experience and meaning (Povee & Roberts, 2013). Because of the hand-in-hand nature of the positives and negatives of qualitative designs, a combination of both qualitative and quantitative approaches may provide the best and most thorough picture in understanding coping methods of cancer patients. Research shows that by combining the two methods, one can attain a deeper objective and understanding of the diverse areas in psycho-oncology (Chittem, 2014).

Population and Sampling Methodology

In Palestine, there is no accurate record keeping system for AYAs patients with cancer in the 15-39 age group. The only data available on the newly reported cancer cases in the West Bank is the data updated by the annual health report published by the Ministry of Health (MOH) of the Palestinian National Authority. In West Bank, a total of 396 cancer cases reported were found among who aged from 15 to 39 years old in 2014 (MOH, 2015). Based on the statistics of the MOH Annual Health Report of 2016, there were 396 reported cancer cases between 15-39 years of age in 2015 in West Bank (MOH, 2016). Yet, the exact number of AYAs patients with cancer who were treated in Beit-Jala hospital and Augusta Victoria hospital is not known. There is no registration form for this specific age group to facilitate reaching them. Due to this difficulty, we started collecting the data in August 2017 based on the available statistic of Palestinian Annual Health Report of 2015 (report on cases in 2016 were not available till August of the same year). As a result, the sample size for the quantitative part was calculated based on the assumption of the total new cases diagnosed with cancer in 2015 (total= 396) (MOH, 2016).

Sample

A convenient sample consisting of 196 patients with cancer aged from 15-39 were chosen to participate in the quantitative part of this study. This sample size was calculated to achieve statistical significance. (α) is present the significance level in which was set at 0.05 error margin, the confidence level was (95%), and with a response distribution 50% by using the online sample size calculator (Raosoft, 2016).

In this study, the sample size was estimated using the formula below:

$$x = Z(c/100)2r\ (100-r)$$

$$n = N\ x/\ ((N-1)\ E2 + x)$$

$$E = Sqrt[\ (N - n)x/n(N-1)$$

In which ;" N = population size; r = fraction of responses, and Z(c/100) = critical value for the confidence level c" (Raosoft, 2016).

Convenience sampling (also known as Haphazard Sampling or Accidental Sampling) is a type of non-probability or nonrandom sampling where members of the target population that meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate are included for the purpose of the study (Suri, 2011). This type of sampling facilitates and allows the researcher to obtain basic data in absence of formal statistics regarding the total population of patients with cancer in oncology departments at Beit-Jala Government Hospital and Augusta Victoria Hospital.

A purposive sample of 12 participants was chosen for the qualitative study after evaluation from both the researcher and the supervisor based on achieving data saturation. the decision of data-saturated by the researcher who found that the additional data of qualitative interviews do not generate new properties for the category of coping and not lead to developing a new emergent theme.

Purposeful sampling is a technique widely used in qualitative research for the identification and selection of information-rich cases using limited resources most effectively (Palinkas et al., 2015).

Selection Criteria

Inclusion Criteria

- A cancer patient diagnosed with cancer (any type, any stage) within the 15- 39 years age range.
- A cancer patient that is well oriented and has the ability to provide informed consent and understand Arabic.
- An Inpatient or outpatient attending and having records in any of two main hospitals for cancer treatment and control checkups, in Beit-Jala in Bethlehem and Augusta Victoria Hospital (AVH) in Jerusalem.

Exclusion Criteria

- Any patient from Gaza.
- Any patient with mental incompetence, which may prevent him/her from being giving informed consent and answering the questionnaire.

Study Setting

This study was conducted in two different healthcare settings that offer oncology services in Palestine. The healthcare settings included a governmental hospital which is Beit-Jala hospital in Bethlehem governorate in the southern region and a non-governmental hospital which is Augusta Victoria Hospital (AVH) in Jerusalem in the middle region of the West Bank (WB). Both settings were chosen based on their capacity to treat cancer patients from the West Bank. Beit-Jala Hospital provides the care for those patients from Bethlehem, Hebron, Jericho, and Ramallah. Augusta Victoria Hospital (AVH) offer their oncology treatment and services to all patients from the West Bank.

Beit-Jala Hospital

Beit-Jala Hospital is the main governmental center for cancer treatment in Palestine. The hospital has two oncology departments that specialize in cancer treatment. One of the departments is for adults while the other is for pediatrics. In addition to the adult department, the hospital has 24 beds without isolation rooms. The department of oncology also has four doctors specializing in oncology, two residents, a hematologist specialist, and 17 nurses. The treatment available includes both chemotherapy and surgical therapy. Patients needing radiation therapy are referred to Augusta Victoria, Al-Hussein center in Jordan, or to hospitals in Israel. The hospital cancer diagnosis is facilitated by mammography and CT scans. Finally, the hospital includes a pathology department (Kharroubi & Abu Seir, 2016).

Augusta Victoria Hospital (AVH)

The hospital includes medical oncology, radiation oncology, and surgical oncology units for both pediatrics and adults. AVH performs more than 25,000 sessions of radiation oncology and at least 15,000 sessions for chemotherapy each year. AVH also has 6 pediatric and 18 adult ambulatories. The pediatric ambulatories contain 12 beds. The adult ambulatories include 16 beds for solid tumors and 12 beds for liquid tumors. In addition, four isolation rooms are available for BMT as well as CT scan to detect cancer. Augusta Victoria Hospital is the first and only Palestinian hospital to provide radiation therapy for West Bank and Gaza cancer patients through the purchase of two medical linear accelerators (Kharroubi & Abu Seir, 2016).

Permission and Ethical Considerations:

The Research Ethics Committee in accordance with the research ethics guidelines at Al- Quds University reviewed and approved this research study. The research proposal was also approved by the School of Public Health at Al- Quds University (Annex 10). Both the Ministry of Palestinian Health MOH and Augusta Victoria hospital were contacted through an introductory letter including the study title and followed up with through a study protocol asking for permission to carry data collection. A letter of approval to conduct the study was obtained from the Ministry of Palestinian Health MOH (Annex 11) as well as Augusta Victoria hospital (Annex 12).

At the time of data collection, all AYA patients with cancer were invited to take part in the study after understanding the nature of the study and signing an informed consent for both the quantitative (Annex 8) and qualitative (Annex 9) parts. Privacy and confidentiality were assured to participants while explaining that quantitative and qualitative data will be kept strictly confidential. For qualitative interviews, patients were asked for permission to audio-record. Participants were also informed that they have the choice to end the interview at any time. Written consent was obtained from either parent of adolescents aged less than 18 years old.

A permission to use Brief COPE scale was approved by the author (Carver, 1997) who developed it. The scale was attached for free using at Miami University site (http://local.psy.miami.edu/faculty/ccarver/sclBrCOPE.html). For using the SpREUK-P Arabic version questionnaire, we had contacted the author who developed it by email. So, the approval to use the SpREUK-P (Annex 13) was granted from the author.

Assessment Tools

For the qualitative part of the study, a tool consisting of a list of questions regarding coping strategies used among AYAs patients, their experiences after a cancer diagnosis, and their health needs were used. A structured interview guide was developed for the study after reviewing the literature from previous studies related to the coping of cancer patients. The list of questions was prepared by the researcher, approved by the supervisor of the thesis, and four experts (Annex 14) were involved in validating the questions.

The interview was guided using the following questions (Annex 7 in Arabic):

a. Could you tell me what you did when you found out that you have cancer and your reaction to a cancer diagnosis?
b. How have you adapted and coped with cancer?
c. In your opinion, what are the ways to improve healthcare for cancer patients and help them better cope with the disease?

In addition to the above questions, the interviewer used probes such as “Tell me more about that. . .”, and “Please tell me what you mean by saying. . .” were used to encourage the participants to give more explanation.

In the quantitative part of the study, a self-administered questionnaire was used to achieve the purpose of this study. It includes two sections as follows:

The first section of the questionnaire contains demographic data (Annex 3) used for the purpose of the study and includes the variables; gender, age, employment status, social status, education, income, house ownership, residence, caregivers, religion, religiosity, health-care providers support, ownership of the hospital, department of care, cancer site, and duration of treatment.

The second section includes questions related to coping strategies from:

Brief COPE (Carver, 1997):

The Brief COPE scale was used in this study to measure the various coping strategies used by participants. Brief COPE considers as one of the most frequently used scales to assess coping of cancer patients (Hagan et al., 2017). The Brief COPE (Annex 5) is an abbreviated version of the full COPE, which contains 60-items (with some redundancy) making up 14 subscales. In order to identify the individuals' responding to stress, the Brief COPE of the 28-item self-report instrument, in which comprised of 14 subscales (two items for each scale), is used (Carver, 1997).

Specific to the cancer illness experience, individuals indicate the degree to which they use each coping strategy on a four-point Likert scale, (1 = I haven't been doing this at all; 2 = I've been doing this a little bit; 3 = I've been doing this a medium amount; 4 = I've been doing this a lot) for each individual item on the 14 subscales of the Brief COPE. The subscales represent different strategies including self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, and self-blame. Those were typically used by individuals to cope in various situations (Elsheshtawy et al., 2014).

SpREUK-P

The SpREUK-P, Spiritual and Religious Attitudes in Dealing with Illness, was also used. Two items of the Arabic version of SpREUK-P (Annex 13) for the spiritual factor were included in the questionnaire (P11 and P24). The two items related to the extent of spiritual coping were: p 29 “I try to get insight (also into myself)”. For the second item, the question was: p30 “My thoughts are with those in need”. For both items, respondents indicated whether they have used the spiritual coping strategy on a four-point Likert scale as Brief Cope. Finally, for the purpose of this study, 28 items of the brief cope and 2 items of SpREUK-P, were used. The addition was done after reviewing findings from previous local studies related to coping mechanisms (e.g Terzioğlu & Hammoudeh, 2017; Shamallkh, 2014; Hammoudeh et al. 2016; Khleif & Imam, 2013). The studies showed that spirituality played a fundamental role in coping with cancer among patients.

Pilot Study

A pilot study was conducted to assess the feasibility of the study and to validate the research tools and questions. Additionally, the pilot study was used to test whether the questionnaire was comprehensible and appropriate. It also tested to check if the questions were well- defined, clearly understood, and presented in a consistent manner in according to Palestinian Arabic dialect. Piloting was done before the study among five patients from Gaza who were attending Augusta Victoria hospital for treatment.

A pilot interview was conducted with one cancer patient to check for his understanding of the study questions. The data gained from the pilot interviews were not included in the final analysis. After the pilot phase, some modifications on the translation were conducted such of the statement translation: "I've been using alcohol or other drugs to make myself feel better" to "I've been using alcohol or other drugs (sedatives) to make myself feel better".

Validity and Reliability of the Questionnaire

Four Ph.D. experts from the public health and mental health fields were asked to verify the content validity of the questionnaire. Three of them were from Al- Quds University. One was an expert in research methodology and design, the other was an expert in mental and social health, a Ph.D. student with experience in research methodology and design for cancer patients and another a specialist doctor in oncology with particular experience in research methodology (Annex 14). Their comments and feedback were included in both the quantitative questionnaire and the qualitative study guide. The scale was translated into Arabic (Annex 4) by an expert and back-translated to English.

As shown in the table (4.1), the validity was assured by calculating the intraclass correlation coefficient of the questionnaire items with the total degree of the instrument of the study. The results revealed that a high statistical significance ($p<0.0001$, 2-tailed), a positive correlation appeared (that range from $r=0.02$ to $r=0.52$) in all items of scale. In addition, the results revealed that no statistical significance ($p<0.0001$, 2-tailed) in items of 6, 20, and 24. Therefore, the **behavioral disengagement** (I've been giving up the attempt to cope) item was not significantly correlated with the total degree of the tool ($r= 0.127$, $P <0.104$), although it was with the **acceptance** items; (I've been accepting the reality of the fact that it has happened) ($r = 0.016$, $P<0.842$), and (I've been learning to live with it) ($r =0.089$, $P <0.255$) respectively.

This nonsignificant correlation could probably be due to the different types of cancer among those patients or related to the treatment phase they were in. Or, due to that, we have some patients newly diagnosed with cancer and others (majority 50.9%) diagnosed more than six months. As a result, these groups might experience qualitatively different degrees of stress.

Table (4.1): The intraclass correlation coefficient of the scale items with the total degree for the tool.

#	Correlation	Person Correlation (r)	P value (2-tailed)
1.	**Self-distraction**/I've been turning to work or other activities to take my mind off things	0.28	<0.0001
2.	**Active coping**/ I've been concentrating my efforts on doing something about the situation I'm in	0.22	<0.005
3.	**Denial**/ I've been saying to myself 'this isn't real'	0.38	<0.0001
4.	**Substance use**/ I've been using alcohol or other drugs to make myself feel better	0.25	<0.001
5.	**Use of emotional support**/ I've been getting emotional support from others	0.35	<0.0001
6.	**Behavioral disengagement**/ I've been giving up the attempt to cope	0.13	<0.104
7.	**Active coping**/ I've been taking action to try to make the situation better	0.32	<0.0001
8.	**Denial**/ I've been refusing to believe that it has happened	0.43	<0.0001
9.	**Venting**/ I've been saying things to let my unpleasant feelings escape	0.52	<0.0001
10.	**Use of instrumental support**/ I’ve been getting help and advice from other people	0.39	<0.0001
11.	**Substance use**/ I've been using alcohol or other drugs to help me get through it	0.25	<0.001
12.	**Positive reframing**/ I've been trying to see it in a different light, to make it seem more positive	0.37	<0.0001
13.	**Self-blame**/ I’ve been criticizing myself	0.32	<0.0001
14.	**Planning**/ I've been trying to come up with a strategy about what to do	0.29	<0.0001
15.	**Use of emotional support**/ I've been getting comfort and	0.30	<0.0001

	understanding from someone		
16.	**Behavioral disengagement**/ I've been giving up the attempt to cope	0.26	<0.001
17.	**Positive reframing**/ I've been looking for something good in what is happening	0.33	<0.0001
18.	**Humor**/ I've been making jokes about it	0.29	<0.0001
19.	**Self-distraction**/ I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping	0.37	<0.0001
20.	**Acceptance**/ I've been accepting the reality of the fact that it has happened	0.02	<0.842
21.	**Venting**/ I've been expressing my negative feelings	0.28	<0.0001
22.	**Religion**/ I've been trying to find comfort in my religion or spiritual beliefs	0.29	<0.0001
23.	**Use of instrumental support**/ I've been trying to get advice or help from other people about what to do	0.39	<0.0001
24.	**Acceptance**/ I've been learning to live with it	0.09	<0.255
25.	**Planning**/ I've been thinking hard about what steps to take	0.35	<0.0001
26.	**Self-blame**/ I've been blaming myself for things that happened	0.33	<0.0001
27.	**Religion**/ I've been praying or meditating	0.20	<0.009
28.	**Humor**/ I've been making fun of the situation	0.19	<0.012
29.	**Spiritual coping**/ I meditate	0.37	<0.0001
30.	**Spiritual coping**/ My thoughts are with those in need	0.29	<0.0001

In the qualitative part, transcripts from qualitative interviews were labeled with the participant number and interview number ("1" for a first interview or "2" for the second interview). The data was repeatedly read from the interviews to identify categories and themes by the supervisor and the researcher to conduct the general content analysis. A rigorous and systematic reading and coding of the transcript were done by the researcher. The researcher and supervisor worked independently in analyzing the data.

Reliability

As LaMattina (2008) established that the Brief COPE had acceptable internal reliability with all alpha coefficients exceeding 0.50 and was most exceeding 0.60. Earlier, Carver (1997) had conducted a factor analysis of the Brief COPE and found that it is consistent with the full COPE. Additionally, Cronbach’s alpha was conducted to examine the internal consistency of the questionnaire using SPSS for this study.Cronbach’s alpha = 0.65 see table (4.2). This also conforms to the Carver (1997) who stated that Cronbach’s alpha of total scale of **28** items are considered suitable and have high reliability and that all of the items in the Brief COPE meet or exceed an alpha value of 0.50. For 30 items, Cronbach’s alpha of 0.65 considered acceptable as Carver (1997) stated that all reliabilities meet or exceed 0.50 value regarded as acceptable.

Table (4.2): Internal reliability of questionnaire (Cronbach Alpha test)

	No. of items	**Cronbach Alpha test**
Overall Reliability	**30**	**0.65**
Positive reframing	2	0.51
Self-distraction	2	0.45
Venting	2	0.44
Use Instrumental Support	2	0.49
Active Coping	2	0.53
Denial	2	0.58
Religion	2	0.68
Humor	2	0.32
Behavioral disengagement	2	0.71
Use of Emotional Support	2	0.76
Substance Use	2	0.79
Acceptance	2	0.45
Planning	2	0.73
Self-blame	2	0.35
Spiritual	2	0.33

Table (4.2) shows that some of the coping domains from the Brief COPE scale and SpREUK-P questionnaire indicated fair internal consistency. Domains such as positive reframing (0.51), self-distraction (0.45), venting (0.44), use of instrumental support (0.49), active coping (0.53), humor (0.32), acceptance (0.45), self-blame (0.35), and spiritual coping (0.33) showed poor internal consistencies values suggesting a poor agreement as when compared to religion (0.68), behavioral disengagement (0.71), use of emotional support (0.76), substance use (0.79), and planning (0.73) which showed excellent agreement. This could probably be due to the different types of cancer among those patients or related to the treatment phase they were in, which is consistent with previous studies (e.g. Yusoff, Low & Yip, 2010; Carver, 1997). Additionally, Hagan et al. 2017 assessed the internal consistency of 14 items of Brief COPE scale in which was ranged from alphas = 0.223 to alphas =0.814.

Data Collection:

In the qualitative part: qualitative data was collected through in-depth face-to-face interviews with 12 AYAs cancer patients who attended one of the two hospitals for treatment and control checkups. The researcher interviewed each participant individually in a private room where the patient could be comfortable to ensure privacy, confidentiality, and absence of distractions for the proper audio recording of the interviews. In cases where the parent accompanied the adolescent, the parent was asked to wait in the waiting area to ensure the privacy of the participant during the interview.

Qualitative data were collected by the researcher between August 2017 and April 2018. The 12 interviews lasted 15-20 minutes. The interviews were recorded using an audio recording device. The qualitative data collected were transcribed and stored on a computer locked with a password. Codes were assigned to each study participant to protect their privacy and to de-identify the data.

In **quantitative** the part: 165 participants completed a self-administered questionnaire during their visits to the daycare department or as they stayed as an inpatient in either of the hospitals. The data were collected between August 2017 and April 2018. Each participant was asked for willingness to participate and if was enrolled before in the study; this assured no repetition or duplication of cases.

Data Analysis

Qualitative Data Analysis

The qualitative data were analyzed using content analysis. Descriptive analysis of demographic data was conducted to generate summary information for each participant and describe the groups of participants.

Themes were categorized in sub-themes to develop meaning through similar patterns and commonalities by both the researcher and supervisor. The generated themes were distributed in a table containing the main theme, sub-themes, and quotations of AYAs participants' answers (Annex 2).

Quantitative Data Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS) 20th version. Data were checked for entry errors (clearance of data). Descriptive statistics such as the mean, standard deviation, and frequencies were calculated. Moreover, parametric statistics test such as ANOVA, T-test, and Pearson’s correlation were used to test correlations and relationships between socio-demographic variables, cancer-related factors, setting-related variables, and the domains of the coping scale.

Summary

This chapter described the methodology adopted by this research to achieve the proposed objectives; in which to define the coping strategies of adolescents and young adults (AYAs) cancer patients in Palestine. The research design adopted qualitative and quantitative approaches. In-depth interviews and a self-administered questionnaire were used in the data collection of the study. Qualitative data processing was manually performed through content analysis while SPSS was used to analyze quantitative data in accordance with scientific standards of research methodology. A scientific expert’s testing the reliability and validity of the study tool.

However, details of research design, sampling method, and procedure of data collection and techniques for data analysis of both quantitative and qualitative part were all presented in this chapter.

Chapter Five: Results

Introduction

This chapter consists of the results for both; the quantitative and qualitative parts. Details about the findings of the demographic characteristics of participants are presented for each part. The results of hypothesis testing are demonstrated. On the other hand, the results of in-depth interviews are presented.

The results include:

Part 1. Quantitative Results

Demographic Characteristics

This section presents the demographic data, the descriptive statistics of coping strategies, and the hypothesis testing of the quantitative part.

The required statistical processing of the data has been carried out by extracting the figures and the percentages. The hypotheses of the survey were examined at $\alpha \leq 0.05$ through the statistical analyses and tests; the Pearson correlation coefficient (*r.*), T-test, and One-way analysis of variance (ANOVA).

Socio-Demographic Data

The total number of respondents involved in the quantitative part of this study is 165 participants (Response rate = 84.18 %). Socio-demographic characteristics for the participants of this study are presented in a table (5.1).

The results in the table (5.1) shows that:

With regard to the socio-demographic characteristics of the respondents, the findings show that the number of females was more than males; (71.5%) of the participants are females and (28.5%) are males, the mean age of participants was (M=29.73, SD=6.94), and 57.6% of the majority of them aged between 30 to 39 years.

Of the total participants, the majority of the participants (50.9%) were living in cities. 33.9% of participants are single, and 66.1% are married, of which 93.6% have children. The average number of children is 3. The majority (98.8%) of the sample were Muslims. 49.7% described that they are moderately religious. The majority of participants, 46.1% had a university degree, 35.8% of participants had finished their secondary school.

Moreover, table (5.1) shows that the majority of participants, 66.7% were unemployed. According to the household income, the majority of respondents (52.7%) had an income of less than 3000 NIS, and 41.5% had income from 3000 to 5000 NIS. The Palestinians statistics showed that the average Household Expenditure in the West Bank (average household size 5.7 persons) in 2011 of 5398 NIS. The Palestinian statistics determined the relative poverty line and the deep poverty line according to consumption patterns (for the reference household consisted of the average household Palestinians) in the Palestinian Territory individuals of 2293 NIS, 1832 NIS respectively (PCBS, 2017).

The findings showed that (47.3%) were patients in a Beit-Jala governmental hospital, and 52.7% were in Augusta Victoria non-governmental hospital. With regard to the department of the treatment, 70.3% were in outpatient departments, and 29.7% were in-patient departments.

Table (5.1): Summary of Socio-Demographic Characteristics of Respondents.

Age (Mean ± SD)		
(mean ± SD)(29.73 ± 6.94 years)		
Age		
	Frequency	Valid Percent
15-18 years	**11**	**6.7**
19-29 years	**59**	**35.8**
30-39 years	**95**	**57.6**
Total	**165**	**100.0**
Gender		
	Frequency	Valid Percent
Male	**47**	**28.5**

Female	**118**	**71.5**
Total	**165**	**100.0**

Religion

	Frequency	Valid Percent
Muslim	**163**	**98.8**
Christian	**2**	**1.2**
Total	**165**	**100.0**

Place of residency

	Frequency	Valid Percent
Village	**70**	**42.4**
Camp	**11**	**6.7**
City	**84**	**50.9**
Total	**165**	**100.0**

Degree of religiosity

	Frequency	Valid Percent
Low	**10**	**6.1**
Moderate	**69**	**41.8**
High	**86**	**52.1**
Total	**165**	**100.0**

Education level

	Frequency	Valid Percent
Illiterate	**1**	**0.6**
Primary	**4**	**2.4**
Preparatory	**25**	**15.2**
Secondary	**59**	**35.8**
University	**76**	**46.1**
Total	**165**	**100.0**

Employment status

	Frequency	Valid Percent
Unemployed	**110**	**66.7**
Full-time	**18**	**10.9**
Part-time	**9**	**5.5**
On a sick leave	**28**	**17.0**
Total	**165**	**100.0**

Ownership of the hospital

	Frequency	Valid

Table (5.2): Significant results in patients coping strategies domains according to their socio-demographic characteristics (t-test & ANOVA).

		Coping strategies domains											
Name	**Categories**	**Positive reframing**	**Venting**	**Use of instrumental support**	**Active Coping**	**Denial**	**Religion**	**Humour**	**Behavioral disengagement**	**Emotional social support**	**Substance use**	**Acceptance**	**Spiritual coping**
		Mean (T/F) | P.value	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**
Age	15-18 years (n=11)	3.3 (3.2) | 0.042	2.5 (4.8) | 0.009										
	19-29 years (n=59)	3.5 (3.2) | 0.042	2.3 (4.8) | 0.009										
	30-39 years (n=95)	3.3 (3.2) | 0.042	2.8 (4.8) | 0.009										
Gender	Male (n=47)					2.2 (2.2) | 0.03	3.6 (-3.1) | 0.001	2 (2.2) | 0.03	1.3 (-2.1) | 0.04	3.4 (-3.1) | 0.001			3.1 (-2.9) | 0.001
	Female (n=118)					1.8 (2.2) | 0.03	3.8 (-3.1) | 0.001	1.7 (2.2) | 0.03	1.5 (-2.1) | 0.04	3.8 (-3.1) | 0.001			3.4 (-2.9) | 0.001
Degree of religiosity	Low (n=8)	2.7 (4.9) | 0.01		2.3 (4.3) | 0.01			3.0 (19.0) | 0.001					3.3 (6.7) | 0.001	
	Moderate (n=69)	3.4 (4.9) | 0.01		3.1 (4.3) | 0.01			3.7 (19.0) | 0.001					3.7 (6.7) | 0.001	
	High (n=86)	3.4 (4.9) | 0.01		3.1 (4.3) | 0.01			3.9 (19.0) | 0.001					3.9 (6.7) | 0.001	
Education level	Illiterate & Primary (n=5)												
	Preparatory (n=25)	3.0 (2.9) | 0.05											3.1 (4.6) | 0.01
	Secondary (n=59)	3.5 (2.9) | 0.05											3.5 (4.6) | 0.01
	University (n=76)	3.4 (2.9) |											3.2 (4.6)

		0.05											| 0.01
Living Condition	Living alone (n=10)			2.5 (-1.9) | 0.047	3.1 (-2.3) | 0.022					2.6 (-4.6) | 0.001			
	Living with family (n=155)			3 (-1.9) | 0.047	3.58 (-2.3) | 0.022					3.7 (-4.6) | 0.001			
Marital status	Married (n=109)						3.8 (2.2) | 0.028						
	Single (n=56)						3.6 (2.2) | 0.028						
Have children	Yes (n=102)	3.4 (2.4) | 0.016										3.8 (2.9) | 0.004	
	No (n=7)	2.8 (2.4) | 0.016										3.3 (2.9) | 0.004	
Self-care	Independent (n=81)				3.7 (2.2) | 0.028			1.6 (-2.4) | 0.017			1.5 (-2.1) | 0.041	3.8 (2.3) | 0.025	
	Dependent (n=84)				3.5 (2.2) | 0.028			1.9 (-2.4) | 0.017			1.9 (-2.1) | 0.041	3.7 (2.3) | 0.025	

Table (5.2) indicates that there were significant differences at the level ($p \leq 0.05$) between the mean of **venting** and **positive reframing** coping strategies attributed to the **age group** of the participants. The ANOVA test revealed significant results, therefore, a post-hoc test of Tukey's HSD was used to find out which specific group means are different. The test compares all possible pairs of means. The results of the Tukey's HSD test revealed that there are significant differences in using **venting** coping strategy between the age group (19-29) and (30-39) in **favor** of **late young adulthood age groups (30-39)** to use **venting** coping strategy. This indicates that the patients who are in the late young adulthood used venting frequently in contrast to those who are in aged (19-29) years. However, Tukey test shows that the differences in using **positive reframing** coping strategy were between the age group (19-29) and (30-39) in **favor** of **middle age group (19-29)** to use **positive reframing** with cancer. This means that the patients who are in the middle age group (19-29) used positive reframing frequently in contrast to those who are late young adulthood age groups (30-39).

Table (5.2) indicates that the T-test shows that there was a significant difference ($p \leq 0.05$) between means of **denial, religion, humor, behavioral disengagement, use of emotional support, and spiritual coping** attributed to the **gender** of the participants. The differences in **denial** and **humor** were in **favor** of the **males**, this means that males used denial and humor more frequently than females to cope with cancer. However, the differences in **religion, behavioral disengagement, the use of emotional support, and spiritual coping** were in **favor** of **females**. This means that **males** use **denial and humor** coping strategies to handle stressful experiences with cancer more than **female** who tend to use more **religion, behavioral disengagement, use of emotional support, and spiritual** coping strategies to handle stressful experiences with cancer.

Table (5.2) indicates that there was a significant difference ($p \leq 0.05$) between the means of **instrumental support, religion, acceptance, and positive reframing** attributed to the **degree of religiosity** of the participants. The results of the Tukey's HSD test revealed that there are significant differences in **instrumental support** were between the degree of religiosity of **low** and **moderate** in **favor** of **moderate religiosity** and between **low** and **high** in **favor high** religiosity degree to **use instrumental** support coping strategy. This indicates that the participants with a moderate and high degree of religiosity tend more to utilize instrumental support than who are low religious.

However, Tukey's HSD test shows that the differences in using **religion** as coping strategy were between the **low** and **moderate/low** and **high/ moderate** and **high degrees** of religiosity in **favor** of **high religiosity** to use **religion** in coping with cancer. This indicates that patients with a higher degree of religiosity frequently used religion. Moreover, Tukey's HSD test shows that the differences in **acceptance** were between the **low** and **moderate/ low** and **high** in **favor** of a **high** degree of religiosity to use **acceptance** as a coping strategy with cancer. This indicates that the patients with a higher degree of religiosity tend the more to use acceptance as a coping strategy with cancer. In addition, Tukey's HSD test shows that the differences in **positive reframing** between the **low** and **moderate** in **favor** of **high** degree of religiosity. This indicates that the patients with a moderate and high degree of religiosity tend more to use positive reframing as a coping strategy with cancer.

Table (5.2) indicates that there were significant differences at the level ($p \leq 0.05$) between the mean of **spiritual** and **positive reframing coping strategies** attributed to **educational levels** of the participants. The ANOVA test revealed significant results, therefore, a post-hoc test of Tukey's HSD was used to find out which specific group means are different. The test compares all possible pairs of means. The results of the Tukey's HSD test revealed that the differences in the coping processes of participants with **preparatory** and **secondary level / secondary school** and **university** education emerged. The results indicate that the patients with **secondary level** used **spiritual** and **positive reframing coping** strategies **more frequently** than other patients with different degrees.

Table (5.2) indicates that the T-test shows that there was a significant difference ($p \leq 0.05$) between those who are **living alone** and **living** with their **families** in **use of instrumental support, active coping, and use of emotional support coping strategies**. The differences in the use of **instrumental support** were in **favor** of who is **living alone**. However, the differences in **active coping** and **use of emotional support** were in **favor** of who are **living with family**. Those participants who are **living alone** used **instrumental support more** than those who are **living with their families** in contrast to those who are living **with their families** who used **emotional support** and **active coping**.

Table (5.2) indicates that the T-test shows that there was a significant difference ($p \leq 0.05$) between the means of **religion** attributed to the **marital status** of participants. The differences in **religion** were between **married** and **single** in **favor** of the **married** patients. Marital status was linked with the religion coping strategy used. Those categorized as **married** used **religion frequently** compared to those categorized as **single**.

The table (5.2) indicates that the T-test shows that there was a significant difference (p≤ 0.05) between the means of **acceptance and positive reframing** attributed to **having children for married participants.** The differences in **acceptance** and **positive reframing** were between having **children** and **not having children** in **favor** of the patients who **had children**. This indicates that those participants who are **having children** used **acceptance** and **positive reframing more** than those who are **not married**.

Table (5.2) indicates the T-test shows that there was a significant difference at (p≤ 0.05) between **self-care independent patients** and those who **their families taking care** of them in the coping domains; **active coping, substance use, humor,** and **acceptance.** The differences in **active coping** and **acceptance** were in **favor** of the **self-care independent** patients. This indicates that the **self-care independent** patients tend to **use active coping** and **acceptance** as coping strategies **more** than who are those who their **family takes care** of them.

Table (5.3): Significant results in patients coping strategies domains according to their setting-related variables (t-test & ANOVA).

		Coping strategies domains						
Name	**Categories**	**Self-distraction**	**Venting**	**Denial**	**Behavioral disengagement**	**Substance use**	**Acceptance**	**Self-blame**
		Mean (T/F) | P.value	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**	**Mean (T/F) | P.value**
Ownership of the hospital	Governmental (n=78)		2.45 (-2.2) | 0.03					
	Non-Governmental (n=87)		2.77 (-2.2) | 0.03					
Department of the treatment	Outpatient departments (n=116)	3.3 (2.0) | 0.05			1.4 (-2.6) | 0.01	1.6 (-2.0) | 0.05	3.8 (2.5) | 0.01	
	In-patient departments (n=49)	3.0 (2.0) | 0.05			1.7 (-2.6) | 0.01	1.9 (-2.0) | 0.05	3.6 (2.5) | 0.01	
Health-Care Providers Support	Very high (n=76)			*3.73(3.2) | 0.04*	*1.36(3.2) | 0.04*		*3.86 (3.4) | 0.04*	*1.45* (3.0) | 0.05
	Average (n=82)			*3.82 (3.2) | 0.04*	*1.5 (3.2) | 0.04*		*3.7 (3.4) | 0.04*	*1.6* (3.0) | 0.05
	Very low (n=7)			*3.57 (3.2) | 0.04*	*2.07 (3.2) | 0.04*		*3.4(3.4) | 0.04*	2.1 (3.0) | 0.05

Table (5.3) indicates that the T-test shows that there was a significant difference at ($p \leq 0.05$) between the means of **venting** attributed to **ownership of the hospital**. The differences in **venting** were in **favor** of patients who are attending the **non-governmental hospital**. This indicates that the patients who are attending a **non-governmental** hospital used **venting more** than patients who are attending the **governmental** hospital.

Table (5.3) indicates that the T-test shows that there was a significant difference at ($p \leq 0.05$) between **outpatient and inpatient departments** in means of **substance use, behavioral disengagement, self-distraction, and acceptance**. The differences in **substance use** and **behavioral disengagement** were in **favor** of the **inpatient**. This means that the **inpatients** tend to **use substance** use and **behavioral disengagement more** than the **outpatient** to cope with cancer. However, the differences in **self-distraction** and **acceptance** were in **favor** of **outpatient**. This means that the **outpatients** tend to use **self-distraction** and **acceptance more** than the **inpatient** to cope with cancer.

Table (5.3) indicates that there was a significant difference at ($p \leq 0.05$) between the means of **denial, behavioral disengagement, acceptance, and spiritual coping** attributed to **health-care providers support**. The results of the Tukey's HSD test revealed that there were significant differences in using denial**, behavioral disengagement, acceptance, and spiritual coping** between those who evaluated their satisfaction of professional support as **"very low", "average",** and **"very high".** The differences were in **favor** of; **average to use denial, very low** to use **behavioral disengagement**, **very high** to use **acceptance**, and **very high** to use **spiritual coping** as a coping strategy with cancer. The results indicate that those who had an **average** level of health-care providers support satisfaction used **denial more** than those who had a **very low** and **high** level of satisfaction. Those with **very low** levels of information satisfaction used **behavioral disengagement more** than those with **very** high and **average** levels of professional support. Those who had a **very** high level of information satisfaction used **acceptance** and **spirituality coping more** than those with very **low** and **average** levels of satisfaction.

Table (5.4): Significant results in patients coping strategies domains according to their cancer-related factors, (ANOVA).

		Coping strategies domains	
Name	**Categories**	**Positive reframing**	**Self-distraction**
		Mean (T/F) | P.value	**Mean (T/F) | P.value**
Site of Cancer	Colon (n=10)	2.6 (2.5) | 0.006	
	Thyroid & Other Endocrine Glands (n=4)	2.8 (2.5) | 0.006	
	Lymphoma (n=32)	3.2 (2.5) | 0.006	
	Leukaemia (n=20)	3.2 (2.5) | 0.006	
	Larynx (n=3)	3.3 (2.5) | 0.006	
	Lung (n=18)	3.4 (2.5) | 0.006	
	Breast (n=44)	3.5 (2.5) | 0.006	
	Sarcoma (n=6)	3.5 (2.5) | 0.006	
	Stomach (n=4)	3.6 (2.5) | 0.006	
	Brain & Nervous system (n=8)	3.7 (2.5) | 0.006	
	Bone (n=5)	3.9 (2.5) | 0.006	
	Cervical (n=6)	3.9 (2.5) | 0.006	
Duration of treatment	Less 3 months (n=43)		2.9 (3.6) | 0.03
	From 3 to 6 months (n=38)		3.3 (3.6) | 0.03
	More 6 months (n=84)		3.3 (3.6) | 0.03
Type of treatment	Chemotherapy and Radiation (n=6)		2.58 (1.94) | 0.05
	Radiation therapy (n=4)		2.63 (1.94) | 0.05
	Chemotherapy and Surgical (n=12)		2.75 (1.94) | 0.05
	Surgical therapy (n=7)		2.79 (1.94) | 0.05
	Chemotherapy (n=64)		3.13 (1.94) | 0.05
	Chemotherapy, Radiation and Hormonal therapy (n=21)		3.24 (1.94) | 0.05
	Radiation, Surgical, and Hormonal therapy (n=6)		3.42 (1.94) | 0.05
	Chemotherapy, Radiation, and Surgical (n=27)		3.48 (1.94) | 0.05
	Chemotherapy, Surgical, Radiation and Hormonal therapy (n=16)		3.53 (1.94) | 0.05
	Radiation and Surgical (n=2)		4.00 (1.94) | 0.05

Table (5.4) indicates that there was a significant difference at (p≤ 0.05) between the mean of **positive reframing** coping strategy attributed to the **sites of cancer**. Moreover, Tukey's HSD test revealed that the significant differences in **positive reframing** were between the different **sites of cancer** in **favor** of both **cervical** and **bone** followed respectively by brain and nervous system, stomach, sarcoma, breast, lung, larynx, leukemia, lymphoma, thyroid and other endocrine glands, and colon cancer to use **spiritual coping** strategy. This means that patients with **cervical** and **bone cancer** types tend to use **positive reframing** as coping strategy **more** than other patients who with other cancer types.

Table (5.4) indicates that the ANOVA test shows that there was a significant difference at (p≤ 0.05) between **self- distraction** attributed to the **duration of treatment**. The results of the Tukey's HSD test revealed that there are significant differences in **self-distraction** coping strategy were between the **less than 3 months** and **more 6 months** in **favor** of **more 6 months** to use **self- distraction** to cope with cancer. This indicates that the patients who diagnosed with cancer **more 6 months** used **self- distraction** more than the patients who diagnosed with cancer **less than 3 months**.

Table (5.4) indicate how the ANOVA test showed that there was a significant difference at (p≤ 0.05) between **self-distraction** attributed to the **type of treatment**. Moreover, Tukey's HSD test revealed that there are significant differences in **self-distraction** between the different types of treatment in **favor** of **radiation and surgical** therapy. Those patients who had **radiation** and **surgical** therapy used **self-distraction more** than those receiving other types of cancer treatment.

Part 2. Qualitative Results

Introduction

This section presents; content analysis of the in-depth interviews. Data saturation was reached at the 12 in-depth-interview.

Demographic Characteristics of Participants

Participants age ranged from 15 to 38 years old, in which 5 females and 7 males were interviewed. Five participants were married and the other seven were single. The time from diagnosis of their cancer ranged from 3 months to 8 years. As shown in the table (5.5).

Table (5.5): Demographic characteristic of participants.

Patient number	**Age**	**Gender**	**Residence**	**Education Level**	**Marital status**	**Number of children**	**Duration since diagnosis**	**Diagnosis**
1.	38	Male	Village	Secondary school	married	2	8 year	Leukemia
2.	36	Female	Camp	Secondary school	single	_	2 year	Colon Ca
3.	29	Female	Village	Secondary school	married	4	7 months	Lymph nodes Ca
4.	20	Female	City	Secondary school	single	_	6 months	Hodgkin's Lymphoma Ca
5.	25	Male	Camp	University	Single	_	One year	Leukemia
6.	20	Male	City	University	Single	_	4 months	Larynx Ca
7.	28	Male	City	University	married	1	One year	Lymph nodes Ca
8.	37	Female	City	Secondary school	married	5	5 months	Lymph nodes Ca
9.	22	Male	City	Secondary school	Single	_	3 months	Hodgkin's Lymphoma Ca
10.	36	Female	City	University	married	3	2 year	Chronic myeloid leukemia (CML)
11.	15	Male	City	Secondary school	Single	_	8 Months	Acute lymphocytic leukemia (ALL)
12.	17	Male	City	Secondary school	Single	_	8 Months	Leukemia

The results of the qualitative part as the following:

1. **The reaction of AYAs toward cancer diagnosis:**

Overview of themes

Four emotional inter-related themes emerged related to AYAs cancer patients reaction to the cancer diagnosis including; **shock, sadness, fear of treatment, and anxiety and fear.**

A 36 years old married female, expressed her feeling of **shock** regarding cancer diagnosis by saying;

> *"It is a shock at first, it is normal to feel shocked. I was shocked for a while. Now, I don't understand what is happening. I was living a normal life, and then all of a sudden, I started to live this life. Of course, this situation was hard for me"*

, sadness: 29 years old, married female with Lymph nodes cancer mentioned what she felt after knowing about her cancer diagnosis by saying;

> *"I felt low at first. However, I started to cope with it later on, and I started the remedial actions. I was hurt inside"*

, fear of treatment: A 20 years old female with lymphoma said;

> *"I was really afraid of the first session of the treatment"*

, and feelings of anxiety and fear: A 28 years male with lymphoma) said;

> *"When I first heard about it I got very worried, I was very afraid, my fear is that I am a man who has a daughter to live for. I was worried and kept thinking about it for around a week ".*

2. **Coping Strategies Utilized by AYA Cancer Participants:**

Overview of Coping themes

Data analysis showed that AYAs participants identified **seven** main themes of coping strategies, which helped them to cope with their cancer. Moreover, all the interviewed patients indicated that they utilized strategies that fit with the **"religious related coping mechanisms" theme;** faith and acceptance (Qada & Qadar) and reliance on God (Tawakkul)**.** Most participants indicated that they utilized strategies that fit with the **" social support and affiliation"** theme; using emotional social support and using and seeking information. Also, the majority of participants indicated that they utilized strategies that fit with the **"acceptance"** theme. More specifically, some of the participants indicated that they have come to accept their cancer which becomes a common disease, and have a cure. And some of the participants indicated that they utilized strategies that fit with the **"positive reinterpretation and growth" theme.** The participants also indicated that they utilized strategies that fit with the **"self-distraction" theme**. In addition, participants indicated that they utilized strategies that fit with the **"planning"**, and **"spirituality" coping.**

- **Religious related coping mechanisms**

Religious related coping mechanisms; faith and acceptance (Qada & Qadar) and reliance on God (Tawakkul) are the major coping used by most participants. Most of the participants in this study are Muslims; hence, most of them confirmed and referred their diagnosis with cancer to Allah’s will "Qada & Qadar", and reliance on God (Tawakkul) as follows:

1. Faith and Acceptance (Qada & Qadar)

The acceptance of their disease, accepted according to their religious beliefs, and this evidence of a person's faith as they believed. The participants believe that death is all people's fate on this earth, therefore; there is no need to be fear of having cancer. Also, they believe that anything from Allah is beautiful even if it is a disease. Moreover, their belief in "Qada & Qadar" and that death is a right and a fate of every human being is the main reason to accept their disease without any fear.

A 38 years old male patient with Leukemia believed that Allah is one and the human just live once. He discussed that the patients suffer from the people's perceptions about their disease. Because of their fear and ignorance about the disease, most people connect cancer with certain death, which the people looking to the patient with cancer as his/her life it is ended, that this patient begins to live in another world, and they have just a few days to live in this life. He discussed that with a proper phrase by saying;

> *"Some people, they think if a person suffers from cancer, their life has come to an end. They think that this person lives in another world and that he counts how many days are left for them to live. However, I have never thought in such a way. "How many healthy died without a reason, and how many weak live forever?" This means that Allah is one and we live once. No one can do anything about it".*

Participants also have a great faith in Allah. A 29 years old female with Lymph nodes cancer sees having the disease as a test from Allah. This is demonstrated in the following part of the interview with her;

> *" I have great faith in Allah. I know that whatever Allah wants will definitely occur, and Allah's Will is related to the absolute best. Praise be to Allah, I was in good spirits, and I was never weak. Although I started to get the tiring chemo and radiation therapy sessions, I have never lost my faith in Allah that he will cure me one day".*

Participants believe that the religion and faith play fundamental roles in patients' acceptance of cancer as part of their religiosity. A 20 years old male expressed this by saying;

> *"When this disease affects someone, the first thing that happens is that this person turns to their religion. They become more religious, they pray more and always ask for forgiveness. I wake up at late hours at night to pray the prayer of need (Salat al-Hajat), so that Allah may accept my prayers. People say that Prayer (Dua) and Praying (Salat) help to avert harm, and that sickness fears reciting Qur'an"*

Some participants think that being diagnosed with cancer does not worry them at all; quite the contrary, they are not afraid of it because they believe in destiny and the oneness of God and age. Also, the patient said;

> *"For me, I am not worried at all. Honestly, there is nothing to be scared of; there is only one God, and everyone over a certain period will die. People who come to see me suffering from cancer may themselves be knocked by a car, or fall from a building. Death is imminent, only Allah gives life and death. Look, there is a cure for every disease. In the end, Allah has the cure, and he will cure me".*

In addition, a 17-year-old male with Leukemia expressed his belief in Allah will by saying;

> *"The will of God.. I mean there is nothing we can do… not that I can do anything myself... illness is from our God".*

2. Reliance on God (Tawakkul)

The patients believe that cancer helps them to return to their religion by increasing their performance of Islamic rituals and supplications; praying, reading the Qur’an, prayer (Dua), pray of need (Salat al-Haja), hoping that Allah will answer their calls and cure them of the disease. However, the participants followed the Islamic rituals in varied ways according to their understanding of faith in a hope to be cured or a source of strength to adapt to life with cancer. To elaborate, Islamic rituals are the most important reason to decrease the pain of having cancer and are a miraculous way of treatment. Participants also believed that the performing Islamic rituals comforts exhausted souls and cures ill people.

The participants believe that Allah is the one who protects and cures and this issue related only to Him. Furthermore, Allah is responsible for both the disease and the cure. Therefore, faith plays a fundamental role in the forgotten and acceptance of the disease likewise in the decision to complete the journey of treatment and fight for survival. The participant relied on Tawakkul that gave the belief that “Allah gave me this,” as well as “this illness is from Allah” helped participants to follow the treatment requirements.

The participants believe in the oneness of Allah. Moreover, they believed that every human will not die and his/her age is incomplete and lives once because all ages are determined by Allah. However, causes of death may vary but death is the same and it is everyone's end, as well as no one, is immortal but Allah. Therefore, this belief plays a critical role in accepting the disease and adapting to it.

According to participants' beliefs, Allah is the only one who can cure the patients of cancer. This belief helped them enhance to be more connection with Allah and (Tawakul) on Allah that would be able to cure them of their disease.

In addition, the participants believe that being diagnosed with cancer does not really worth to worry about it; quite the contrary, life must go on as if nothing happened. This carelessness grows from their faith in Allah who protects them and has the cure. This belief can help them go on, resist and deal with the disease challenges effectively. As a result, they live a better life full of energy and strength that would help them continue the treatment journey. A 28-year-old married male who diagnosed with cancer for one year expressed this by saying;

> *"I looked at the subject as if it is not worth it, because, eventually, God is the one who protects and makes the sick recover. I forgot about it and continued my life normally. For a year, I don’t think of*

> *the disease unless when I go to get the therapy sessions. I get them and then go back home as if nothing happened, and as if I am not sick. Thank God, life goes on"*

A 17-year-old male who diagnosed with Leukemia since 8 months also expressed that by saying;

> *"Nothing so scary ... because the illness is from God and it is natural and it is a time period that will pass by I mean!!"*

- **Social Support and Affiliation**

One of the most effective strategies to deal with the disease and the treatment journey challenges is the **emotional and instrumental** support they received from their families, friends, all the people around them, doctors, and medical staff. Families had an effective role in overcoming pain and disease diagnosis. This great support has an instrumental role in strengthening and encouraging the patients and not feeling inferior or weak because of their sickness.

1. Using Emotional Social Support

The participants stressed the great supportive role of their families and friends, where they have never been left alone. To elaborate, after getting therapy sessions in the hospital, friends come to visit the patients at home where they sit together until late hours to look after them and relieve their pain. Thus, their support helps the patients to overwhelm the disease pain and treatment challenges as well as helping them to forget their trouble and worries because this is great evidence that they will never leave them and will always stand beside them. A 20-year-old male with Larynx Cancer expressed that by saying;

> *"My friends and family are so supportive. My friends never leave me. They come to visit me at home as soon as I leave the hospital. They sit with me, and we stay up till late hours. They make me feel better. When I see how caring and supportive they are, I forget all the pain. My family as well, I will never forget that they have done to me the best they can do".*

Since disease diagnosis, having all kinds of support from everyone especially from a life partner and friends and never leaving the patient alone by encouraging and motivating him\her to go on, has with a helpful role in the treatment journey. A 28 years old married male stated;

> *"Most people around me; like my wife and friends have been supporting me since I was diagnosed with it. They are around me daily, and they are always encouraging me".*

Having a life partner for married couples has an instrumental role in coping and dealing with the disease easily. The patients have to accept cancer and live their life without being an obstacle by treating them as if they are not sick and never remind them of it, or being a burden on them or society. Furthermore, when feeling frustrated or exhausted by the illness, patient's partners play a great role to help them get out of the pain and sadness by making them laugh and smile. They make life easy for the patients by not making them need any psychological help and being themselves their emotional support especially when they do not discuss anything about cancer during their exchange of conversations. There are various ways to support and help the patients psychologically and get them out of the disease mood and not being only sick people. First, they should take their medicine on time and continue the treatment journey whatever the pain is. Secondly, comfort them that they will return to their normal life, to their jobs, hobbies, plans, goals …etc. or other tasks as being heads of the house as soon as the treatment ends. A 28-year-old married male who diagnosed with lymph nodes cancer expressed that by saying;

> *"Honestly speaking, my wife has stood by me in a wonderful way. She has never made me feel that I am really sick, nor weak. If she sees me frowning, she does the impossible to make me smile again. She makes everything easier on me. She provides me with everything I need. She does make me feel better. All my needs are fulfilled. She has many conversations with me, and never mentions the topic of my disease. All she cares about is to make me get rid of the feeling of being sick. She gives me the feeling that it is only a course of medicine that I take, and then I get back to my normal life. We want to build a house, we want to do this and that"*

The emotional support presented by family, friend, life partners, or even family in-laws has many benefits for patients to cope with cancer or even forget it, literally. Patients can reach a stage of carelessness, where they do not give the disease or its treatment challenges any care or worth; therefore, they live their life normally and happily. This expressed by a 36-year-old married female, she said;

> *"I cope with cancer, because of the people around me. They stand by me emotionally and psychologically. This is very important. All the people I know, my husband, family, friends, and family in-laws have supported me psychologically in a way that has made me reach the point where it doesn't matter whether I suffer from it or not. I only remember when the alarm rings to remind me of taking my medication. I don't think about the disease anymore"*

2. Using and Seeking Information

One of the most coping strategies that the participants discussed is the "emotional support from health care providers; physicians, and nurses". The participants expressed that health care professionals play an important role in encouraging and helping them to cope well with their cancer. According to that, a 38 years old male expressed that the physicians always comfort him by assuring him that cancer like any other disease, and has a cure. The emotional/ information support from the oncologist always make the patients more comfortable in which help them to cope and live with it normally, so the participant said;

> *"Physicians always comfort me "they reassure me that cancer, as well as all other diseases, has a cure. They told me to take my medicine and live my life normally"*

Patient's cancer treatment results can be highly improved or even they can have a chance to recover if they received emotional support from physicians and nurses. This can comfort them and give them hope that these sessions will end one day and they will be cured eventually. A 36-year-old married female with CML discussed that by saying;

> *"I started to have a better feeling when I started to take things easy, and believe that it is only a routine that I will eventually get rid of. What gives me hope is that the physicians always comfort me that there is a chance to recover and that the medicine is always available which is very good"*

In addition, a 36-year-old single female with a secondary school education expressed that the family members with a medical background also play an important role in providing instrumental support for the patients to deal with cancer by saying;

> *"My sister-in-law, who has just come, and my brother are nurses. They go and come back with me"*

- **Planning**

With regard to use **planning** as a coping strategy with cancer, the participants believed to look forward to their future and not backward to the past. So, a 20-year-old male with a university degree said;

> *"With regard to my studies, I would love to fulfill my ambition and finish my undergraduate degree. It is true! I am on sick leave now, but I will go back to school and finish my degree, as soon as I recover. I am almost done with it, and not many credit hours are left"*

In addition, some participants believed to complete their studying in school. So, a 15-year-old male with a secondary school degree said;

> *"And studying… you see I enrolled for the next school year .. I am now in the tenth grade"*

- **Acceptance**

The participants expressed that they are accepting living their life with the fact that cancer has occurred and it is one of many other diseases that has a **cure**, so they are dealing with it normally. To elaborate, they convinced themselves that they are not sick, as a result, they dealt with cancer successfully and continued to live a normal life like any healthy person. The participants also believed that cancer becomes so **common**, so they accepted it and dealt with it like dealing with the flu. Therefore, they adapted and coped with cancer normally.

1. Acceptance as Cancer has the Cure

Such an example according to acceptance of cancer as the illness which the participants believed that they should live with it without a feeling of stress and negative emotion that cancer has the cure and medication to heal in the end. A 37-year-old married female expressed that by saying;

> *"It is normal. I don't even mention it at home. I behave and act just as if I don't suffer from any diseases. I don't like to even mention it. I don't have to think about it, because thinking about it, will just weaken my immune system"*

2. Acceptance of cancer become a common disease.

Some participants discussed that the high prevalence of cancer in the region help them to accept cancer and not be afraid from being diagnosed with it, So a 20-year-old single male who diagnosed with cancer for one year expressed that by saying;

> *"I recently dealt with it as if it is a normal disease. If I hear about anyone who was diagnosed with it, I don't react, because this disease has become so common, just like the flu. This helps me not to think more about it".*

- **Positive Reinterpretation and Growth**

Most of the participants were optimistic and in the process of rebuilding hope by being **positive** regarding their cancer diagnosis. Making the best of the situation as having cancer by growing from it, and viewing it in a more favorable light which all helping them to live with cancer without any fear. They believed that the patients should fight and beat the disease to live. In addition, they believed that this positive reinterpretation and growth from cancer diagnosis would help them to get rid of the feelings of depression and to keep their smiles through the journey of treatment. A 22 old year's male with Hodgkin's Lymphoma explained that by saying*;*

> *“Whoever listens to what people say, will suffer and become depressed. I am getting used to it, and I have to look forward and not backward"*

- **Self-Distraction**

The participants began taking action, exerting efforts to attempt to get rid of the stressor of having cancer and distract themselves from thinking about cancer such as; working out, reading, playing sport, watching TV, hanging with their friends in café, and attending wedding parties. Those were among the coping techniques the participants used to avoid thinking about their disease. On the other hand, these activities made them regain feel better and helped them to cope well with cancer. For example, A 25 single male with Leukemia said;

> *"As time passed by, I started to cope with the disease, by working out, reading, and carrying out projects abroad. With regards to sport, I started climbing before traveling. However, when I went abroad, I started to like it more than before. I started to practice climbing more often. Recently, whenever I feel low, I go and climb mountains, in order to feel better"*

Another example of stating by this patient that explained practicing their patriotic duty outside Palestine to forget about their cancer and to distract himself from thinking about cancer. He said;

> *"I distract myself by carrying out some patriotic activities. You know, some people abroad don’t know much about Palestine, so we hold conferences every week, make films, and carry out some activities in the streets like dancing traditional dance"*

Some participants get rid of their stressor of having cancer by working. To cope with the situation, the participants tried to do more activities to distract themselves. An example of that as a 28 years old married male said;

> *"Sometimes, I distract myself by working, but because of the chemo sessions I undergo, I get fatigued quickly. Therefore, I try to distract myself and spend time by going to a café, hanging out with friends, praying, reciting Qur’an, and watching TV and among other things"*

- **Spiritual Coping**

Some participants indicated that they used their spiritual beliefs to cope with cancer (e.g., staying closer to more harmful cases of patients with cancer), they experienced peace and comfort and found that the other patients who suffer from severe conditions, especially children and younger patients, that functioned as a remedy for their stressors of having cancer. That helped them cope with cancer in different ways and with a high spirituality. This is well expressed by a 20-year-old male who has Larynx cancer. He explained how much he spirited up and feeling comfortable in coping with cancer:

> *"At first, when I came to the hospital to start the treatment, I was feeling low. However, when I came to the hospital and saw the other patients who suffer from severe conditions, especially children, I felt much better, because compared to them, I suffer from nothing. This helped me and lifted my spirits up. I hope my spirits will stay up"*

These themes and sub-themes that emerged are described with some important quotations in details in the following sections. Annex (2) illustrates the themes and subthemes, that emerged, in addition, it shows the original interviews statements of participants in the Arabic and English languages. The final thematic map of Figure (5.5) illustrates the coping themes and sub-themes.

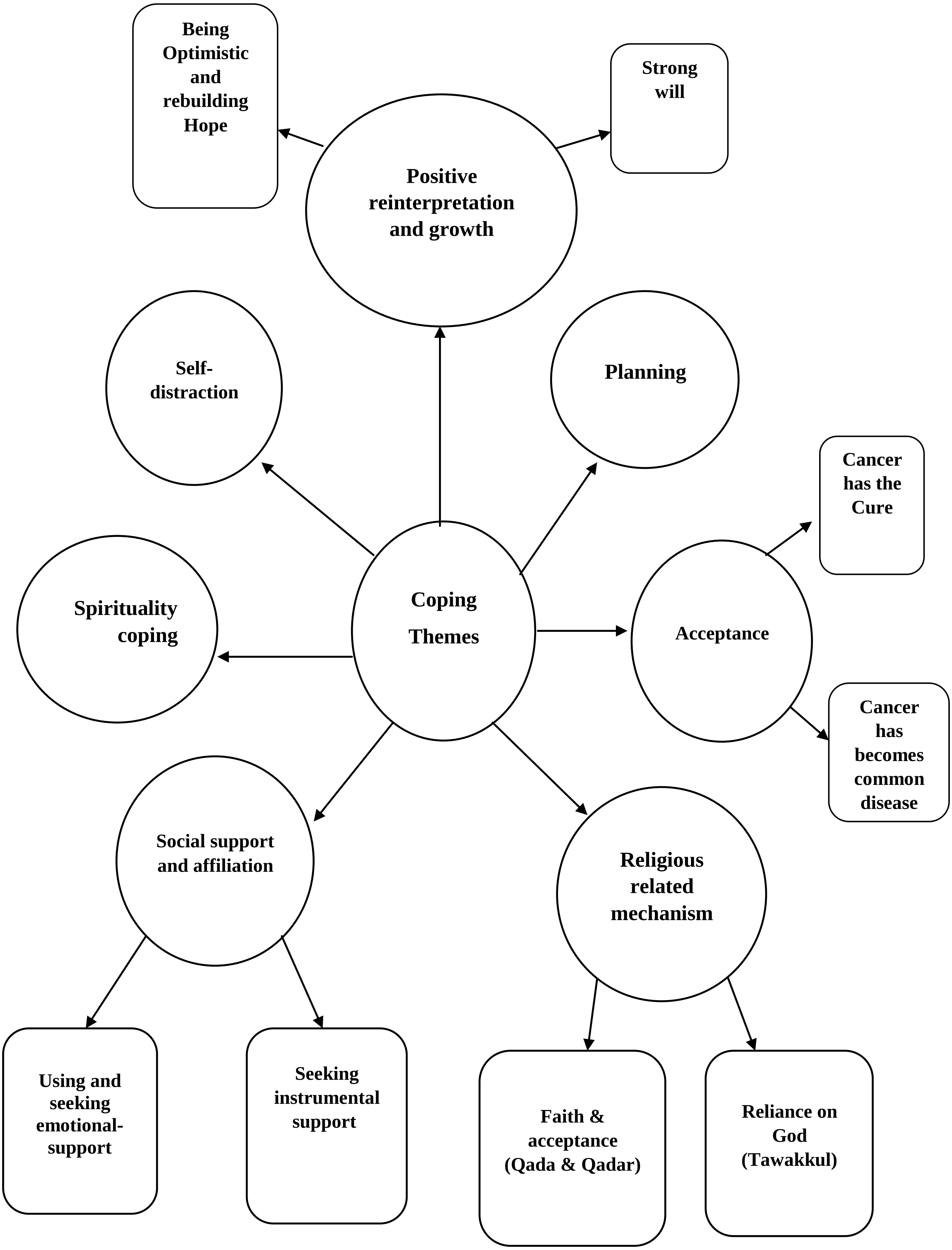

Figure (5.5): Thematic map of coping main themes.

3. AYAs' needs in coping with cancer

The in-depth interviews illustrated AYAs' needs in coping with cancer as follows:

Overview of Themes

Five inter-related themes emerged regarding the AYAs' patients coping needs with their cancer; **medical care availability, health-care communication needs, care center system management, psychosocial emotional support, and** social perceptions.

The majority of participants expressed needs for improving quality of services **availability of medication**, diagnostic tests, and access to outpatient medical staff managing overcrowded and access to oncology center at the hospital. A 20 years old male said;

> *"Everything should be provided for the patients in a hospital as big as this one. Here, they don't have a biological device, and no marrow transplantation is performed"*

A 38-year-old male with leukemia mentioned that they should be competent health care team by saying;

> *"To provide a competent medical staff. To hire more physicians"*

Also, this included the **availability of a suitable healthcare environment** for their treatment such as good hygiene and the capacity for good health services. The majority of the participants highlighted the importance of providing a comfortable environment. For example; one 29-years old female with lymph nodes cancer said:

> *"It also included a good housing and sanitation"*

More specifically, this patient expressed more about the importance of providing a **suitable healthcare environment** needs by saying;

> *"There is not enough space here because they provide one room for three or four patients. We have visitors all day long, as a result, we can't move in the room as we want, we can't sleep and we can't tell them to leave"*

Also, a 36-year-old single female with colon cancer said;

"The atmosphere should be positive"

A 36-year-old married female said;

> *"The nearest Oncology Center is in Bethlehem. I face a problem of coming all this way every month. This puts me under stress a week before the day of the treatment. If they establish an Oncology Center in my city, things would be much better"*

In addition, a 29-year-old married female said;

> *"Firstly, when I started to take the chemical treatment, I was feeling fatigued and my immune system weakened. I faced the problem of going through a long way to the checkpoint because the hospital is not nearby to my village. This was one of the obstacles I faced; the long way to the hospital makes me get more tired"*

Patient-Physician/Nurses/Health-Care Providers Communication

Most participants talked about unmet needs and the challenges of communicating with their health providers. One 20-years old female shared that she had difficulties in asking their doctor questions such as not having the chance to ask them, she said:

> *"Here, they are not nice. They never treat us nicely. I pray to recover soon, so as not to be forced to come to this hospital again. The doctors are not nice here. For example, I try to tell the doctor about something that happened to me, or something that I noticed, he doesn't pay any attention to me. Another doctor did the same, she even hurts us (the patients) explicitly. She doesn't accept us"*

Also, the same participant said;

> *"They should, at least, treat us in a better way. In general, here, we all should treat each other nicely, but unfortunately, we don't see this. Most of them, shout at us and don't accept us. This happened several times"*

Similarly to this example, good communication with staff nurses could help participants' ability to cope with their illness. A 20-year-old male who diagnosed with Larynx cancer since four months described by saying;

> *"The nursing staff play a key role. The way they treat the patient helps him or her. The nurses treat the patients nicely; they respect them, stand by them, and help them cope with the disease"*

Care center system management: some of the participants reported their health needs involved healthcare management such as better waiting time, time management, availability of oncologist's, and organization of flow patients in outpatient clinics. A 38-year-old male who is with Leukemia said;

> *"People don't wait in line"*

A 25-year-old single male with university degree included a similar management needs by saying;

> *"Patients can't keep waiting at the hospital from 8 or 9 am to 2 pm. This is bad and puts more pressure on them. This is the worst thing that may affect them"*

Psychosocial emotional support: For the majority of participants, family members, the health care providers, and the entire environment in which the patients living played a significant and important role in providing different types of emotional support. The feeling of being supported by their family gave patients the feeling of support and comfort. They appreciated the care provided and emotional support from their family members during the most difficult times. A 28-year-old married male *said;*

> *"The family environment plays a key role in keeping the patient's spirits up. The family should have the full consciousness of the course of events of the patient's life. Also, he said; "Secondly, you should study the subject of how to raise the awareness of cancer, especially among the families of the patients as the most important supporters for them. Thank you"*

In addition, a 36-year-old female with CML expressed the role of doctor support said;

> *"Most importantly, the medication should be available, and the doctors should encourage and support the patients psychologically"*

Increase knowledge and changing people perception of cancer by cancer patients' friends, families and the people all, stigmatization of having cancer, perceiving it as a fatal and serious disease and a forgiveness from God. An example of stigmatization and his social perception as a dying person expressed by one a 28-year-old married male saying;

> *"When I knew about my disease I informed my family and asked them to be aware of my new situation, not to feel sorry for me, not to treat me as a person who will die soon, to fight with me, to joke with me, and to do things as usual in order to help each other accept this fact. I want to shout at my son as usual, and my daughter to shout at her sister or brother. I want everything to be normal, because my disease is a curable disease, and 70 % of its recovery depends on fine spirits"*

Summary

The quantitative part main results of this study revealed that the most commonly used coping strategies by participants were “religion” and “acceptance” (mean 3.77± 0.5), followed by “use of emotional support” (mean 3.65 ± 0.7), “active coping” (mean 3.55 ± 0.6) and “planning” (mean 3.43 ± 0.9). The lowest scores were on “behavioral disengagement” (mean 1.46 ± 0.8), “self-blame”(mean 1.56 ± 0.8), “substance use” (mean 1.69 ± 1.0) and “humor” (mean 1.78 ± 0.8).

This chapter reports the key findings for the qualitative analysis of the interviews, content analysis of the in-depth interviews in this study was used. Data saturation was reached at the 12 in-depth-interviews. Data analysis of qualitative showed that the interviewed patients indicate that they utilized strategies that fit with the; religious related coping mechanisms; faith and acceptance (Qada & Qadar) and reliance on God (Tawakkul), social support and affiliation; using emotional social support and using and seeking information, acceptance; cancer becomes a common disease and have a cure, positive reinterpretation and growth, self-distraction, planning, and spirituality coping.

Chapter Six: Discussion and Conclusion

Introduction

The study examined the coping strategies used by Palestinian AYAs to cope with cancer and the factors affecting the use of those strategies. In-depth interviews from the qualitative part of the study were included to provide a deeper understanding of the coping strategies used by AYAs cancer patients.

This chapter discusses the main results of the study and an interpretation of the findings, and a comparison of this field of study with other studies.

Coping Strategies of Respondent Cancer Patients

In this study, the most frequently used coping strategy by AYA patients respondents was “religion” and “acceptance”. Similar results were found in the literature; among Egyptian females with breast cancer, the most commonly used coping strategies were "religion", and "acceptance" (Elsheshtawy et al., 2014). Shehadeh (2017) similarly found that "religion" was the most frequently used coping strategy among Palestinians females with breast cancer. Al Jadili & Thabet (2017) found similar results among cancer patients in the Gaza Strip who utilized "affiliation" as the most used coping strategy. Trevino et al. (2012) results showed that coping through "acceptance" was the most frequently used among women with breast cancer.

In regards to coping using religion, the qualitative interviews generated a theme on religious-related coping mechanisms including faith and acceptance (Qada & Qadar) and reliance on God (Tawakkul) which is an apparent theme in literature studies of (Shamallkh, 2014; Saarelainen, 2017; Saarelainen, 2016; Hammoudeh et al. 2016; Terzioğlu and Hammoudeh, 2017; Al Omari et al. 2016; Frank, 2014; Al-Azri et al. 2013; Doumit et al. 2010; Teleghani et al. 2006). Earlier studies reported that the best way to get rid of the depression and accept cancer diagnosis is by patients faith in Allah, and be patient in order to deserve Allah’s forgiveness (Shamallkh, 2014). Saarelainen (2017) adds that "God and faith" became an important part of coping with cancer in AYAs as large numbers of them reaffirmed their doctrine. Young people reported that their strengthened faith alleviated their loneliness and fear.

Moreover, participants discussed that they noticed a high prevalence of cancer as it is "**becoming a common disease**". Interestingly, this perception of cancer appears to make AYAs cancer patients more accepting of the illness. This concurs with Terzioğlu & Hammoudeh (2017) findings of women with cancer from occupied Palestinian territory and Turkey.

In the present study, patients believed that cancer helped them return to their religion by increasing their performance of Islamic rituals and supplications such as praying, reading Qur’an, supplication (Dua), and prayer of need (Salat al-Haja) in the hope that Allah will answer their calls and cure them of the disease. Participants, however, followed Islamic rituals in varied based on their understanding of faith as a hope to be cured or a source of strength to adapt to their new life. This indicates that Islamic rituals were reported to be the most important reason for decreasing the suffering associated with cancer. Participants also believed that performing Islamic rituals comforted exhausted souls and cured ill people. Several studies showed that the patients with both acute and chronic diseases such as; human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), sickle cell disease, arthritis, acute cystitis, and renal disease most frequently used prayer to cope with their illness (Atef et al., 2011).

Furthermore, this result of the quantitative part as patients used frequently **religion** and **acceptance** was consistent with the in-depth interviews which showed that the participants used **religion** as a coping strategy with cancer, in which their faith in Allah plays fundamental roles in patients' coping with cancer. A 20 years old male expressed that by saying;

> *"When I was diagnosed with cancer, I become more religious, I pray more and always ask for forgiveness. I wake up at late hours at night to pray the prayer of need (Salat al-Hajat), so that Allah may accept my prayers. People say that Prayer (Dua) and Praying (Salat) help to avert harm, and that sickness fears to recite Qur’an".*

Also, the in-depth-interviews of the present study showed that participants expressed that they are dealing with cancer and living with the fact that cancer has occurred, so they adapted well with having cancer as a result of their **acceptance**. A 36-year-old married female diagnosed with cancer for 2 years expressed that by saying;

> *"I have adapted and coped with it. It has become a routine in my life"*

In addition, the second most common frequently used coping strategy by the study respondents was the **“using of emotional support”.** This result complies with (Elsheshtawy et al, (2014); Tuncay (2014); Ahadi et al, 2014; Shehadeh (2017); Trevino et al, 2012) results.

Additionally, the result of the quantitative part as patients frequently **use emotional support** was consistent with the in-depth interviews which showed that the participants expressed that the most effective strategies to cope with cancer and the treatment journey challenges is the emotional support they received from their families, friends, all the people around them, doctors, and medical staff. This expressed by a 36-year-old married female, she said;

> *"I cope with cancer, because of the people around me. They stand by me emotionally and psychologically. This is very important. All the people I know, my husband, family, friends, and family in-laws have supported me psychologically in a way that has made me reach the point where it doesn’t matter whether I suffer from it or not. I only remember when the alarm rings to remind me of taking my medication. I don’t think about the disease anymore"*

Findings highlighted that emotional support was regarded as particularly important for cancer patients as it facilitated coping with stressors and contributed to sustained well-being (Namkoong et al., 2013).

Although, for the present study, the most frequently used coping strategies by respondents after **“use of emotional support”** were; **“active coping”, “planning”, and “positive reframing”.** The results agree with a study conducted by Trevino et al. (2012) which showed that the most frequently used coping strategy was “proactive coping” consisting of subscales of Brief Cope such as; active coping, planning, positive reframing, and religion. Consistent with our findings, Min Ah & Jaehee (2017) also showed that the most frequently used coping strategy by Korean AYAs cancer survivors was self-distraction (97.2%), followed by positive reframing (95.9%) and active coping (95.9%). Nipp et al (2016) revealed that emotional support (77.0%), positive reframing (49.1%) active coping(48.5%), and acceptance (44.8%), and self-blame were the most frequently used coping strategies by patients with incurable cancer. In the current study, the use of these coping strategies (e.g. religion, acceptance, use of emotional support, active coping, planning, and positive reframing) more frequently may help AYA patients to accept their condition. As a result, the promotion of reframing AYAs with cancer to become more positive-minded could be done by using these coping strategies.

Additionally, the result of the quantitative part as patients utilized frequently **planning** was consistent with the in-depth interviews which showed that the participants believed to look forward to their future and not backward to the past. So, a 20-year-old male with a university degree said;

> *"With regard to my studies, I would love to fulfill my ambition and finish my undergraduate degree. It is true! I am on sick leave now, but I will go back to school and finish my degree, as soon as I recover. I am almost done with it, and not many credit hours are left"*

In addition, the result of the quantitative part as patients used frequently **positive reframing** was consistent with the in-depth interviews which showed that the participants were optimistic in the process of rebuilding hope by being positive regarding their cancer diagnosis. Making the best of the situation as having cancer by growing from it, and viewing it in a more favorable light which all helping them to live with cancer without any fear. A 20 years old male with larynx cancer said;

> *"One should resist living. It is true I am still young, but I should fight the disease to beat it".*

Furthermore, the result of the quantitative part as patients used frequently **spirituality coping** was consistent with the in-depth interviews which showed that the participants indicated that they used their spiritual beliefs to cope with cancer. This is well expressed by a 20-year-old male who has Larynx cancer. He explained how much he spirited up and feeling comfortable in coping with cancer:

> " *At first, when I came to the hospital to start the treatment, I was feeling low. However, when I saw other patients who suffer from severe conditions, especially children, I felt much better, because compared to them, I suffer from nothing. This helped me and lifted my spirits up. I hope my spirits will stay up ".*

Furthermore, findings in this study revealed that “behavioral disengagement”, “self-blame”, “substance use”, and “humor” were the least common coping styles used by AYAs respondents. Trevino et al (2012) reported similar findings in that negative expression such as denial, venting, and self-blame were the most infrequently used coping strategies by women with breast cancer. Elsheshtawy et al (2014) also found that the lowest scores were on substance use, behavioral disengagement, and self-blame. Similarly, Shehadeh (2017) revealed that the lowest scores for coping strategies among women with breast cancer were venting, denial, self-blame, behavioral disengagement and substance use. Tuncay (2014) revealed the same findings among Turkish women who have ovarian cancer that they infrequently used coping strategies were in humor, denial, and substance use. Nipp et al (2016) revealed similar to our findings, that behavioral disengagement, self-blame, and denial were the least used strategies for coping with cancer. This indicates that cancer patients who were less likely to utilize substance use, behavioral disengagement, and denial as "avoidant coping strategies" were more able to face their challenges effectively. They felt less stressed and burdened experiencing greater psychological well-being (Min Ah & Jaehee, 2017).

The results of quantitative part of present study revealed that “behavioral disengagement” (mean 1.46 ± 0.8), “self-blame”(mean 1.56 ± 0.8), “substance use” (mean 1.69 ± 1.0), and “humor” (mean 1.78± 0.83) were endorsed least often as coping responses by respondents. This result was consistent with the in-depth interviews which not included those strategies as coping with cancer among the participants.

Factors Associated with Coping strategies used by Respondents

In this study, the key findings from the t-test and ANOVA analysis illustrated **statistically significant** differences in **coping strategies** in relation to a number of socio-demographic variables, cancer related factors, and sitting related factors including **gender, age group of the participants, degree of religiosity, educational levels, ownership of the hospital, departments of care, living condition, marital status, having children for married participants, person taking care of the patient, sites of cancer, duration of treatment, and health-care providers support.** It could be argued that the main hypothesis of the study which stated that "there was a significant difference in coping strategies of AYAs cancer patients and socio-demographic variables, cancer-related factor, and setting-related variables " is confirmed. Similar results were revealed by Shehadeh (2017) who found that a significant relationship between coping strategies and educational levels, marital status, and place of residence among women with breast cancer in the West Bank. On the other hand, the results of this study are in contrary with the studies of Nipp et al (2016) who revealed no differences between the use of acceptance, active coping, behavioral disengagement, emotional support and denial coping strategies and demographic and clinical variables. The analysis of this study illustrated **no statistically significant** differences in coping strategies in relation to a **number of socio-demographic variables such as place of residence, religion, income, and employment status**.

Associated Socio-Demographic Factors with Coping Strategies

Age

In this study, the mean age of participants was 29.7 years (SD=6.9), and 57.6% of them are aged between 30 to 39 years of age. The findings of the current study revealed that patients who are in the middle age group (19-29) had significantly higher utilization of positive reframing. This was consistent with the studies of Admiraal et al. (2012) who showed that higher utilization of positive reframing was common among younger patients compared to their counterparts. The participants in Admiraal et al. (2012) study sample were aged (21.2–89.0) years of age. Similarly, Nipp et al. (2016) showed that younger patients used positive reframing as a coping strategy more often than older patients. The present study also revealed that late young adulthood age groups (30-39 years old) patients had significantly higher utilization of the venting coping strategy compared to those in the middle age group (19-29 years old). Here, the interpretation to use venting more among the older group (30 to 39 years old) may be related to the sources of stress after a cancer diagnosis among older AYA patients (30 to 39 years old) that may have more health problems and social responsibilities (being married, having children, and having a job).

The present study findings revealed no significant differences in age in regards to humor using. Similarly, Anderson (2014) found that among those aged 25 to 29 years of age, there was no significant effect on the frequency with which women with breast cancer the use of humor.

Gender

For the present study, it was found that the number of females (71.5%) was more than males (28.5%). The same distribution of participants was also revealed by Al Jadili & Thabet (2017) who had a sample consisting of cancer patients where females (68%) were more than males (32%) in the Gaza Strip. Moreover, in a study conducted by Trevino et al. (2012) among young adults (ages 20–40 years old) with advanced cancer, females represented about 66.0% of the study sample. Women are generally more likely to participate than men in a research study (Curtin et al 2000; Moore & Tarnai, 2002; Singer et al 2000).

In the present study, there was a significant association between the use of "denial", "religion", "humor", "behavioral disengagement", "use of emotional support", and "spiritual coping" as coping strategies and the gender of the respondents. In which, males use "denial" and "humor" coping strategies to handle stressful experiences with cancer more than females who tend to use more "religion", "behavioral disengagement", "use of emotional support", and "spiritual" coping strategies to handle stressful experiences with cancer. Baumstarck et al (2017) showed that women used ‘passive coping strategies’ including social support and avoidance more often than ‘positive thinking strategy’ compared to men. Jim et al. (2006) highlighted that the less frequent utilization of denial and avoidance coping strategies predicted feelings of harmony and peace among cancer patients.

Men could be more stressed than women when diagnosed with cancer in relation to their normal lives leading them to use denial and humor. This is indicative of their which indicate their avoidance of distress. On another hand, Jim et al. (2006) showed that women were more utilizing of "acceptance" and "positive reinterpretation" coping strategies with regards to their cancer diagnosis associated with high scores on their life perspective, purpose, and goals. Jimet al. (2006) suggested individuals who experience a distressing event in a more positive light have the ability to move forward despite their unfortunate situation. The authors suggested that those individuals happened to have more purpose and happiness in their lives. Terzioğlu & Hammoudeh (2017) highlighted that faith and spirituality were important ways women used to draw meaning out of cancer, to understand what was happening to them, and accept their fate. According to literature, high levels of religious involvement were more common among women compared to men (Mesquita et al., 2013). In qualitative in-depth interviews of the current study, there was no difference between female and males in adopting cancer diagnosis.

There are strong popular conceptions of gender differences in emotionality. For example, women are considered to be more emotional than men (Vitulić & Prosen, 2016). Consistent with our results, Meléndez et al. (2012) found higher rates of utilization of positive reappraisal among women, and men tended to use more self-control than women. Vitulić & Prosen (2016) concluded that women also try to influence their physiological processes, seek social support in order to regulate emotions more frequently than men. Here, both men and women tended to decrease their emotional feelings instead of problem-solving through the usage of problem-focused coping strategies such as active coping, planning, and seeking instrumental social support. The results of the current study with using emotion-focused strategies were consistent with findings of (Endler & Parker 1990; Matud 2004; Ptacek et al. 1994).

Men are less inclined than women to express powerless emotions such as fear or sadness. Expressing sadness makes one look vulnerable and a man will receive less positive feedback if he expresses these emotions (Safdar et al., 2009). Women are more hesitant about expressing powerful emotions such as anger and contempt than men (Safdar et al., 2009). These gender differences in coping strategies were expected due to Eastern societal values (patriarchal society) that encourage males not to express their emotions likes females and in which females consider more emotional expression of their feeling in stressful situations.

Men use denial as a coping mechanism more significantly than women. Patient's coping evolves over time and is changeable. For example, “denial may be adaptive for some patients at certain moments in their disease trajectory to maintain functioning in the face of future uncertainty” (Hagan et al., 2017).

Religion and Degree of Religiosity

The majority (98.8%) of the study sample were Muslims and the remaining were Christians. According to the Palestinian Central Bureau of Statistics (PCBS) in 2017, there were (4,615,683) Muslims, (46,850) Christians, and (1,384) others in the West Bank. Additionally, 49.7% of respondents were described as moderately religious. There was statistical significance between the utilization of "instrumental support", "religion", "acceptance", and "positive reframing" coping strategies and the **"degree of religiosity"** of the participants. The results showed that the higher the degree of religiosity, the more participants used "instrumental support", "religion", "acceptance", and "positive reframing" as coping strategies with cancer.

In regards to the presence of the statistical significance between religious affiliation and religious coping. Trevino et al. (2012) found that Christians participants coping with cancer tend to use religious coping as these participants endorsed higher levels of personal religiousness. Trevino et al. (2012) found that, in the context of distress situation like being diagnosed with cancer, the participants most frequently accessible to the religion resources. Saarelainen (2016) showed young cancer patients aged between 18 and 35 years old, that the coping processes were linked to religion, spirituality, and personal worldview. In addition, McFarland et al. (2013) who showed that individuals o diagnosed with cancer at younger ages become more religious compared with those diagnosed with cancer at older ages.

The increasing religiosity after a cancer diagnosis, that the cancer patients in middle adulthood different in their view meaning compared to older adulthood. The perception of cancer as a threatening disease, it is recurrence or progress, could be the reason behind the patient's religiosity. Among those patients, religiosity was more related to a sense of godly control or God’s will (McFarland et al., 2013).

Most participants in the study are Muslims. They referred their cancer diagnosis as Allah’s will which is "Qada & Qadar" in Arabic as well as "reliance on God" (Tawakkul) as a tool. This indicated that participants believed that religion and faith played fundamental roles in accepting cancer.

Employment Status

The majority of respondents (66.7%) were unemployed. In Palestine, 41.0% of unemployment rate was found among individuals who aged from 15-29 years old. In addition, the unemployment rate among males was reached (22.5%), and (47.8%) among females in 2017 (PCBS, 2018). The fact that 66.7% of respondents were unemployed could be related to the fact that most participants were females (71.5%).

There was no significant relationship between coping strategies and employment status. Drageset (2012) found that unemployment among cancer patients was related to the use of “cognitive defense”. Cognitive defense includes denial, repression, principalization, reversal, and comforting cognitions. Drageset (2012) found a negative relationship between employment and “cognitive defense”. Baumstarck et al. (2017) showed that the frequent use of problems solving strategies including active coping and planning was associated with employed participants.

Education

The results of the study show a significant difference between the mean of spiritual and positive reframing coping strategies and the educational levels of participants. Results indicated that patients with secondary level education used spiritual and positive reframing coping strategies more frequently than patients with different degrees.

Those results were in agreement with the study by Shehadeh (2017) which found a significant relationship between coping strategies and educational levels among women

with breast cancer in the West Bank. Drageset (2012) and Baumstarck et al. (2017) studies showed that education was the most important contributor to “instrumental-oriented coping”. Baumstarck et al. (2017) showed that the frequent use of problems solving strategies was associated with individuals of higher educational levels.
According to Lazarus and Folkman (1984), "problem-focused coping" was directed at reducing or solving the stressor’s effect if it cannot be escaped. Emotion-focused coping was targeted at minimizing the distress associated with the stressors through a positive reframing coping strategy (Ahadi et al., 2014).

As a result, we can conclude that cancer patients with a lower level of coping resources along with a lower educational level (secondary school) were in a more difficult situation in regards to minimizing the distress of cancer diagnosis because it is beyond their control and knowledge, as well as more frequent use of emotion-focused coping strategies such as spiritual and positive reframing coping strategies. This explains why using spiritual and positive reframing seemed to be helpful in their attempt to adapt to cancer diagnosis. This meant that respondents with lower educational levels tended to minimize the distress of having cancer as per their limited information.

Marital Status, Children, and Family Support

In this study, 66.1% of respondents were married, of which 93.6% had children. The average number of children was N=3. There was a statistical significance between the utilization of **religion** and the marital status of participants**.** Those who were married used religion more frequently compared to single participants. There was also a statistical significance between the means of acceptance and positive reframing attributed to having children for married participants. Participants who had children used acceptance and positive reframing more often than those who were not married. Baumstarck et al. (2017) found that avoidance strategies linked to single. Baumstarck et al. (2017) found that avoidance strategies were linked to being single. Here, the findings indicate that being married and having children promoted the respondent with cancer to look to their roles as mothers or fathers. This response comes from the consequences they have it, which reflected the extent to which they tended to follow along with their usual behavior and goals. Reactions such as positive reframing, use of social resources, and acceptance that lead to engagement in the behavior of life help reduce distress later on (Carver, 2005). Mabena and Moodley (2012) found that women with cervical cancer tending to live will with their illness and to their children. So here for the current study, they are more positively able to handle the distressful condition that they are in and to accept the reality of their illness. So, they tend to be more flexible in adapting to their cancer to keep their normal goals and activities.

In literature, Admiraal et al. (2012) found that patients appraised particular stressors differently. For example, young men reported lower levels of distress compared with young women diagnosed with cancer, particularly those had children. Patients who were female or had children living at home experienced higher distress levels than their counterparts. Several studies showed that newly diagnosed women with breast cancer had concerns about their children, especially their younger ones (Taleghani et al. 2008). Taleghani et al. (2008) argued along with previous studies that the concerns of the mothers' increased when children were all adolescents or adults. As a reason, some women focusing mainly on their children needs', so they try to maintain their role as good mothers within normal family life by suppressing their own concerns about that. Taleghani et al. (2008) suggested that mothers attitude may have given them the benefits. Consequently, the "acceptance" and "positive reframing" coping strategies of respondents with children from the current study are explained by Taleghani et al. (2008) argument that patients with children try to maintain their role as good mothers/ fathers within normal family life.

In regards to **self-care**, 50.9% of patients were having a family member take care of them. Findings from the study showed a statistical significance between independent patients and those who had their families take care of them in relation to coping domains; active coping, substance use, humor, and acceptance.

The present study revealed that the independent patients used **active coping** and **acceptance** more than those who had their families takes care of them. Effective coping attitudes were on using active planning, acceptance of cognitive restructuring (Karabulutlu, 2014). Here the dependent patients might be more self-control than independent patients, so they tried to actively cope by excreting efforts and acceptance of their illness and looking for new solutions cognitively on their own abilities.

On the other hand, family caregivers are the most important partners in the way of delivery complex health care services (Bevans & Sternberg, 2012), and they are the most essential physical and emotional care providers. Self-care, transport, communication, shopping, movement, cooking, household chores, financing, and organizing appointments for social activities, all are performed by the caregivers of families members in helping their patients

(Karabulutlu, 2014). The way of coping within the scope of avoidance attitude like drug use, which was accepted as an ineffective coping attitude (Karabulutlu, 2014).

In the current study, **using humor** and **substance** as coping strategies were found more common among patients who were cared for by others, especially their parents. This suggested that those patients had more physical consequences that they tried to use the substance to lessen the side effects such as pain caused by cancer treatment to be more unconscious (we add sedatives use for the coping domain of substance use to be more acceptable to Palestinians culture). The use of **humor** may have been due to having the parents close to them along the illness. They may have used humor in an attempt to decrease the distress of being care independent of themselves and may as a way to decrease the sadness of their parents who took care of them.

Usage of humor among cancer patients has been shown in studies to have mixed findings. However, a positive advantage was pointed in some studies that humor helps in reducing cancer- related distress. Also, it helps in promoting post-traumatic growth. Humor could be pleasant, well natured, and self-affecting. It also can likewise be severe. It can improve social connections, yet can likewise be utilized to avoid others as much as possible (Segall et al., 2010).

Living Condition

There was a significant difference between those who lived alone compared to those living with their families in terms of the "use of instrumental support", "active coping", and "use of emotional support" coping strategies. Results revealed that participants who lived alone used instrumental support more than those who lived with their families. This result consistent with Dunkel-Schetter et al. (1992) study, who found that cancer patients who living alone associated more through social support in the coping ways with their illness. In contrast, those who lived with their families used more emotional support and active coping. This suggested that patients lived alone were mainly dependant on the instrumental support of people who had a background knowledge of cancer or by searching by many ways (e.g. asking the health-care providers, using net, books). Moreover, those who lived with families were more dependent on emotional support and active coping as they were provided by their families. Moreover, the most important physical and emotional care for patients provided by their family member (Karabulutlu, 2014). Family partners also have a main role in providing an emotional care for their patient; social support, help the patients to make their decisions and helping them in seeking for/obtaining information (Karabulutlu, 2014).

Associated Clinical Factors

Current treatment

In this study, more than two-thirds (38.8%) of participants were treated with Chemotherapy and 16.7% are treated with chemotherapy, radiation and surgical procedures. Khleif and Imam (2013) revealed the same results when they found that 52.2% of Palestinians cancer patients respondents were treated with chemotherapy. Kaal et al. (2017) also revealed that AYAs with cancer were the vast majority treated with chemotherapy (86%).

For the present study, the results revealed a significant difference between those patients who had radiation and surgical therapy in using self-distraction coping strategy. The patients who had radiation and surgical therapy tended to use self-distraction more than those receiving other types of cancer treatment. Surgery is applied to patients with cancer when cancer appears to be localized in one area (Stefani et al., 2017).

Radiation is also used as complementary to other treatments like surgery for cancer treatment. So, here the significance in using self-distraction among those patients may be due to the course of treatment that is growing from the side effects of treatment. In case of having the surgery treatment that is associated with temporary physical complication and with radiation there is a somewhat temporary effect. The patients tried to distract themselves by daydreaming, watching television, or using other methods of distraction in adapting to this temporary period of having the course of treatment.

Ownership of Hospital

Among participants, 47.3% were patients in a Beit-Jala Governmental Hospital and 52.7% were patients at the Augusta Victoria non-governmental hospital. There was a statistical significance between ownership of the hospital and the use of venting as a coping strategy with cancer. Patients of the non-governmental hospital used venting more often than patients at the governmental hospital. In AVH, Patients Friends Society (PFS) take their role in providing palliative care and social support for cancer patients during their treatment phase. At government hospitals of Palestine, the care and efforts are geared toward achieving the cure for cancer patients rather than palliative caring among cancer with late stages of cancer (Kharroubi & Abu Seir, 2016). This significant difference may be due to the role of the private (non-governmental) hospital to support patients who were attending this hospital. The private hospital has mental health professionals and social workers that train patients to use venting as well as express their negative emotional feelings. As a result, these could encourage the patients of the non-governmental hospital to use venting as coping strategy more than patients at the governmental hospital.

Department

In regards to the department of the treatment, 70.3% were in outpatient departments and 29.7% were in-patient departments. There was statistical significance between the type of department and the use of coping strategies such as substance use, behavioral disengagement, self-distraction, and acceptance. In-patients used the substance and behavioral disengagement more than outpatients in coping with cancer. Additionally, outpatients used self-distraction and acceptance more than in-patients.

Inpatients in hospitals need medical monitoring. They also suffer from pain which forces them to use sedatives as we added to the domain of substance use to be more acceptable to Palestinians culture and context. As a result, this is to consider why they tend to use behavioral disengagement in the forms of giving up or withdrawing in attempting to avoid their stressors.

This suggested that outpatients had a greater advantage as their improved health status outside the hospital has allowed them not to make drastic life changes. They were also able to use self-distraction since they only had to see other cancer patients during their doctor visits and treatment sessions. This is why they successfully able to focus on other things compared to patients from other departments.

Duration of treatment

Results of the present study revealed that 50.9% of participants were treated for more than six months. Those results complied with Khleif and Imam’s (2013) findings which showed that 62.4% of cancer patients were treated for longer than six months. Results also showed a statistical significance between the duration of treatment and the self- distraction coping strategy. It indicated that patients who were diagnosed with cancer for three to six months or more used self-distraction more than patients who were diagnosed with cancer for less than three months. The different usage of coping strategies and skills are possibly more useful during different disease and treatment phases. An example is seeking information and use of spirituality as possibly being the most factors useful during the first diagnosis. On the other hand, using stoicism, acceptance, and religion may be considered useful at the terminal stage of the disease (Segall et al., 2010).

This suggested that patients diagnosed with cancer for longer periods tried to escape from thinking about cancer and avoided the stressful feeling. This is why they are more likely to use self-distraction as a coping strategy. This highlights the need for more attention to newly diagnosed patients for health-care providers and policy makers.

Type of Cancer

More than a quarter of the respondents had breast cancer, followed by lymphoma, leukemia, and lung cancer. There was a statistical significance between the different sites of cancer and the positive reframing coping strategy. Patients with cervical and bone cancers used positive reframing more than other patients.

These findings are consistent with Anderson's (2014) study which showed that the type of cancer did not significantly affect the frequency with which patients used humor in their posts. In the current study, there was no significance in usage of humor among patients according to their cancer type. Not surprisingly, a similar finding of the current study found with other studies of **(**Hollie, 2012; Hodgkinson et al. 2008; Akyuz et al. 2008; Clemmens et al. 2002) found that patients with cervical cancer had perceived frequently more positive outlook on life, in which they treasured life more. Among women survivors with cervical cancer, Zeng et al. (2011) found that the meaning of their illness had a variety of deduction. From the cancer experience, some women had perceived positive gains. There were positive changes in points of view about their lives. For example, they viewed cancer as a rebirth, they appreciated their relationships with others more, and their relationships with families were more harmonious.

Cervical cancer is curable (Hollie, 2012). Here in the present study, the significance of using positive reframing among patients who have cervical and bone cancer might be related to the ability to remove the tumor from the cervical wall or cervix itself among women who had cervical cancer. Removing the tumor made them feel more positive that they will be healthy and cured in the future. For patients with bone cancer, it might be that they used positive reframing as they believed that their tumor was not localized among tissue or organ. So, they positively adapted that they not in a dangerous situation and that they will be cured.

Health-Care Providers Support

The majority of participants (49.7%) felt that they were getting moderate information and 46.1% believed that they were getting very high levels of support needed from their medical care providers. Only 4.2% thought that the information was not enough.

Furthermore, an important component of social support was professional information and advice. In which that appeared to be partly motivated partly by distrusting one's memory and a fear of negative imaginings in the stressful situation and partly by a distrust of information from non-professional sources.

Results indicated that patients without full information and advice on their illness from their healthcare providers especially "physicians " were more likely to use denial, behavioral disengagement, and self-blame as coping strategies. Such coping strategies were related to emotional focused coping which indicated that patients reduced their stressful event without solving the problem. Furthermore, professional information was considered an important component of social support.

An explanation for the use of acceptance among who had professional support was that many cancer patients received information that the disease will probably not be the cause of death and have the cure. Patients may perceive their condition as chronic rather than life-threatening making their acceptance of it more likely than those who had slight or moderate professional support.

Findings may, therefore, fit well with the view which regards social support as a source that promotes coping. The relationship may also be reversed. For example, people who are good instrumental copers may be good at attracting, building, and maintaining social networks due to their coping abilities. They may be more engaged in social life (Drageset, 2012).

Important Themes from the Qualitative Part of the Study

1. Participants Emotional Reaction to Cancer Diagnosis

Previous studies showed that in a confrontation with the initial signs of chronic illness, patients responded with strong emotional reactions such as depression, anxiety, and anger (Zeidner & Endler, 1996). In the current study, participants expressed that being informed of the cancer diagnosis was not easy to them causing many feelings. They reported it as a particularly stressful experience. Yet, the most common responses to cancer diagnosis were increased feelings of shock and upset, sadness, devastation, fear of treatment, and feelings of anxiety and fear. Interestingly, these findings were consistent with Shamallkha’s (2014) findings that demonstrated that participants started a denial and depression period as they received the news of having cancer. Shamallkh (2014) established that the best way to get rid of the depression and accept the new condition was by having faith in Allah. They tried to be patient as they believed that they would win Allah's forgiveness. Consistent with these findings are Ander et al. (2018) conclusions on how adolescent cancer survivors reacted to their diagnosis. Feelings of shock, unfairness, confusion, fear, and anxiety were reported. These findings were similar to a study by Hammoudeh, et al. (2016) which showed that Palestinian women discussed feelings of shock upon receiving their diagnosis of breast cancer.

According to Lazarus-Folkman stress-coping model (1984), when a person is confronted with a stressor, two kinds of evaluation and appraisal processes were found in the evaluation that stressor. First, primary appraisal happened when evaluating potential threats or harms. Secondary appraisal happened when the person was able to alter the situation and manage negative emotional reactions. The coping effort itself was aimed at problem management and emotional regulation generating the outcome of the coping process (e.g. psychological well-being, functional status, and adherence). As a result, patients emotional reaction and feelings were considered somewhat normal. All the interviewers discussed that they coped and accepted the disease after their initial feeling of having cancer.

2. AYAs’ Needs in Coping with Cancer

The qualitative part of the study with AYAs undergoing cancer treatment suggested potential key coping needs in this population. This was obvious in issues concerning medication availability, patient-physician, nurses, healthcare providers communication, care center system management, psychosocial emotional support, and social perceptions. Many of these missing services were reported to impact their health. This is consistent with the findings of Lam et al. (2013), in which the coping needs of adolescents undergoing cancer treatment were "social perceptions" and "health-related communication" needs. Lamet al. (2013) suggested that the coping needs of those patients impacted their attitudes and behaviors.

In any clinical setting, the patient-physician relationship was important, especially among oncology patients. This was because such patients had a dramatic impact on their lives caused by the cancer diagnosis in addition to a long journey of treatment. This forced long-lasting relations between patients and their physicians (Ferrari et al., 2015)

In regards to **psychosocial emotional support** needs discussed by AYAs, participants expressed the importance of having emotional support from their families and healthcare providers especially "physicians". In their opinion, it would improve their well-being. Namkoong et al. (2013) findings highlighted that providing emotional support was critical to social support which facilitated adapting with the stressor and improved overall well-being. This seemed to reduce feelings of distress.

In the Palestinian society, the family represents an important social organization system. In which the Palestinians families are highly supportive of their members. The sources of supports bring from all; their extended families, friends, and their neighbors. The patients, however, have a good family structure that offers a comfortable psychological support and in which affected their healing process (Kharroubi & Abu Seir, 2016).

In in-depth interviews, some participants discussed that they did not prefer too much social support.They preferred to continue as if “life were normal” as when they were independent and healthy. Too much social support influenced their emotions as they felt the stigma of being weak. They believed that they still had the ability to handle their own matters, self-care, and use their personal sources to be strong. Patients’ input was in agreement with the studies by Drageset (2012) who showed that patients attitude might have been affected by their perception of their own personal resources and adaptation abilities. Palestinian families generally look to cancer as different from other illnesses with a feeling of fear. So, cancer for the majority of people is called "that disease” not "cancer" as if people afraid to say "cancer". Also, cancer patients are known to be a stigma according to having it and that affects their psychological well-being and causes stress.

Therefore, there is a need to have additional care for patients with cancer from their families and the community, in which this suggestion confirms Kharroubi & Abu Seir (2016) .

Limitations

The following are the difficulties and limitations that faced by the researcher:

- Time limitation, especially due to Israeli siege around Jerusalem and limitation of movement due to the separation wall. The researcher is from the West Bank, meaning that she had to have a permit in order to pass through Israeli checkpoints from Augusta Victoria Hospital. This helped her in collecting data from the Augusta Victoria Hospital in Jerusalem.
- There was a scarcity of literature and research studies on AYAs with cancer in Palestine and unavailability of a special cancer registry for (especially patients who ages 15 to 39 years old). So, the researcher depended on cancer statistics found in the Ministry of Health’s Annual Health Report of 2015 in the Occupied Palestinian Territory.

Conclusion and Implications

The use of quantitative and qualitative approaches have provided complementary knowledge and a better understanding of the coping strategies utilized by Palestinian AYAs cancer patients. The findings highlighted the importance of understanding coping strategies utilized by AYAs patients after their cancer diagnosis. One of the greatest challenges facing the (families/ friends/ colleagues/ healthcare providers) when dealing with adolescent and young adult (AYAs) cancer patients lied in finding the balance between their coping needs and the right to understand their illness and treatment. There was also a need to keep them positive, powerful, and have the self-control of their identity.

The study successfully identified the varied, unique, and the special ways of coping among Palestinian AYAs patients after their cancer diagnosis, which could enable patients' families, healthcare providers, and policy makers to better support them. Also, the ultimately improve their psychological/emotional health wellbeing, adaptation process, social, spiritual, cognitive status, and the quality of their care in relation to the unique Palestinian society.

The results of this study highlighted that AYAs Patients of the current study were seeking and using emotional social support, that confirms the role of families’ emotional and instrumental support in helping AYA patients in their adaptation to cancer. Additionally, the results of this study highlighted that not only should the families of patients support and understand their patients coping strategies and needs, but health-care providers must also be prepared to better understand and support patients during the stressful journey of treatment and living with cancer. Health professionals must also recognize that the adolescent and young person is an individual and assess their needs. All patients should be seen as a vital segment of the age-specific group (young) first, not just a cancer patient.

One of the main advantages of understanding the coping strategies among this population is for health education, health promotion, support groups in families, and organizational health. Yet, knowledge about which stressors AYAs cancer patients perceive as challenging is important to develop appropriate psychological interventions for Palestinian AYAs cancer patients. This includes identifying whether coping strategies are best understood using stress-related, anxiety, and/or quality of life frameworks. The importance of giving AYAs cancer patients proper information proportional to their age and maturity was highlighted by "The International Society of Pediatric Oncology (SIOP) guidelines" (Ferrari et al., 2015).

The findings of this study highlighted that participants who lived alone used instrumental support more than those who lived with their families. In contrast, those who lived with their families used more emotional support and active coping. This suggested that patients lived alone were mainly dependant on the instrumental support of people who had a background knowledge of cancer. Those who lived with families were more dependent on emotional support and active coping as they were provided by the families.

The results of this study highlighted that patients without full information and advice on their illness from their healthcare providers especially "physicians " were more likely to use denial, behavioral disengagement, and self-blame as coping strategies. Such coping strategies were related to emotional focused coping which indicated that patients reduced their stressful event without solving the problem. Furthermore, professional information was considered an important component of social support.

The results of the qualitative part of the current study highlighted that nurses and doctors with professional knowledge and clinical experience as well as relational qualities such as care and comfort were important sources of support for participants. The emotional and informational support from oncologists always made the patients more comfortable and helped them better cope with cancer.

The results study highlighted that patients diagnosed with cancer for longer periods tried to escape from thinking about cancer and avoided the stressful feeling. This is why they are more likely to use self-distraction as a coping strategy. This highlights the need for more attention to newly diagnosed patients for health-care providers and policy makers.

Moreover, in Palestine, it is essential to develop effective strategies and programs for AYAs individuals to improve their adaptation. This could help enhance their psychological, social, and physical well-being.

Recommendations

The results of this study underlined the important responsibilities of healthcare policy makers, professionals, families, and researchers. Recommendations are intended to promote the ability of AYAs to cope with cancer as follows:

For Policy Makers:

1. Highlight the need for establishing new services such as for cancer patients with adaptation problems in the oncology departments of Palestinian Hospitals.
2. Consider counseling service for the AYAs population a priority which must establish inside oncology departments at the most hospital providing oncology services for this age group.
3. Training programs should be provided to mental health professionals, physicians, and other healthcare providers on issues related to the development of coping strategies of AYAs cancer patients.
4. Improve the registry program for cancer patients, especially for those in the 15-39 years old and consider creating a special registry for them to improve data availability and accuracy.
5. Ensure the availability of a suitable healthy physiological and emotional environment and medication availability for all oncology departments such as drugs as well as.

For the Healthcare Providers

1. To provide psychological support for inpatients and outpatients during their visit to the hospital.
2. Promote home visit programs to the adolescent and young adult patients with cancer and to provide support and guidance in the adaptation process.
3. Provide educational and training programs for AYAs cancer patients on how to deal with the stress associated with cancer.

4. Provide educational and training programs for AYAs cancer patients families, friends, and colleagues on dealing with this sensitive age group and improving their power and control.
5. Ensure better time management in the oncology outpatients clinics and day-care in the radiation and chemotherapy departments of the hospitals.
6. Encourage group involvement consisting of adolescent and young adult cancer patients who have long-term experience with cancer to share their experiences with coping. Patients who have a long-term experience with cancer and who have been cured can be involved in supporting newly diagnosed AYAs in reducing stress and improving psychological well-being.
7. Highlight the importance of both "emotional and instrumental" social support and education as well as making family members, friends, and colleagues aware of the best ways to provide it and avoid the negative social perceptions associated with this age group of patients.
8. Health-care providers, especially physicians, should consider supporting AYAs during challenging times by providing more information about their situation.
9. Health-care providers should encourage AYAs to use coping mechanisms to get through the stressful periods such as religion, planning, and active coping.
10. Have effective comprehensive educational programs for healthcare providers, parents, and friends of AYAs cancer patients to detect early indicators of avoidant coping strategies associated with cancer.
11. Open discussion should be implemented by encouraging AYAs patients and their families, as well, to discuss AYAs reactions to the diagnosis and treatment, their concerns, and their dreams and hopes for their future. The Palestinians family’s cultural norms and traditions must be undertaken consistent with that.

Further Research

1. Additional research is needed to determine whether the most frequently used coping strategies by AYAs are a healthy adaptive from cancer or maladaptive avoidance, which could lead to problematic outcomes such as treatment non-compliance or psychosocial problems.
2. Additional research is needed to detect early indicators of avoidant coping strategies associated with cancer among the 15-39 years old.

3. Religion functioned as part of the coping process for AYAs meaning that further research on positive and negative religious coping is a need in Palestinian culture.
4. Further research is needed in understanding the social perceptions associated with this disease to better understand its nature and how it can be best addressed within the Palestinian cultural context.
5. Future interdisciplinary research is needed for interventions aimed at specific age-groups. This is especially for adolescents and young adult. Interventions must be aimed at promoting positive adaptation and growth and or alleviating distress and psychiatric symptoms among AYAs cancer patients**.**
6. Randomized intervention studies with larger samples that focus on psychosocial outcomes are also necessary to assure more reliable results.
7. Future research is needed for AYAs aged 15 to 39 years diagnosed with cancer to investigate the most common cancer types among this age-specific group in Palestine.
8. Further studies in the field of coping strategies are needed to identify whether coping strategies of AYAs cancer patients are best understood using stress-related, anxiety, and/or quality of life frameworks

Summary

The findings from this study on coping strategies used among a sensitive population such as Palestinians AYAs. Results are important to health policymakers, healthcare providers, and families of patients in Palestine. Yet, knowledge about which stressors AYAs cancer patients perceive as challenging is important to develop appropriate psychological interventions for Palestinian AYAs cancer patients.

The results of this study highlight that the families of AYAs patients should support and understand their coping strategies and needs. This is in addition to the important role of healthcare providers who should support patients during future times of stress along the journey of treatment and live with cancer.

The results of the qualitative part of the current study highlighted that nurses and doctors with professional knowledge and clinical experience as well as relational qualities such as care and comfort were important sources of support for participants. The emotional and informational support from oncologists always made the patients more comfortable and helped them better cope with cancer.

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Annex

Annex (1)

Descriptive statistics for 15 domain and related items of coping strategies.

Coping domains Utilized by Cancer participants

Results from the table (Annex1) show that patients have been “accepting the reality of the fact that it has happened”, and “trying to find comfort in my religion or spiritual beliefs” have received the highest rating with a mean value of 3.79, followed by “praying and mediating”, and “learning to live with it” with a mean value of 3.75 and 3.74respectively. Other items include, “My thoughts are with those in need” (mean 3.72), and “I've been getting comfort and understanding from someone” (mean 3.67).

On the other hand, “Self-blame/ I’ve been blaming myself for things that happened”, and “making fun of the situation” have received the lowest rating of 1.34 and 1.39 respectively. Then, “giving up the attempt to cope”, and “using alcohol or other drugs to make myself feel better”.

As shown in Table (Annex 1),the results revealed that no differences in mean scores between items in all domain of coping strategies except in some domains such as; “use of instrumental support”, was the participants had been getting help and advice from other people with a mean of 2.32, and “I’ve been trying to get advice or help from other people about what to do”(mean 2.77). Also, through the “denial” domain; the participants said to themselves this was not real (mean 2.05), and they refused to believe that it had happened (mean1.78). The differences also appeared among “spiritual Coping”, “My thoughts are with those in need” (mean 3.72), and “I try to get insight (also into myself)”(mean 2.94).

Table (Annex 1): Descriptive statistics for 15 domain and related items of coping strategies.

NO	Coping domain	Quotation	Mean	SD
1.	Self-distraction		*3.2*	0.9
		I've been turning to work or other activities to take my mind off things	3.15	1.10
		I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping	3.23	1.10
2.	Venting		*2.6*	0.9
		I've been saying things to let my unpleasant feelings escape	2.77	1.19
		I've been expressing my negative feelings	2.47	1.17
3.	Use of instrumental support		*3.0*	0.9
		I’ve been getting help and advice from other people	3.32	0.98
		I’ve been trying to get advice or help from other people about what to do	2.77	1.21
4.	Active coping		*3.6*	0.6
		I've been concentrating my efforts on doing something about the situation I'm in	3.52	0.84
		I've been taking action to try to make the situation better	3.58	0.72
5.	Denial		*1.9*	1.01
		I've been saying to myself “this isn't real”	2.05	1.20
		I've been refusing to believe that it has happened	1.78	1.09
6.	Religion	(22,27)	*3.77*	0.5
		I've been trying to find comfort in my religion or spiritual beliefs	3.79	0.52
		I've been praying or meditating	3.75	0.61
7.	Humor		*1.8*	0.8
		I've been making jokes about it	2.16	1.26
		I've been making fun of the situation	1.39	0.88
8.	Behavioural disengagement		*1.5*	0.8
		I've been giving up trying to deal with it	1.41	0.78
		I've been giving up the attempt to cope	1.52	0.95

9.	Use of emotional social support		*3.7*	0.7
		I've been getting emotional support from others	3.64	0.78
		I've been getting comfort and understanding from someone	3.67	0.73
10.	Substance use		*1.7*	1.0
		I've been using alcohol or other drugs to make myself feel better	1.74	1.09
		I've been using alcohol or other drugs to help me get through it	1.64	1.07
11.	Acceptance		*3.77*	0.5
		I've been accepting the reality of the fact that it has happened	3.79	0.61
		I've been learning to live with it	3.74	0.63
12.	Planning		*3.4*	0.9
		I've been trying to come up with a strategy about what to do	3.39	1.01
		I've been thinking hard about what steps to take	3.46	0.90
13.	Self-blame		*1.6*	0.8
		I’ve been criticizing myself	1.78	1.10
		I’ve been blaming myself for things that happened	1.34	0.84
14.	Spiritual Coping		*1.6*	0.8
		I try to get insight (also into myself)	2.94	1.10
		My thoughts are with those in need	3.72	0.63
15.	Positive reframing		*3.4*	0.8
		I've been trying to see it in a different light, to make it seem more positive	3.28	0.94
		I've been looking for something good in what is happening	3.42	0.90

Annex (2): Thematic Analysis Table

Categories	Themes	Subthemes	Quotations	Original Arabic Statement
Participants' emotional reaction relation to their cancer diagnosis	Emotional reaction toward cancer diagnosis	Shock	C2: "I didn’t do anything…. I was in shock".	ح2: " ما عملت ولا شي ولا حاجة، بس تفاجأت ".
			"C6: It’s true, it was a shock for me at first, when I knew I suffer from this disease…. It was a big shock actually"!!.	ح6: " صح انو صدمة اول ما الواحد يعرف المرض وصدمة قوية كمان!!".
			C10: "It is a shock at first, it is normal to feel shocked. I was shocked for a while. Now, I don’t understand what is happening. I was living a normal life, and then all of a sudden, I started to live this life. Of course, this situation was hard for me".	ح10: " هي بدها تكون صدمة بالاول يعني فشي طبيعي اكون مصدومة وقعدت فترة طويلة ، هلا مش فاهمة شو الي بصير حولي ومش فاهمة شو الي... ليش هيك مرة وحدة و ع فجاة تكوني طبيعية وبالاخر يصير معك اشي ، فهادا الوضع طبعا يعني كان صعب شوي".
			C12: "I didn’t expect to have Leukemia, but, in the beginning, they didn’t tell me that I had it and after I took the treatment they told me that I have infections and blood problems, and after I started to take doses, that is in cancer and like this…."	ح12: "ما توقعت انو يكون معي لوكيميا بس اول فترة يعني ما قالوليش انو معي لوكيميا وبعد ما اخدت العلاج يعني قالولي معك اللتهاب ومشاكل بالدم وبعد ما صرت اخد الجرعات انوو سرطان وهيك ... ".
		Sadness	C4: "I felt really bad.	ح4: " كتير زعلت ".
			C2: "I was okay. I faced it in a good way,	

			thanks to God. I was sad the first day, but then I coped with it". "I felt low at first. However, I started to cope with it later on, and I started the remedial actions. I was hurt inside". C11: "Nothing really but…. But….I was a little upset".	ح2: "عادي الحمد لله واجهت كويس..عادي ..زعلت أول يوم ..عادي .. ". ح3: " كانت يعني نفسيتي صحيح تعبت شوي ، بس يوم عن يوم تقبلت هاد الموضوع وبلشت بالاجراءات وبالعلاج"..... بس داخليا متأثرة ..". "ح11: "ولا اشي بس انو ...انو زعلت شوي".
		Fear of treatment	C4: "I was really afraid of the first session of the treatment".	ح4: " وكنت كتير خايفة من اول جلسة ".
		Anxiety & Fear	C7: "When I first heard about it I got very worried, I was very afraid, my fear is that I am a man who has a daughter to live for. I was worried and kept thinking about it for around a week". C11: "I was a little felt afraid".	ح7: "والله اول ما سمعت عن الموضوع قلقت كنت خايف وخوفي انو انا زلمه عندي بنت وبدي اعيش الها، فطلعت للموضوع هيك لمدة اسبوع وانا قلقان وهيك" . "ج11: "بس انو ...انو خوفت".
Coping Mechanisms	"Religious related coping mechanisms"	Faith & Acceptance (Qada& Qadar)	C1: "This is an act of God. This is my fate". "C8: Thanks to God, what is written for you, will eventually come to you". C1: "Some people, they think if a person suffers from cancer, their life has come to an end. They think that this person lives in another world and that he counts how many	ح1: " يعني ما شاء الله وقدره وقضاء الله وقدره ". ح8:"وبعدين الي بدو ينزل من السما بدها تتلاقاه الأرض" الحمد لله ..بس". ح1: "في ناس انفسهم مريضة ..انو معو سرطان انو يعني هاد حياتو انتهت او انو هاد الانسان شخص صار في عالم ثاني او انو شخص بعد في ايام بس انا الفكرة هاي ما خطرت عبالي بالمرة واكم من سقيم عاش حياته حين من الدهر !! " يعني العمر واحد والرب واحد زي ما بيحكو فش واحد بموت ناقص عمر يعني ... بدو

			days are left for them to live. However, I have never thought in such a way. “ How many healthy died without a reason, and how many weak live forever? ” This means that Allah is one and we live once. No one can do anything about it.	يمشي وعمرو بدو ينتهي !!".
			C3: "I have great faith in God. I know that whatever Allah wants will definitely occur, and Allah’s Will is related to the absolute best. Praise be to Allah, I was in good spirits, and I was never weak. Although I started to get the tiring chemo and radiation therapy sessions, I have never lost my faith in Allah that he will cure me one day".	ح3: " ...وبعدين ايماني بربنا كبير وبعرف فش اشي بصيب الانسان الا بكون انو ربنا اختار الاحسن الو ..والحمد لله رب العالمين كانت نفسيتي ومعنوياتي عالية وابدا ما ضعفت يعني ولحد ما بلشت اخد بالكيماوي والاشياء الي زي هاي والاشعاع ..صح رح تتعبي بس عمري ما فقدت الأمل بالله انو انا في يوم من الايام رح اطيب ورح اصير ...".
			"C4: " Praise be to Allah, I have faith in Allah. I keep praying day and night".	ح4: " انو انا مؤمنة والحمد لله وبعدين ليل نهار بدعي".
			C6: "When this disease affects someone, the first thing that happens is that this person turns to their religion. They become more religious, they pray more and always ask for forgiveness. I wake up at late hours at night to pray the prayer of need (Salat al-Hajat), so that Allah may accept my prayers. People say that Prayer (dua) and Praying (Salat) help to avert harm, and that sickness fears to recite Qur’an".	ح6: " يعني الواحد قد ما يصير يعني يصيبو المرض أول شي يعني بيلجأ لدينو بصير بزيادة للدين ، يعني صلواتو بزيادة وكتر الاستغفار وكتر الدعاء يعني الواحدبقوم بالليل بصلي صلاة الحاجة بلكي ربنا يسمع مني أو ان شاء الله يعني بقولو كثر الدعاء كويس الصلاة ، الصلاة بتخفف القرءان بقولك انو مثلا المرض بيخشى القرءان والحمد لله".

			" C12: The will of God.. I mean there is nothing we can do… not that I can do anything myself… illness is from our God". C12: "Nothing so scary … because the illness is from God and it is natural and it is a time period that will pass by I mean!!".	ح12: " ارادة ربنا يعني فش اشي ..مش بايدي يعني والمرض من ربناا". ح12: "فش اشي بخوف لانو المرض من ربنا واشي طبيعي ومرحلة وبتعدي يعني!!".
		Reliance on God (Tawakkul)	C9: "It is only a disease, the worst thing that could happen is death. In the end, we will all eventually die. So it is not worth it. Why should one be afraid of such a normal thing? This is something God wants, and I accept God's will". C7: " I looked at the subject as if it is not worth it, because, eventually, God is the one who protects and makes the sick recover. I forgot about it and continued my life normally. For a year, I don't think of the disease unless when I go to get the therapy sessions. I get them and then go back home as if nothing happened, and as if I am not sick. Thank God, life goes on". C7: "For me, I am not worried at all. Honestly, there is nothing to be scared of; there is only one God, and everyone over a	ح9: " ..اااه عادي مرض يعني اكثر اشي شو بدو يصير بدك تموت وكلياتنا ميتين بالنهاية واكثر من هيك مش رح يصير في شي ثاني يعني ، يعني مش مستاهلة انو الواحد يخاف وشغلات زي هاد وعادي هادا اشي طبيعي وهاد اشي من الله يعني فش اشي ثاني والي من الله يا محلاااه". ح7: " وطلعت انو للموضوع انو مش مستاهل ف بالنهاية الله هو الي بيحمي وهو الي بيشفي فاهمة فخلص نسيت الموضوع فاستمريت في حياتي عادي ومنها هيني الي سنة مش مفكر في المرض الا فترة العلاج اجي اخد الجلسات يعني باجي اخدهن وبروح وكأنو ولا انا مريض ولا حاط براسي اني مريض والحمد لله هيها الحياة ماشية يعني". ح7: " والله انا مني وعلي أأأه يعني مش قلقان في الموضوع ككل فاهمة ؟ فش اشي بخوف صراحة اطلعي العمر واحد والرب واحد ماشي؟ يعني الي بشوفك

			certain period will die. People who come to see me suffering from cancer may themselves be knocked by a car, or fall from a building. Death is imminent, only Allah gives life and death. Look, there is a cure for every disease. In the end, Allah has the cure, and he will cure me".	بالسرطان ممكن يكون طالع من هان وتدعسو سيارة وممكن يوقع عن بناية ويموت فهاد العمر عند ربنا،اطلعي لكل داء دواء ماشي؟ في النهاية يعني في رب بيشفي اذا في علاج فالعلاج عند ربنا هيك حطي في راسك يعني ...فمضطر من الناحية هاي.".
			C7: "Praise be to Allah. In the end, everyone should put their faith and trust in Allah. Allah is the source of all power".	ح7: " والحمد لله يعني في النهاية الواحد يخلي عينو بعين ربنا ويتوكل على ربنا وربنا هو الي بوفق ".
	Social support and affiliation	Using and seeking emotional social support	C2: "People around me supported me a lot".	ح2: " اول شي كانو الي واقفين حولي كثير داعميني".
			"C4: I have many people who support me and understand what I am going through".	ح4: " وعندي ناس تدعمني ناس متفهمة وضعي ".
			C6: "People around me convinced me that there is a chance for me to be recovered".	ح6:" طبعا الي حولي اقنعوني انو في منو الشفا ان شاء الله وان شاء الله ربنا بيشفيني ، يعني في الي صاحب انو امو كان معها المرض فربنا شافاها فهو اكتر واحد كان مساعدني في انو المرض ما بخوف كتير وصح انو اسمو!! قبل ما كان الو علاج بس الحمد لله الايام هاي في الو علاج واحنا ماشيين بالعلاج".
			C7: "Most people around me; like my wife and friends have been supporting me since I was diagnosed with it. They are around me on daily, and they are always encouraging me".	ح7: " أول اشي في معظم الناس الي حولي دعموني فيه زوجتي فيه صحاب الي يعني من فترة المرض لليوم ،يوميا بشوفهم بينقطعوش عني، كلامهم يعني كان محفز".

			C1: "My family assured me that it is going to be okay".	ح1: " الأهل طمنوني".
			C1: "My family was on my side. They didn't make me feel any different".	ح1: "والأهل كانو في صفي يعني ما حسسوني في أي نوع من التغيير يعني".
			C2: " Psychological comfort: my family was so supportive".	ح2: "الراحة النفسية يعني الدار وقفو معايا واهلي وقفو معايا".
			C2: " My family members helped me".	ح2: "ساعدوني أهل الدار".
			C2: "My sister-in-law, who has just come, and my brother are nurses. They go and come back with me".	ح2: " واخوي ومرت اخوي الي اجت الحين يعني ممرضة واخوي ممرض وبروحو وبيجو معاي ".
			"C6: " My friends and family are so supportive. My friends never leave me. They come to visit me at home as soon as I leave the hospital. They sit with me, and we stay up till late hours. They make me feel better. When I see how caring and supportive they are, I forget all the pain. My family as well, I will never forget that they have done to me the best they can do".	ح6: " صحابي من الناس الي دعموني هما واهلي، يعني صحابي طبعا ما بتركوني من مرة ، انا بروح من هون عالدار وصحابي بيجو عندي، بضل قاعد انا واياهم .عالدار بيجو عندي بنسهر بخفوو عني ولانو الواحد بشوف انو صحابو مهتم فيه بنسى هموم الدنيا وهدا الاشي يعني مساعدني انو صحابي واقفين جنبي مش تاركيني، صحابي واهلي يعني اهلي ، يعني اهلي انا ما بنسى انو مثلا انو قصرو معاي ".

			C7: "Honestly speaking, my wife has stood by me in a wonderful way. She has never made me feel that I am really sick, nor weak. If she sees me frowning, she does the impossible to make me smile again. She makes everything easier on me. She provides me with everything I need. She does make me feel better. All my needs are fulfilled. She has many conversations with me, and never mentions the topic of my disease. All she cares about is to make me get rid of the feeling of being sick. She gives me the feeling that it is only a course of medicine that I take, and then I get back to my normal life. We want to build a house, we want to do this and that".	ح7: " زوجتي الصراحة وقفت معاي يعني موقف حلو ، ما شعرتنيش بالمرة اني انا مريض او اني انا عائل او اشي يعني دائما اذا شافتني مكشر ااه تعمل المستحيل اني اضحك صراحة ، يعني مسهليتلي كل الأمور ااااه مش مخليتني محتاج اشي نفسيتي مدواييتها عالاخر بس شو بدي بكون ملبى من ناحية حكي من ناحية حديث بدور بينا يعني بتطرقش لسيرة المرض نهتئيا انت فاهمة، يعني بتحاول قد ما تقدر انها تطلعني من جو المرض وانو انت انسان مريض هي كورس علاج بتخلصو وبترجع لحياتك الطبيعية بتطلع لشغلك ...بدنا نبني مثلا بدنا بدنااااا نعمل ....".
			"C7: " I have other friends. One of them is a close friend of mine. He comes to visit me every night, to make sure that I am okay and that everything is fine, even when he has worked. He works in Israel, (Jerusalem). Thank God, my family also supports me".	ح7: " في الي كمان صحاب يعني في الي صاحب انا هو الي بعتبرو صاحب صاحب ، الصاحب هاد ليلة ليلة يعني بجيني حتنلو كان عليه شغل هو بيتشغل باسرائيل بالقدس .ااااه بروح يطمن علي يشوف الوضع شو الاخبار ووووه الحمد لله يعني الاهل بيدعموووو".
			"C10: " I cope with cancer, because of the people around me. They stand by me emotionally and psychologically. This is very important. All the people I know, my husband, family, friends, and family in-laws have supported me psychologically in a way that has made me reach the point where it	ح10: " هو الي بخليني اتأقلم وجود الناس حولي والوقفة معي بتدعمني نفسيا ومعنويا هادا الاشي كتير ضروري..زوجي اهلي اهل زوجي صحباتي ...كل الي انا بعرفهم الحمد لله كانو داعميني نفسيا كتير وهادا الاشي كتير ساعدني يعني لدرجة وصلت لمرحلة اصلا ما ما تفرقش معي ،انا هادا الاشي معي او لاء فمش متزكرتووو ، ما بتزكرو الا عالمنبه انو انا موقتة انو مثلا ساعة معينة لدوا اني اخدوه فيه وبس ، يعني المرض كلو في مش في بالي صار".

			doesn’t matter whether I suffer from it or not. I only remember when the alarm rings to remind me of taking my medication. I don’t think about the disease anymore". "C11: " Normal .. I mean that I carried on seeing back my friends and come and go with them … something like this!". "C12: " I mean that I felt as if nothing is happening… I mean patients used to help me .. I mean ..mmmm and we didn’t feel that we had it. I mean we used to entertain with nurses and the boys… I mean there were some … some youngsters and we used to pass time togerther.. I mean that we didn’t feel we had it that disease…. I mean nurses used to try to amuse us and make us feel better and didn’t let us alone in our rooms.. ". "C12: " I got used to it, normal, normal I mean my family helped me and used to come. I have a brother, younger than I am, he used to come and entertain me, normal, I mean I got used to the disease and me sort of bypassed it Thank God… My family used to entertain me I mean, I meant that they used to talk to me, never let me feel that I had the disease, I didn’t feel the illness … I mean Thank God… oh! My family and my brothers in law and my uncles and cousins	ح11: "عادي يعني انو رجعت اشوف صحابي اروح معهم واجي معهم يعني زي هيك". ح12: "يعني حسيت ولا كانو في اشي يعني ، يعني كانو الممرضين يساعدونا يعني ويعني وووه بنحسش انو في معنا مرض يعني وكنا نتسلى مع الممرضين ومع الشباب، يعني في اكمن كانو اكمن شب كنا يعني نتسلى ، يعني ما كناش نحس في هاد المرض.... يعني الممرضين كانو يسلونا وهيك يعني يخلونا نعنش وما خلوناش قاعدين بالغرف". ح12: " تأقلمت معاه عادي، عادي يعني اهلي ساعدوني وكانو يجووو وانا في الي اخ اصغر مني كان يجي يسليني وعادي يعني تأقلمت مع المرض وعديت وانا اخدت المرض والحمد لله.... اهلي كانو يسلوني يعني ، يعني يحكو معي ، يخلونيش احس بالمرض يعني ، فشعرتش بالمرض يعني ....الحمد لله ......اه اهلي وجيزان خواتي وعمامي وولاد عمامي وغيرو خوالي وولاد خوالي يعني كلو والحمد لله".

			and uncles to my mother and their children … I mean all of them … Thank God".	
		Seeking and using instrumental support	C6: "My friend's mother used to suffer from this disease, but fortunately, God made her recover. This friend was so supportive and helped me believe that this disease is not that serious. Before it used to be, but nowadays, there is a cure for it. I take medication". C1: " Physicians always comfort me "they reassure me that cancer, as well as all other diseases, has a cure. They told me to take my medicine and live my life normally ". "C3: To recover, one should listen to the doctors' advice and act accordingly. This helped me a lot at first and made me recover. The doctor even told me that there is no need to come back for treatment. Recently, he gives me some painkillers until my body adjusts". C9: "They told me about the treatment and I am now on medication. Hopefully, I will get better soon. I already feel better. This is something normal. This is my fate".	ح6: "في الي صاحب انو امو كان معها المرض فربنا شافاها فهو اكتر واحد كان مساعدني في انو المرض ما بخوف كتير وصح انو اسمو!! قبل ما كان الو علاج بس الحمد لله الايام هاي في الو علاج واحنا ماشيين بالعلاج ..." ح1: " تطمينة الدكاترة (يعني الدكاترة طمنوني انو في الو علاج وما فش مرض في الدنيا فش الو علاج وعش حياتك وهذا المرض في الو علاج وبدك تمشي معو عادي زي أي مرض عابر" ح3: " انو تتقبلي نصائح الطبيب وتعملي فيها بشكل كبير وهاي الاشياء كثير بتساعد ع تخطي هادا الاشي وهادا فعلا ساعدني بالاول وفعلا وصلت لمرحلة انو انا طبت وحكالي الدكتور خلص ما بدي اشوفك بعد العلاجات، فرجع يعطيني هسا اشي يخفف شوي عبين مهو ماشي الوضع ان شاء الله ". ح9: " والواحد يعني يحط أملووو في الله ويمشي ويكمل وياخد العلاج المناسب وحكولي عن العلاج وما علاج وهيني باخد بالعلاج وان شاء الله يعني الواحد انو يكون افضل وشايف الواحد حالو افضل بس يعني هاذا عادي هاذا اشي بدو يصير".

			"C10: "I started to have a betterfeeling when I started to take things easy, and believe that it is only a routine that I will eventually get rid of. What gives me hope is that the physicians always comfort me that there is a chance to recover and that the medicine is always available which is very good".	ح10: " احسن شي لما بحس الواحد انو اااه خلص يعني انو بتاخدي الامور بكتير بساطة سعيتها.. عادي حسيت انو شي روتيني لانو بالاخر يعني رح اشفى منو...اااه الي بخليكي انك تحسي حالك انو في أمل انو بتقدري تشفي منو ، وبيعطوكي امل الدكاترة الدوا متوفر وهادا الاشي كتير منيح...".
			"C3: "You should know from the beginning that you have 90% chance to recover. I don’t want to say you have a chance of 100% to recover, but 90%".	ح3: " لازم من البداية يكون عندك معلومة ...انو انت يعني عندك 90% تقريبا انو انت بدك تطيبي** ...انا بديش احكيلك 100% ..90% انو انت بدك تطيبي ان شاء الله من هذا الاشي".
			" C5: You should study it and know exactly what it is, in order to know what you really suffer from and to know what tips you should follow".	ح5: " واه بدك تدرس عنو وتعرف ايش هو بالزبط ..عشان تعرف ايش معاك ..تعرف ايش عن ايش تبعد وتعرف عن ايش تقرب..".
			C5: "I coped, studied and researched how the treatment used to be, how it is nowadays The theories, and medications used recently".	ح5: " تأقلمت معو انو درست عنو منيح وكيف كان العلاج زمان وكيف العلاج اليوم وعن النظريات الادوية الي بيستعملوها حاليا وايش الادوية الي بيستعملوها وممكن انها تعالج المرض".
	"Acceptance"	Cancer has become common disease	"C6: "I recently dealt with it as if it is a normal disease. If I hear about anyone who was diagnosed with it, I don't react, because this disease has become so common, just like the flu. This helps me not to think more about it".	ح6: " متعامل معو يعني الايام هاي زيو زي أي مرض يعني الايام هادي لما اسمع ايا واحد معو المرض ما بستغرب انو صار الايام هاي زي الانفلونزا كيف الواحد بتعرفي كل الناس مفلوزة هادا المرض صار زيو وبكثرة كمان كتير صار وهادا الاشي بساعد انو الواحدما يفكر".
		Have a cure & like any disease	C1: "I continued my life normally. Thanks to God, from 2011 till 2017, I live my life	ح1: " وعشت حياتي ومشيت فيها والحمد لله رب العالمين اني من ال 2011 واحنا في ال 2017 وانا ماشي وعايش حياتي طبيعية وما تغير عليها أي شي

			normally, and nothing has changed. I have the willpower, and I don’t think about the disease, because for me, it is just a normal disease like cold and flu. It doesn’t come to mind and I don’t remember it, unless when I have a check-up at the hospital ". C2: "Thanks to God, I cope with the disease, there is no problem. Praise be to Allah, I am in high spirits".	ويعني قوة الارادة الي عندي ..ما بفكر بالمرض ..يعني ما بفكر فيه المرض بالمرض..مرض زيو زي الرشح زي أي مرض تاني..بخطرش عبالي ..بتعرفي متى بيخطر عبالي، في الموعد ..انو اليوم الي مراجعة في المستشفى وبفطنلو بس وغير هيك ما بفكر فيه ابدا !!". ح2: " والله تأقلمت عادي الحمد لله ما في مشكلة ولا اشي والحالة النفسية كويسة الحمد لله رب العالمين ".
			C9: "My life is normal; I should continue with my life normally without being afraid. For example, although I have a chemo session tomorrow, I will go to work as if nothing has happened. I continue with my life as if I suffer from nothing; I go to work, I plan for tomorrow, I have long-term plans, and I look forward and not backward. I don’t even remember that I had a chemo session yesterday. I forget the sessions as soon as I finish them". C10: "I have adapted and coped with it. It has become a routine in my life".	ح9: " الحياة طبيعية بدك تكمل حياة طبيعية ومش انو مرض بدك ضل خايف ولا كانو في اشي عادي مثلا هيو انا بكرة صح ماخد جرعة بكرة بروح عالشغل عادي ولا كأنو في اشي مكمل حياتي عادي عالشغل وكلشي وبحضر لبكرة ههه لمدى بعيد وبطلع لقدام مش لورا وبطلعش شو صار فيي من قبل يعني من امبارح كنت اسوي مثلا جرعة كان عندي وبعدين خلص ما بفطنيلهاااش بنساها عالسريع يعني خلص ". ح10: " اه طبعا تاقلمت معو تكيفت معو صار اشي روتيني بحياتي".
		Living with cancer	C1: "I accepted it open-heartedly! I dealt with the disease like any other medical illnesses !". C1: "I changed nothing about my life. I live	ح1: " تقبلتو بكل صدر رحب! وتعاملت معو كأي مرض ثاني!". ح1: " ومشيت في حياتي عادي وما غيرت أي اشي في حياتي وضليت ماشي".

			my life very normal".	
			C1: "I cope with the disease. I behave and act as if I am not sick".	ح1: " تأقلمت معو بشكل كأني طبيعي فش فيا أي مرض".
			C1: "Our life goes on just the same as before. We got used to the doctors,and coped with the disease as if it is a normal disease".	ح1: " حياتنا استمرت زي مهي وتأقلمنا مع المرضوروحتي عالدكاترة زي أي مرض عادي..يعنيكأي مرض عادي ... ".
			C2: "Thanks to God, I cope with the disease, there is no problem. Praise be to Allah, I am in high spirits".	ح2: " والله تأقلمت عادي الحمد لله ما في مشكلة ولا اشي والحالة النفسية كويسة الحمد لله رب العالمين ".
			C4: "It is very normal, I live my normal life. I feel it is only a disease, and it is not the end of the world".	ح4: " عادي جدا يعني مارست حياتي الطبيعية وحسيت انو مرض وما حسيت انو نهاية الدنيا".
			C4: "I am so well-adapted".	.ح4: " يعني متأقلمة جدا ".
			C5: "I almost gave in to the disease. Actually, I am forced to adapt to and cope with it".	ح5: " وهي تقريبا يعني استسلام ومرض اجا وبك تتأقلم معو وتعيش معو".
			C6: "With regards to the disease, I say: what is written for you will come to you".	ح6: " بلش يعني من ناحية مرض "المكتوب عالجبين لازم تشوفو العين والمكتوب فش منو هروب" .
			C8: "It is normal. I don't even mention it at home. I behave and act just as if I don't	ح8: " عادي ولا حتى بجيب سيرتو في الدار ولا كانو موجود ولا كأنو عندي مرض ..عادي لاني انا بحبش اجيب سيرتو لأنو اصلا يعني اذا انت بضل تفكر فيه

			suffer from any diseases. I don’t like to even mention it. I don’t have to think about it, because thinking about it, will just weaken my immune system".	، بصير مناعتك بتنزل وانا شو الي دايرني على هادا الاشي عادي كأنو ما فيي ولا كأنو موجود أصلاا ...".
			C9: "I have adapted and coped with it. I have the manner of ignoring. For example, when they told me that I suffer from cancer, I reacted as if I heard nothing, I was very normal".	ح9: " تأقلمت معو ههه تكيفت معو!!..لا يعني خلص تشيف يعني بطنش انا خلص فيني طبع اني بطنش، يعني حتى لما قالولي مثلا انو في عندك مرض يعني كأنو مش سامع كانو في اشي طبيعي..".
			C9: "I welcomed the disease without reaction!! and at the same time, I didn’t think about what would happen to me".	ح9: " انا واجهتو يعني كاهلا وسهلا !! كاني بقلو يعني مش انو يعني خلص تنكدت وصرت أفكر شو بدو يصير فيي".
	Positive reinterpretation and growth	Strong will	C1: "I have a strong will and will beat it".	ح1: " أنا عندي ارادة قوية وبنتصر عليه".
			C3: "I was never weak, and I am in high spirits".	ح3: " كانت نفسيتي ومعنوياتي عالية وابدا ما ضعفت يعني".
			C3: "What helped me is that I am in high spirits. This disease, in particular, needs to be on the back burner in order to beat it".	ح3: " امم الي ساعدني انو يعني نفسيتي قوية كثير وبالذات المرض هاد بدو نفسية قوية كثير وانو تنسي انو انت مريضة فيه اصلا على شان انو انت تقدري تتخطيه".
			C3: "High spirits and mental health do matter"!!.	ح3: " النفسية كثير كثير مهمة والمعنويات العالية".
			"C4: I said to myself that it is a very normal disease, and then I started the treatment".	ح4: " وبعدين قولت لاء مرض طبيعي جدا... بعديها بلشت العلاج!!".

			C6: "One should resist living. It is true I am still young, but I should fight the disease to beat it".	ح6: " الواحد لازم يقاوم عشان يعيش.. صح انو بالنسبة للواحد عمرو صغير وهيك بس الواحد لازم يقاوم المرض عشان يتعداه".
			C9: "I want to continue with my life, and I don’t want to change anything about it. I desire to work, to eat what I want, to go and come back whenever I want, and to continue with my life as if nothing has changed. I live my normal life even better than before, nothing has changed. Even at home, no one mentions the topic of my disease. Although I have just finished a chemo session, no one would ask me about it when I go home. It became something normal. I continue with my life in a very normal way".	ح9: " ..... وزي هالناس خلص الواحد اشي بدو يصير خلص يعني هاد زي ما بقولوها "ايمان" عندي ايمان انو اكمل يعني يعني خلص مش سائل يعني وشو بدو يصير يصير يعني وبدي اكمل حياتي زي مهي بديش أغير فيها اشي ، يعني بشتغل عادي وبكمل وبوكل شو ما بدي وبروح وبروح وقتيش ما بدي ووقتيش ما بطلع عالشغل يعني مكمل حياتي ولا كانو تغير عندي اشي ، يعني مكمل حياتي الطبيعية حتى احسن من قبل يعني فش ولا حاجة حتى يعني بالدار ما فش بجيبوش سيرة مرض وشغلات زي هاي يعني حتى الحين لما أروح عالدار صح ماخد جرعة بسألونيش شو صار معاك ولا حاجة ولا كانو في اشي يعني...بروح عادي الاشي طبيعي يعني فش اشي غريب بالموضوع مكمل الحياة طبيعية طبيعية جدا جدا ".
			C9: "Whoever listens to what people say, will suffer and become depressed. I am getting used to it, and I have to look forward and not backward".	ح9: " لاء بدو يعني يصير يسمع كلام الناس وهذا بيتعب يعني بينهار يعني الواحد مشى حالو وقولة الواحد بدو يطلع لقدام ما يطلع لورا".
			C10: "I suffer temporarily from the disease. As much as I stay strong, and in high spirits, as fast as I beat it and get rid of it. This makes me take the medicine regularly and stops me from being sad. This is very important because mental health plays a key role in recovery".	ح10: " خلص انو يعني كيف اقولك هو موجود بس بشكل مؤقت وانا قديش بقدر اكون قوية ونفسيتي منيحة كتير بتغلب عليه وبخلص منو بسرعة ، فهادا الاشي بخليني استمر عالدوا واخدو وما ازعلش حالي هادا اهم اشي لانو النفسية اهم اشي في الموضوع".

		Being optimistic and rebuilding hope	C3: "You should forget that it is impossible to cure this disease".	ح3: " لازم تنسي انو هو مرض انو يستحيل يتعالج".
			C3: "One day I will recover from it, and it will be something".	ح3: " انو انا في يوم من الايام رح اطيب ورح اصير ...".
			C9: "I faced it in an enthusiastic way – as they say. I was smiling, when I went to the hospital to undergo the biopsy and the x-rays. Everything was normal for me".	ح9: " واجهتو زي ما بقولوها بحماس يعني لما كنت اروح اعمل صورة وخزعة واشي عادي اروح عادي وكنت اضحكش ولا كاني ما فيي اشي اشي طبيعي".
	Self-distraction		"As time passed by, I started to cope with the disease, by working out, reading, and carrying out projects abroad". Subj5	ح5: " بالنسبة كيف تأقلمت معو معو الوقت صرت أمارس الرياضة ،بالقراءة، بالمشاريع الي كنت اعملها برة".
			C5: "I distract myself by carrying out some patriotic activities. You know, some people abroad don't know much about Palestine, so we hold conferences every week, make films, and carry out some activities in the streets like dancing traditional dance".	ح5: " واللهيت حالي بالجهة الوطنية شوي، برة بتعرفي كيف في ناس ما بتعرف عن فلسطين وعن هيك ، فكنا نعمل مؤتمرات وبشكل دوري ،اسبوعي ااه ..بنعمل افلام ، بنعمل نشاطات بالشارع ، اه لو بشكل بسيط دبكة او مش دبكة".
			C5: "With regards to sport, I started climbing before travelling. However, when I went abroad, I started to like it more than before. I started to practice climbing more often. Recently, whenever I feel low, I go and climb mountains, in order to feel better".	ح5: " وبالنسبة للرياضة انا بلشت ااه ال climbing ااخ قبل ما اطلع برة وبعد ما طلعت برة شوفتها احلى ومارستها بشكل اكثر فاستمريت فيها وصرت خلص لما احس حالي متدايق شوي اروح اطلع ع الجبال واتسلق ..اريح نفسيتي..اكثر من هيك هههههه".
			C7: "Sometimes, I distract myself by	ح7: " يعني في بعض الاحيان بحاول مع الشغل يعني بس الشغل متعب عشان

			working, but because of the chemo sessions I undergo, I get fatigued quickly. Therefore, I try to distract myself and spend time by going to a café, hanging out with friends, praying, reciting Qur’an, watching TV and among other things".	الكيماوي ف ما بقدرش فبلهي حالي في شغلات بروح على صحاب على قهوة في صلاة في قراءة قرءان في تلفزيون طبعا يعني بعبي وقتي....".
			C7: " Staying at home causes depression, especially for people who are used to work. Imagine how it feels like when someone is used to working, and then they stay at home for a whole year, not even knowing when they can go back to their work and normal life. Therefore, I try to spend my time doing many things, so as not to think about my disease, or why my disease is the reason I am not working. Do you understand me? I mean I have to do anything so as not to think about the disease and thus have low spirits. You know, the mental health does matter. Thanks to God I am in good spirits".	ح7: " القعدة مرات بتيأس البني ادم خاصه الي متعود عالشغل دايما وفجاة يقعد سنة كامله والله واعلم وقتيش متى يرجع ع شغلو او ترجع حياتو الطبيعية الي كان متعود عليها اااه فمن هادا المنطلق يعني...بحاول الواحد يعبي وقت فراغو في أية اشي حتى ما يصلش لمحرحلة يفكر في مرضو او يقول انو مرضي هو الي قعدني..فهمتي؟ الي ما يسببلوش هادا المرض نفسية والنفسية بتأثر في الموضوع والحمد لله يعني انا نفسيتي كويسة يعني بالنسبة للموضوع هاد".
			C8: "For me, I don’t think about it at all. I live my normal life as if I suffer from no diseases. I live my life happily, I go wherever I want, eat, drink, take my children to visit my family, visit my brother, and attend wedding parties. I live as if I am not sick".	ح8: " انا والله عادي بالنسبة الي ولا مفكرة فيه نهائيا ولا كانو عندي مرض وعايشة حياتي مبسوطة بروح وباجي وباكل وبشرب وعايشة أنا وولادي وبطلع ع دار أبوي بروح على دار اخوي ولا كانو عندي أي شي وبروح عالاعراس والمناسبات ولا كأني مريضة".
			"C11: "Normal!! I wasn't even thinking about	ح11: "عادي !! ما كنت افكر فيه اصلا واللتهيت في... في الي كنت اسويه قبل وما فكرتش فيه... واروح عالمحلات الي كنت اروح عليها عادي".

			it and made my self-busy in …. In what I was doing before and I didn't think about it. I went to all the place I used to go to normal".	
	Spirituality Coping	Connectedness with other harmful cases	C6: "At first, when I came to the hospital to start the treatment, I was feeling low. However, when I saw other patients who suffer from severe conditions, especially children, I felt much better, because compared to them, I suffer from nothing. This helped me and lifted my spirits up. I hope my spirits will stay up".	ح6: " تأقلمت معو..انا اول ما اجيت اتعالج بالمستشفى كنت تعبان كتير ، فانا اجيت عالمستشفى شوفت حالات، حالات صعبة كتير من ضمنها الأطفال ولما شوفت الأطفال انا ائلك كيف ائلك انا ارتحت نفسيا ، يعني انا فش فيا اشي بالاعتبار وبالنسبة لغيري وهادا الاشي الي ساعدني واعطاني دفعة من معنوياتي عليت وان شاء الله ضلها دايما هيك وووه اللهم صلي على سيدنا محمد...".
			C8: "Normal, just as if I don't have it. Maybe it is for the best. For me, it was okay. I wasn't shattered, because it is a normal disease. Besides, when you see people here, you find your own light calamity. There are so many patients here. When I came here, in the beginning, I was heartbroken. However, when I saw all the girls who are younger than the age of 17, I was thinking like" I don't deserve better than them. We are all equal".	ح8: " عادي ولا كأنو عندي بجوز خبر ..عادي بالنسبة الي انا ، ما تأثرتش..عادي لأنو مرض عادي وكمان لما بتشوفي هون ، بتشوفي كل الناس حوليك بتهون عليك همومك ، مليان يعني أنا لما اجيت هان في البداية كنت صح عندي شوية "غصة" بس لما شوفت كل الصبايا الي حولي من سن أقل من 17 سنة قلت يعني أنا بدي أكون أحسن منهن لا مش احسن منهن".
			"C9: "Like all patients of this disease, it is written for me. As they say, this is "faith". I have faith that I should continue with my life, and live it as it is !!".	ح9: " انا زي كل المرضى، هاد اشي مكتوب الي. زي ما بيحو هاد "ايمان". انا عندي ايمان اني اكمل حياتي واعيش زي مهي!! ".
	Planning		C6: " With regard to my studies, I would love to fulfill my ambition and finish my	ح6: " حياتي الدراسية بالنسبة لحياتي الدراسية انو انا حابب أكمل طموحي انو حاول اكمل صح اني ماخد اجازة هلئيتي الفترة هاي بفترة علاجي مخليني ما

			undergraduate degree. It is true I am on sick leave now, but I will go back to school and finish my degree, as soon as I recover. I am almost done with it, and not many credit hours are left". C9: " They told me that I was diagnosed with Hodgkin lymphoma, which is not that serious. When I knew I was diagnosed with it, I accepted this fact, because one should look forward and not backward. One should not listen to people talk, because their talk will lead you to become depressed and to have a nervous breakdown. One should look forward and not backward". C11: "And studying… you see I enrolled for the next school year .. I am now in the tenth grade".	امشيس بدراستي بس انا عندي طموح ، فأنا بالنسبة للجامعة ناوي أكمل ، ما ضلش قد ما مضى ف بدي أخلص علاج وبعديها ارجع لجامعتي". ح9: " ولا انهم بقولولي عندك الي هو Hodgkin lymphoma بس بخوفش يعني بس لما عرفت انو المرض هاد خلص الواحد بيتعود يعني وبدو يطلع لقدام الواحد مش بدو يطلع لورا ...لاء بدو يعني يصير يسمع كلام الناس وهذا بيتعب يعني بينهار يعني الواحد مشى حالو وقولة الواحد بدو يطلع لقدام ما يطلع لورا". "ح11: "و الدراسة انو سجلت في السنة الجديدة ....في الصف العاشر أنا!!".
AYAs' needs in coping with cancer	Medical care availability,	Medication availability	C1: "The treatment should be available at the hospital". C3: "The treatment and medication should be available at the hospital". C3: " The service at the hospital should be improved. I am sorry to say that, but when I ask for a painkiller in the morning, they bring it in the afternoon, and when I ask for it in the afternoon, they bring it at night".	ح1: " العلاج يكون موجود بالمستشفى". ح3: " لازم العلاج يكون موجود أصلا.... ع القليلة انو الدوا يكون متوفر !". ح3: " كمان الخدمة في المستشفى.. يعني لا تاخذيني تطلبي حبة المسكن من الصبح رح تصلكي الضهر ...تطلبيها الضهر، تصلكي بالليل! ".

			C6: "Everything should be provided for the patients in a hospital as big as this one. Here, they don’t have a biological device, and bone marrow transplantation are performed".	ح6: " كمريض لازم كل اشي يكون متوفر زي مثلا عندك الجهاز البيولوجي هون فش منو اااه هون مثلا فش حد بيزرع نخاع او فش عندهم ، فمثلا هادي الاشي لازم يكون متوفر عندهم لانو مستشفى بحجم هادا لازم يكون فيه".
		Multidisciplinary team availability	C1: "To provide a competent medical staff. To hire more physicians".	ح1: " توفير الكادر الطبي ((القدير)).... يجيبو دكاترة اكثر".
		Environment	C2: "The atmosphere should be positive".	ح2: " الجو يكون كويس يعني".
			C3: "There is no extra space here because they provide one room for three or four patients. We have visitors all day long, as a result, we can’t move in the room as we want, we can’t sleep and we can’t tell them to leave".	ح3: " كمان يعني فش مجال هانا بحطو 3 و4 في الغرفة ...الزوار 24 ساعة ،يعني ما بتقدري تتحركي تحكي لحدا اطلع ،وفي نفس الوقت ما بتقدري تنامي".
			C3: "When I need something, I should go and ask for it on my own, or I can ask for the help of my attendant. However, I think they should provide a call- bell to make things easier for us".	ح3: " واذا انت ما رحتيش، يعني لازم مرات المرافق... يعني اقل ما فيها اضغط عالجرس اطلب اشي فشي جرس ".
			C3: "Firstly, when I started to take the chemical doses, I was feeling fatigued and my immune system weakened. I faced the problem of going through a long way to the checkpoint because the hospital was not in my village. This was one of the obstacles I	ح3: " اول شي احكيلك انا اخدت الجرعات وكنت اتعب وكانت تنزل مناعتي وكنت يعني ..وكان عندي مشكلة انو لازم اطلع عالمعبر كان اواجه انو الطريق طويلة ..يعني كنت بمستشفى لانو برة وانا يعني في قرية وكان المشوار بعيد علي وكنت كثير اتعب من هاي الاشياء وصعوبات اني تصلي المستشفى".

			faced; the long way to the hospital that makes me get more tired".	
			C10: "The nearest Oncology Center is this one, in Bethlehem. I face the problem of coming all this way every month. This puts me under stress a week before the day of the treatment. If they establish an Oncology Center in my city, things would be much better".	ح10: " بضل المشكلة مركز الاورام القريب منا في مثلا هون ببيت لحم انا باجي من مسافة يعني باعتبار كل شهر هادا شوي بيعملي ضغط نفسي قبل ما اجي باسبوع ، بس لو انومثلا متوفر في المدينة الي انا فيها بكون افضل".
			C3: "Poor service; the bathrooms are bad, and they change bed sheets every three days".	ح3: " فالخدمة سيئة الحمامات ،والشراشف كل يومين 3 ليغيرلك الشرشف مرة!!".
	Health-care communication needs	Patient-physician/nurses communication	C4: "Here, they are not nice. They never treat us nicely. I pray to recover soon, so as not to be forced to come to this hospital again. The doctors are not nice here. For example, I try to tell the doctor about something that happened to me, or something that I noticed, he doesn't pay any attention to me. Another doctor does the same, she even hurts us (the patients) explicitly. She doesn't accept us.	ح4: " انا هون باجي معاملة هون كتير عادية..بعديها يعني فش معاملة منيحة نهائيا ، يعني انا بس بدعي انو اخلص من هالعلاج وعشان ما ارجعش هون عالمستشفى ...من الاطبا من الدكتور نفسو باجي احكيلو شغلة صارت معي او لاحظتها عحالي ما بيسمعني نهائيا وكمان في دكتورة هيكد انو يعني بتجرح بالمرضى علنا ..ما بتتقبلهم نهائيااا".
			C4: "There is a doctor who keeps hurting the patients deliberately. She doesn't accept them".	ح4: " وكمان في دكتورة هيكد انو يعني بتجرح بالمرضى علنا ..ما بتتقبلهم نهائيااا !!".
			C4: "They should, at least, treat us in a better way. In general, here, we all should treat each other nicely, but unfortunately, we don't	ح4: " عالاقل انو الممعاملة تكون منيحة اهم اشي والمفروض انو احنا بشكل عام هون نتعامل بشكل منيح وما بنشوف هاد الاشي...الاغلب انو هون بصرخ وما بتقبلو فينا ..عنجد هادا الاشي صار اكتر من مرة ".

			see this. Most of them, shout at us and don’t accept us. This happened several times".	
			C6: "The nursing staff plays a key role. The way they treat the patient helps him or her. The nurses treat the patients nicely; they respect them, stand by them, and help them cope with the disease".	ح6: " طاقم التمريض بيلعب دور كبير، طبعا معاملتو مع المرضى مع المريض بتساعدو يعني انو في احترامات بتختلف عن كل اشي يعني بتختلف يعني انو مثلا الواحد بيحترمك وماشي معك وبساعدك بالمرض هادا اكبر وسيلة كويسة ".
			C8: "The hospital care here is excellent, may Allah give them the strength. Honestly, their care services are really excellent, they make a great effort. On Sundays, they have a lot of work and they make great efforts. Genuinely speaking, that man and that girl do a lot of work effectively".	ح8: "رعايتهم بالنسبة الهم هان والله رعايتهم فوق الممتاز ...الله يعطيهم العافية ...صراحة يعني فوق الممتاز وبيتعبو تعب وارهاق ..انت لو تيجي يوم الاحد وتشوفي الارهاق الي عندهم عليهم ضغط والله بيتعبووو والله يعني أبو م والي معاه البنت بيتعبو من الاخر ، ربنا الله يعني...يعني بيتعبو تعب حتى يقولو حي على الفلاح وبيشتغلو بقلب ورب صراحة يعني ..ولا حاجة والحمد لله ".
			C10: "Firstly, the physicians should treat their patients nicely".	ح10: " اول شي تعامل الدكاترة يكون كتير منيح".
	Care center system management	Better waiting time management	C1: "People don’t wait in line".	ح1: " الناس ما تستنى عالدور".
			C5: "Poor hospital care, they are not organized, and they take much time to carry out tasks".	ح5: " اااااه النظام المستشفيات عنا جدا سيء من ناحية الخدمات ، بوخدو وقت وغير فش تنظيم بالمرة".
			C5: "When I came the first time, the doctor was not here. I came again, he wasn’t here. I came for the third time and waited for four hours to see him. When you arrive here at 6 am, you get to number 20 in line, whereas,	ح5: " ولما رجعت هون ما اجيت اول مرة الدكتور مش موجود وتاني مرة الدكتور مش موجود وثالث مرة اقعد 4 ساعات استنى ، لما تيجي هون توخد رقم تيجي عالساعه 6 توخد رقم 20 وتيجي عالساعه 9 و 8 توخد رقم 30 ، فبطلت تفرق صرت اجي 8 ..9..10"

			when you arrive at 8 or 9 you get to number 30, so it doesn't matter to me anymore, I come at 8,9 or 10". C5: " Patients can’t keep waiting at the hospital from 8 or 9 am to 2 pm. This is bad and puts more pressure on them. This is the worst thing that may affect them".	ح5: " ااه بيقدرش انو يضلو من المستشفى من الساعه 8 الصبح 9 الصبح للساعه 2 العصر وهاي شغلة سيئة بتضغط المريض ...في النهاية اسوء شغلة ممكن تأثر علينا ..."
	Psychosocial support	Psychosocial emotional support	C2: "Parental care, psychological comfort". C5: " With regards to this disease, the worst thing that may affect the patient is getting angry, and depressed. If the patient keeps these low spirits, their condition will get worse, and the cancer cells may spread to other parts of the body". C7: " The family environment plays a key role in keeping the patient’s spirits up. The family should have the full consciousness of the course of events of the patient’s life". C7: "Secondly, you should study the subject of how to raise the awareness for cancer, especially among the families of the patients as the most important supporters for them. Thank you". C8: "I am so social, I told the girl who was sitting next to me how my immunity system	ح2: " رعاية الاهل، الراحة النفسية ". ح5: " بالنسبة للمرض هادا يعني..اسوء اشي هوا العصبية او الضغط النفسي وشغلتين من هدول ممكن ينقلو المرض من اي مرحلة ل اي مرحلة اخرى وممكن ينتقل من الدم ل جزء ثاني اذا الانسان ضغط عحالو". ح7: " هلا بحكيلك اهم شي للمريض هيا أهلو والبيئة الداخلية الي عندو ، لازم يكون في عند الاهل التوعية الكاملة في مجريات الاحداث في فترة المرض الموجوة عند المريض". ح7: " ثاني اشي لازم تدرسووو موضوع تتوعو بمرض السرطان انو شو بسوي انو شو بيعمل لانو الاهل هما اكبر جهة داعمة بتكون للمريض وشكرا. ". ح8: " يعني انا بحكي كثير يعني هيها وحدة قاعدة جنبي بحكيلها انو شو توكل شو تشرب عشان المناعة تزيد عندها وما توخدش ابر المناعة ...انا كانت المناعة

			was weak and how I boosted it. I advised her what to eat and drink in order to boost her immune system, raise the hemoglobin level, and stop taking any injection needles. I told her how she should forget about the disease and live her life happily with the people around her. As much as you try to forget about the disease, as better as your life will be and your body adjusts, because of the willpower matters".	عندي نازلة وحكيت الها شو انت توكلي شو تشربي شو ترفعي مناعتش ترفعي دمكش انسي الموضوع انو في عندك مرض اطلعي وعيشي حياتك وانبسطي مع العالم وانسي زكل ما بتتناسي موضوع المرض كل ما انت بتتقبليه وبتصير حياتك احسن وجسمك حتى بيتقبل لانو بدو ارادة ...".
			C10: "Most importantly, the medication should be available, and the doctors should encourage and support the patients psychologically".	ح10: " .....ااااه هو اهم شي يعني الدوا يكون متوفر والدكاترة اصلا يعطو دافع نفسي منيح".
			C12: "Services!!, Thank God no one went short of service, nurses and my family alike, no one went short of service to me …. Thank God".	ح12: "الخدمات !! الحمد لله ما حد قصر من الممرضين والممرضات وحتى اهلي ولا حدا قصر........الحمد لله".
		Social understanding	C7: "I want to tell you something; at first, when they diagnosed me with cancer, people used to come and say: don’t worry, what is written for you will come to you. They made me depressed because they mean that I will die in all cases. Why!!! I suffer from lymph nodes cancer, which is not that serious. However, they come and say this without even knowing what type of cancer I have. They just conclude that I will die because of	ح7: " ااااه بدي احكيلك شغلة انا في بداية الموضوع كل واحد كنت اشوفو كان يجي علي يحكيلي يقلي تخافش والي كاتبو ربنا صاير، يعني انت بدك تموت بدك تمووت معنى الحكي هادا بيحبط البني ادم !لييييش!! البني ادم هاد الي اجا عليك وحكالك هاد الحكي ما عندو ..طب انا عندي الغدد الليمفاوية انت بتعرف شو تشخيص مرضي بالزبط لا بتعرفش طيب بتعرف اسم سرطانو؟! لا السرطان قاتل هيك في راسو ،،هلا بعطيك كلام يوحي على انو انت بدك تدخل الجنه يعني تقلقش رووووح مووووت فهمتي؟ فهاذا فهاذا الاشي بحبط المريض داخليا، فأنا كثير كانو يتوجهولي يحكولي مثلا هيك حكي تقلقش ومش عارف شو انا كزلمة كنت اوقفو عند حدو واقوللو انا الامور هاي كلها فاهمها ومش حاجة لنصائح ..".

			cancer. They start to say things that mean: you will go to heaven, don’t worry, go and die. Do you understand me? This hurts the patient and makes them depressed. For me, as a man, I stop them by telling them that I understand everything and I don’t need any advice".	
			C7:"When I knew about my disease I informed my family and asked them to be aware of my new situation, not to feel sorry for me, not to treat me as a person who will die soon, to fight with me, to joke with me, and to do things as usual in order to help each other accept this fact. I want to shout at my son as usual, and my daughter to shout at her sister or brother. I want everything to be normal, because my disease is a normal disease, and 70 % of its recovery depends on fine spirits".	ح7: " حتى اهلي اول ما صار الاشي قلتلهم انا زلمة وضعي واحد ثنين ثلاث انا بتطلب منكم واحد اثنين ثلاث من ناحية يكون عندكو وعي بالنسبة للوضع الي انا فيه ماتقولوووش انو خلص هادا زلمه بدو يموت حاليا واحنا لازم نتعايش معاه على انو زلمة بدو يموت لا لاااا بدنا نتكاتل مع بعض وبدنا نتهبل ع بعض وبدنا نغلب بعض وبدنا نعمل شغلات كثيرة الي نساعد بعض مش انو هادا الحين نطلعلو بعين الشفقة مثلا وبعين الحسرة وانا بدي اصيح على ابني او هديك بدها تصيح ع اختها او على اخوها .اااااه فهادا اشي طبيعي اشي ما بخوفش اول شي النفسية 70% من العلاج هيك حكتلهم طبعا ، ".
			C1: "No no!!! ..you wouldn’t like when things are new to you and too much on you .. andso.and it isn’t always nice to make a thingoverdone,it's better to leave things naturally, I meant not to change things like yourlife. Where it should stay as it is not to change anything in it".	ح11: " لاااا لا !!! بتحبش اشي جديد تصير عليك ناحية انو الخدمات تصير زيادة عنا اللزوم وهاد هو وزيادة عن الاشي مش حلووو والاشي يكون طبيعي احلى، يعني ما يتغيرش اشي يعني زي حياتك ضل مستمرة زي مهي يعني ما يتغيرش فيها اشي".

Annex (3)

Demographic Data Questions-Arabic

البيانات الديموغرافية الإحصائية:

1. **العمر**.................
2. **الجنس**: أ) ذكر ب) أنثى
3. **الديانة:** أ) الإسلام ب) المسيحية ج) أخرى
4. **كيف تقيم درجة تدينك ؟**

5 4 3 2 1

متدين جدا **غير متدين**

5. **السكن** : أ) مدينة ب) قرية ج) مخيم
6. **التعليم:** أ) لم أتعلم ب) ابتدائي ج) إعدادي د) ثانوي هـ) جامعي
7. **الحالة الوظيفية:** أ) لا أعمل ب) أعمل بدوام كلي
   ج) أعمل بدوام جزئي د) أعمل، لكن حاليا أنا في اجازة مرضية
8. **دخل العائلة الشهري :**أ) أقل من 3000 ب) 3000 - 5000 ج) أكثر من 5000
9. **الظروف المعيشية:** أ) أسكن لوحدي ب) أسكن مع العائلة ج) غير ذلك،حدد......................
10. **الشخص الذي يعتني بك:** أ) أعتني بنفسي ب) أحد افراد العائلة ج) شخص مدفوع الأجر
    د) مؤسسة خيرية هـ) غير ذلك، حدد.................................
11. **الحالة الاجتماعية:** أ) متزوج ب) غير متزوج
12. **للمتزوج، هل لديك أطفال؟** أ) نعم ب) لا في حال نعم، ما هو عدد الأطفال : _______
13. **قسم العلاج:** أ) عيادات خارجية ب) أقسام داخلية
14. **التشخيص:**...
    ....
15. **منذ متى تأخذ العلاج:** أ) أقل من 3 أشهر ب) من 3-6 أشهر ج) أكثر من 6 أشهر
16. **نوع العلاج:** (يمكن اختيار أكثر من خيار)
    أ) كيماوي ب) إشعاع ج) جراحي د) هرموني
17. **ما مدى حصولك على معلومات حول مرضك من طاقم العلاج؟**

0 5 10

إطلاقا **بشكل متوسط** **كثير جدا**

Annex (4)

The Brief COPE Scale- Arabic

Brief COPE

الرجاء تحديد إلى أي مدى تمارس هذه الطرق في التعامل مع مرض السرطان من خلال الإجابة بوضع إشارة تحت العبارة الأكثر ملائمة لك /لكي من الخيارات الأربعة:

الرقم	السؤال	أبدا	نادرا	أحيانا	غالبا
1)	أشغل نفسي بالعمل والأنشطة الأخرى لكي أنسى وضعي الحالي.				
2)	أركز جهودي في مساعدة نفسي للتعامل مع مرضي.				
3)	أقنع نفسي بأن كل ما أمر به هو غير حقيقي (خيال).				
4)	أتعاطى الكحول أو الأدوية المخدرة "الأدوية المسكنة" لأشعر بتحسن.				
5)	يدعمني الآخرون نفسيا.				
6)	يأست من محاولات مكافحة المرض والتصدي له.				
7)	أقوم باللازم في محاولة مني لتحسين الوضع الذي أعيش فيه.				
8)	أرفض تصديق ما حدثلي.				
9)	أستخدم الكلام والحديث للتخلص من مشاعري السلبية.				
10)	يساعدني الآخرون وينصحونني في كيفية التعامل مع وضعي الصحي بعد المرض.				
11)	أتعاطى الكحول أو الأدوية المخدرة"الأدوية المسكنة لتساعدني في تجاوز وتخطي وضعي.				
12)	أحاول التعامل مع المرض من خلال النظر اليه من جوانب متعددة (منظور آخر)، لعله				

	يبدو أكثر ايجابية.				
13)	أقوم بانتقاد نفسي.				
14)	أحاول التخطيط لما علي فعله.				
15)	يواسيني المقربون مني ويتفهمونني.				
16)	يأست من محاولات التأقلم مع الوضع.				
17)	أفكر في ايجابيات ما يحدث لي.				
18)	أقول نكتا عن مرضي و أسخر منه.				
19)	أتناسى مرضي بممارسة أنشطة مثل : مشاهدة الأفلام والبرامج التلفزيونية، القراءة ،أحلام اليقظة، النوم والتسوق.				
20)	أتقبل حقيقة ما حدث لي.				
21)	أعبر عن مشاعري السلبية تجاه وضعي الصحي.				
22)	أبحث عن الراحة من خلال معتقداتي الدينية والروحية.				
23)	أطلب مساعدة ونصيحة الآخرين فيما يتعلق بما يجب أن أفعله.				
24)	أتعلم التعايش مع المرض.				
25)	أفكر مليا في الخطوات التي يجب اتخاذها في حياتي.				
26)	ألوم نفسي على الإصابة بالمرض (السرطان).				
27)	أصلي أو أتأمل.				
28)	أسخر من وضعي الحالي.				
29)	أفكر وأتساءل عن حقائق الوجود وحقيقة ذاتي.				
30)	أهون على نفسي بالتفكير بما يعاني منه الآخرون من أمراض ومصاعب الحياة.				

Annex (5)

The Brief COPE Scale- English

The Brief COPE Scale (Carver, 1997)

Brief COPE

These items deal with ways you've been coping with the stress in your life since you found out you were going to have to have this operation. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

1 = I haven't been doing this at all

2 = I've been doing this a little bit

3 = I've been doing this a medium amount

4 = I've been doing this a lot

1. I've been turning to work or other activities to take my mind off things.
2. I've been concentrating my efforts on doing something about the situation I'm in.
3. I've been saying to myself "this isn't real.".
4. I've been using alcohol or other drugs to make myself feel better.
5. I've been getting emotional support from others.
6. I've been giving up trying to deal with it.
7. I've been taking action to try to make the situation better.
8. I've been refusing to believe that it has happened.
9. I've been saying things to let my unpleasant feelings escape.
10. I’ve been getting help and advice from other people.

11. I've been using alcohol or other drugs to help me get through it.

12. I've been trying to see it in a different light, to make it seem more positive.

13. I’ve been criticizing myself.

14. I've been trying to come up with a strategy about what to do.

15. I've been getting comfort and understanding from someone.

16. I've been giving up the attempt to cope.

17. I've been looking for something good in what is happening.

18. I've been making jokes about it.

19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.

20. I've been accepting the reality of the fact that it has happened.

21. I've been expressing my negative feelings.

22. I've been trying to find comfort in my religion or spiritual beliefs.

23. I’ve been trying to get advice or help from other people about what to do.

24. I've been learning to live with it.

25. I've been thinking hard about what steps to take.

26. I’ve been blaming myself for things that happened.

27. I've been praying or meditating.

28. I've been making fun of the situation.

Annex (6)

SpREUK -P Questionnaire- Arabic

SpREUK-P Questionnaire © Prof. Dr. Arndt Büssing, University Witten/Herdecke **من فضلك صف ممارساتك الدينية والروحية**		أبدا	نادرا	غالبا	دائما وبانتظام
P1	أحافظ على الصلاة	0	1	2	3
P2	أذهب إلى المسجد	0	1	2	3
P3	أعتني وأهتم بالآخرين	0	1	2	3
P4	أتفكر وأتأمل	0	1	2	3
P5	أقرأ القرآن	0	1	2	3
P6	أقرأ في الكتب الدينية والروحانيّة	0	1	2	3
P7	أعمل على ضمان صفاء بدني وروحي	0	1	2	3
P8	أنجز وألتزم بشعائر ديني	0	1	2	3
P9	ألجأ وأعود إلى الفطرة والى الطبيعة	0	1	2	3
P10	أبحث عن معنى ومغزى الحياة	0	1	2	3
P11	أحاول التبصر في حقائق الوجود وحقيقة ذاتي	0	1	2	3
P12	أعمل كل شيء لتحسين نمط حياتي	0	1	2	3
P13	أعمل على تحقيق كينونتي وذاتي	0	1	2	3
P14	أعمل على تنمية وتطوير الجانب الروحاني في حياتي	0	1	2	3
P15	أحاول تحصيل قدر عال من الوعيّ	0	1	2	3
P16	**أحاول إيصال القيم الإيجابية والنبيلة إلى الآخرين**	0	1	2	3
P17	أحاول أن أكون صاح وتنبه في تعاملي مع الآخرين من حولي	0	1	2	3
P18	**أحاول أن يكون لي تأثير صحيّ في بيئتي ومحيطي**	0	1	2	3
P19	في حياتي الخاصة هنالك قيمة للرموز الدينية من حولي	0	1	2	3
P20	أشارك في المناسبات الدينية والروحية (كالجمع والأعياد)	0	1	2	3
P21	أؤمن وأعتقد بوجود ملائكة تحميني	0	1	2	3
P22	أحاول مساعدة الآخرين من المساكين والمحتاجين	0	1	2	3
P23	أحاول أخذ احتياجات الآخرين بعين الاعتبار	0	1	2	3
P24	فكري وعقلي وقلبي مع المحتاجين	0	1	2	3
P25	أحاول عمل الخير والصالحات	0	1	2	3
P26	أشعر بأنني مترابط ومتواصل مع الآخرين	0	1	2	3
P27	أدعو الله واصلي ما هو مطلوب مني كل يوم.	0	1	2	3
P28	أصلي كل يوم وأقوم بتأدية فرائضي	0	1	2	3
P29	غالبا ما يغمرني الشعور بالرضا والبهجة	0	1	2	3
P30	غالبا ما يغمرني شعور الخشية والتقدير	0	1	2	3
P31	تعلمت قيمة تقدير الجمال والنعمة.	0	1	2	3

Annex (7)

Qualitative in-depth interview guide questions- Arabic

السؤال الرئيسي للدراسة النوعية:

1) هل لك أن تخبرني، ماذا فعلت وردة فعلك عندما علمت أنك مريض بالسرطان ؟

2) كيف واجهت إصابتك بمرض السرطان وتأقلمت معه ؟

3) برأيك، ما هي الأمور التي يجب توفرها لتحسين الرعاية الصحية لمرضى السرطان والتي قد تساعدهم على التأقلم بشكل أفضل مع المرض؟

Annex (8)

Informed Consent of quantitative- Arabic

جامعة القدس

نموذج موافقة على المشاركة في بحث علمي

تحية طيبة وبعد،

أنا أمل سلمان، طالبة ماجستير في برنامج الصحة العامة وعلم الأوبئة في جامعة القدس. أقوم بعمل بحث يهدف إلى دراسة استراتيجيات المرضى الذين تتراوح أعمارهم ما بين 15 إلى 39 في التعامل مع مرض السرطان وذلك لمساعدة صانعي السياسات في التخطيط لبرامج الرعاية.

المشاركة في هذا البحث هي اختيارية وطوعية، مع ضمان السرية والخصوصية التامة للمشاركين في هذه الدراسة، وكذلك معلومات هذه الدراسة ستبقى سرية وتستخدم لغرض البحث العلمي فقط، لذلك لا داعي لكتابة الاسم الشخصي. ويستطيع المشارك في المشاركة في الدراسة أو رفضها أو الانسحاب منها في أي وقت يشاء من تعبئة الإستبانة.

في حال وجود أي استفسار حالي أو لاحق يمكنك الاتصال مع الشخص القائم على البحث في أي وقت على العنوان التالي:

الاسم: أمل سلمان

البريد الالكتروني:amola_al.haj@hotmail.com

رقم التلفون: 0528794516

توقيعك لهذا النموذج يعني هذه الموافقة ومتضمنا إقرارك بقراءة ما تقدم في هذا النموذج.

المشارك:_________________________

التوقيع:_______________________

الوصي القانوني(للمشارك أقل من 18 عام):_______________________

التاريخ:_____________

Annex (9)

Informed Consent of qualitative - Arabic

جامعة القدس

برنامج الدراسات العليا

موافقة على المشاركة في بحث علمي

تحية طيبة وبعد،

أنا أمل سلمان، طالبة ماجستير في برنامج الصحة العامة وعلم الأوبئة في جامعة القدس. أقوم بعمل بحث يهدف إلى دراسة استراتيجيات المرضى الذين تتراوح أعمارهم ما بين 15 إلى 39 في التعامل مع مرض السرطان وذلك للخروج بتوصيات قد تساعد صانعي السياسات في التخطيط لبرامج الرعاية.

المشاركة في هذا البحث هي اختيارية وطوعية، مع ضمان السرية والخصوصية التامة للمشاركين في هذه الدراسة، وكذلك معلومات هذه الدراسة ستبقى سرية وتستخدم لغرض البحث العلمي فقط ، لذلك لا داعي للبوح بالاسم الشخصي.

المقابلات سيتم إجرائها خلال الوقت والمكان الذي يناسب رغبتكم. يستطيع المشارك/ه أيضا في الدراسة عدم التحدث فيما لا يريده أو الانسحاب منها في أي وقت يشاء مع العلم بأن المقابلة الشخصية قد تتراوح مدتها من ربع ساعة إلى نصف ساعة وسوف يتم تسجيل المقابلة بعد موافقتك، وإذا لم توافق/ي على التسجيل سوف نكتفي بأخذ الملاحظات.

في حال وجود أي استفسار حالي أو لاحق يمكنك الاتصال مع الشخص القائم على البحث في أي وقت على العنوان التالي:

الاسم: أمل سلمان
البريد الالكتروني:amola_al.haj@hotmail.com
رقم التلفون: 0528794516

توقيعك لهذا النموذج يعني هذه الموافقة ومتضمنا إقرارك بقراءة ما تقدم في هذا النموذج.

المشارك:__________________________

التوقيع:_________________________

الوصي القانوني(للمشارك أقل من 18 عام):_______________________

التاريخ:______________

Coping Strategies of Palestinians Adolescents and Young Adults with Cancer
Master of Public Health & Epidemiology- Al Quds- University
Amal Salman, MLT,MPH

Annex (10)

School of Public Health and Al- Quds University approval

Al-Quds University
Jerusalem
Deanship of Scientific Research

بسم الله الرحمن الرحيم

جامعة القدس
القدس
عمادة البحث العلمي

Research Ethics Committee
Committee's Decision Letter

Date: 20/6/2017
Ref No: 20 /REC/2017

Dear Dr. Asma Imam,

Thank you for submitting your application for research ethics approval. After reviewing your application entitled **"Coping Strategies of Palestinians Adolescents and Young Adults with Cancer"** the Research Ethics Committee confirms that it is in accordance with the research ethics guidelines at Al-Quds University.

Please inform us if there will be any changes in your research methodology, subjects, plan and we would appreciate receiving a copy of your final research report.

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

Dina M. Bitar PhD
Research Ethics Committee Chair

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

Abu-Dies, Jerusalem P.O.Box 20002
Tel-Fax: #970-02-2791293
research@admin.alquds.edu
أبوديس، القدس ص.ب. 20002
تلفاكس: 2791293-02-970#

Annex (11)

MOH approval letter

04 May 2017 5:02 HP Fax page 2

State of Palestine
Ministry of Health - Nablus
General Directorate of Education in Health

دولة فلسطين
وزارة الصحة– نابلس
الإدارة العامة للتعليم الصحي

Ref.: ………………
Date:………………

الرقم: ٢٠١٧/٥٨٤/٤٦٤
التاريخ: ٢٠١٧/٥/٤

الأخ مدير عام الادارة العامة للمستشفيات المحترم،،،

تحية واحترام،،،

الموضوع: تسهيل مهمة طلاب

تماشياً مع سياسة وزارة الصحة المتعلقة بتعزيز التعاون مع الجامعات والمؤسسات الأكاديمية بإتاحة فرص التدريب أمام الطلبة والخريجين والباحثين في المؤسسات الوطنية وإسهاماً في تنمية قدراتهم.

يرجى تسهيل مهمة الطالبة: **أمل سلمان – ماجستير الصحة العامة وعلم الابئة– جامعة القدس**، في عمل بحث الماجستير بعنوان: " **Coping Strategies of Palestinian Adolescents and young Adults with Cancer**"، لذا يرجى تسهيل مهمتها في الحصول على مقابلات مسجلة مع المرضى (بعد اخذ موافقتهم على المشاركة في البحث) وذلك في:

- **مستشفى بيت جالا الحكومي**
- **مستشفى الوطني/ نابلس**

علما بأنه سيتم **الالتزام** بمعايير البحث العلمي والحفاظ على سرية المعلومات.

مع الاحترام،،،

- د. أحمد [illegible]
- السيدة خلود [illegible]

د. أمل ابو عوض
مدير عام التعليم الصحي

نسخة: عميد كلية الصحة العامة المحترم/ جامعة القدس

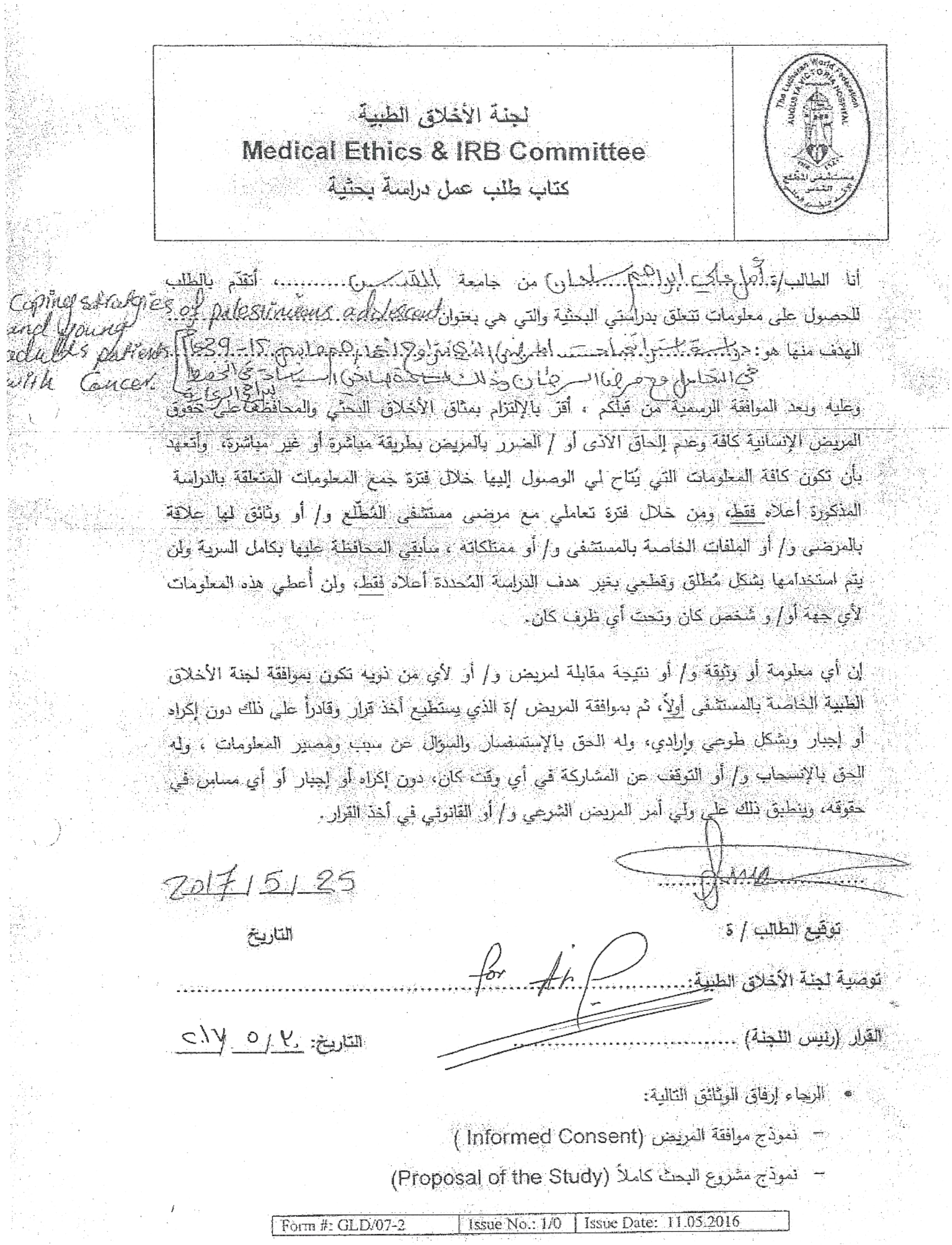
٢٠١٧/٥/٨

P.O .Box: 14
TelFax: 09-2333901

ص.ب. 14
تلفاكس: 09-2333901

Annex (12)

AVH approval letter



لجنة الأخلاق الطبية
Medical Ethics & IRB Committee
كتاب طلب عمل دراسة بحثية

أنا الطالب/ة أمل جاك إبراهيم سلمان من جامعة القدس ....، أتقدم بالطلب للحصول على معلومات تتعلق بدراستي البحثية والتي هي بعنوان Coping strategies of palestinians adolescent and young adults patients with Cancer.

الهدف منها هو: [illegible]
في التعامل مع مرض السرطان وذلك [illegible] برامج الرعاية

وعليه وبعد الموافقة الرسمية من قبلكم ، أقر بالإلتزام بمثاق الأخلاق البحثي والمحافظة على حقوق المريض الإنسانية كافة وعدم إلحاق الاذى أو / الضرر بالمريض بطريقة مباشرة أو غير مباشرة، وأتعهد بأن تكون كافة المعلومات التي يُتاح لي الوصول إليها خلال فترة جمع المعلومات المتعلقة بالدراسة المذكورة أعلاه فقط، ومن خلال فترة تعاملي مع مرضى مستشفى المُطّلع و/ أو وثائق لها علاقة بالمرضى و/ أو الملفات الخاصة بالمستشفى و/ أو ممتلكاته ، سأبقي المحافظة عليها بكامل السرية ولن يتم استخدامها بشكل مُطلق وقطعي بغير هدف الدراسة المُحددة أعلاه فقط، ولن أعطي هذه المعلومات لأي جهة أو/ و شخص كان وتحت أي ظرف كان.

إن أي معلومة أو وثيقة و/ أو نتيجة مقابلة لمريض و/ أو لأي من ذويه تكون بموافقة لجنة الأخلاق الطبية الخاصة بالمستشفى أولاً، ثم بموافقة المريض /ة الذي يستطيع أخذ قرار وقادراً على ذلك دون إكراه أو إجبار وبشكل طوعي وإرادي، وله الحق بالإستفسار والسؤال عن سبب ومصير المعلومات ، وله الحق بالإنسحاب و/ أو التوقف عن المشاركة في أي وقت كان، دون إكراه أو إجبار أو أي مساس في حقوقه، وينطبق ذلك على ولي أمر المريض الشرعي و/ أو القانوني في أخذ القرار.

2017/5/25
التاريخ

توقيع الطالب / ة

توصية لجنة الأخلاق الطبية: for ....

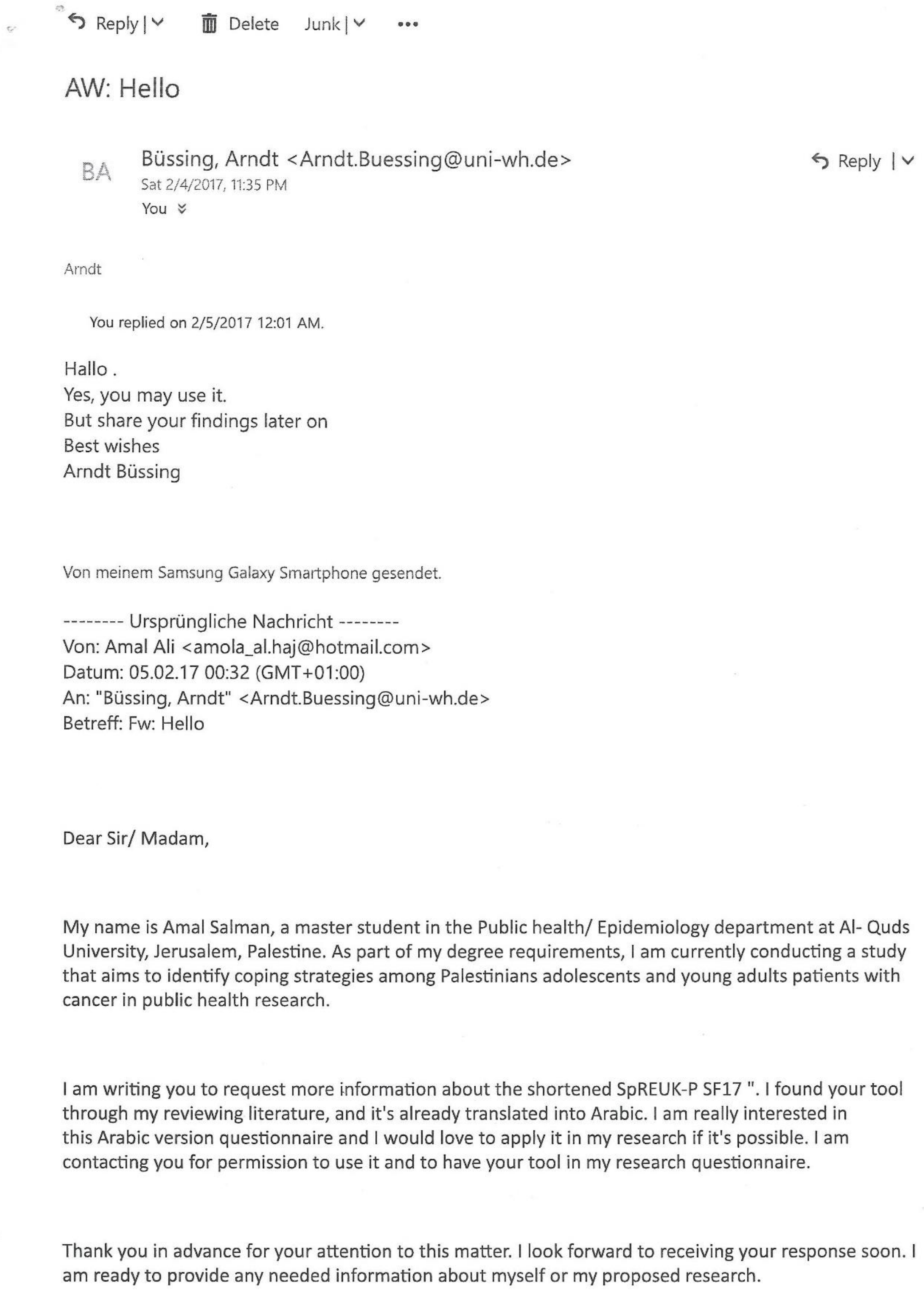
القرار (رئيس اللجنة) .... التاريخ: ٢٠/ ٥/ ٢٠١٧

- الرجاء إرفاق الوثائق التالية:
  - نموذج موافقة المريض (Informed Consent)
  - نموذج مشروع البحث كاملاً (Proposal of the Study)

Form #: GLD/07-2	Issue No.: 1/0	Issue Date: 11.05.2016

Annex (13)

SpREUK-P Arabic version approval email



AW: Hello

Büssing, Arndt <Arndt.Buessing@uni-wh.de>
Sat 2/4/2017, 11:35 PM
You

Arndt

You replied on 2/5/2017 12:01 AM.

Hallo .
Yes, you may use it.
But share your findings later on
Best wishes
Arndt Büssing

Von meinem Samsung Galaxy Smartphone gesendet.

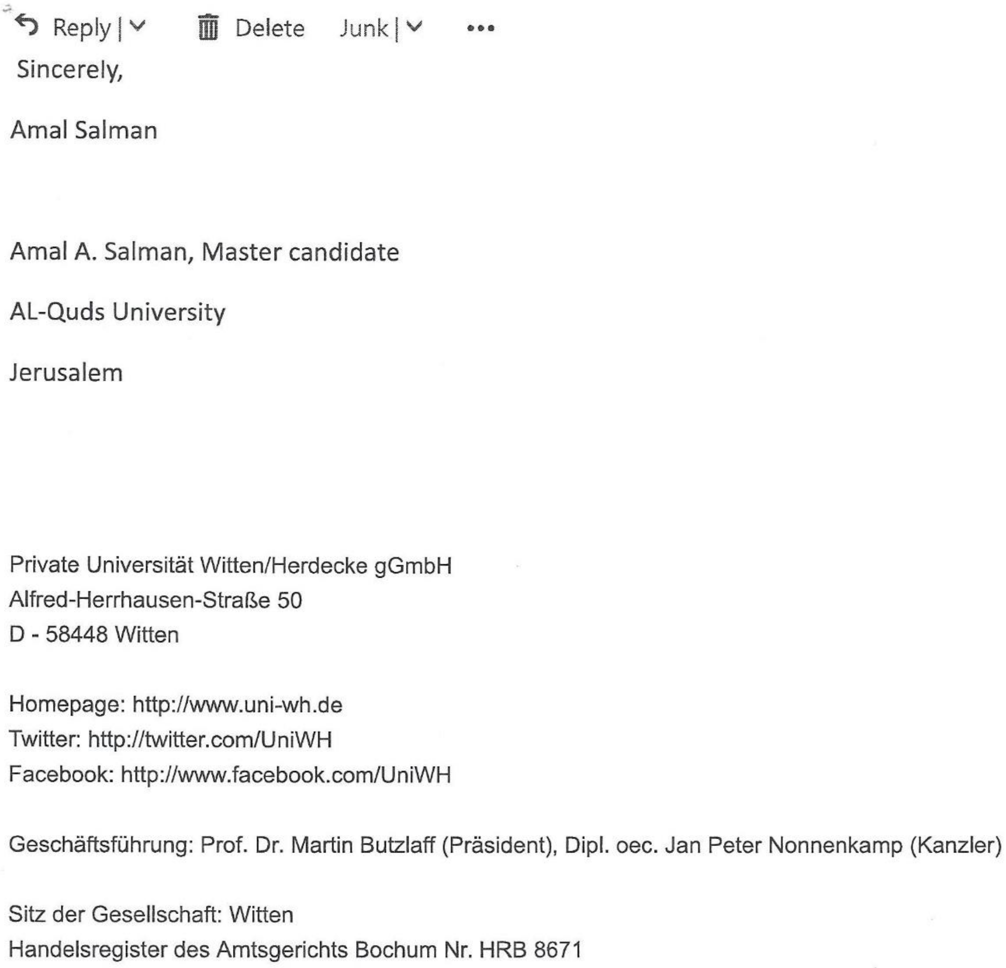
-------- Ursprüngliche Nachricht --------
Von: Amal Ali <amola_al.haj@hotmail.com>
Datum: 05.02.17 00:32 (GMT+01:00)
An: "Büssing, Arndt" <Arndt.Buessing@uni-wh.de>
Betreff: Fw: Hello

Dear Sir/ Madam,

My name is Amal Salman, a master student in the Public health/ Epidemiology department at Al- Quds University, Jerusalem, Palestine. As part of my degree requirements, I am currently conducting a study that aims to identify coping strategies among Palestinians adolescents and young adults patients with cancer in public health research.

I am writing you to request more information about the shortened SpREUK-P SF17 ". I found your tool through my reviewing literature, and it's already translated into Arabic. I am really interested in this Arabic version questionnaire and I would love to apply it in my research if it's possible. I am contacting you for permission to use it and to have your tool in my research questionnaire.

Thank you in advance for your attention to this matter. I look forward to receiving your response soon. I am ready to provide any needed information about myself or my proposed research.



Sincerely,

Amal Salman

Amal A. Salman, Master candidate

AL-Quds University

Jerusalem

Private Universität Witten/Herdecke gGmbH
Alfred-Herrhausen-Straße 50
D - 58448 Witten

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Geschäftsführung: Prof. Dr. Martin Butzlaff (Präsident), Dipl. oec. Jan Peter Nonnenkamp (Kanzler)

Sitz der Gesellschaft: Witten
Handelsregister des Amtsgerichts Bochum Nr. HRB 8671

Annex (14)

Expert reviewers of the study tool

The following experts had been participated in reviewing the tool of this study:

- Dr. Moutasem Hamdan, Ph.D., researcher, and Dean of Public Health faculty at Al-Quds University in Palestine.
- Dr. Najah Al- Khateeb, Ph.D., researcher and Assistant Professor in Mental Health faculty at Al- Quds University in Palestine.
- Dr. Nidal Al- Jbreni, Oncologist at Beit- Jala Hospital in Palestine. He is a master student of Public Health and Epidemiology at Al- Quds University.
- Dr. Mohamad Khleif, Ph.D., researcher, and lecture at both Al- Quds Open University & Al- Quds University in Palestine. Also, previously was a palliative care nurse specialist in AVH. Chair of Al- Sadeel Society for Palliative Care for Cancer and Chronic Diseases.

Annex (15)

Summary of reviewed studies of coping among cancer patients

#	**Study**	**Main Purpose**	**Methodology** (design, sample, tool, and place)	**Data Analysis**	**Findings**
1	Coping and psychological distress in young adults with advanced cancer. (Trevino et al., 2012)	To identify coping strategies utilized by YAs with advanced cancer and examine the relationship between those coping strategies and psychological distress.	Structured clinical interviews. 53 YAs (20–40 years) with advanced cancer. The Brief COPE. Boston.	Descriptive analyses were conducted to characterize the sample and measures.	The most frequently used forms of coping were acceptance and support seeking. There is a positive association between coping by negative expression and severity of grief, after controlling for depression, anxiety, and confounding variables. There is a positive association between support-seeking coping and anxiety, after controlling for both depression and grief.
2	Coping Strategies of Jordanian Adolescents With Cancer: An Interpretive Phenomenological Analysis Study. (Al Omari et al., 2016).	To explore coping strategies used by hospitalized Jordanian adolescents with cancer.	Interpretive phenomenological analysis, methodology, and in-depth face-to-face interviews. 10 Jordanian adolescents with cancer (13-18-year-olds). Interview guide. Jordan.	QSR© NVivo8 software.	The coping strategies that the participants used in coping with cancer were: “strengthening spiritual convictions, being optimistic and rebuilding their hope, enhancing appearance, and finding self again.”
3	Coping Strategies and Health-Related Quality of Life Among Korean Childhood Cancer Survivors. (Min Ah & Jaehee, 2017).	To explore the correlations between coping strategies and health-related quality of life among Korean adolescent and young adult cancer survivors.	Cross-sectional survey. 218 respondents aged 15-39 years. The Brief Cope & The Medical Outcomes Study Short Form-8. Korea.	SPSS 23.0 was used to perform statistical analysis.	Findings from this study show that the most frequently reported coping strategies was self-distraction (97.2%), followed by positive reframing (95.9%) and active coping (95.9%).
4	Coping Needs in Adolescents with Cancer: A Participatory Study. (Lam, Cohen &	To explore both adolescent cancer patients interest in engaging in a participatory study and their	Grounded theory and participatory action approach. Cancer patients aged 13–19 years. T-shirt design and	Inductive content analysis.	Four themes emerged regarding adjustments related to physical and social participation, social perceptions, physical effects, and health-related

	Roter, 2013).	perceived coping needs.	blog. Sidney.		communication needs.
5	From a Death Sentence to a Disrupted Life: Palestinian Women's Experiences and Coping With Breast Cancer. (Hammoudeh et al., 2016).	To explore women's experiences with breast cancer in the occupied Palestinian territory.	Inductive qualitative design. 35 semi-structured interviews. Interview guide. Palestine.	Thematic analysis approach was used in this study	Three themes emerged: "(1) the transition from initial shock to the daily struggles with disruptions caused by illness, (2) the role of social support in helping women cope with the burden of disease, and the importance of (3) and the faith and reliance on God (tawakkul)".
6	Coping with cancer diagnosis and treatment: a comparative study on women with breast cancer in Turkey and occupied Palestinian territory. (Terzioğlu & Hammoudeh, 2017).	To explore the illness narratives of women with breast cancer in Turkey and the occupied Palestinian territory (oPt), underlining the similarities and differences in the ways in which they make sense of their diagnosis and cope with cancer treatment.	Semi-structured qualitative interviews. 30 and 35 semi-structured. interviews in Turkey and the oPt respectively. Interview guide. Turkey & occupied Palestinian. territory.		The findings indicate some similarities in the two different settings; That the diagnosis of breast cancer among most of the women is a dramatic event with very strong reactions.
7	The Relationship Between Post-Traumatic Stress Disorder and Coping Strategies among Patients with Cancer in the Gaza Strip. (Al Jadili & Thabet, 2017).	To examine the mental health status of patients with cancer and the coping strategies they adopted in light of stressful situations.	Cross-sectional. 358 patients with cancer. PTSD scale, and Ways of Coping Scale. Gaza Strip, Palestine.	IBM SPSS Statistics version 20.0.	The findings of this study show that the most frequently reported coping strategies was affiliation at the highest rank (81.6%), followed by reinterpretation (75.5%), self-control (75.3%), problem-solving (72.3%), wishful and avoidance thinking (69.0%), trouble and escape (61.8%), and accountability (53.0%). No significant differences in sex were observed in terms of wishful and avoidance thinking, affiliation, accountability, problem-solving, reinterpretation, and self-control. Significant differences were found in trouble and escape in favor of male patients.
8	Death anxiety and coping	To assess death anxiety and	A cross-sectional study.	IBM SPSS Statistics version	The findings of this study show that the most frequently

	mechanisms among women with breast cancer attending Beit-Jala Governmental Hospital in Bethlehem. (Shehadeh, F. (2017).	coping mechanisms among women with breast cancer attending Beit-Jala Hospital in West Bank.	214 participants. Brief Cope scale. West Bank, Palestine.	19.	reported coping strategies were religion, use of emotional support, use of instrumental support, self-distraction, active coping and acceptance, humor, and planning. The lowest using coping strategies were venting, denial and self-blame, followed by both behavioral disengagement and substance use.
9	Coping Strategies in Egyptian Ladies with Breast Cancer. (Elsheshtawy et al., 2014).	To determine the different coping strategies employed by female patients diagnosed with breast cancer and estimate the presence of anxiety and depression among them.	Cross-sectional study. 56 female patients. Brief COPE scale & Hospital anxiety and depression scale (HADS). Egypt.	SPSS was used to analyze data.	In coping with having breast cancer, a large proportion of patients used acceptance, followed by religion, and emotional support. Patients with depressive symptoms scored significantly higher on venting, while those with anxiety scored higher positive reframing, planning, and venting.
10	Comparing Coping Styles in Cancer Patients and Healthy Subjects. (Ahadi et al., 2014).	To recognize the difference in coping styles between cancer patients and healthy people.	Causative-comparative study. A convenience sample of 80 patients with Breast Cancer matched with a group of healthy people. Coping Strategies Questionnaire (CSQ). Iran.	SPSS was used to analyze data.	Findings show that cancer patients mostly used emotion-focused coping strategies compared with the healthy group. They generally used the subscale of confronting coping, escape-avoidance, and seeking social support. They hardly used the subscales of self-controlling, accepting responsibility, playful problem solving or positive reappraisal.
11	Coping with a diagnosis of breast cancer among Omani women. (Al-Azri et al., 2013).	To identify coping strategies experienced by Omani women after breast cancer diagnosis.	Qualitative study. 19 Adult women (i.e. 18 years old or more. Semi-structured interviews. Oman.	The framework approach was used to analyze data.	The coping strategies identified were "denial, optimism, withdrawal, Islamic beliefs and practices, and the support of family members and health-care providers, but Islamic beliefs and practices were the commonest".
12	A comparison of younger and older couples coping	To examine the differential impact of the illness on	Cross-sectional survey. 86 dyads of breast	IBM SPSS Statistics 22 was used for data	Younger partners experienced higher maladaptive dyadic coping as shown in the

	with breast cancer: examining the relationship among mutuality, dyadic coping, and quality of life of patients and partners. (Acquati, 2016)	younger dyads by comparing them to a group of older couples.	cancer patients and their partners. Functional Assessment of Cancer Therapy-Breast (FACT-B) Scale, the Quality of Life Questionnaire for Spouses (QL-SP), Dyadic Coping, and Mutual Psychological Development Questionnaire (MPDQ). The United States of America.	management, data preparation, and preliminary data analysis.	findings. The relationship between mutuality and quality of life for younger patients and older partners was mediated by negative dyadic coping.
13	Meaning-Making Coping Among Cancer Patients in Sweden and South Korea: A Comparative Perspective. (Ahmadi et al., 2017).	To compare meaning-making coping among cancer patients in Sweden and South Korea.	Semi-structured interviews were conducted with 51 Swedes and 33 Koreans. A semi-structured open-ended interview guide was used for all participants. Sweden & South Korea	Thematic analysis.	Significant differences between the two countries as well as similarities in existential, spiritual, and religious coping were found. Differences appeared in that Swedes primarily used meaning-making coping as a means of meditation or relaxation, while Koreans depended on coping with prayer and using healthy foods as a means to survive.
14	Resilience and coping: the perspectives of cancer patients, family caregivers, and medical volunteers at Champ among Monastery, Thailand. (Su-kerb, 2014).	To explore in-depth experiences of cancer patients, family caregivers, and medical volunteers who engaged in the treatment and services provided at Champ among Monastery, Thailand, particularly in resilience and coping.	Phenomenological study. Participants included 21 individuals (eight cancer patients, eight family caregivers, and five medical volunteers). Qualitative guide. Thailand.	The phenomenological method was used for data analysis.	The essence of experiences was emphasized by the results. coping strategies of patients emphasized the role of both acceptance and efforts to enhance meaning, in the form of helping other to relieve their suffering. Developing spirituality and regenerating emphasis on positive thinking in the face of hardship, which presents the resilience factors that the participants developed.
15	Psychological distress, coping and social support in the diagnostic	To describe psychological distress, coping, and social support	Quantitative & qualitative study. Quantitative (117 women with breast	The SPSS PC statistical package, version 9.0 for	In Paper II the results (Papers I and II) revealed that the women with breast cancer were scored high on

	and preoperative phase of breast cancer. (Drageset, 2012).	among women in the diagnostic and preoperative phase of breast cancer using quantitative and qualitative approaches.	cancer), qualitative through individual semi-structured interviews (21 women with breast cancer). The Social Provisions Scale, the State-Trait Anxiety Inventory, the Utrecht Coping List and the Defense Mechanisms Inventory for quantitative data collection tool. West Norway	quantitative data. Qualitative data was analyzed Kvale’s qualitative meaning condensation method.	“instrumental-oriented coping” followed by “emotion-focused coping”. The use of “Emotion-focused coping” and “defensive hostility” was not related to anxiety. There is a positive relationship between the educational level and “instrumental-oriented coping”. Results also showed that the use of “instrumental-oriented coping” and “cognitive defense” decreased anxiety. The prominent themes within coping were generated in Paper IV of the Qualitative study, which was revealed as a step-by-step, "pushing away, business as usual, enjoying life, dealing with emotions, preparing for the worst and positive focus".
16	The Relationship Between Coping Strategies, Quality of Life, and Mood in Patients with Incurable Cancer. (Nipp et al., 2016)	To investigate how patients with incurable cancer coped with their illness	Randomized trial of early palliative care. 350 participants. QOL (Functional Assessment of Cancer Therapy-General), mood (Hospital Anxiety and Depression Scale), and coping (Brief COPE). Boston.	SPSS version 17.0.	Most cancer patients reported high utilization of emotional support coping strategy (77.0%), while few reported high utilization of acceptance (44.8%), self-blame (37.9%), and denial (28.2%). Better QOL and mood among participants were associated with emotional support, depression and acceptance.
17	Social Interactions and Cultural Repertoires as Resources for Coping With Breast Cancer. (Zucchermaglio & Alby, 2017).	To better understand the role of cultural and social resources for coping with cancer as a disruptive experience.	Qualitative narrative interviews. 14 women, age range from 36 to 72 years). Italy.	The analysis focused on the role played by social interactions and cultural repertoires as devices for making sense of and facing the illness.	Findings show patients used both the interactive and noninteractive strategies. An empirical evidence of the cultural repertoires was shown by the finding. For example, such example; retractable to popular culture that the people cope with their illness and rely on to address.