Deanship of Graduate Studies
Al- Quds University

Assessing Patients with Cancer and Their Caregivers Needs for Palliative Care in The Gaza Strip

Mohammed Nasser Mousa Alkhaldi

M. Sc. Thesis

Jerusalem- Palestine

1444/2023

Assessing Patients with Cancer and Their Caregivers Needs for Palliative Care in The Gaza Strip

Prepared by
Mohammed Nasser Mousa Alkhaldi

BSc. Degree in general nursing university college of applied sciences, Gaza, Palestine

Supervisor : Prof.: Yousef Aljeesh

Thesis Submitted in Partial Fulfillment of Requirements for the Degree of Master of Public Health/Epidemiology track
School of Public Health- Al-Quds University

1444/2023

Al-Quds University
Deanship of Graduate Studies
School of Public Health

Thesis Approval

Assessing Patients with Cancer and Their Caregivers Needs for Palliative Care in The Gaza Strip

Prepared by: Mohammed Nasser Mousa Alkhaldi
Registration No.: 21912323

Supervisor: Prof.: Yousef Aljeesh

Master thesis submitted and accepted. Date: 20/05/2023
The names of signatures of the examining committee members are as follows:

1. Head of committee: Prof. Dr. Yousef Aljeesh Signature...............
2. Internal examiner: Dr. Bassam Abu Hamad Signature...............
3. External examiner: Dr. Ahmed Al-Khodary Signature...............

Jerusalem- Palestine

1444 / 2023

Dedication

- This thesis is dedicated to: The sake of Allah, my Creator and my Master. The teacher of mankind, the prophet of mercy and peace. Our role model, intercessor, and our beloved, our master Muhammad, upon him be the best prayer and peace.
- To Palestine, my settled homeland in my heart, the shelter of my childhood, and my home in old age.
- To my supervisor and teacher, to those who were the symbol of giving and annihilation, who exerted all efforts to make this thesis a success, Prof. Dr. Youssef El- Aljeesh.
- My great parents, never stop giving of themselves in countless ways and lead me through the valley of darkness with light of hope and support.
- To my beloved wife, who supported me through the tough times and put up with my worries and difficulties.
- To my beloved son Yasser, who is the brightest of our present and future.
- This thesis is also dedicated to all my wonderful brothers and sisters for their encouragement and support.

Finally, this thesis is dedicated to all those who believe in the richness of learning.

Declaration

“I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other higher degree or diploma of the university or other institute of higher learning, except where due acknowledgement is made in the text."

Signed

Mohammed N. M. AL KhaLDi

Mohammed Nasser Mousa Alkhaldi

Date: 20/05/2023

Acknowledgement

In the name of Allah, the Most Merciful, the Most Compassionate, all praise be to Allah, the Lord of the worlds, and prayers and peace be upon Mohamed, His servant and messenger. First and last, I must acknowledge my limitless thanks to Allah, the Ever-Magnificent. All the praise and thanks are for Almighty Allah, the Most Gracious and Merciful, for helping me complete this study. I am totally sure that this work would have never become the truth without his guidance.

I would like to express my gratitude to everyone who contributed to this work. In particular, I would like to thank: Special thanks and intensely felt gratitude go to my supervisor, Prof. Dr. Yousef Aljeesh, for his professionalism, encouragement, and enthusiastic guidance. Despite his incredibly hectic schedule, he took the time to read and revise my work, and I am grateful for that. His ideas have improved my capacity to think critically, pay attention to detail, and increase the quality of my work, and it was through his insight that I discovered the value of theory-driven research.

Special thanks and great gratitude go to Dr. Hammoda Abu-Odah for his help, encouragement, patience, and support of this work in various ways. I am deeply grateful to Al-Quds University-Gaza and the Faculty of Public Health for providing me the opportunity to pursue my post-graduate study. Also, appreciation and deep thank is presented for Dr. Bassam Abu Hamad, Dr. Khitam Abu Hamad, Prof. Yahia Abed. My thanks extend to my family for their sincere encouragement, teaching me perseverance, and always encouraging me to pursue my goal. Finally, I thank the countless people who contributed to this research. Anyone who helped me in any way.

Abstract

Cancer is a progressive and life-threatening condition that caused nearly 10 million deaths worldwide in 2020. The situation in Palestine is not different from the world, where cancer is the third cause of death in Palestine. The burden on patients and family caregivers will increase as cancer cases continue to rise in the Gaza Strip. By 2040, the number of people requiring palliative care will increase by 25% due to projections of an increase in the incidence of cancer. **Objectives**: This study aimed to assess the needs of cancer patients and their family caregivers for palliative care in the Gaza Strip. **Methods:** used triangulated, analytical cross-sectional study design combined quantitative (Two different self-administered questionnaires for patients and family caregivers) and qualitative paradigms (family caregivers' in-depth interviews). For the patients, we used the Problems and Needs in Palliative Care questionnaire—short version (PNPC-sv) and the Depression, Anxiety, and Stress Scale—21 Items (DASS-21) on 371 patients. For the family caregivers, we used the Comprehensive Needs Assessment Tool for Cancer Caregivers (CNAT-C) questionnaire and (DASS-21) on 388 family caregivers. The Qualitative In-depth interviews with 12 members of the family caregivers. **Results:** From 46.9% to 88.9% of patients reported having financial problems, while from 37.2% to 67.1% reported having financial needs. They were followed by physical needs and problems, as the results indicated that fatigue (87.9%) and pain (82.2%) were the main causes of problems related to physical symptoms. For family caregivers, palliative care needs were mainly related to information needs (83.4%), practical support (77.7%), and hospital facilities and services (71.7%). **Conclusion:** Patients and family caregivers had higher palliative care needs, and more emphasis needs to be placed on physical, informational, and financial needs.

Table of Content

Dedication ....

Declaration i

Acknowledgement.. ii

Abstract iii

Table of Content.. iv

List of Tables... viii

List of Figures x

List of abbreviations.. xii

Chapter One Introduction.. 1

- 1.1 Background 1
- 1.2 Problem Statement 2
- 1.3 Justification 4
- 1.4 General Objective... 4
- 1.5 Specific Objectives.. 4
- 1.6 Research questions 5
- 1.7 Context of the study 5
  - 1.7.1 Gaza Strip Demographic Characteristics... 5
  - 1.7.2 Socioeconomic context.. 6
  - 1.7.3 Health care system.. 7
  - 1.7.4 Turkish-Palestinian Friendship Hospital for Cancer Patients......................... 8
- 1.8 Operational Definitions.. 9
  - 1.8.1 Cancer patient.. 9
  - 1.8.2 Palliative care 9
  - 1.8.3 Family caregiver... 9
  - 1.8.4 Assess care needs... 9

Chapter Two Literature Review 10

- 2.1 Conceptual Framework 10
  - 2.1.1 Palliative care 11
  - 2.1.2 Needs of patient with cancer 11
  - 2.1.3 Needs of Family Caregivers 11
  - 2.1.4 Sociodemographic factors 11
  - 2.1.5 psychological factors 11

2.1.6 clinical factors 11
2.2 Literature Review 12
2.2.1 Cancer 12
2.2.2 Palliative care 14
2.2.3 Needs of patients with cancer on palliative care 15
2.2.4 Family Caregiver needs on palliative care 22
Chapter Three Methodology 28
3.1 Methodology 28
3.2 Study Design 28
3.3 Study Setting 28
3.4 Study Population 29
3.5 Sample and Sampling 29
3.5.1 Quantitative part 29
3.5.2 Qualitative part 30
3.6 Inclusion/exclusion criteria 30
3.6.1 Inclusion criteria 30
3.6.2 exclusion criteria 30
3.7 Instruments of the study 30
3.7.1 Quantitative instrument 31
3.7.2 Qualitative instrument 33
3.8 Translation of the questionnaires 33
3.9 Data Collection 34
3.9.1 Quantitative part 34
3.9.2 Qualitative part 34
3.10 Data Management and Data Analysis 34
3.10.1 Quantitative part 34
3.10.2 Qualitative part 35
3.11 Ethical Considerations 35
3.12 Pilot of the Study 35
3.12.1 Part one cancer patient’s instrument 36
3.12.2 Part two Cancer caregiver’s instrument 36
3.12.3 Part three the DASS instrument 37
Chapter Four Results and Discussion 38
4.1 Section One Cancer Patient Needs Results 38

4.1.1 Demographic and clinical characteristics 38
4.2 Emotional status for cancer patients 41
4.3 Distribution of Problems and needs of patients with cancer in the GS 44
4.3.1 Distribution of the patients with cancer according to their responses to studied domains 46
4.4 Relationship between several independent factors and Problems and needs of cancer patients 46
4.4.1 Relationship between several clinical and demographic factors and the .problems and palliative care needs of cancer patients 47
4.4.2 Correlations between DASS and palliative care needs for cancer patient..... 56
4.5 Section two Family Caregiver Needs Results 58
4.5.1 Distribution of the family caregivers according to their gender 58
4.5.2 Distribution of the family caregivers according to their age 59
4.5.3 Distribution of the family caregivers according to the educational level...... 60
4.5.4 Distribution of the family caregivers according to their socio-demographic information 61
4.6 family caregiver of emotional status 63
4.7 Distribution of the family caregivers according to their responses to the health and psychological problems domain 64
4.8 Distribution of the family caregivers according to their responses to the family/ social support 66
4.9 Distribution of the family caregivers according to their responses to the health-care staff 67
4.10 Distribution of the family caregivers according to their responses to the information needs 69
4.11 Distribution of the family caregivers according to their responses to the Religious/ spiritual support 70
4.12 Distribution of the family caregivers according to their responses to the Hospital facilities & services 71
4.13 Distribution of the family caregivers according to their responses to the practical support 72
4.14 Distribution of the family caregivers according to their responses to studied domains 73
4.15 Mean difference of family caregivers’ domains related to the gender 76

4.16 Mean difference of family caregivers’ domains related to the working status 77
4.17 Mean difference of family caregivers’ domains related to their caring for the patient with other escorts during the escorting period 78
4.18 Mean difference of family caregivers’ domains related to the age years.............. 79
4.19 Mean difference of family caregivers’ domains related to the income................. 80
4.20 Mean difference of family caregivers’ domains related to the patient escort time 81
4.21 Mean difference of family caregivers’ domains related to the educational levels 82
4.22 Mean difference of family caregivers’ domains related to the residency/living condition 84
4.23 Mean difference of family caregivers’ domains related to the relationship with patients.. 85
4.24 Correlations regarding the DASS and studied domains among caregiver 86
Chapter Five Conclusion and Recommendations 88
5.1 Conclusion.. 88
5.2 Recommendations 89
5.2.1 Suggestions For decision makers 89
5.2.2 Suggestions for further investigations 90
5.2.3 Suggestions For healthcare staff... 90
5.3 Limitations of the study.. 90
Reference 92
Annexes.. 107

List of Tables

Table (3.1): The rating system for the DASS 21 index, severity rates ... 32
Table (3.2): Reliability of the research for each domain among cancer patients of the cancer patient’s questionnaire ... 36
Table (3.3): Reliability of the research for each domain among cancer caregivers of the cancer caregivers questionnaire. ... 36
Table (3.4): Reliability of the research for each domain of the DASS questionnaire among cancer patients ... 37
Table (4.1a): Distribution of the study population according to Demographic and clinical characteristics of the patients (N=371) ... 38
Table (4.1b): Distribution of the study population according to Demographic and clinical characteristics of the patients (N=371) ... 39
Table (4.2): The Mean Depression, Anxiety, and Stress Scores Among cancer patients ... 41
Table (4.3a) Distribution of the study participants according to their responses to Problems and needs of patients with cancer (N=371) ... 42
Table (4.3b) Distribution of the study participants according to their responses to Problems and needs of patients with cancer (N=371) ... 43
Table (4.4): The distribution of the participants according to responses to studied domains ... 46
Table (4.5): Relationship between the PNPC-sv and gender (N=371, M±SD) ... 47
Table (4.6): Relationship between the PNPC-sv and income level (N=371, M±SD) ... 48
Table (4.7): Relationship between the PNPC-sv and marital status (N=371, M±SD) ... 49
Table (4.8a): Relationship between the PNPC-sv and education levels (N=371, M±SD) .. 50
Table (4.8b): Relationship between the PNPC-sv and education levels (N=371, M±SD) .. 50
Table (4.9a): Relationship between the PNPC-sv and work status (N=371, M±SD) ... 51
Table (4.9b): Relationship between the PNPC-sv and work status (N=371, M±SD) ... 51
Table (4.10a): Relationship between the PNPC-sv and residency/living condition (N=371, M±SD) ... 52
Table (4.10b): Relationship between the PNPC-sv and residency/living condition (N=371, M±SD) ... 52
Table (4.11a): Relationship between the PNPC-sv and duration since diagnosis (N=371, M±SD) ... 53
Table (4.11b): Relationship between the PNPC-sv and duration since diagnosis (N=371, M±SD) ... 53
Table (4.12a): Relationship between the PNPC-sv and where to receive the service (N=371, M±SD) ... 54
Table (4.12b): Relationship between the PNPC-sv and where to receive the service (N=371, M±SD) ... 54
Table (4.13a) Relationship between the PNPC-sv and current treatment (N=371, M±SD) 55
Table (4.13b) Relationship between the PNPC-sv and current treatment (N=371, M±SD) 55
Table (4.14): Correlations between the patients DASS and the PNPC-sv (Problem part).. 56
Table (4.15): Correlations between the patients and DASS (Need for Care part) ... 57
Table (4.16): Distribution of the family caregivers according to their socio-demographic information ... 62

Table (4.17): The Mean Depression, Anxiety, and Stress Scores Among family caregiver of a cancer patient 63
Table (4.18). The distribution of the family caregivers according to responses about their Health and psychological problems domain 64
Table (4.19): The distribution of the family caregivers according to responses about their family/ social support 66
Table (4.20): The distribution of the family caregivers according to responses about their health-care staff 67
Table (4.21): The distribution of family caregivers according to responses about their information needs 69
Table (4.22): The distribution of family caregivers according to responses about their Religious/ spiritual support 70
Table (4.23): The distribution of the family caregivers according to responses about their hospital facilities & services 71
Table (4.24): The distribution of the family caregivers according to responses about their practical support 72
Table (4.25): The distribution of the family caregivers s according to responses to studied domains 73
Table (4.26): Mean difference of family caregivers’ domains related to the gender 76
Table (4.27): Mean difference of family caregivers’ domains related to the working status 77
Table (4.28): Mean difference of family caregivers domains related to their caring for the patient with other escorts during the escorting period 78
Table (4.29): Mean difference of family caregivers’ domains related to the theirs the age years 79
Table (4.30): Mean difference of family caregivers’ domains related to theirs the income 80
Table (4.31): Mean difference of family caregivers’ domains related to theirs the patient escort time 81
Table (4.32a): Mean difference of family caregivers’ domains related to theirs the educational levels 82
Table (4.32b): Mean difference of family caregivers’ domains related to theirs the educational levels 83
Table (4.33): Mean difference of family caregivers’ domains related to theirs the residency/living condition 84
Table (4.34a): Mean difference of family caregivers’ domains related to the relationship with patients 85
Table (4.34b): Mean difference of family caregivers’ domains related to the relationship with patients 86
Table (4.39) Correlations between the patients, DASS and studied domains 86

List of Figures

Figure (1.1): "Self-developed" conceptual framework picture 10

Figure (4.1): Distribution of family caregivers according to their gender 58

Figure (4.2): Distribution of family caregivers according to their age................................ 59

Figure (4.3): Distribution of family caregivers according to academic qualification 60

List of Annexes

Annex (1): Study activities time table 107

Annex (2): Sample size calculation 108

Annex (3): List of Arbitrators 109

Annex (4): Map of Palestine 110

Annex (5): patient tool Arabic language 111

Annex (6): family caregiver tool Arabic language 115

Annex (7): dass21 tool Arabic language 120

Annex (8): patient tool English language 122

Annex (9): family caregiver tool English language 126

Annex (10): Qualitative Interview Guide: Caregiver 130

Annex (11): Helsinki Committee Approval Letter 132

Annex (12): Administrative approval from Al-Quds University 133

Annex (13): Administrative consent from the ministry of health 134

Annex (14): administrative approval from ministry of Turkish-Palestinian Friendship Hospital 135

Annex (15): Post Hoc test for patient 136

List of abbreviations

ANOVA	One Way Analysis of Variance
ACS	American Cancer Society
ADL	Activity Daily Living
CNAT-C	comprehensive need assessment tool for cancer caregivers
DASS-21	The Depression, Anxiety, and Stress Scale—21 Items
FCs	Family caregivers
GDP	Gross Domestic Product
GS	Gaza Strip
H.C. S	Health Care System
LMCs	Low-and Middle-Income Countries
MOH	Ministry of Health
NGOs	Non-Governmental Organizations
PC	Palliative care
PCBS	Palestinian Central Bureau of Statistics
PHC	Primary Health Care
PNPC-sv	Problems and Needs in Palliative Care-short version
SHC	secondary health care
SPSS	Statistical Package for Social Science
THC	tertiary health care
TPFH	Turkish-Palestinian Friendship Hospital
U. S	United States
USD	United States dollar
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
WB	West Bank
WHO	World Health Organization

Chapter One

Introduction

1.1 Background

Cancer is a progressive and life-threatening condition that caused nearly 10 million deaths worldwide in 2020 (WHO,2021). According to the American Cancer Society (ACS) 2020, cancer is the second biggest cause of death in the United States (U.S). 19.3 million new cancer cases were discovered worldwide in 2020 (Sung et al., 2021). Nowadays, there are many types of cancer in the world. Still, lung, colorectal, and prostate cancer in males, and lung, breast, and colorectal cancer in women, are the most prevalent and deadly (Siegel et al., 2021).

The situation in Palestine is not different from the world, where cancer is the third cause of death in Palestine, with 14.1% of the number of deaths, where the number of deaths in males reached 56.3%, and lung cancer topped the list of fatalities with 18.7% of cancer deaths (MOH, 2020).

Cancer is a chronic disease, and it needs long-term care. Hence, the suffering of patients and families is formed by physical and psychological symptoms, as the care provided reduces the caregiver's quality of life and the quality of patient care (Nemati et al., 2018). While living with cancer is a challenge, palliative care (PC) can make a big difference. The first step in determining solutions to address issues faced by patients with chronic diseases and terminal illnesses is to assess the patient's needs for palliative care.

The integration of PC into the care of cancer patients is a type of treatment, defined as PC is an approach that prevents suffering, whether physical, spiritual, or psychological because it improves the quality of life of patients and families who face problems related to severe or life-threatening diseases. It works with a multidisciplinary team that includes physicians, nurses, pharmacists, psychologists, and physiotherapists, who collaborate to provide holistic care to cancer patients and their family caregivers, emphasizing their physical, emotional, social, and spiritual needs (WHO, 2002).

Despite significant advancements in PC, access to palliative care remains uneven, even in high-income developed countries, where the number of PC health care providers ranges between 5 and 680 per million population. To improve access, we must understand and assess the level of the population's need for PC (Etkind et al., 2017). Continuous and quality care needs assessment is essential developing tailored interventions and services (Wang et al., 2018).

Some components of PC, such as pain management and psychotherapy, have been presented in the oncology and hematology departments in the Gaza Strip (GS), but the main issue was to the concept of palliative care, which was not fully defined. The main obstacles to the development of the PC system were the fragmented healthcare system that depended on external, private, and international donations (Abu Hamad et al., 2016; Abu-Odah et al., 2022; Khleif & Imam, 2013). Therefore, this study will assess the needs of patients of cancer patients and their family caregivers (FCs) to refine the service to meet the needs of patients and alleviate their stress.

1.2 Problem Statement

Palliative care is an important part of cancer care. The continuous increase in the number of cases of cancer is causing pressure on health facilities, workers, patients, and their families. A systematic review study has proven that integrating PC into cancer patients' services significantly reduces hospital admissions by a third, visits to emergency rooms by a quarter, and the probability of dying in a hospital by half (Taylor et al., 2020).

In Palestine, thousands of cases are diagnosed every year as the cases increase year after year. 3,191 cancer cases were diagnosed in Palestine, in 2020, an increase of 0.5% over last year, since cancer is a significant public health issue and is the third most common leading cause of death after cardiovascular disease and diabetes in Palestine (MOH, 2020). According to a systematic study in low- and middle-income nations, cancer is most often detected at a late stage (Shah et al., 2019).

The suffering increases at this stage in terms of physical suffering, loss of independence, the experience of being a burden, and the fear of future suffering, all of which are linked to the development of the disease. Therefore, it must be taken into account that cancer patients and their family caregivers are a top priority in needing PC at near the end of their lives (Nwagbara et al., 2020; Ruijs et al., 2013).

In Gaza, previous studies focused mainly on cancer patients' care but did not study their needs for PC. A study conducted in 2016 in the GS recommended for the integration of PC within the oncology care services in order to benefit patients (Abu Hamad et al., 2016). However, there are currently no complete PC services, as a small part of the PC components are applied within the oncology service, so there is no section or a specific structure for this service. This means that PC needs a lot of attention (Abu-Odah, Molassiotis, & Liu, 2022).

This leaves a void and causes worries regarding how patient and family caregivers can be supported in their roles. By assessing the specific needs of cancer patients and their caregivers, healthcare providers can identify and bridge the existing gaps in care, ensuring that patients receive the support they require for symptom management, pain relief, and emotional well-being. As a result, this study will serve as the foundation for a future research project aimed at assisting decision-makers in improving the level of Palliative care provided to patients and family caregivers at government hospitals.

1.3 Justification

Studies related to PC were scarce in the Gaza Strip. After reading several studies to gain a better understanding of the assessment of PC needs, the researchers noted that cancer patients and family caregivers together have a large line of unmet physical, psychological, social, economic, and spiritual needs. Therefore, the study might be extremely important for the evolution of PC services in GS. Additional rigorous research is needed in the Palestinian setting to produce more high-quality data to enhance PC practices and convince politicians of their advantages. The PC service in Gaza is fragmented as there are currently no complete PC services and as a small portion of the PC components are applied within the oncology service, there is no specific department or structure for this service. Also, palliative care education and training programs that are standardized and thorough are not available. In practice and research, a PC needs assessment is frequently overlooked, but the chief step must be to assess PC needs because an accurate and continuing assessment of care needs can aid in the development of comprehensive education and training programs as well as the development of PC intervention protocols. Through the results of this study, the Ministry of Health will enhance services provided to cancer patients, especially PC. Therefore, this study aims to assess patient and family caregiver needs in PC for cancer patients in the GS.

1.4 General Objective

To provide researchers and decision-makers early data on how to develop specialized palliative care treatments and services that will better address the requirements of patients with cancer and their family caregivers in the Gaza Strip.

1.5 Specific Objectives

- To identify patient and family caregiver needs on palliative care for cancer patients in governmental hospitals in the Gaza strip.

- To evaluate the most prevalent and common unmet needs of cancer patients and their family caregivers in governmental hospitals in the Gaza strip.
- To determine the relationship between psychological characteristics and patient and family caregiver needs in palliative care in governmental hospitals in the Gaza Strip.
- To explore the relationship between socio-demographic characteristics and patient and family caregiver needs in palliative care in governmental hospitals in the Gaza Strip.
- To conclude recommendations to the stakeholder about the main patients and family caregivers needs in providing palliative care for patient with cancer in the Gaza Strip.

1.6 Research questions

- What are the patients' needs for providing PC for patients with cancer?
- What are family caregivers' needs for providing PC for patients with cancer?
- What is the relationship between socio-demographic characteristics and patients' needs to provide PC for cancer patients?
- What is the relationship between socio-demographic characteristics and family caregivers' needs to provide PC for cancer patients?
- What are the suggestions for improving PC for cancer patients at government health centers?

1.7 Context of the study

1.7.1 Gaza Strip Demographic Characteristics

In 2021, the number of Palestinians in the world will be estimated at about 13.8 million in historical Palestine and the diaspora. It states that there are 3,120,448 people living in the West Bank (W.B.) and 2,106,745 in the GS. The male population makes up 50.9 percent of the population, while the female population makes up 49.1 percent (PCBS, 2020).

The GS covers an area of around 365 square kilometers and is divided into five governorates, from north to south: North Gaza, Gaza, Dair Al Balah, Khan-Yunis, and Rafah. These are mostly Palestinian refugees who were forced to flee occupied communities in 1948, leaving behind their properties and livelihoods. With 2,106,745 Palestinians residing there, it is considered one of the world's densest regions. Due to the deterioration in living conditions and the blockade imposed on GS by the Israeli occupation since June 2007, there are approximately 5612 individual Palestinians living in each one square kilometer area, and there is a significant difference in population density and other indicators between the GS.s and the W.B according to the most recent national census (PCBS, 2020).

According to the census, the average number of people per room in GS. is 1.6, which is greater than in W.B. There were 1.4 individuals per room in the W.B. According to health surveys, the Palestinian population has an average life expectancy of 80 years, with females (81.9) having a greater life expectancy than boys (78.9) (PCBS, 2020).

1.7.2 Socioeconomic context:

The GS has been under blockade since 2007, putting the Palestinian economy completely under Israeli control, with Israel controlling the flow of commodities and people in and out. One of the studies showed that the projected total economic cost of Israel's occupation in Gaza in light of the siege and the complete closure of the strip from land, sea, air, and military attacks amounted, was 16.7 billion dollars, or six times the value of Gaza's gross domestic (UNCTAD, 2020). The same study indicates that if the pre-2007 trends continued; it would have been the poverty rate in Gaza has reached 15% instead of 56% in 2017. People are suffering as a result of the restrictions that prevent goods and help from crossing the border, as well as the import and export of goods into and out of Gaza. This has led to a decline in development in Gaza since the beginning of the blockade in 2007 (OCHA, 2023).

In Palestine, the extreme poverty threshold is equal to 1974 shekels, which is the amount needed to meet one's basic necessities for food, clothes, and drinks (PCBS, 2020).

Approximately a third of the Palestinian population suffers from poverty at a rate of 29.2%, where the largest rate of poverty is in the GS at 53%. The results of the Palestinian Statistics Center showed that the poverty rate in the camps is higher than in the rural and urban areas, where the poverty rate in the camps reached 38.1%, followed by the rural areas with 24.4%, and the lowest percentage is in the urban areas with a rate of 13.9% (PCBS, 2020).

1.7.3 Health care system

The Palestinian healthcare system is fractured, with services supplied by four different organizations without complete coordination: The Ministry of Health (MOH), UNRWA, Non-Governmental Organizations (NGOs), and the private sector. Its mission is to offer health care to individuals on a variety of levels: Primary health care (PHC), secondary health care (SHC), and tertiary health care (THC) are three types of health care. There are 749 health care centers and 87 hospitals in Palestine. The MOH is the biggest supplier and is responsible for coordinating services between all service providers. The number of government primary care centers reached 475, including 51 centers in the GS, and the number of government hospitals was 28, including 13 hospitals in the GS (MOH, 2020).

The total current health care costs were 1,571 million USD (United States dollar) in 2018, compared to an increase of 6.8% compared to 2017, which amounted to 1,466 million USD (PCBS, 2020). Overall health spending as a proportion of gross domestic product (GDP) was 10.4% in 2021. Government insurance covers 78.9% of the Palestinians, according to surveys, the GS has a larger proportion of persons with health insurance than the W.B (PCBS, 2023).

An example of one of the essential segments of the six health care systems (H.C.S.) is human resources. The number of employees in the health sector in the Gaza Strip reached 15,271. The MOH occupied the largest share in terms of the number of workers in the Gaza service sectors, and the number of doctors working in the MOH was 1,274 (MOH, 2020). Primary, secondary, and tertiary care are all available in Gaza's health system. With so many service providers. UNRWA, NGOs, MOH, and the private sector are among the service providers. UNRWA operates 22 medical clinics in Gaza, providing (PHC) and procuring secondary and tertiary health care for the overwhelming majority of the GS 1.2 million Palestine refugees (Unrwa, 2020).

1.7.4 Turkish-Palestinian Friendship Hospital for Cancer Patients:

The hospital began as a project granted by the Turkish Agency for Cooperation and Coordination (TIKA). Work on the construction of the hospital began in 2011, and its construction was completed in 2017. The Turkish Friendship Hospital began operating in 2020 to confront the covid-19 pandemic. At the end of 2021, the Turkish Friendship Hospital will be converted into an oncology hospital, and it is currently considered the largest hospital for cancer services in the GS, with a total of 180 beds. The hospital was built on an area of 33 dunums in the central region of the GS, on the northern side of Al-Hurriya Street, where the green environment is characterized by calmness and a distinguished strategic location. This place was chosen with great care and after a comprehensive study, with the aim of promoting a culture of patient comfort and advocating the practice of palliative medicine for oncology patients in a healthy and geographically convenient environment. The hospital departments provide various types of services, including logistics services, inpatient care, outpatient services, day care, comprehensive health services, and patient services, which are provided with high professionalism by qualified specialists and doctors involved in scientific research, which is the cornerstone of the hospital's work. The hospital has a total of 254 employees, distributed among the departments (TIKA, 2020; TPFH, 2022).

1.8 Operational Definitions

1.8.1 Cancer patient:

In this study, "cancer" refers to any patient aged 18 years or older who has been diagnosed with malignant cancer or hematology cancer and has come to the Turkish-Palestinian Friendship Hospital to receive service in any of the following departments: day care, outpatient clinic, or inpatient department.

1.8.2 Palliative care:

The World Health Organization (WHO) concept of palliative care was applied by the researcher in this study. PC is the provision of specialized care to people facing problems related to severe or life-threatening illnesses, which focuses on preventing suffering, whether physical, spiritual, or psychological, to improve the quality of life of patients and families (WHO, 2002).

1.8.3 Family caregiver:

Family caregivers are defined in this study as any family member who comes with a cancer patient to the hospital without responsible pay and who takes care of the patient's daily needs and provides care for him. It could be a son, daughter, wife, brother, or other relative.

1.8.4 Assess care needs:

Determine will be whether or not the needs of patients and family caregivers on palliative care among cancer patients in Gaza Strip have been met from their perspective.

Chapter Two

Literature Review

2.1 Conceptual Framework

The researcher created a conceptual framework for identifying the primary themes and factors explored in this study on PC needs for patients and family caregivers. The conceptual framework proposed by the researcher is shown in the diagram below.

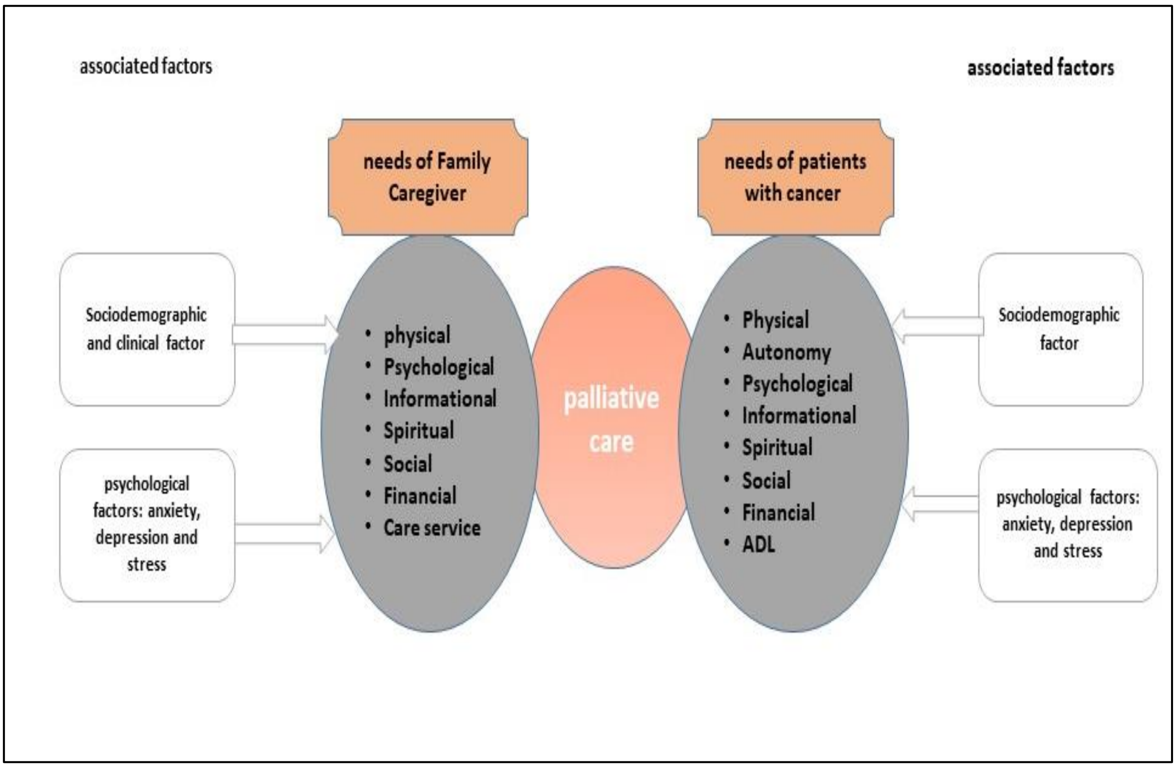


Figure (1.1): "Self-developed" conceptual framework picture

2.1.1 Palliative care

Palliative care is an approach that assesses the patient's and family's physical, emotional, social, and spiritual needs to improve the quality of life.

2.1.2 Needs of patient with cancer

The needs of palliative care for cancer patients are concentrated on the following: physical need, autonomy need, psychological need, informational need, spiritual need, activity of daily living (ADL) need, social need, and financial need.

2.1.3 Needs of Family Caregivers

the unmet palliative care needs of family caregivers for cancer patients are concentrated on the following: psychological needs; spiritual needs; social needs; financial needs; informational needs; and care service.

2.1.4 Sociodemographic factors

Include the patient's and family caregiver's age, gender, level of education, marital status, household (inside a refugee camp, rural area, or urban area), and income level.

2.1.5 psychological factors

The study focused on identifying the following psychological factors for cancer patients and family caregivers: stress, anxiety and depression.

2.1.6 clinical factors

Include the patient's diagnosis, duration of diagnosis, place of receiving the service, and type of treatment.

2.2 Literature Review

The concept of palliative care is a modern concept in Palestine and is not applied in the GS, so there are few studies and literature on it in Palestine. A literature review will be conducted to find out the needs of patients and family caregivers, barriers to integrating PC with cancer centers, and examine the relationship of marital status to the perspective of patients and family caregivers.

2.2.1 Cancer

Cancer is described by the National Institutes of Health (NIH) as the continuous increase in the growth of cancer cells within the body's organs that multiply uncontrollably. It starts in one part and can spread to the rest of the body's organs. So that it is divided into two parts. The first is malignant tumors, which invade tissues close to the tumor and can move to distant places in the body. The second are benign tumors that do not spread in the human body but can threaten life in some areas, such as the brain (NIH, 2021).

According to a survey conducted by the International Agency for Research on Cancer in 2020, there were 19.3 million cancer cases identified globally. The result was that cancer was responsible for 10 million people dying and was the second most common prevalent cause of death worldwide. The survey showed that breast cancer ranks first in terms of the number of cases, trailed by lung cancer, prostate cancer, and colon cancer (Siegel et al., 2020). And in the 2021 report, where it is considered the most prevalent cause of death among all types of cancer around the globe, those are lung cancer (23 % of male deaths) and breast cancer (15 % of female deaths), followed by prostate cancer (10 % of male deaths) and colon cancer (9% of male and female deaths), and that roughly half of the cancer burden in the world is caused by the four types of cancer mentioned (Sung et al., 2021).

Another study published by Abu-Rmeileh et al. 2016 in Palestine showed similar results for mortality, where the results showed that the most dangerous type of cancer is lung cancer, which ranked first in cancer deaths in men (22.8%). Female breast cancer is second with 21.5% of cancer deaths, followed by prostate cancer (9.5%) and female colon cancer (11.4%) of cancer deaths. (Abu Rmeileh et al., 2016)

According to the Health Annual Report 2021, in Palestine, the three most prevalent cancers are breast cancer (18.2%), colorectal cancer (16.4%), and lung cancer (9.3%) (MOH, 2022). In Gaza, the most prevalent cancers are breast cancer (20.5%), colorectal cancer (12.6%), leukemia (7.3%), lymphoma (7.2%), and lung cancer (6.9%), respectively, the relative distribution of cancer according to gender was 54% women and 46% men (MOH, 2019).

Cancer-related symptoms differ according to the different stages of cancer. Studies have shown that the symptoms of patients diagnosed with a malignancy in the fourth stage are different than those in the other stages (Koo et al., 2020).

A study aimed at reducing the growing burden of chronic disease and cancer in low- and middle-income countries (LMICs) showed there are a number of factors that increase your chances of getting cancer: diet, physical inactivity, pollution, tobacco, infections, alcohol use, occupational exposures, and ultraviolet (UV) radiation (Akinyemiju et al., 2022).

Knowing the risk factors for the disease is part of treatment and prevention, so that 30 to 50% of cancers can be prevented by simply avoiding these factors (WHO,2021).

There are three essential elements of cancer control: Cancer planning: countries evaluate priorities and programs to combat cancer every few years, Cancer prevention and early detection: It is considered one of the most important ways to reduce the burden of cancer. If the cause is eliminated or reduced by changing behavior, treatment, or screening for early stages of cancer, it will reduce the burden, Cancer management is a multidisciplinary technique based on histology and staging. Diagnosis, screening, staging, adjuvant treatment, surgery, advanced cancer management, follow-up, and PC are all included (Insamran & Sangrajrang, 2020). Antitumor therapies (hormonal, chemotherapeutic, biological, radiation, and surgery), analgesic therapy, and rehabilitative and psychological care are all required to treat cancer (Cherny et al., 2018).

2.2.2 Palliative care

Palliative care is an approach that assesses the patient's and family's physical, emotional, social, and spiritual needs to improve the quality of life. They have been associated with end-of-life care and cancer. Still, recently, the concept has expanded to include heart failure, kidney failure, multiple sclerosis, neurological diseases, dementia, chronic liver disease, and rheumatoid arthritis (WHO, 2020).

Therefore, PC plays an important role in reducing pain and providing psychological and physical comfort to the patient and family during therapeutic interventions such as radiotherapy, chemotherapy, and surgical treatment. At the end of life, approximately 56.8 million people require palliative care every year, with three-quarters of them living in low- and middle-income countries. There is evident neglect of PC globally; currently, only 14% of people who need PC receive it. The continuous increase in cancer rates, aging, and the burden resulting from non-communicable diseases lead to a rise in the need for PC (WHO, 2020).

Upon assessment of the quality of life in cancer patients in Gaza, poor scores in several domains were revealed. Poorer QOL functioning was associated with emotional function, social function, income, pain, fatigue, and stage of cancer (ElMokhallalati et al., 2020; Shamallakh & Imam, 2017).

Many studies show that PC offers many advantages for individuals with terminal illnesses and their families (Mitchell et al., 2020; Senderovich & McFadyen, 2020), such as enhancing quality of life (Anagnostou, 2017; Rosenberg, 2017), reduces symptom (Anagnostou, 2017;

Evans et al., 2021), helps patients and families caregiver understand treatment plans (Glajchen et al., 2022), reducing hospital admissions (Dingfield et al., 2017; Hirvonen et al., 2020), increase median survival time (Prompantakorn et al., 2021; Sullivan et al., 2019).

A study conducted by Etkind et al. (2017) found that by 2040, the number of people requiring PC will increase by 25% due to projections of an increase in the incidence of dementia and cancer in England and Wales. Another study showed that by 2060, the burden of cancer-related suffering would double. Suffering will increase more rapidly in low-income countries, increasing the need for palliative care. In Jordan, 16,000 deaths occur annually, more than 60% of whom need PC (Etkind et al., 2017; Sleeman et al., 2021).

Aspects of palliative care are to help patients' families understand the nature of the disease and diagnosis so that the patient's family has a role in determining the appropriate medical care and the family's goals are aligned with the purposes of the healthcare team. Primarily, PC before and after a patient's death focuses on supporting the family (Breen et al., 2018; Goebel et al., 2017).

According to the National Clinical Programme for Palliative Care, the most important step in developing PC in the community is the assessment of the need for palliative care. This may assist in determining what is essential to clients or residents and their families, as well as where they need assistance and support in a variety of areas, including physical, social, psychological, and spiritual domains (NCPPC, 2014).

2.2.3 Needs of patients with cancer on palliative care

A 'need' for care is defined as an experienced problem that needs support so that health-related issues require more professional health care. Patients with cancer and life-threatening illnesses are the primary focus of PC professionals, sharing many physical, psychological, social, economic, and spiritual needs (Hasegawa et al., 2016; Lambert et al., 2017; Wang et al., 2018). It is estimated that more than 56.8 million people worldwide require PC at the end of life each year, of whom 67.1% are adults over 50 and 7% are children (Felicia Knaul, Lukas Radbruch, 2020).

Despite the high burden of disease and the increasing number of people in need, PC is still unavailable to most people in need because 76% of those needing PC live in low- and middle-income countries (Abu-Odah et al., 2020). in which the same study found that the most frequent unmet needs among advanced cancer patients in Palestine were those in the physical aspects of daily living and psychological domains.

Wang et al. demonstrated in a study that needs assessment for people with cancer in China to require examining the perspectives of patients and their informal caregivers as a whole unit to be highly optimal (Wang et al., 2018). Wang et al. found that the majority of unmet PC demands in China are connected to the financial (85.2 %), informatics (82.3 %), physical (pain) (69.7%), and psychological (64.9 %) areas (Wang et al., 2021). By assessing PC needs from the perspective of patients and caregivers, it was found that the most important main needs requested by the participants were informational needs, social and psychological support, and financial concerns (Lambert et al., 2017).

In their study, Bajwah et al., 2020 show that implementing a comprehensive examination approach for patients who require PC can identify physical, psychological, spiritual, social, care service, and economic needs to provide services for apparent problems (Bajwah et al., 2020).

2.2.3.1 Physical domain for the patient

The physical domain of palliative care is crucial in managing pain, controlling symptoms, maintaining mobility, and facilitating activities of daily living.

Patients with life-threatening diseases, particularly cancer, may experience a variety of symptoms as a result of the underlying disease and the disease's treatment. These sources of distress, taken together, impose a symptom burden on the patient that is the subjective counterpart of the disease's tumor burden. Pain, fatigue, stomach issues, anorexia, weakness, anxiety, and respiratory symptoms are the most common physical symptoms (Newcomb et al., 2020; Yeager & Quest, 2018).

According to a study conducted by Mithrason & Parasuraman (2017) to identify the main physical complaints of PC patients, pain was the most common primary problem observed by 100% of PC patients, followed by fatigue with 88.3% and lack of appetite with 83.3% as the most common digestive problems. The most common respiratory problem was shortness of breath, accounting for 50% of patients' complaints (Mithrason & Parasuraman, 2017).

a recent study published by Bandeali et al., 2020. showed that the most prevalent physical problems were pain at 78%, fatigue at 34%, followed by shortness of breath at 19% (Bandeali et al., 2020). In Palestine, the most typical physical signs and symptoms were pain and lack of energy (ElMokhallalati et al., 2020). In a different study conducted in Palestine, between 69.9 and 95.0% of cancer patients reported having physical symptoms. and show that the most frequent symptom was fatigue 95.0%, which was followed by anxiety 91.3% and pain 87.3% (Abu-Odah et al., 2022).

2.2.3.2 Psychological domain for the patient

Psychological distress is common in the terminally ill and is a condition of mental distress marked by sadness, delirium, and anxiety symptoms (Ugarte & Calderón, 2022). Mental health problems affect 41.7 percent of cancer patients, with 33.5 percent suffering from depression, anxiety, and adjustment disorders (Gopalan et al., 2016).

In Gaza, the results of studies showed that just 7.4% of cancer patients do not experience depression; of those, 15% suffer mild depression, 53.4% suffer moderate depression, and 24.2% suffer severe depression (Bseiso et al., 2017). And a recent study published in Gaza showed high levels of psychological distress, anxiety, and depression among patients living with advanced cancer (Abu-Odah et al., 2022).

A study showed that five of the most prevalent psychological issues found in PC patients were depression (96.7%), dread of metastasis (95%), unpredictability (93.3%), lack of happiness (91.5%), and fear of suffering. somatic (85%) (Mithrason et al., 2018).

The psychological stress caused by cancer and its treatment might have an impact on one's quality of life (Evangelos, 2018; Gu et al., 2020; Karunanithi et al., 2018; Muzzatti et al., 2020). Furthermore, prolonged hospital stay and readmission are associated with hospitalized patients with cancer who present with severe psychological distress (Nipp et al., 2017). A systematic review of the use of psychological therapies to promote health and wellbeing in people with long-term illnesses found that at least one quality of life outcome improved significantly after the intervention and was stable at follow-up (Anderson & Ozakinci, 2018). Furthermore, results in another systematic study demonstrated the effectiveness of using psychological interventions to improve PC (Von Blanckenburg & Leppin, 2018).

2.2.3.3 Social domain for the patient

Social support is defined from the point of view of cancer patients as a network of close relatives or friends who might potentially assist a person during their illness (Sjolander & Ahlstrom, 2012).

Social support has a strong link to physical and mental well-being, and it may help guard against the negative consequences of long-term stress (Harandi et al., 2017; Lindsay Smith et al., 2017). Moreover, a cohort study in Britain showed that persons who are socially isolated have a greater risk of acute myocardial infarction (AMI) and stroke, as well as a higher chance of mortality among those who have had an AMI or stroke (Hakulinen et al., 2018).

Social isolation is associated with reduced well-being, social relations, and mental and physical health (Clair et al., 2021; Li et al., 2021), increased pain intensity (Karayannis et al., 2019), increased depression (Noguchi et al., 2021; H. O. Taylor et al., 2018), and increased mortality (Saito et al., 2021; Ward et al., 2021). Nevertheless, the five most prevalent social issues that patients have identified were loneliness (93.3 %), not receiving enough support from others (61.7 %), difficulty talking about the disease because they didn't want to bother others (56.7 %), finding others unresponsive to talking about the disease (53.3 %), and difficulty finding someone confidential to talk (46.7%) (Mithrason et al., 2018). However, social support is associated with improving physical and psychological well-being and health perception in cancer (Leow et al., 2019). Furthermore, the results of a systematic study showed the effectiveness of using social support in PC enhanced physical and psychological well-being and reduced depression or maladaptive cognitions (Bradley et al., 2018).

2.2.3.4 Financial domain for the patient

Cancer patients and family caregivers confront financial burdens due to rising healthcare expenditures (Chang et al., 2023; Longo et al., 2021; Nipp et al., 2018).Cancer treatments such as chemotherapy, radiation therapy, surgery, and targeted therapies are often expensive and require multiple sessions or cycles (Carrera et al., 2018).

In the "financial" domain, 9.5–17.3% of Australians expressed a moderate to high level of need, with "paying the non-medical expenditures of sickness" being the top concern (Rachakonda et al., 2015). In addition, four out of every five people in Indonesia (70% to 80%) and two out of every five people in the Netherlands (30% to 42%) have financial problems (Effendy et al., 2015).

Many cancer patients in Gaza struggle to afford these treatments, especially since they may need to travel outside the region for specialized care that is not available locally. Gaza suffers a number of difficulties, including a lack of funding, extreme poverty and unemployment, poor infrastructure, and political conflicts (ElMokhallalati et al., 2022; Maziak, 2009).

According to this survey, the majority of patients (69.4%) had poor monthly incomes, which made it difficult for them to travel outside of Gaza for advanced and follow-up treatments (WHO, 2019).

In conclusion, Efforts from local and international organizations are crucial in providing financial aid and support to alleviate the burden on these patients and their families. However, continued attention and support are needed to ensure that cancer patients in the Gaza Strip can receive the necessary treatment without being overwhelmed by financial constraints.

2.2.3.5 Spiritual domain for the patient

Spiritual care is a vital component of PC and was included by the World Health Organization in its definition of PC 20 years ago (WHO, 2021). A systematic study has shown that spiritual care at the end of life is important for patients and that patients want health care professionals to provide this domain of PC (Best et al., 2015). Numerous studies of spirituality and spiritual wellness have demonstrated a positive impact on the quality of life of cancer patients in all age groups. (Gijsberts et al., 2019; Ripamonti et al., 2018). spiritual care has considerable effects on behaviors connected to health and psychological well-being (Bożek et al., 2020). Its enhanced patient satisfaction with treatment; stress reduction; decreased hospitalization time and symptoms of depression while in the hospital; decreased period of hospitalization; and enhanced quality of life (Riahi et al., 2018). A systematic review study revealed that prayer in health and disease situations could facilitate promoting health, improving individuals' physical performance, and feeling hopeful (Simão et al., 2016). Despite its positive role and status as a primary dimension of palliative care, spiritual care remains the least concerned and most neglected dimension of PC (Gijsberts et al., 2019). In recent years, a number of international studies have found that patients with life-threatening illnesses have a variety of unmet spiritual demands (Klimasiński et al., 2022; Mesquita et al., 2017). In

Palestine, the literature on spiritual care is very scarce, as a study on the assessment of spiritual needs showed that (69.69%) of heart patients in the GS need spiritual care (Riahi et al., 2018).

2.2.3.6 Informational need for the patient

information plays a crucial role in supporting cancer patients, empowering them to make informed decisions about their healthcare, and enhancing their overall well-being. Access to accurate and reliable information can help patients understand their diagnosis, treatment options, side effects, and supportive care measures (Chua et al., 2018).

Cancer patients need access to comprehensive information to actively participate in their treatment decisions. According to a study published in the Journal of Clinical Oncology, providing information to cancer patients leads to better communication between patients and healthcare providers, increased patient satisfaction, and improved decision-making processes (Jansen et al., 2018).

Access to information can help alleviate anxiety and improve the quality of life for cancer patients. Research published indicates that providing information and educational materials to cancer patients can reduce anxiety levels, increase their sense of control, and improve their overall well-being (Kugbey et al., 2019).

Well-informed cancer patients are more likely to adhere to their treatment plans and follow-up care. A study published in the European Journal of Cancer Care found that patients who received information about their cancer diagnosis and treatment were more likely to comply with their treatment regimens (Mann et al., 2018).

Cancer patients may require additional support services, such as counseling, support groups, and financial assistance. Having information about these resources can help patients and their families access the support they need.

2.2.4 Family Caregiver needs on palliative care

The family is one of the earliest and most fundamental organizations that has persisted from prehistoric beginnings to modern cultures. Either someone who has a strong personal relationship with an adult or a person who has a disability or has a life-threatening illness or a chronic disease, whether a relative, friend, partner or neighbor, is known as the family caregiver (FCA, n.d.).

The statistics regarding family caregivers are big and surprising. According to The National Caregiving Alliance 2020, nearly 53 million caregivers have provided unpaid care to an adult or child in a household in the past 12 months. There is an increase in the number of family caregivers in the United States of 9.5 million compared to 2015 (NAC, 2020). In the Arab world, no dedicated specific report or study was obtained on the proportions and numbers of informal family care. But it is established in the Arab world that the family is interconnected as a social institution and is the first and main provider for its older adult members in need of care, especially in chronic and life-threatening diseases such as cancer, disability, Parkinson's disease, and Alzheimer's disease (Alharahsheh et al., 2016).

Family caregivers of patients with life-threatening diseases such as cancer are essential pillars with varying needs because they are accountable for long-term care for their loved ones (Bijnsdorp et al., 2020). They are projected to offer 75–90 percent of home-based care for persons nearing the end of their lives. Furthermore, the demand for informal care is increasing as the population ages, resulting in people living longer and having more complex health and social PC demands (Hulme et al., 2016).

Family caregivers feel the physical strain associated with caregiving, and fear, uncertainty, powerlessness, and a feeling of vulnerability, despite their attempts to maintain regularly (Sherman, 2019). They often suffer from symptoms of Loss of appetite, anger, depression, and anxiety and may become demoralized and overwhelmed (Z. Liu et al., 2020).

Long-term care for loved ones affects the caregivers in their families with significant impacts on their physical and mental health, as they suffer from depression, sleep disturbances, general fatigue, and anxiety (Dong et al., 2019). Because there is an urgent need for supportive interventions for this population, it is essential to know the needs of family caregivers of patients with cancer because caregiver difficulties are closely related to patients' well-being (Guerra-Martín et al., 2023).

Unmet patients' physical, psychological, spiritual, and social needs can increase the burden on family caregivers (Norinder et al., 2021). The results showed that PC had a statistically significant effect on the satisfaction of family caregivers (McDonald et al., 2017).

2.2.4.1 Physical domain for the family caregiver

Physical well-being is a crucial aspect of the quality of life in PC among cancer patients and their family caregivers (Guerra-Martín et al., 2023). As responsibilities increase during and after cancer treatment and rehabilitation, family caregivers face many difficult issues as they take on the role of case managers by setting up an appropriate home environment, handling the patient in emergencies, and coordinating visits to the hospital and doctor's office.

Family caregivers are subjected to a physical burden as a result of this (Schulz et al., 2016). Several studies have found that family caregivers of cancer patients suffer from various physical health issues due to their involvement. Sleep disturbances, weariness, soreness, lack of physical strength, loss of appetite, and weight loss were among the most common issues (Bekui et al., 2023; Owoo et al., 2022).

Caregiving has a bodily impact intimately linked to the physical burdens caregivers are expected to accomplish. As The person with cancer's symptom burden grows as the disease progresses, so does the caregiver's physical needs. Changes in role functioning are usual as the disease progresses, requiring the caregiver to take on extra duties formerly undertaken by the cancer patient (Schulz et al., 2016). The study by Wu et al., 2020howed the significant effectiveness of PC counseling services on the physical burden of the caregiver (Wu et al., 2020).

2.2.4.2 Psychological domain for the family caregiver

Psychosocial burdens are associated with the number of unmet needs in family caregivers of advanced cancer patients (Z. Liu et al., 2020). A study conducted by Lee & Cha showed a positive relationship between the unmet needs of family caregivers and the burden of care, including psychological burdens (J. Lee & Cha, 2017).

Several studies have shown that psychological factors of family caregivers affect the quality of patient care, not just their satisfaction with the quality of patient care (Y. J. Lee et al., 2016). Family caregivers' psychosocial burden increases with the patients' disease progression and, nearing death, an even increase the patients' burden (Oechsle et al., 2019). According to a study conducted by Halkett et al., 2017, 62 percent of family caregivers experienced moderate or severe distress, which worsened with time (Halkett et al., 2017).

Another study revealed a worrying prevalence of mental morbidity among family caregivers of individuals with cancer. 66.1% reported high levels of stress, 68.8% reported a high risk of depression, 72.3% reported a high risk of anxiety, and 50.9% reported high levels of somatization (Areia et al., 2019). As a result of these findings, more attention should be paid to caregivers' needs for support. The results of a study conducted in Singapore on family caregivers' need for palliative care in the domain of health and psychological problems showed that the highest item of need helped with concerns about the patient, followed by " help with feelings of vague anxiety." (Chua et al., 2020).

2.2.4.3 Spiritual domain for the family caregiver

Spiritual support is an essential part of PC for patients and family caregivers (Gijsberts et al., 2019; Rankin, 2018). Spirituality can be used as a basis to assist existential difficulties, stressful circumstances, and traumatizing the role played by caregivers of patients receiving cancer palliative care (Evangelista et al., 2016). According to the findings, the satisfaction of family caregivers with their living environment had a clear relationship with the nurse's expectations for care, with a focus on the spiritual dimension, according to the data.

Spirituality is appropriated by family caregivers as a coping mechanism and assistance for meeting the purpose. (Rocha et al., 2018). In Iran, spiritual needs were the least needed among the other domains of PC (Ashrafian et al., 2018). According to a systematic review study, Spiritual care for family caregivers is based on a close and meaningful relationship with patients, spirituality as a coping mechanism, spiritual needs and expressions among family caregivers, spirituality for overcoming fears, and spirituality in making family decisions (Lalani et al., 2018).

2.2.4.4 Social domain for the family caregiver

Individuals' health is influenced in part by the nature of their relationships and the social systems in which they live (Deatrick, 2017). According to several studies, family caregivers face social issues or obstacles related to role tension, economics, sexuality, employment/education, loneliness, and environmental management (Y. Liu et al., 2019; Wang & Feng, 2022).

The more social duties a caregiver plays, the more likely they are to feel stress and negative effects (Kazemi et al., 2021). Roles shift when a family member is diagnosed with cancer. With changes in obligations and interfamilial interactions, the pressure on family caregivers is constantly increasing. This is especially true for caregivers who, in addition to caring for the cancer patient, are also responsible for children or elderly parents (Molassiotis & Wang, 2022).

2.2.4.5 Financial domain for the family caregiver

Cancer patients and their family caregivers often face significant financial burdens as a result of the rising healthcare expenditures associated with cancer treatment and care. The costs can include medical expenses, medications, hospital stays, supportive care services, and other related costs. These financial challenges can have a profound impact on the overall well-being and quality of life of individuals and families affected by cancer. (Chang et al., 2023; Longo et al., 2021; Nipp et al., 2018).

The financial burden of caring for someone who is at the end of life is enormous. Financial needs for family caregivers of cancer patients can vary depending on various factors such as the patient's condition, the caregiver's employment status, insurance coverage, and local resources. (Gardiner et al., 2014).

Family caregivers of cancer patients face various financial challenges. They often have to give up or reduce their employment, leading to a loss of income and impacting their financial stability .Additionally, caregivers may incur additional medical expenses related to the patient's treatment, such as co-pays, medications, and specialized equipment that are not covered by insurance (Schulz et al., 2016). The frequent trips to hospitals, clinics, or treatment centers also result in increased transportation costs, including expenses for fuel, parking fees, and public transportation (Varela et al., 2019). A study showed that, family caregiver costs over the past 12 months are shown in palliative care, which made up the bulk of the costs with an average of 76.7% during the last year of life (Chai et al., 2014). These studies emphasize the challenges that informal family caregivers face in palliative care.

2.2.4.6 Informational domain for the family caregiver

In the care and support of terminally sick cancer patients, family members play an important role. The need for information is crucial for cancer family caregivers as they navigate the complex journey of caring for a loved one with cancer (Flemming et al., 2019). A study conducted by Wang et al., et al showed that 92.1% of family caregivers for cancer patients suffer from a lack of information (Wang et al., 2021). In a study conducted in Iran, the need for sufficient information about financial support and the need for information about the current status of the patient's disease and his future path were among the highest levels of special information needs (Ashrafian et al., 2018).

Unmet information needs among caregivers are linked to increased sadness and anxiety (Oberoi et al., 2016; Wang et al., 2021). Conversely, pients and caregivers who get more information and have fewer information obstacles have higher health competence and fewer symptoms of anxiety and depression (Husson et al., 2011).

Chapter Three

Methodology

3.1 Methodology

This section explains the approach and materials that will be utilized to address the research questions in this study. Various topics, such as research design, study population, study setting, and study time, will be discussed in this part, as well as sample and sampling, study instruments, data collecting, study pilot, data analysis, data management, and ethical issues.

3.2 Study Design

The researcher used a triangulated, analytical and cross-sectional design to satisfy the study's objectives. This was used to assess patient and family caregiver needs for palliative care among cancer patients in the GS because they reflect current evidence at the time of data collection; cross-sectional studies are less expensive and require less time.

In this study, methodological triangulation was utilized to combine quantitative (patients and family caregiver's self-administered questionnaires) and qualitative paradigms (family caregiver's in-depth interviews). When the two techniques are combined, detailed information about the study areas is produced, which is impossible with just one methodology. Additionally, combining the two strategies maximizes their advantages while reducing their drawbacks.

3.3 Study Setting

This study was carried out at the Turkish-Palestinian Friendship Hospital (TPFH) in the Gaza Strip.

3.4 Study Population

The target population of the study consists of only adult cancer patients and family caregivers in the Turkish Friendship Hospital in GS, and the total number of cancer patients in GS in 2022 was 9,250, of whom 1,000 have died. By July, there were only 8,250 people left. The number of children reached is 521 of them. The population size becomes 7729 in proportion to the inclusion criteria (MOH, 2022).

3.5 Sample and Sampling

To recruit research participants, convenience sampling was used. Convenience sampling is a sort of nonprobability sampling in which people are selected because of their availability at a given time and are considered "convenient" data sources for researcher. Data were collected over a period of 3 months, from May 2022 to August 2022, from the following departments in the Turkish-Palestinian Friendship Hospital: A. Daycare Department; b. Inpatient Department; c. Outpatient Department

3.5.1 Quantitative part:

For cross-sectional research, the sample size was calculated using a single population proportion formula (Thompson formula) based on the margin of error and confidence interval, which were set at 0.05 and 0.95, respectively, and a power sample of 0.8. The sample size was determined using the number of cancer patients at the Turkish Friendship Hospital in GS, with N = 7729, CI = 0.95, and power = 0.08.

And Epi-Info program was applied to confirm the sample size. The sample size was 366 patients and 366 family caregivers at 95% confidence level, **annex (2)**. However, to avoid any missing data, 371 patients and 388 family caregivers were collected.

3.5.2 Qualitative part:

In-depth interviews with 12 members of the family caregiver' were conducted after reaching the degree of saturation.

3.6 Inclusion/exclusion criteria

3.6.1 Inclusion criteria:

- any patient aged 18 years or older who has been diagnosed with malignant cancer or hematology cancer.
- Family Caregivers should be unpaid, such as a husband, daughter/son, or relative (over the age of 18).
- The patient or family caregiver must be present at the Turkish-Palestinian Friendship Hospital to receive service in any of the following departments: day care, outpatient clinic, or inpatient department.
- Both the patient and the caregiver were willing to participate and offered signed informed permission**.**

3.6.2 exclusion criteria:

- Any patient under the age of 18.
- Any patient diagnosed with benign cancer.
- Any family caregiver for a patient diagnosed with benign cancer.
- Patient and family caregiver refused to participate in study

3.7 Instruments of the study

In this study, three tools were used. The study collected quantitative data through two different self-administered questionnaires for patients and family caregivers, and to collect quantitative data, it used an in-depth interview with family caregivers.

The researcher or data collector provided a neutral explanation (such as reading the questionnaires aloud word for word) if participants were confused about the questionnaires or items in them. After completing the questionnaires, the researcher or data collector quickly checked the data for any data that may be lacking or written answers for correction.

3.7.1 Quantitative instrument:

3.7.1.1 Tool one: Patients' questions

In the first section of the questionnaire included the demographic characteristics of patients (age, gender, marital status, education, history of disease in their families, duration of the disease, and job).

In the second section the patients’ needs measured by The Problems and Needs in Palliative Care-short version (PNPC-sv) questionnaire, the tool was created in the Netherlands in English and is a PC needs assessment scale for cancer patients. This scale has 33 items and eight dimensions which comprises physical signs (9 items), everyday activities (3 items), psychological problems (5 items), social problems (5 items), autonomy (4 items), spiritual problems (4 items), information needs (1 item), and financial problems (2 items). PNPC-sv includes two parts, one that constitutes the problem part and one that constitutes the need for care part, Patients are asked two questions for each item: (1) " Do you find the item to be problematic?" has the responses "yes," "somewhat," and "no" in the Problem section; and (2) "Do you require (additional) professional care for the item?" "Yes, more," "as much as now," and "no" in the part about the need for care. According to the PNPC-sv total score, "yes" means 2, "somewhat" or "as much as now" means 1, and "no" means 0. Those who answered "1" "as much as now" and "2" "yes" were organized into categories as "having a problem" in the section related to the problem, while in the part related to care, those who answered "1" "somewhat" and "2" "yes," and categorize them as "needing professional attention to the problem". An increased need for palliative care was associated with a higher overall score (Osse et al., 2007).

In the third section of the questionnaire, The Depression, Anxiety, and Stress Scale—21 Items (DASS-21) Arabic version was used to assess the negative emotional states of depression, anxiety, and stress. This scale has 21 items and 3 dimensions, and each dimension has 7 items, including depression (items 3, 5, 10, 13, 16, 17, 21), anxiety (items 2, 4, 7, 9, 15, 19, 20) and tension (items 1, 6, 8, 11, 12, 14, 18). Each item is scored on a 4-point Likert scale starting from 0 (did not apply to me at all), 1 ("Applied to me to some degree, or some of the time"), 2 ("Applied to me to a considerable degree, or a good part of the time"), and 3 ("applied to me very much") overall, this tool assesses the degree of symptom severity on a scale ranging from within normal bounds to highly severe (Ali et al., 2017). The DASS-21's score for each subscale must be multiplied by 2 in order to determine the overall score because the DASS-21 is a condensed version of the original 42-item DASS. The article states that the ratings are then divided into "normal, mild, moderate, severe, or extremely severe" categories **(See Table 3.1)**.

Table (3.1): The rating system for the DASS 21 index, severity rates

Severity	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

3.7.1.2 Tool two: family caregiver needs

In the first section of the questionnaire included the demographic characteristics of family caregiver (age, gender, marital status, education, related relations, duration of caregiving, and job)

In second section the needs of the family caregiver were assessed through the comprehensive need assessment tool for cancer caregivers (CNAT-C) questionnaire; the tool was created in South Korea in English. This serves as a needs assessment tool for those who are family caregivers of patients with cancer. There are seven dimensions and 41 objects on this scale, including health and psychological support (6 items), family and social support (5 items), Health-care staff (8 items), information support (8 items), spiritual support (2 items), hospital facilities and services (6 items), and practical support (6 items). The researchers utilize a four-point Likert scale (0 = no need, 1 = low need, 2 = moderate need, and 3 = high need). the information (1 = low need, 2 = medium need, 3 = high need) was gathered and taken into consideration (overall needed). An increased need for palliative care was associated with a higher overall score (Shin et al., 2010).

In the third section of the questionnaire, the DASS-21 questionnaire Arabic version was used (Ali et al., 2017).

3.7.2 Qualitative instrument:

The Qualitative tool was open questions (semi-structured) (**Annex 10),** which the researcher asked during an in-depth interview with the family caregiver, in order to cover all dimensions of the PC needs.

3.8 Translation of the questionnaires

The questionnaires were translated from the original English version into Arabic by four translators, so that two translators were translated from English into Arabic and vice versa.

The translators were familiar with medical terminology, and he had a working knowledge of Arabic jargon, idioms, and common phrases. The questionnaire was presented to 13 experienced persons their data is in (**Annex 3**).

3.9 Data Collection

3.9.1 Quantitative part:

After the pilot study the researcher and two professional assistants collected the data after receiving permission from the research participants. The two research assistants were trained to ask questions using a self-administered structured questionnaire and received complete information about the study's purpose, objectives, and methodology. Quantitative data was collected over three months beginning on May 16, 2022, and ending on August 12, 2022.

3.9.2 Qualitative part:

The researcher conducted in-depth interviews with family caregivers from October 10 to October 30, 2022, and the average time for each interview was 30–40 minutes. The researcher recorded the interviews with the approval of the family caregiver and took all notes during the interviews.

3.10 Data Management and Data Analysis

3.10.1 Quantitative part:

For data input and analysis, the researcher utilized the "Statistical Package for Social Sciences (SPSS)" program (version25). To prevent any inconsistencies, the researcher reviewed and double-checked all of the data. The data checked for mistakes in coding and entry. Frequency, mean, standard deviation (SD), and percentages used to represent descriptive data. Inferential statistics tests such as the independent sample t-test and one-way ANOVA are used to find out the association between unmet needs and selected socio-demographic variables. Used Pearson correlation coefficient to assessing a possible two-way linear association between need of patients with cancer and their caregivers and depression, anxiety and stress.

3.10.2 Qualitative part:

Maxqda software was used to analyze transcripts of in-depth interviews with family caregivers of cancer patients, and open coding was used to create insightful topics for discussion and interpretation. The main findings from the transcripts were recovered, then related concepts were categorized, quantitative and qualitative data were compared and integrated, and lastly, rich items for debate and interpretation were produced.

3.11 Ethical Considerations

In order to start this study, this proposal was referred to the Al Quds University-School of Public Health Research Committee for discussion and academic approval. The Helsinki Committee provided administrative ethical clearance. Another administrative approval has been received from the Research and Developmental Center at TPFH and the MOH, which provided further administrative permission. All participants were informed of the research's aims and objectives and gave verbal consent prior to the start of the study.

3.12 Pilot of the Study

A pilot study of 50 questionnaires for cancer patients and 50 for family caregivers as the study sample included the pilot sample. A pilot study was conducted to determine the appropriateness of test clarity, point out wording flaws, predict response rates, determine the real-time required to fill out the questionnaire and identify areas of ambiguity, as well as test the questionnaire's reliability, validity, and suitability, as shown in the tables below.

3.12.1 Part one: cancer patient’s instrument

Reliability

Table (3.2): Reliability of the research for each domain among cancer patients of the cancer patient’s questionnaire

No.	Domain among cancer patients	No. of item	Cronbach's Alpha	
			Extra-care	Problem
1.	Everyday activities	3	0.780	0.842
2.	Physical symptoms	9	0.733	0.753
3.	Functional efficiency	4	0.886	0.686
4.	Social issues	5	0.774	0.811
5.	Psychological issues	5	0.681	0.827
Total		**33**	**0.858**	**0.891**

Table 3.1 shows the values of Cronbach’s Alpha for each questionnaire domain among cancer patients of participants regarding extra care and problems. The table illustrated the reliability of domain among cancer patients; values of Cronbach’s Alpha in were in extra-care the range of 0.681 and 0.886. Cronbach’s alpha equals 0.858 for the entire questionnaire in the pilot sample while values of Cronbach’s Alpha in were in problem domain among cancer patients the range of 0.735 and 0.886. Cronbach’s alpha equals 0.891 for the entire questionnaire in the pilot sample, which indicates good reliability of the entire questionnaire.

3.12.2 Part two: Cancer caregiver’s instrument

Reliability

Table (3.3): Reliability of the research for each domain among cancer caregivers of the cancer caregivers questionnaire.

No.	Domain among cancer caregivers	No. of item	Cronbach's Alpha
1.	Health and psychological problems	6	0.843
2.	Family/ social support	5	0.783
3.	Health-care staff	8	0.921
4.	Information needs	8	0.846
5.	Hospital facilities & services	6	0.740
6.	Practical support	6	0.843
Total		**41**	**0.947**

Table 3.3 shows the values of Cronbach’s Alpha for each questionnaire domain among cancer caregivers of participants. In addition, the table illustrated the reliability of the domain among cancer caregivers’ values of Cronbach’s Alpha in the range of 0.740 and 0.921, which indicates good reliability of the entire questionnaire.

3.12.3 Part three: the DASS instrument

Reliability

Table (3.4): Reliability of the research for each domain of the DASS questionnaire among cancer patients

No.	Domain among cancer patients		No. of item	Cronbach's Alpha
1.	DASS		21	0.892

Table 3.4 shows the values of Cronbach’s Alpha for DASS questionnaire domain among cancer patients of participants. In addition, the table illustrated the reliability of the domain among cancer patients; values of Cronbach’s Alpha in were 0.892.

Chapter Four

Results and Discussion

The main quantitative and qualitative findings are presented in this chapter to assess cancer patients' and their family caregivers' needs for palliative care in the GS. The findings of the adult cancer patients who took part in the study will be presented in the first section. It will detail the issues and requirements of patients with cancer in the GS. The second section will present findings on family caregivers who took part in the research, including their clinical and demographic characteristics and levels of care needs.

4.1 Section One: Cancer Patient Needs Results

4.1.1 Demographic and clinical characteristics

Table (4.1a): Distribution of the study population according to Demographic and clinical characteristics of the patients (N=371)

Clinical characteristics		Count	%	Mean±SD
Age (years)				52.0±15.1
Monthly Income	Under deep poverty line (Less than 1974 NIS)	322	86.8%	813.3±1078.8
	Above deep poverty line (1974 or more NIS)	49	13.2%	
Gender	Male	169	45.6%	
	Female	202	54.4%	
Marital status	Single	30	8.1%	
	Married	306	82.5%	
	Separated	10	2.7%	
	Widowed	25	6.7%	
Educational level	Primary and less	44	11.9%	
	preparatory school	78	21.0%	
	Secondary	128	34.5%	
	Bachelor	108	29.1%	
	Post-graduate	13	3.5%	
Working status	Employee	79	21.3%	
	Non-employee	292	78.7%	
Residency/living condition	North Governorate	74	19.9%	
	Gaza Governorate	122	32.9%	
	Central Governorate	67	18.1%	
	Khan Younis Governorate	63	17.0%	
	Rafah Governorate	45	12.1%	
Duration since diagnosis	Within the last month	26	7.0%	
	1-12 months ago,	168	45.3%	
	Over 1 year – 3 years ago	86	23.2%	
	Over 3 years ago	91	24.5%	

Table (4.1b): Distribution of the study population according to Demographic and clinical characteristics of the patients (N=371)

Diagnosis/Type	Breast	92	24.8%	
	Colon	68	18.3%	
	Lung	31	8.4%	
	Leukaemia	36	9.7%	
	Prostate	17	4.6%	
	Bladder	5	1.3%	
	Thyroid	25	6.7%	
	Lymphoma	31	8.4%	
	Brain and neck	6	1.6%	
	Stomach	19	5.1%	
	Pancreatic	5	1.3%	
	Liver	14	3.8%	
	Other	22	5.9%	
service place	Day-care	86	23.2%	
	Outpatient clinic	141	38.0%	
	inpatient department	144	38.8%	
Current treatment	Chemotherapy	226	60.9%	
	Radiation therapy	24	6.5%	
	Surgical	9	2.4%	
	Hormonal therapy	37	10.0%	
	Bone marrow transplantation	4	1.1%	
	Follow up	71	19.1%	

The table 4.1a showed the socio-demographic characteristics of the study participants. The total number of participants in the study was 371 cancer patients. The table below summarizes the main characteristics of the study participants.

The results showed that more than half of the patients (54.4%) are female and the rest (45.6%) are male. It is consistent with the statistics of the Ministry of Health in Gaza for the years 2019, where the relative distribution of cancer according to gender was (54%) women and (46%) men (MOH, 2019). The results also agreed with (Esam et al., 2022) who conducted a study to assess the nutritional status of cancer patients receiving chemotherapy, in which the proportion of men was 42.2%.

Furthermore, this study showed that the mean age of the patients was 52.0 ± 15.1 years and (82.5%) were married. This is in line with study by Abu-Odah et al., 2022, which showed that the average age of the participating cancer patients was 50.13 ± 14.8 and (83.4%) were married.

illustrated that the highest frequency among educational levels among the participants was secondary school (34.5%), followed by 29.1% who finished a bachelor's degree, 21.0% who finished preparatory school, and primary school or less (11.9%). The results showed that the lowest frequency among education level was for post-graduate degree (3.5%). Most of the patients (78.7%) were non-employee, while only 79 (21.3%) were employees.

The results showed that the highest group of participants living in Gaza governorate (32.9%) while 74 patients (19.9%) are living in North governorate and 67 patients are living in central governorate (18.1%) and 63 patients (17.0%) are living in Khan Younis Governorate. The results showed that only 45 patients are living in Rafah governorate (12.1%). It is consistent with Yaghi et al., 2015 in Gaza, where the Gaza governorate had the highest rate of cases, accounting for 42.5% of all cancer cases (Yaghi et al., 2015).

Regarding duration since diagnosis, the table showed that 26 patients (7.0%) Within the last month and 168 patients from 1to 12 months ago (45.3%), 86 patients from over 1 year to 3 years ago (23.3%) and 91 patients from over 3 years ago (24.4%).

The table 4.1b showed that the highest frequency of cancer are breast cancer (24.8%) followed by colon cancer (18.3%), leukemia cancer (9.7%), lung cancer (8.4%), lymphoma cancer (8.4%), thyroid cancer (6.7%), other cancer (5.9%), stomach cancer (5.1%), prostate cancer (4.6%), liver cancer (3.8%), brain and neck cancer (1.6%), bladder cancer (1.3%) and pancreatic cancer (1.3%), respectively. This is consistent with the results of the Ministry of Health in Gaza for the years 2015-2019, where breast cancer came out on top, followed by colon cancer, bone marrow cancer, lymphoma and lung cancer (MOH,2019).

The results showed that 144 patients receive the service in inpatient department (38.8%), followed by 141 receive the service in Outpatient clinic (38.0%) and only 86 patients receive the service in day-care (23.3%). Regarding current treatment, the results showed that the highest groups were treated by Chemotherapy (60.9%) followed by 19.1% of participants were Follow up (19.1%), Hormonal therapy (10%), Radiation therapy (6.5%), Surgical (, 2.4%) and Bone marrow transplantation (1.1%), respectively.

4.2 Emotional status for cancer patients:

Table (4.2): The Mean Depression, Anxiety, and Stress Scores Among cancer patients

DASS		n	%
Depression	Normal	104	28.0
	Mild	47	12.8
	Moderate	85	22.9
	Sever	51	13.7
	Extremely sever	84	22.6
Anxiety	Normal	90	24.2
	Mild	17	4.6
	Moderate	66	17.8
	Sever	49	13.2
	Extremely sever	149	40.2
Stress	Normal	126	34.0
	Mild	41	11.1
	Moderate	67	18.1
	Sever	66	17.8
	Extremely sever	71	19.0

The table 4.2 showed the negative emotional condition of the cancer patients in GS was assessed with the Depression, Anxiety, and Stress Scale (DASS). The mean score was 8.4 (SD = 5.4) for anxiety, 8.5 (SD = 8.6) for depression, and 10.4 (SD = 5.8) for stress. that depression levels among patients were normal (28%), mild (12.8%), moderate (22.9%), severe (13.7%) and extremely severe (22.6%). Regarding anxiety, the results showed that normal anxiety (24.2%), mild (4.6%), moderate (17.8%), severe (13.2%), and extremely severe (40.2%). The table showed that normal stress (34.0%), mild (11.1%), moderate (18.1%), and severe (17.8%), extremely severe (19.0%). It is consistent with the result of the study conducted in the Gaza Strip by Abu-Odah et al., 2022; Bseiso et al., 2017. the results of studies showed that the percentage of cancer patients without depression is 7.4%; 15% of these patients suffer from mild depression, 53.4% suffer from moderate depression, and 24.2% suffer from severe depression. and showed high levels of psychological distress, anxiety, and depression among patients living with advanced cancer in the GS.

Table (4.3a) Distribution of the study participants according to their responses to Problems and needs of patients with cancer (N=371)

Is this a problem? (Problem Part) n(%)				**Item**	**Do you want professional attention for this? (Need for Care Part) n(%)**			
Yes (2)	Somewhat (1)	No (0)	**(1)+(2)**		Yes, more (2)	As much as now (1)	No (0)	**(1)+(2)**
Daily Activities								
92 (24.8)	69 (18.6)	210 (56.6)	161 (43.4)	Body care, washing, dressing, or toilet	82 (22.1)	75 (20.2)	214 (57.7)	157 (42.3)
126 (34)	76 (20.5)	169 (45.5)	202 (54.5)	Personal transportation (cycling, driving a car, using public transportation, etc.)	111 (29.9)	79 (21.3)	181 (48.8)	190 (51.2)
116 (31.3)	98 (26.4)	157 (42.3)	214 (57.7)	Doing light housework (tidying up, etc.)	99 (26.7)	104 (28)	168 (45.3)	203 (54.7)
Physical Symptoms								
184 (49.6)	121 (32.6)	66 (17.8)	305 (82.2)	Pain	143 (38.5)	125 (33.7)	103 (27.8)	268 (72.2)
218 (58.8)	108 (29.1)	45 (12.1)	326 (87.9)	Fatigue	171 (46.1)	130 (35)	70 (18.9)	301 (81.1)
172 (46.4)	104 (28)	95 (25.6)	276 (74.4)	Sleeping problems	134 (36.1)	121 (32.6)	116 (31.3)	255 (68.7)
86 (23.2)	112 (30.2)	173 (46.6)	198 (53.4)	Shortness of breath	76 (20.5)	95 (25.6)	200 (53.9)	171 (46.1)
59 (15.9)	88 (23.7)	224 (60.4)	147 (39.6)	Cough	48 (13)	78 (21)	245 (66)	126 (34)
62 (16.7)	73 (19.7)	236 (63.6)	135 (36.4)	Itch	45 (12.1)	67 (18.1)	259 (69.8)	112 (30.2)
117 (31.5)	61 (16.5)	193 (52)	178 (48)	Sexual dysfunction	75 (20.2)	58 (15.6)	238 (64.2)	133 (35.8)
137 (36.9)	127 (34.3)	107 (28.8)	264 (71.2)	Prickling or numb sensation	112 (30.2)	110 (29.6)	149 (40.2)	222 (59.8)
108 (29.1)	113 (30.5)	150 (40.4)	221 (59.6)	(Nightly) Sweating or hot flushes	81 (21.9)	91 (24.5)	199 (53.6)	172 (46.4)
Autonomy								
163 (43.9)	107 (28.9)	101 (27.2)	270 (72.8)	Difficulties in continuing the usual activities	142 (38.3)	105 (28.3)	124 (33.4)	247 (66.6)
117 (31.5)	120 (32.4)	134 (36.1)	237 (63.9)	Difficulty to give tasks out of hands	95 (25.6)	117 (31.5)	159 (42.9)	212 (57.1)
113 (30.5)	145 (39.2)	112 (30.3)	258 (69.7)	Being dependent of others	105 (28.3)	122 (32.9)	144 (38.8)	227 (61.2)
106 (28.6)	112 (30.2)	153 (41.2)	218 (58.8)	Experiencing loss of control over one’s life	93 (25)	109 (29.4)	169 (45.6)	202 (54.4)
Social Issues								
59 (15.9)	80 (21.6)	232 (62.5)	139 (37.5)	Problems in the relationship with life companion	49 (13.2)	64 (17.3)	258 (69.5)	113 (30.5)
54 (14.6)	65 (17.6)	251 (67.8)	119 (32.2)	Difficulties in talking about the disease with life companion	40 (10.8)	61 (16.4)	270 (72.8)	101 (27.2)
66 (17.8)	69 (18.6)	236 (63.6)	135 (36.4)	Finding it difficult to talk about the disease, because of not receptive to talking about the disease	56 (15.1)	68 (18.3)	247 (66.6)	124 (33.4)
69 (18.6)	71 (19.1)	231 (62.3)	140 (37.7)	Finding others not receptive to talking about the disease	58 (15.6)	69 (18.6)	244 (65.8)	127 (34.2)
35 (9.4)	54 (14.6)	282 (76)	89 (24)	Difficulties in finding someone to talk to (confidant)	31 (8.4)	51 (13.7)	289 (77.9)	82 (22.1)

Table (4.3b) Distribution of the study participants according to their responses to Problems and needs of patients with cancer (N=371)

Is this a problem? (Problem Part)				**Item**	**Do you want professional attention for this? (Need for Care Part)**			
Yes (2)	Somewhat (1)	No (0)	**(1)+(2)**		Yes, more (2)	As much as now (1)	No (0)	**(1)+(2)**
Psychological Issues								
108 (29.1)	120 (32.4)	143 (38.5)	228 (61.5)	Depressed mood	97 (26.1)	113 (30.5)	161 (43.4)	210 (56.6)
139 (37.5)	103 (27.8)	129 (34.8)	242 (65.3)	Fear of physical suffering	106 (28.6)	116 (31.3)	149 (40.1)	222 (59.9)
184 (49.6)	81 (21.8)	106 (28.6)	265 (71.4)	Fear of metastases	161 (43.4)	80 (21.6)	130 (35)	241 (65)
151 (40.7)	83 (22.4)	137 (36.9)	234 (63.1)	Difficulty coping with the unpredictability of the future	127 (34.2)	84 (22.6)	160 (43.2)	211 (56.8)
108 (29.1)	120 (32.4)	143 (38.5)	228 (61.5)	Difficulties to show emotions	85 (22.9)	92 (24.8)	194 (52.3)	177 (47.7)
Spiritual Issues								
51 (13.7)	107 (28.9)	213 (57.4)	158 (42.6)	Difficulties to be engaged usefully	35 (9.4)	98 (26.4)	238 (64.2)	133 (35.8)
51 (13.8)	78 (21.1)	241 (65.1)	129 (34.9)	Difficulties to be avail for others	46 (12.4)	62 (16.7)	263 (70.9)	108 (29.1)
71 (19.1)	58 (15.7)	242 (65.2)	129 (34.8)	Difficulties concerning the meaning of death	59 (15.9)	54 (14.6)	258 (69.5)	113 (30.5)
50 (13.5)	73 (19.7)	248 (66.8)	123 (33.2)	Difficulties to accept the disease	48 (12.9)	72 (19.4)	251 (67.7)	120 (32.3)
Financial Problems								
278 (74.9)	52 (14)	41 (11.1)	330 (88.9)	Extra expenditures because of the disease	249 (67.1)	66 (17.8)	56 (15.1)	315 (84.9)
147 (39.6)	27 (7.3)	197 (53.1)	174 (46.9)	Loss of income because of the disease	138 (37.2)	41 (11.1)	192 (51.7)	179 (48.3)
Need for Information								
134 (36.1)	98 (26.4)	139 (37.5)	232 (62.5)	Insufficient information, e.g., about the disease and its treatment, aids and agencies that can provide help, alternative healing methods, etc.	133 (35.8)	92 (24.8)	146 (39.4)	225 (60.6)

4.3 Distribution of Problems and needs of patients with cancer in the GS

The table 4.3 showed the Problem section and need section, as shown, the top five issues that patients mentioned were as follows: In the forefront are financial problems: "additional expenses due to illness," with a rate of 88.9%, and it is followed by "fatigue" (87.9%, physical symptoms); "pain" (82.2%, physical symptoms); "sleeping problems" (74.4%, physical symptoms); and "difficulties in continuing the usual activities" (72.8%, Autonomy). It is consistent with a study in Indonesia and Hong Kong that showed higher financial and physical needs but not consistent with a study in the Netherlands, where psychological problems and autonomy were mentioned as the two greatest problems they had. The reason for this is due to the economic situation and the different health systems between developing and developed countries. Gaza witnessed a significant regression in development as a result of the repeated war cycles by the Israeli occupation, which left death and damage to the economy and the ability of everyone to carry out their daily lives and exercise their basic human rights. 81% of the population of the GS are refugees, of whom 71% live below the poverty line, which explains the high financial needs in this study (Effendy et al., 2015; UNRWA, 2020.; Wang et al., 2021).

The results indicated that fatigue (87.9%) and pain (82.2%) were the main causes of problems related to physical symptoms. These findings were consistent with studies done in Jordan and Gaza, which reported fatigue and pain as the most frequent major symptoms among cancer patients (Abu-Odah, Molassiotis, Zhao, et al., 2022; al Qadire & al Khalaileh, 2016).

The five issues with the least amount of occurrences were as follows: In the forefront are Social problems: ‘Difficulties in finding someone to talk to (confidant)’ with a rate of 24%, and it is followed by ‘difficulties in talking about the disease with life companion’ (32.2%, Social Problem), ‘Difficulties to accept the disease’ (33.2%, Spiritual Problem), ‘Difficulties concerning the meaning of death' (34.8%, Spiritual Problem), and 'Difficulties to be avail for others' (34.9%, Spiritual Problem). As the spiritual and social problems are the least of the problems faced by cancer patients, and these results are consistent with a study conducted in Jordan (Al-Natour et al., 2017). from my point of view, This is attributed to the fact that the majority of the population in the GS are Muslims, and since Muslims believe in God and the inevitability of death, that the life of this world is mortal, and that death and life are in the hands of God alone, they believe that no one can prevent death or disease except God alone. The lack of need for social support is due to the strong family bonding that exists in Palestinian society in general.

For the need for care section, patients need support with the following issues: 'extra expenditures because of the disease' (84.9%, Financial Needs), 'Fatigue' (81.1%, Physical Symptoms), 'pain' (72.2%, Physical Symptoms), 'Sleeping problems (68.7 %, Physical Symptoms), and 'Fear of metastases' (65%, Psychological Issues). This may be ascribed to Gaza's absence of an integrated PC system within its healthcare system. It's also probable that another factor is that healthcare workers lack the necessary skills and training to provide comprehensive treatment (Alwali et al., 2022). The subjects on which fewer respondents reported "yes, more" and "as much as now" were "difficulties concerning the meaning of death" (30.5%, Spiritual Issues), "itch" (30.2%, Physical Symptoms), "difficulties in being available for others" (29.1%, Spiritual Issues), "difficulties in talking about the disease with a life companion" (27.2%, Social Issues), and "difficulties in finding someone to talk to (a confidant)" (22.1%, Social Issues).

4.3.1 Distribution of the patients with cancer according to their responses to studied domains

Table (4.4): The distribution of the participants according to responses to studied domains

Domains	Problem section		Need for Care section	
	Mean±SD	**Problem section (%)**	**Mean±SD**	**Need section (%)**
ADL	2.46±2.14	43.4%-57.7%	2.27±2.11	22.1%-29.9%
Physical	8.61±4.3	36.4%-87.9%	7.13±4.47	12.1%-46.1%
Autonomy	3.99±2.65	58.8%-72.8%	3.57±2.73	25.0%-38.3%
Social	2.44±2.8	32.20%-37.70%	2.11±2.74	8.4%-15.6%
Psychological	4.96±3.26	61.5%-71.4%	4.41±3.35	22.9%-43.4%
Spiritual	2.05±2.17	33.2%-34.9%	1.78±2.13	9.4%-15.9%
Financial	2.5±1.34	46.9%-88.9%	2.37±1.41	37.2%-67.1%
Information	0.99±0.86	62.5%	0.96±0.87	35.8%

Note: * Problem section =‘Is this a problem?’: accumulated categories: Yes + Somewhat; ** Need for Care section =‘Do you want attention for this?’: categories: Yes, more.

The table 4.4 showed that the most often reported problems were financial problems (46.9% to 88.9 %) and physical problems (36.4 % to 87.9 %). Likewise, with percentages ranging from 37.2% to 67.1%and 12.1% to 46.1%, respectively, financial and physical demands were identified as the two most unmet needs for cancer patients. A significant portion of the population in the GS consists of refugees, a majority of whom live below the poverty line. This circumstance contributes to the substantial financial needs observed in this study.

4.4 Relationship between several independent factors and Problems and needs of cancer patients

In order to examine the relationship between demographic features (categorical variables) and the issues and PC requirements of cancer patients, in this study, we used an independent t-test and a one-way ANOVA. In order to investigate the relationships between stress, anxiety, and depression and patient issues and their demands for palliative care, Pearson correlation analysis (continuous variables) was performed.

4.4.1 Relationship between several clinical and demographic factors and the problems and palliative care needs of cancer patients.

4.4.1.1 Gender

Table (4.5): Relationship between the PNPC-sv and gender (N=371, M±SD)

Domain	Problem section				Need section			
	(Mean± SD)		t	P-value	(Mean± SD)		t	P-value
	Male (n=169)	Female (n=202)			Male (n=169)	Female (n=202)		
ADL domain	2.66±2.21	2.28±2.07	1.71	0.088	2.5±2.17	2.07±2.05	1.953	0.052
Physical domain	8.62±4.54	8.6±4.1	0.036	0.971	2.17±7.33	2.05±6.96	0.796	0.426
Autonomy domain	4.38±2.68	3.66±2.59	2.63	0.009*	7.33±4.65	6.96±4.31	1.734	0.084
Social domain	2.64±3.01	2.26±2.61	1.311	0.191	3.83±2.79	3.34±2.67	1.378	0.169
Psychological domain	4.79±3.36	5.11±3.18	-0.93	0.353	2.32±2.92	1.93±2.59	0.04	0.968
Spiritual domain	2.17±2.17	1.95±2.18	0.976	0.33	4.42±3.35	4.41±3.37	0.51	0.61
Financial domain	2.75±1.34	2.3±1.3	3.306	0.001*	1.85±2.08	1.73±2.17	3.201	0.001*
Information domain	1.08±0.84	0.91±0.87	1.984	0.048	2.63±1.42	2.16±1.37	1.677	0.094
Total Score	29.11±13.69	27.07±12.29	1.509	0.132	1.05±0.86	0.9±0.87	1.701	0.09

*P≤0.05: Significant, P>0.05: Not significant; n: number of the subjects; SD: standard deviation; & t: independent t-test.

The table 4.5 showed that the Male patients had more autonomy and financial needs than female patients in problem Part (p<0.05) while Male patients had more financial needs than female patients in palliative care needs. This is consistent with the study of ElMokhallalati et al., 2020, which was conducted in the Gaza Strip. There were no statistically significant differences between other domains of PNPC-sv and gender. According to the researcher's perspective, male cancer patients face more financial needs because they depend more on income from work because cancer makes them vulnerable, which affects their ability to work, whereas the majority of women in Palestinian society depend on financial support and personal expenses from their husbands.

4.4.1.2 Income

Table (4.6): Relationship between the PNPC-sv and income level (N=371, M±SD)

Domain	Problem section				Need section			
	(Mean± SD)		t	P-value	(Mean± SD)		t	P-value
	Under deep poverty line (Less than 1974 NIS) (n=322)	Above deep poverty line (1974 or more NIS) (n=49)			Under deep poverty line (Less than 1974 NIS) (n=322)	Above deep poverty line (1974 or more NIS) (n=49)		
ADL	2.52±2.12	2.04±2.25	1.458	0.146	2.31±2.09	2±2.29	0.958	0.339
Physical	8.89±4.23	6.78±4.33	3.241	0.001	7.35±4.44	5.67±4.4	2.466	0.014*
Autonomy	4.1±2.63	3.29±2.69	2.01	0.045	3.7±2.72	2.71±2.68	2.355	0.019*
Social	2.53±2.81	1.8±2.67	1.722	0.086	2.17±2.76	1.69±2.62	1.126	0.261
Psychological	5.08±3.21	4.2±3.51	1.759	0.079	4.56±3.31	3.47±3.49	2.123	0.034*
Spiritual	2.14±2.14	1.49±2.34	1.949	0.052	1.85±2.1	1.37±2.31	1.472	0.142
Financial	2.53±1.34	2.35±1.3	0.883	0.378	2.41±1.41	2.12±1.36	1.348	0.178
Information	1.02±0.84	0.76±0.92	2.033	0.043*	0.98±0.86	0.84±0.92	1.111	0.267
Total Score	28.8±12.58	22.69±14.33	3.108	0.002*	25.33±13.43	19.88±14.9	2.607	0.010*

*P≤0.05: Significant, P>0.05: Not significant; n: number of the subjects; SD: standard deviation; & t: independent t-test.

The table 4.6 showed that in the problem part, income under deep poverty line (Less than 1974 NIS) in patients had information, physical, autonomy and total score more than who had income above deep poverty line (1974 or more NIS) patients ($p<0.05$) while in need for care part, income under deep poverty line (Less than 1974 NIS) in patients had physical, autonomy, social, psychological and total score than who had above deep poverty line (1974 or more NIS) ($p<0.05$). There were no statistically significant differences between other domains of PNPC-sv and income. It was expected that patients with lower salaries would report having greater needs, as these findings were consistent with previous research in Jordan, and China (Maltoni et al., 2022; Wang et al., 2021).

4.4.1.3 Marital status

Table (4.7): Relationship between the PNPC-sv and marital status (N=371, M±SD)

Domain	**Problem section**				**Need section**			
	(Mean± SD)		**t**	**P-value**	**(Mean± SD)**		**t**	**P-value**
	Single (n=65)	**Married (n=306)**			**Single (n=65)**	**Married (n=306)**		
ADL domain	2.25±1.93	2.5±2.18	6.147	0.014*	2.12±1.99	2.3±2.14	2.738	0.099
Physical domain	8.2±4.27	8.69±4.31	-0.839	0.402	7.06±4.45	7.14±4.48	0.222	0.638
Autonomy domain	3.75±2.59	4.04±2.67	0.534	0.465	3.63±2.58	3.55±2.77	1.673	0.197
Social domain	1.71±2.36	2.59±2.87	5.917	0.015*	1.65±2.35	2.2±2.81	4.1	0.044*
Psychological domain	5.32±3.07	4.89±3.3	0.694	0.406	4.89±3.2	4.31±3.38	0.245	0.621
Spiritual domain	2.22±2.25	2.02±2.16	0.007	0.936	2.12±2.21	1.71±2.11	0.007	0.935
Financial domain	2.43±1.36	2.52±1.33	0.243	0.623	2.46±1.34	2.36±1.42	1.44	0.231
Information domain	1.08±0.85	0.97±0.86	0.017	0.896	1.02±0.86	0.95±0.87	0.496	0.482
Total Score	26.95±12.14	28.22±13.15	1.552	0.214	24.95±12.64	24.53±13.98	3.154	0.077

*P≤0.05: Significant, P>0.05: Not significant; n: number of the subjects; SD: standard deviation; & t: independent t-test.

As is shown in **Table 4.7**, Married in patients had ADL and social need more than who single For the Problem Part while in palliative care needs, married in patients had social need more than who single (*p*=0.005). Finally, there were no statistically significant differences between other domains of PNPC-sv and marital status. Compared to other marital statuses (single, widowed, or divorced), married patients who work more at home may have higher unmet needs. More than 82% of the patients in our research were married. This high incidence, however, was comparable to those discovered in Japan, China, and Jordan in previous research (Al-Husban et al., 2021; Hasegawa et al., 2016c; Wang et al., 2021). In my opinion, the cause might be due to the fact that married patients often perform more housework and hence have more daily demands than single patients.

4.4.1.4 Educational levels

Table (4.8a): Relationship between the PNPC-sv and education levels (N=371, M±SD)

Domain	**Problem section**					**F**	**P-value**
	Education Level (Mean± SD)						
	Primary And less (n=44)	**Secondary (n=78)**	**Tertiary (n=128)**	**Bachelor (n=108)**	**Post-graduate (n=13)**		
ADL	3.7±2.09	2.5±2.07	2.28±2.08	2.07±2.12	2.85±2.15	5.16	0.000*
Physical	9.82±4.38	8.9±4.38	8.81±4.16	7.7±4.3	8.23±3.98	2.28	0.06
Autonomy	5.11±2.7	3.83±2.71	3.95±2.5	3.62±2.65	4.62±2.87	2.81	0.025*
Social	2.89±3	2.29±2.79	2.55±2.86	2.24±2.69	2.31±2.78	0.52	0.722
Psychological	5.8±3.35	4.78±3.1	5.12±3.16	4.58±3.34	4.92±3.99	1.22	0.302
Spiritual	2.39±2.12	1.83±1.92	2.22±2.2	1.83±2.25	2.38±2.81	1.00	0.409
Financial	2.86±1.11	2.19±1.34	2.59±1.38	2.49±1.29	2.38±1.71	2.05	0.086
Information	1.09±0.83	1.05±0.87	1±0.87	0.87±0.84	1.08±0.95	0.81	0.52
Total Score	33.66±13.36	27.38±12.75	28.52±11.63	25.42±13.62	28.77±15.3	3.36	0.010*

Table (4.8b): Relationship between the PNPC-sv and education levels (N=371, M±SD)

Domain	**Need section**					**F**	***P-value***
	Education Level (Mean± SD)						
	Primary and less (n=44)	**Secondary (n=78)**	**Tertiary (n=128)**	**Bachelor (n=108)**	**Post-graduate (n=13)**		
ADL	3.52±1.98	2.21±2	2.13±2.13	1.91±2.04	2.85±2.3	5.31	0.000*
Physical	9.05±4.75	7.22±4.57	6.98±4.17	6.38±4.49	7.85±4.12	2.98	0.019*
Autonomy	4.95±2.72	3.47±2.73	3.3±2.55	3.3±2.79	4.23±2.98	3.71	0.006*
Social	2.45±2.7	2.23±2.95	1.98±2.69	1.99±2.71	2.31±2.78	0.34	0.849
Psychological	5.23±3.35	4.37±3.29	4.39±3.24	4.1±3.44	4.69±4.13	0.91	0.46
Spiritual	2.05±2.08	1.74±1.96	1.78±2.19	1.65±2.15	2.31±2.69	0.48	0.754
Financial	2.82±1.23	2.17±1.31	2.43±1.43	2.31±1.44	2.15±1.86	1.73	0.144
Information	1.07±0.87	1.01±0.88	0.98±0.9	0.87±0.83	0.92±0.86	0.56	0.694
Total Score	31.14±13.92	24.42±13.31	23.98±12.33	22.5±14.7	27.31±15.55	3.4	0.009*

*P≤0.05: Significant, P>0.05: Not significant; n: number of the subjects; SD: standard deviation & F: one-way ANOVA.

The table 4.8a showed that a significant difference was identified in Problem Part for ADL, Autonomy, total score domains (p<0.05). **The table 4.8b** Regarding the Need for Care part, A significant difference was identified in ADL, Autonomy, Physical & total score. In contrast, there were no statistically significant differences according to the other studied domains.

4.4.1.5 Work status

Table (4.9a): Relationship between the PNPC-sv and work status (N=371, M±SD)

Domain	Problem section			
	(Mean± SD)		t	P-value
	Employee (n=79)	Non-employee (n=292)		
ADL	2.13±2.2	2.54±2.12	-1.543	0.124
Physical	9.82±4.11	8.9±4.32	-2.131	0.034*
Autonomy	3.77±2.81	4.05±2.61	-0.83	0.407
Social	2.14±2.67	2.52±2.84	-1.063	0.288
Psychological	4.91±3.49	4.98±3.2	-0.164	0.869
Spiritual	2.11±2.48	2.03±2.09	0.289	0.773
Financial	2.29±1.35	2.56±1.33	-1.6	0.111
Information	0.96±0.9	0.99±0.85	-0.285	0.775
Total Score	26.01±14.26	28.53±12.57	-1.536	0.125

Table (4.9b): Relationship between the PNPC-sv and work status (N=371, M±SD)

Domain	Need section			
	(Mean± SD)		t	P-value
	Employee (n=79)	Non-employee (n=292)		
ADL	2.13±2.14	2.31±2.11	-0.677	0.499
Physical	6.7±4.33	7.25±4.5	-0.972	0.332
Autonomy	3.53±2.78	3.58±2.73	-0.126	0.9
Social	2.06±2.73	2.12±2.75	-0.152	0.879
Psychological	4.59±3.52	4.36±3.31	0.545	0.586
Spiritual	2±2.31	1.73±2.08	1.014	0.311
Financial	2.19±1.45	2.42±1.39	-1.317	0.189
Information	0.92±0.87	0.98±0.87	-0.472	0.637
Total Score	24.13±14.81	24.74±13.45	-0.35	0.727

*P≤0.05: Significant, P>0.05: Not significant; n: number of the subjects; SD: standard deviation; & t: independent t-test.

Table 4.9a&b showed that Employee in patients had Physical score more than Non-employee in Problem Part ($p < 0.05$). In contrast, there were no statistically significant differences between other domains of PNPC-sv and work status ($p>0.05$). This is consistent with a study conducted in Jordan (Al-Husban et al., 2021). In my opinion, the reason may be the fact that employed patients often experience fatigue and stress during work, which affects their physical health more than non-employed patients.

4.4.1.6 Living place

Table (4.10a): Relationship between the PNPC-sv and residency/living condition (N=371, M±SD)

Domain	**Problem section**					**F**	**P-value**
	Governorates (Mean± SD)						
	North Governorate (n=74)	**Gaza Governorate (n=122)**	**Central Governorate (n=67)**	**Khan Younis Governorate (n=63)**	**Rafah Governorate (n=45)**		
ADL	2.46±2.1	2.45±2.22	2.45±2.24	2.35±2.05	2.62±2.03	0.107	0.955
Physical	9.27±0	8.59±0	8.54±0	8.4±0	7.96±0	0.739	0.566
Autonomy	4.35±2.43	3.9±2.64	3.84±2.8	3.78±2.58	4.18±2.93	0.117	0.855
Social	2.61±2.77	2.3±2.84	2.46±2.82	2.4±2.57	2.56±3.12	0.788	0.532
Psychological	5.35±3.28	4.66±3.32	4.63±3.05	5.32±3.44	5.18±3.11	0.113	0.655
Spiritual	2.22±2.24	2.02±2.06	1.94±2.21	2.16±2.22	1.87±2.3	0.98	0.439
Financial	2.64±1.3	2.57±1.4	2.39±1.21	2.37±1.46	2.47±1.24	0.203	0.355
Information	1.04±0.87	1.04±0.82	0.85±0.89	0.94±0.9	1.02±0.87	0.975	0.432
Total Score	29.93±13.14	27.53±12.71	27.09±13.67	27.7±12.96	27.84±12.6	0.111	0.155

Table (4.10b): Relationship between the PNPC-sv and residency/living condition (N=371, M±SD)

Domain	**Need section**					**F**	***P-value***
	Governorates (Mean± SD)						
	North Governorate (n=74)	**Gaza Governorate (n=122)**	**Central Governorate (n=67)**	**Khan Younis Governorate (n=63)**	**Rafah Governorate (n=45)**		
ADL	2.38±2.04	2.1±2.2	2.37±2.21	2.14±2.03	2.58±2.01	0.583	0.675
Physical	7.81±4.92	6.6±4.76	7.33±4.46	7.32±3.94	6.89±3.44	0.955	0.432
Autonomy	3.74±2.56	3.27±2.82	3.51±2.84	3.54±2.55	4.2±2.87	1.049	0.382
Social	2.34±2.81	1.8±2.65	1.97±2.7	2.27±2.54	2.53±3.21	0.892	0.469
Psychological	4.81±3.44	4.04±3.41	3.96±3.22	4.95±3.43	4.69±3.07	1.438	0.221
Spiritual	1.77±2.02	1.65±2.05	1.69±2.2	2.14±2.28	1.82±2.24	0.608	0.657
Financial	2.47±1.4	2.46±1.49	2.22±1.28	2.17±1.53	2.49±1.2	0.783	0.537
Information	0.99±0.88	1±0.83	0.87±0.87	0.98±0.92	0.96±0.88	0.287	0.886
Total Score	26.31±14.39	22.91±14.28	23.91±13.97	25.52±12.68	26.16±12.07	1.006	0.404

*P≤0.05: Significant, P>0.05: Not significant; n: number of the subjects; SD: standard deviation & F: one-way ANOVA.

Table 4.10a&b showed that there were no statistically significant differences between domains of PNPC-sv, and living place (p > 0.05). From my point of view, the reason is due to the transformation of some rural areas into urban areas as a result of the increase in population and the availability of services, as the Gaza Strip has become one environment and one culture from north to south.

4.4.1.7 Duration since diagnosis

Table (4.11a): Relationship between the PNPC-sv and duration since diagnosis (N=371, M±SD)

Domain	Problem section				F	P-value
	Current treatment (Mean± SD)					
	Within the last month (n=26)	1-12 months ago, (n=168)	Over 1 year – 3 years ago (n=86)	Over 3 years ago (n=91)		
ADL	2.27±2.22	2.35±2.15	2.66±2.03	2.52±2.22	0.506	0.678
Physical	7.38±0	8.2±0	9.51±0	8.85±0	2.593	0.052
Autonomy	3.62±2.59	3.77±2.63	4.53±2.58	4±2.74	1.789	0.149
Social	1.85±2.13	2.29±2.7	3.29±3.04	2.07±2.8	3.811	0.010*
Psychological	4.27±3.33	4.87±3.31	5.7±3.11	4.65±3.22	2.2	0.088
Spiritual	1.54±1.86	1.86±2.09	2.81±2.41	1.82±2.03	4.92	0.002*
Financial	2.54±1.14	2.37±1.39	2.67±1.34	2.58±1.27	1.149	0.329
Information	0.88±0.71	1.05±0.89	1.05±0.85	0.85±0.84	1.359	0.255
Total Score	24.35±11.43	26.76±13.17	32.23±12.91	27.33±12.33	4.459	0.004*

Table (4.11b): Relationship between the PNPC-sv and duration since diagnosis (N=371, M±SD)

Domain	Need section				F	*P-value*
	Current treatment (Mean± SD)					
	Within the last month (n=26)	1-12 months ago, (n=168)	Over 1 year – 3 years ago (n=86)	Over 3 years ago (n=91)		
ADL	2.12±2.2	2.11±2.06	2.52±2.1	2.36±2.2	0.824	0.482
Physical	6.54±3.46	6.91±4.36	7.9±4.68	6.98±4.7	1.166	0.323
Autonomy	3.5±2.5	3.38±2.65	4.02±2.69	3.51±2.98	1.096	0.351
Social	1.35±1.81	2.02±2.71	2.97±3.07	1.66±2.55	4.448	0.004*
Psychological	3.73±3.38	4.45±3.33	5.12±3.37	3.87±3.3	2.456	0.063
Spiritual	1.31±1.81	1.76±2.11	2.41±2.49	1.37±1.74	4.114	0.007*
Financial	2.23±1.27	2.28±1.46	2.59±1.41	2.38±1.35	1.037	0.376
Information	0.92±0.8	1.04±0.9	1.05±0.85	0.77±0.83	2.211	0.086
Total Score	21.69±11.07	23.95±13.33	28.57±14.62	22.9±13.74	3.438	0.017*

*P≤0.05: Significant, P>0.05: Not significant; **n**: number of the subjects; **SD:** standard deviation & **F**: one-way ANOVA.

Table 4.11a&b showed that a significant difference was found in the social, spiritual, and total scores (p 0.05) for both problems and PC needs. In contrast, there were no statistically significant differences between other domains of PNPC-sv and duration since diagnosis (p>0.05).

4.4.1.8 Where to receive the service

Table (4.12a): Relationship between the PNPC-sv and where to receive the service (N=371, M±SD)

Domain	**Problem section** **Where to receive the service (Mean± SD)** **Daycare (n=86)**	 **Outpatient clinic (n=141)**	 **inpatients department (n=144)**	**F**	**P-value**
ADL	1.88±1.89	2.06±2.01	3.19±2.21	15.001	0.000*
Physical	8.63±4.34	8.02±4.47	9.17±4.05	2.551	0.079
Autonomy	3.45±2.6	3.39±2.52	4.9±2.56	14.952	0.000*
Social	2.3±2.54	2.56±3.01	2.4±2.76	0.25	0.779
Psychological	4.95±3.15	4.73±3.32	5.2±3.27	0.743	0.476
Spiritual	2.21±2.18	2.11±2.13	1.9±2.21	0.653	0.521
Financial	2.29±1.36	2.42±1.22	2.72±1.41	3.345	0.036*
Information	1.01±0.93	0.93±0.83	1.03±0.84	0.517	0.597
Total Score	26.73±12.22	26.52±13.11	30.19±13.05	3.428	0.033*

Table (4.12b): Relationship between the PNPC-sv and where to receive the service (N=371, M±SD)

Domain	**Need section** **Where to receive the service (Mean± SD)** **Daycare (n=86)**	 **Outpatient clinic (n=141)**	 **inpatients department (n=144)**	**F**	***P-value***
ADL	1.7±1.82	1.76±1.87	3.11±2.23	20.662	0.000*
Physical	7.31±4.46	5.91±4.65	8.22±4	10.076	0.000*
Autonomy	3.33±2.62	2.5±2.49	4.75±2.58	28.07	0.000*
Social	2.23±2.77	1.79±2.71	2.33±2.76	1.499	0.225
Psychological	4.74±3.28	3.66±3.39	4.95±3.25	5.99	0.003*
Spiritual	1.99±2.14	1.57±2.1	1.88±2.16	1.257	0.286
Financial	2.22±1.43	2.6±1.47	2.25±1.31	2.846	0.059
Information	0.91±0.93	0.95±0.86	1.01±0.84	0.44	0.645
Total Score	24.43±13.18	20.74±13.65	28.5±13.13	12.065	0.000*

*P≤0.05: Significant, P>0.05: Not significant; **n**: number of the subjects; **SD:** standard deviation & **F**: one-way ANOVA.

Table 4.12a&b showed that the patients receiving the service in inpatients department had higher ADL, Autonomy, Financial , Total Score needs (p<0.05) compared with the patients receiving the service in Outpatient clinic and Daycare in Problem Part while a significant difference was identified in Need for Care Part for ADL, Physical, Autonomy, Psychological and Total Score (p < 0.05). In contrast, there were no statistically significant differences between other domains of PNPC-sv and place of receive the service (p>0.05). From my point of view, it is expected to obtain this result because the majority of hospitalized patients are admitted due to the severity of the peak of the disease or to receive chemotherapy, which increases their needs.

4.4.1.9 Current treatment

Table (4.13a) Relationship between the PNPC-sv and current treatment (N=371, M±SD)

Domain	**Problem section**						**F**	**P-value**
	Current treatment (Mean± SD)							
	Chemotherapy (n=226)	**Radiation therapy (n=24)**	**Surgical (n=9)**	**Hormonal therapy (n=37)**	**Bone marrow transplantation (n=4)**	**Follow up (n=71)**		
ADL	2.62±2.08	2±2.15	2.67±2.69	1.92±2.22	2.25±0.5	2.34±2.25	1.031	0.399
Physical	7.56±4.29	6.79±4.58	7.44±6.31	5.11±3.71	13.25±3.69	6.55±4.68	2.289	0.045*
Autonomy	4.28±2.51	3.96±2.44	4.56±3.36	3.14±2.74	3.75±1.5	3.46±2.96	1.995	0.079
Social	2.5±2.78	3±3.15	3.56±3.24	1.97±2.39	0.5±1	2.27±2.92	1.139	0.339
Psychological	5.07±3.28	5.71±3.42	5.67±3.84	3.89±3.09	4.25±2.06	4.89±3.16	1.233	0.293
Spiritual	2.1±2.21	1.92±1.82	2.78±1.92	1.57±1.88	0.75±1.5	2.17±2.34	0.939	0.456
Financial	2.48±1.3	2.92±1.74	2.11±1.27	2.43±1.37	2.75±1.5	2.52±1.31	0.678	0.64
Information	1±0.86	0.92±0.93	0.44±0.73	0.81±0.84	1.5±0.58	1.1±0.85	1.611	0.156
Total Score	28.84±12.58	29.83±11.13	29.33±17.48	23.05±11.28	29.5±6.24	27.01±14.84	1.483	0.194

Table (4.13b) Relationship between the PNPC-sv and current treatment (N=371, M±SD)

Domain	**Need section**						**F**	***P-value***
	Current treatment (Mean± SD)							
	Chemotherapy (n=226)	**Rad;iation therapy (n=24)**	**Surgical (n=9)**	**Hormonal therapy (n=37)**	**Bone marrow transplantation (n=4)**	**Follow up (n=71)**		
ADL	2.46±2.09	1.67±2.06	2.78±2.68	1.68±2.21	2.25±0.5	2.11±2.09	1.536	0.178
Physical	7.56±4.29	6.79±4.58	7.44±6.31	5.11±3.71	13.25±3.69	6.55±4.68	3.853	0.002*
Autonomy	3.88±2.62	2.25±2.09	5±3.43	2.89±3.02	3.75±1.5	3.15±2.87	3.082	0.010*
Social	2.25±2.74	1.5±2.92	3.67±3.32	1.32±2.12	0.25±0.5	2.17±2.88	1.935	0.088
Psychological	4.61±3.35	4.29±3.84	5.56±3.88	3.22±3.31	3±1.41	4.38±3.17	1.467	0.2
Spiritual	1.92±2.17	1.25±1.94	2.33±2	1.05±1.82	0.25±0.5	1.94±2.2	1.982	0.081
Financial	2.35±1.35	3.08±1.64	1.89±1.45	2.08±1.52	2.75±1.5	2.39±1.41	1.844	0.104
Information	1±0.88	0.88±0.95	0.44±0.73	0.81±0.84	0.75±0.5	1.06±0.84	1.199	0.309
Total Score	26.03±13.36	21.71±11.74	29.11±17.98	18.16±13.07	26.25±5.68	23.76±14.75	2.642	0.023*

Table 4.13a&b Showed that the patients receiving treatment had higher Physical, Autonomy need compared with those patients without treatment. A significant difference was identified in Physical Score ($p<0.05$) in Problem Part while a significant difference was identified in Need for Care Part for Physical, Autonomy, and Total Score ($p < 0.05$). In contrast, there were no statistically significant differences between other domains of PNPC-sv and Current treatment ($p>0.05$). It was expected that patients receiving treatment has higher Physical, Autonomy need compared patients

without treatment. This is consistent with a study conducted in Jordan and china (Al-Husban et al., 2021; Wang et al., 2021). which showed that giving chemotherapy increases physical need. In my opinion, chemotherapy has many negative effects. Fatigue, lack of appetite, nausea, digestive problems including constipation or diarrhea, hair loss, mouth sores, and problems with the skin, nails, and hair can all be side effects of chemotherapy. It's possible that you have problems focusing or remembering things. Hearing alterations as well as effects on the nerves and muscles are possible (van den Boogaard et al., 2022).

4.4.2 Correlations between DASS and palliative care needs for cancer patient

4.4.2.1 Correlations with respect to the problem section of the cancer patient

Table (4.14): Correlations between the patients DASS and the PNPC-sv (Problem part)

DASS		**Domains of the Problems and Needs in Palliative Care (Problem section)**								
		ADL	**Physical**	**Autonomy**	**Social**	**Psycho-logical**	**Spiritual**	**Financial**	**Information**	**Total Score**
DASS	Anxiety	0.287**	0.512**	0.487**	0.387**	0.582**	0.518**	0.387**	0.388**	0.675**
	Depression	0.330**	0.412**	0.512**	0.399**	0.651**	0.565**	0.374**	0.368**	0.686**
	Stress	0.321**	0.478**	0.554**	0.424**	0.635**	0.548**	0.303**	0.337**	0.714**
	Total Score	0.343**	0.512**	0.569**	0.443**	0.684**	0.597**	0.316**	0.254**	0.760**

Note: ** = Correlation is significant at the 0.01 level (two-tailed); * = Correlation is significant at the 0.05 level (two-tailed).

As shown in the **table 4.14:** correlation results between DASS and problem section in palliative care for cancer patient. There was a statistically significant strong correlation between anxiety, depression, and stress and all domains in the problem section of cancer patients in PNPC-sv (correlation coefficient 0.760). This is consistent with another study, which showed statistically significant relationships between the psychological status and the problems of cancer patients (Hunt et al., 2021).

4.4.2.2 Correlations regarding the Need for Care part of the PNPC-sv

Table (4.15): Correlations between the patients and DASS (Need for Care part)

DASS		**Domains of the Problems and Needs in Palliative Care (need Part)**								
		ADL	**Physical**	**Autonomy**	**Social**	**Psycho-logical**	**Spiritual**	**Financial**	**Information**	**Total Score**
DASS	Anxiety	0.380**	0.490**	0.409**	0.334**	0.517**	0.454**	0.384**	0.380**	0.588**
	Depression	0.358**	0.436**	0.450**	0.382**	0.613**	0.513**	0.389**	0.363**	0.638**
	Stress	0.347**	0.478**	0.461**	0.360**	0.585**	0.497**	0.398**	0.331**	0.638**
	Total Score	0.361**	0.514**	0.484**	0.394**	0.628**	0.536**	0.319**	0.347**	0.682**

Note: ** = Correlation is significant at the 0.01 level (two-tailed); * = Correlation is significant at the 0.05 level (two-tailed).

As shown in the **table 4.15:** correlation results between DASS and need section in PC for cancer patient. There was a statistically significant strong correlation between anxiety, depression, and stress and all domains in the need section of cancer patients in PNPC-sv (correlation coefficient 0.682). This is consistent with another study, which showed statistically significant relationships between the psychological status and the needs of cancer patients (Ali elsayed et al., 2015).

4.5 Section two: Family Caregiver Needs Results

4.5.1 Distribution of the family caregivers according to their gender

Figure 4.1 the results showed that the more than half of the family caregivers (52.8%) are female and the rest (47.2%) are male. It is consistent with a study conducted in Singapore, China, Australia, Sudan, and Jordan that more females are family caregivers than males. (Chua et al., 2020; Cui et al., 2014; Osama et al., 2020; Osama et al., 2020; Stiller et al., 2021). from the researcher point of view, this is because the largest percentage of cancer patients in Gaza are women, and the culture of Palestinian society considers providing care as a major role woman play.

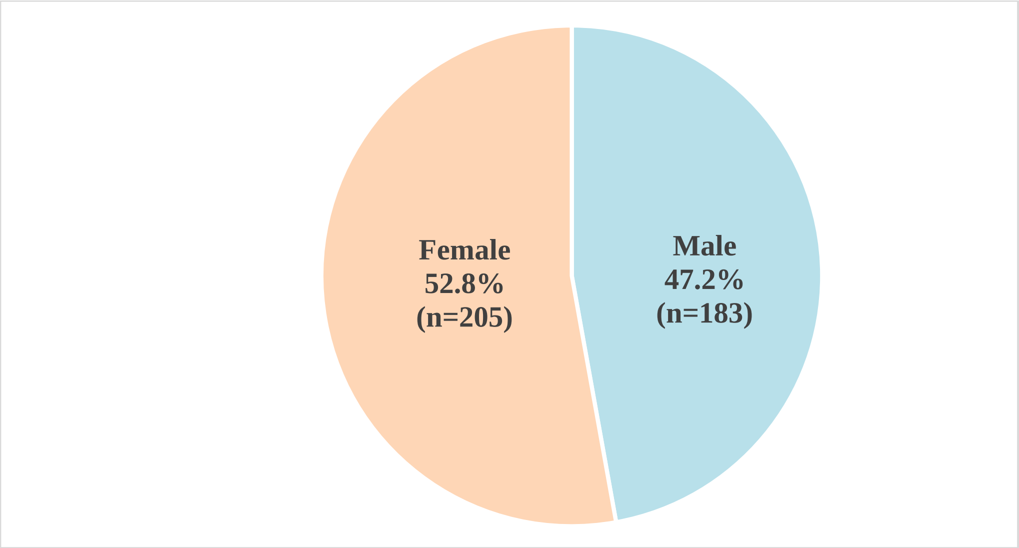


Figure (4.1): Distribution of family caregivers according to their gender

4.5.2 Distribution of the family caregivers according to their age

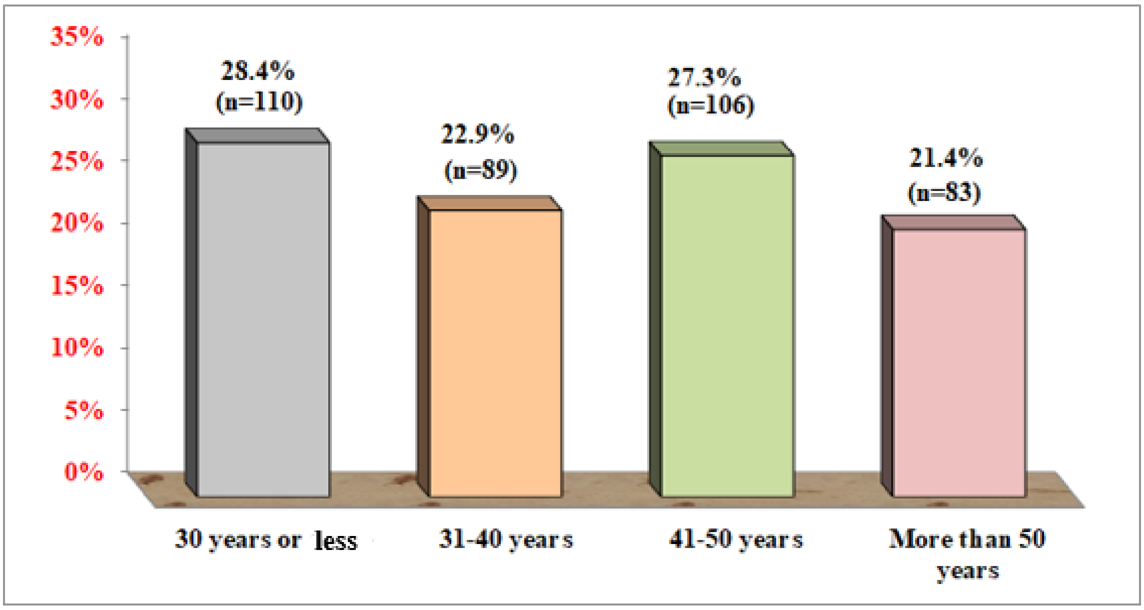


Figure (4.2): Distribution of family caregivers according to their age

Figure 4.2 illustrated that the highest age groups of the family caregivers were aged 30 years or less (28.4%) followed by 27.3% of them being aged between 41 to 50 years and 22.9% of them being aged between 31 to 40 years. The results showed that the lowest age groups of study were aged More than 50 years (21.4%). The average age among participants was 39.8±13.0 years. the researcher point of view is that these results are reasonable, as the patient's care needs a great deal of effort, so the highest percentage of family caregivers were aged less than 30 years old.

4.5.3 Distribution of the family caregivers according to the educational level

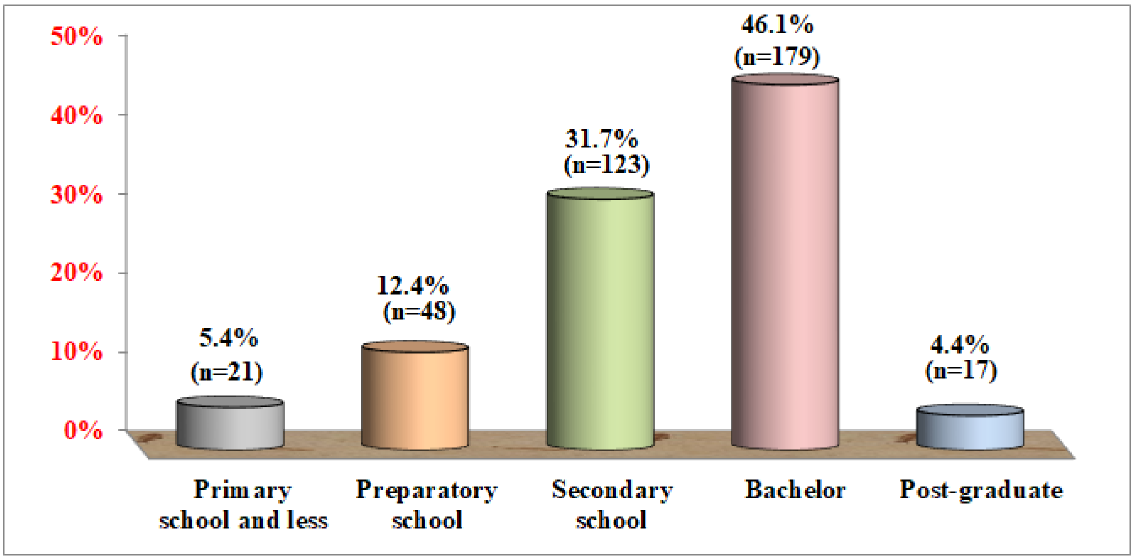


Figure (4.3): Distribution of family caregivers according to academic qualification

Figure (4.3) illustrated that the highest educational level among the family caregivers was a bachelor's degree (46.1%) followed by 31.7% who finished secondary school; 12.4% who finished preparatory school and primary school or less (5.4%). The results showed that the lowest education level was finished post-graduate degree (4.4%).

4.5.4 Distribution of the family caregivers according to their socio-demographic information

Table 4.16 illustrated the distributions of the family caregivers according to their socio-demographic information. The distribution of the family caregivers according to marital status showed that the majority of the family caregivers who were married at a rate of 74.7%, and this corresponds to a study conducted in Singapore, where the percentage of married family caregivers was 75.6% (Chua et al., 2020). This corresponds to another study conducted in Iran, where the percentage was 81.5% (Ashrafian et al., 2018). The reason may be attributed to the fact that the majority of cancer patients are married, as shown by my findings on patients' needs.

On the other hand, the results showed that the lowest group of the family caregivers are widowed (1.8%). Regarding the working status, the results pointed out that 32.2% of participants are an employee. The average income among participants was 887.21±1127.86 NIS. The results detected that 35.8%, 18.3%, 18.3%, 17.3%, and 10.3% were living in Gaza, KhanYounis, Central, North, and Rafah Governorate, respectively. It is in line with the results of the Cancer incidence in the Gaza Strip Facts & Figures 2015-2016 (Yaghi et al., 2015).

The distribution of the family caregivers according to patient escort time showed that the majority of the family caregivers have a patient escort from 1 to 12 months (40.2%). On the other hand, the highest groups (47.2%) of them have no alternative during the escorting period. Finally, the results showed that 45.9% have a relationship with the patient as a son/daughter.

Table (4.16): Distribution of the family caregivers according to their socio-demographic information

Variables	Category	Count	%	Mean Mean±SD
Marital status	Single	82	21.1%	
	Married	290	74.7%	
	Separated	9	2.3%	
	Widowed	7	1.8%	
Working status	Employee	125	32.2%	
	Non-employee	263	67.8%	
Monthly Income (NIS)	Less than 500	178	45.9%	887.21±1127.86
	500-1000	104	26.8%	
	1001-1500	28	7.2%	
	More than 1500	78	20.1%	
Residency/living condition	North Governorate	67	17.3%	
	Gaza Governorate	139	35.8%	
	Central Governorate	71	18.3%	
	KhanYounis Governorate	71	18.3%	
	Rafah Governorate	40	10.3%	
Patient escort time	Within the last month	121	31.2%	
	1-12 months,	156	40.2%	
	Over 1-3 years	59	15.2%	
	Over 3 years	52	13.4%	
take turns caring for the patient with other escorts during the escorting period	There is no alternative	183	47.2%	
	Switches from time to time	158	40.7%	
	It is switched periodically	47	12.1%	
Relationship with Patient	Son/daughter	178	45.9%	
	Brother/sister	75	19.3%	
	Husband/wife	53	13.7%	
	Mother/father	29	7.5%	
	Other	53	13.7%	

4.6 family caregiver of emotional status

Table (4.17): The Mean Depression, Anxiety, and Stress Scores Among family caregiver of a cancer patient

DASS		N	%
Depression	Normal	127	32.7
	Mild	19	4.9
	Moderate	71	18.4
	Sever	44	11.3
	Extremely sever	127	32.7
Anxiety	Normal	116	29.9
	Mild	49	12.6
	Moderate	66	17.0
	Sever	97	25.0
	Extremely sever	60	15.5
Stress	Normal	157	40.5
	Mild	48	12.3
	Moderate	68	17.5
	Sever	69	17.8
	Extremely sever	46	11.9

As shown in the **table 4.17:** The negative emotional condition of the family caregiver of a cancer patient in GS was assessed with the Depression, Anxiety, and Stress Scale (DASS) . The mean score was 16.1 (SD=10.5) for depression, 14.9 (SD=11.5) for anxiety and 18.1 (SD=11.6) for stress. The table showed that depression levels among caregivers were normal (32.7%, n=127), mild (4.9%, n=19), moderate (18.4%, n=71), sever (11.3%, n=44) and extremely sever (32.7%, n=127). Regarding the anxiety, the results showed that normal (29.9%, n=116), mild (12.6%, n=49), moderate (17%, n=66), sever (25%, n=97) and extremely sever (15.5%, n=60). The table showed that normal Stress (40.5%, n=157), mild (12.3%, n=48), moderate (17.5%, n=68), sever (17.8%, n=69) and extremely sever (11.9%, n=46). This is consistent with a study in Sudan, where it showed that family cancer caregivers suffer from depression by 53.8% and anxiety by 72.7% (Osama et al., 2020). It is consistent with a study conducted in Turkey (Duran et al., 2019). and this may be attributed to the lack of a care system an integrated PC offering for patients and caregivers.

4.7 Distribution of the family caregivers according to their responses to the health and psychological problems domain

Table (4.18). The distribution of the family caregivers according to responses about their Health and psychological problems domain

Health and psychological problems	No need	Low need	Moderate need	High need	Over all needed
	n (%)				
1. I need help with my own health problems	180 (46.4)	78 (20.1)	73 (18.8)	57 (14.7)	208 (53.6)
2. I need help with concerns about the patient	60 (15.5)	90 (23.2)	106 (27.3)	132 (34)	328 (84.5)
3. I need help with depression	162 (41.8)	84 (21.6)	74 (19.1)	68 (17.5)	226 (58.2)
4. I need help with feelings of anger, irritability, or nervousness	136 (35)	86 (22.2)	81 (20.9)	85 (21.9)	252 (65)
5. I need help with loneliness or feelings of isolation	163 (42.1)	82 (21.1)	75 (19.3)	68 (17.5)	225 (57.9)
6. I need help with feelings of vague anxiety	119 (30.8)	90 (23.3)	107 (27.6)	71 (18.3)	268 (69.2)
Total (%)	**35.3**				**64.7**

* **SD**: standard deviation

Table 4.18 summarized the distribution of the family caregivers according to their responses to the Health and psychological problems domain. The table shows that the overall need among the perceptions about the health and psychological problems domain was 64.7%. In another study in China, the rate was 51.4% (Wang et al., 2021). From the researcher point of view, the reason here is due to the absence of a psychologist who deals with family caregivers in GS hospitals in general and cancer hospitals in particular. In Gaza, the responsibilities of family caregivers are great and increasing, as they always assess the patients' pain, inform the nurse, help patients take medicine, turn the patient around, etc. All these interventions cause him psychological and health stress. Within in-depth interviews, family caregivers ensured our interpretation, saying most of them suffer from constant stress and anxiety. all interviewees indicated that they needed psychological support and that their psychological state was bad. They said:

FCs 3"I hope that there will be psychological support because his and my psyches are very bad because every minute, I imagine that he will die."

FCs 12 "At night I didn't sleep because I worried about her a lot, and I used to think about her a lot because the thing that happened to her was difficult, and suddenly it happened to her like this." Her psyche was tired, and my psyche was tired of me because of her tiredness. "The whole house became anxious because of her."

FCs 11 "I am sleep-deprived because I have to get up every time, I see oxygen. My father had bed sores, and I had to turn him every two hours, and this took its toll on my back."

According to the results this study, the highest item was the number (2) " I need help with concerns about the patient " with overall need equal to 84.5%, followed by the item number (6) " I need help with feelings of vague anxiety" with overall need equal 69.2%. While the lowest item (1) " I need help with my own health problems " with overall need equal to 53.6%, followed by item was the number (5) " I need help with loneliness or feelings of isolation" with overall need equal 57.9This is consistent with a study conducted in China and Singapore, which showed that the highest need for health and psychological problems is for help with concerns about the patient and with vague anxieties (Chua et al., 2020; Wang et al., 2021).

4.8 Distribution of the family caregivers according to their responses to the family/ social support

Table (4.19): The distribution of the family caregivers according to responses about their family/ social support

Family/ social support	No need	Low need	Moderate need	High need	Over all needed
	n (%)				
1. I need help with patient over-dependence	109 (28.1)	117 (30.2)	86 (22.2)	76 (19.6)	279 (71.9)
2. I need help with patient lack of appreciation of the caregiving	161 (41.6)	84 (21.6)	89 (22.9)	54 (13.9)	227 (58.5)
3. I need help with difficulties in family relationships after cancer diagnosis	114 (29.4)	79 (20.4)	82 (21.1)	113 (29.1)	274 (70.6)
4. I need help with difficulties in interpersonal relationship after a cancer diagnosis	122 (31.4)	95 (24.5)	84 (21.6)	87 (22.4)	266 (68.6)
5. I need help with my relaxation and my personal life	96 (24.7)	85 (21.9)	96 (24.7)	111 (28.6)	292 (75.3)
Total	**31.0**				**69.0**

* **SD**: standard deviation

Table 4.19 summarized the distribution of the family caregivers according to their responses to the family/ social support domain. The table shows that the overall need among the perceptions about the family/ social support domain was 69.0%. According to the results, the highest item was the number (5) " *I need help with my own relaxation and my personal life* " with an overall need equal to 75.2%, followed by the item number (1) " *I need help with patient over-dependence* " with overall need equal 71.9%. This ranking is consistent with studies conducted in Iran, China, Singapore, and Australia, where the need for assistance in my relaxation and personal life was highest in the family/social support domain. (Ashrafian et al., 2018; Chua et al., 2020; Stiller et al., 2021; Wang et al., 2021). It is possible that the reason for the pressures faced by family caregivers is the lack of medical staff in the GS (Kriegler & Jebril, 2021), which leads to the family caregivers performing tasks instead of nursing, such as turning the patient over, tracking oxygen, etc. While the lowest item (2) " *I need help with patient lack of appreciation of the caregiving* " with overall need equal to 58.5%, followed by item was the number (4) " *I need help with difficulties in interpersonal relationship after a cancer diagnosis* " with overall need equal 68.6%.

4.9 Distribution of the family caregivers according to their responses to the health-care staff

Table (4.20): The distribution of the family caregivers according to responses about their health-care staff

Health-care staff	No need	Low need	Moderate need	High need	Overall need
	n (%)				
1. I need Being respected and treated as a person by my doctor	145 (37.3)	64 (16.5)	67 (17.3)	112 (28.9)	243 (62.7)
2. I need Doctor to be clear, specific, and honest in his/her explanation	121 (31.2)	71 (18.3)	59 (15.2)	137 (35.3)	267 (68.8)
3. I need to See the doctor quickly and easily when in need	75 (19.4)	77 (19.8)	64 (16.5)	172 (44.3)	313 (80.6)
4. I need Being involved in the decision-making process in choosing any tests or treatments that the patient receives	111 (28.6)	76 (19.6)	97 (25)	104 (26.8)	277 (71.4)
5. I need cooperation and communication among health-care staff	95 (24.5)	84 (21.6)	91 (23.5)	118 (30.4)	293 (75.5)
6. I needed Sincere interest and empathy from my nurse	105 (27.1)	85 (21.9)	89 (22.9)	109 (28.1)	283 (72.9)
7. I need Nurses to explain treatment or care that is being given to the patient	99 (25.5)	84 (21.6)	88 (22.7)	117 (30.2)	289 (74.5)
8. I need Nurses to promptly attend to patient discomfort and pain	80 (20.6)	88 (22.7)	74 (19.1)	146 (37.6)	308 (79.4)
Total	28.0				72.0

[*] **SD**: standard deviation

Table 4.20 summarized the distribution of the family caregivers according to their responses to the healthcare staff domain. The table shows that the overall need among the perceptions about the health-care staff domain was 72.0%. According to the results, the highest item was the number (3) " *I need to See the doctor quickly and easily when in need* " with overall need equal to 80.7%, followed by the item number (8) " *I need Nurses to promptly attend to patient discomfort and pain* " with overall need equal 79.4%. These ranking are consistent with the results of studies conducted in Iran, China and Singapore, but they are not consistent with the results of a study conducted in Australia, which showed that the need for cooperation and communication between health care staff is the highest need for health care staff domain (Ashrafian et al., 2018; Chua et al., 2020; Stiller et al., 2021; Wang et al., 2021a). From my point of view, this is due to the differences in the health systems of these countries. The first reason for the lack of prompt attention from the doctor and nurse in the GS is the lack of specialized medical personnel, including doctors and nurses (Kriegler & Jebril, 2021). While the lowest item (1) " *I need Being respected and treated as a person by my doctor* " with overall need equal to 62.6%, followed by item the number (2) "*I need Doctor to be clear, specific, and honest in his/her explanation* " with overall need equal 68.8%.

4.10 Distribution of the family caregivers according to their responses to the information needs

Table (4.21): The distribution of family caregivers according to responses about their information needs

Information needs	No need	Low need	Moderate need	High need	Overall need
	n (%)				
1. I need Information about the current status of a patient's illness and its future course	64 (16.4)	74 (19.1)	86 (22.2)	164 (42.3)	324 (83.6)
2. I need Information about tests and treatment	67 (17.3)	68 (17.5)	87 (22.4)	166 (42.8)	321 (82.7)
3. I need Information about caring for the patient (symptom management, diet, exercise, etc.)	67 (17.3)	75 (19.3)	87 (22.4)	159 (41)	321 (82.7)
4. I need Guidelines or information about complementary and alternative medicine	67 (17.3)	87 (22.4)	102 (26.3)	132 (34)	321 (82.7)
5. I need Information about hospitals or clinics and physicians who treat cancer	74 (19.1)	71 (18.3)	97 (25)	146 (37.6)	314 (80.9)
6. I need Information about financial support for medical expenses, either from government and/or private organizations	47 (12.1)	78 (20.1)	94 (24.2)	169 (43.6)	341 (87.9)
7. I need help with communication with the patient and/or other family members	117 (30.2)	83 (21.4)	111 (28.6)	77 (19.8)	271 (69.8)
8. I needed Information about caregiving-related stress management	89 (23)	99 (25.5)	116 (29.9)	84 (21.6)	299 (77.0)
Total	**16.6**				**83.4**

* **SD**: standard deviation

Table 4.21 summarized the distribution of the family caregivers according to their responses to the information needs domain. The table shows that the overall need among the perceptions about the information needs was 83.4%. According to the results, the highest item was the number (6) " *I need Information about financial support for medical expenses, either from government and/or private organizations* " with overall need equal to 87.9%, followed by the item number (2) " *I need Information about the current status of a patient's illness and its future course* " with overall need equal 83.6%. This is consistent with the results of a study conducted in Iran, where there was a high information need regarding financial support, testing, and treatment (Ashrafian et al., 2018). While the lowest item (7) " *I need help with communication with the patient and/or other family members*

" with overall need equal to 69.8%, followed by item the number (8) " *I needed Information about caregiving-related stress management* " with overall need equal 77.0%. In the qualitative part, the majority of the participants in the in-depth interview expressed their need for this information. Where 10 out of 12 respondents who were family caregivers indicated that they needed the information.

FCs 6: "When we have a session in the hospital, it takes us a week to collect money here and there so that I can arrange transportation and we can come to the session. By God, we are trying to eat less so that we can save transportation and the cost of treatment for the patient."

FCs 3 "the nurse comes to give the treatment, congratulates us on our safety, and then leaves, and the doctor also does not tell us about the situation. I mean, some visitors come to ask me what the doctors said, but I don't know what to answer."

FCs 6: "I want to know what they want to do to her, to what extent we want to reach, how many sessions she needs to have chemotherapy, and her condition in detail, because we do not know whether they want to do a mastectomy or not."

4.11 Distribution of the family caregivers according to their responses to the Religious/ spiritual support

Table (4.22): The distribution of family caregivers according to responses about their Religious/ spiritual support

Religious/ spiritual support	**No need**	**Low need**	**Moderate need**	**High need**	**Overall need**
	n (%)				
1. I need Religious support	202 (52.1)	51 (13.1)	36 (9.3)	99 (25.5)	186 (47.9)
2. I need help in finding the meaning of my situation and coming to terms with it	119 (30.7)	87 (22.4)	79 (20.4)	103 (26.5)	269 (69.3)
Total	**41.4**				**58.6**

[*] **SD**: standard deviation

Table 4.22 summarized the distribution of family caregivers according to their responses to the religious/ spiritual support domain. The table shows that the overall need among the perceptions about the Religious/ spiritual support was 58.6%. This is consistent with the results of a study conducted in Iran (Ashrafian et al., 2018). According to the results, the highest item was the number (2) " *I need help in finding the meaning of my situation and coming to terms with it*" with overall need equal to 69.3%. While the lowest item (1) " *I need Religious support* " with overall need equal to 47.9%. In my view, the reason for the religious domain having the least domain for needs is that the majority of the population of the GS are Muslims, and Muslims believe in God and the inevitability of death.

4.12 Distribution of the family caregivers according to their responses to the Hospital facilities & services

Table (4.23): The distribution of the family caregivers according to responses about their hospital facilities & services

Hospital facilities & services	**No need**	**Low need**	**Moderate need**	**High need**	**Overall need**
	n (%)				
1. I need a designated hospital staff member who would be able to provide counseling for any concerns, and guidance with the course of the treatment, from the point of diagnosis to the period after discharge	87 (22.4)	56 (14.4)	91 (23.5)	154 (39.7)	301 (77.6)
2. I need guidance about hospital facilities and services	103 (26.6)	104 (26.8)	89 (22.9)	92 (23.7)	285 (73.4)
3. I need a space reserved for caregivers within the hospital	110 (28.4)	101 (26)	92 (23.7)	85 (21.9)	278 (71.6)
4. I need a visiting nurse service for home	162 (41.8)	70 (18)	85 (21.9)	71 (18.3)	226 (58.2)
5. I need the opportunity to share experiences or information with other caregivers	93 (24)	91 (23.5)	103 (26.5)	101 (26)	295 (76)
6. I need Welfare services (e.g. psychological counseling) for caregivers	103 (26.6)	89 (22.9)	90 (23.2)	106 (27.3)	285 (73.4)
Total	**28.3**				**71.7**

* **SD**: standard deviation

Table 4.23 summarized the distribution of the family caregivers according to their responses to the hospital facilities & services domain. The table shows that the overall need among the perceptions about the hospital facilities & services was 71.7%. According to the results, the highest item was the number (1) " *I need a designated hospital staff member who would be able to provide counseling for any concerns, and guidance with the course of the treatment, from the point of diagnosis to the period after discharge* " with overall need equal to 77.6%, followed by the item number (5) " *I need the opportunity to share experiences or information with other caregivers* " with overall need equal 76%. This is consistent to a study conducted in China (Wang et al., 2021a). From my point of view, the reason is due to the lack of an integrated PC team, the extreme pressure on the health staff, and the lack of health staff. While the lowest item (4) " *I need a visiting nurse service for home* " with overall need equal to 58.2%, followed by item the number (3) " *I need a space reserved for caregivers within the hospital* " with overall need equal 71.6%.

4.13 Distribution of the family caregivers according to their responses to the practical support

Table (4.24): The distribution of the family caregivers according to responses about their practical support

Practical support	No need	Low need	Moderate need	High need	Overall need
	n (%)				
1. I need a transportation service for getting to and from the hospital	110 (28.3)	57 (14.7)	71 (18.3)	150 (38.7)	278 (71.7)
2. I need the treatment to be near home for the patient	52 (13.4)	52 (13.4)	91 (23.5)	193 (49.7)	336 (86.6)
3. I need accommodation services near the hospital where the patient was being treated	74 (19.1)	54 (13.9)	83 (21.4)	177 (45.6)	314 (80.9)
4. I need help with the economic burden caused by cancer	43 (11.1)	55 (14.2)	85 (21.9)	205 (52.8)	345 (88.9)
5. I need Someone to help me with housekeeping and/or childcare	137 (35.2)	67(17.3)	79 (20.4)	105 (27.1)	251 (64.8)
6. I need assisted care in the hospital or at home	103 (26.6)	80 (20.6)	94 (24.2)	11 1(28.6)	285 (73.4)
Total	**22.3**				**77.7**

* **SD**: standard deviation

Table 4.24 summarized the distribution of the family caregivers according to their responses to the practical support domain. The table shows that the overall need among the perceptions about the hospital practical support was 77.7%. According to the results, the highest item was the number (4) " *I need help with the economic burden caused by cancer* " with overall need equal to 88.9%, followed by the item number (2) " *I need the treatment to be near home for the patient* " with overall need equal 86.8%. These results are consistent with the results of studies conducted in Iran, China, and Singapore, but they are not consistent with the results of a study conducted in Australia, which showed that the need for accommodation services near the hospital where the patient was being treated is the highest need in the practical support domain (Ashrafian et al., 2018; Chua et al., 2020; Stiller et al., 2021; Wang et al., 2021). While the lowest item (5) " *I need Someone to help me with housekeeping and/or child care* " with overall need equal to 64.8%, followed by item the number (1) " *I need a transportation service for getting to and from the hospital* " with overall need equal to 71.7%.

In the qualitative part, the majority of the participants in the in-depth interview expressed their need for a complete and integrated service in Gaza.

FCs 6 "I hope all services are available at the same hospital. Instead of traveling and tiring ourselves out of the country, we receive this treatment and services in the same hospital. We require them to receive all services at the same hospital."

FCs 3 "Referrals were difficult, but thank God, after a month, the referral came out because there is no treatment for him in Gaza."

4.14 Distribution of the family caregivers according to their responses to studied domains

Table (4.25): The distribution of the family caregivers s according to responses to studied domains

Domains	Mean score	SD	% Mean	Rank
1. Health and psychological problems	1.28	0.84	42.67	6
2. Family/ social support	1.37	0.87	45.67	5
3. Health-care staff	1.59	0.96	53.00	3
4. Information needs	1.77	0.85	59.00	2
5. Religious/ spiritual support	1.26	1.11	42.00	7
6. Hospital facilities & services	1.48	0.89	49.33	4
7. Practical support	1.80	0.85	60.00	1

Table 4.25 summarized the distribution of the family caregivers according to their responses to the studied domains. The table shows that the weighted mean among the perceptions about studied domains was 48.0%. According to the results, the highest domain was the number (7) Practical support " with weighted mean equal to 60.0%, followed by the domain number (4) "Hospital facilities & services " with weighted mean equal to 59.0%. while the lowest domain was the number (8) " Religious/ spiritual support " with weighted mean equal to 42.0%, followed by the domain number (5) " 1. Health and psychological problems " with weighted mean equal to 42.67%.

In the qualitative part, the majority of the participants in the in-depth interview expressed their experience in providing care to their families with cancer patients, as the cancer patient is not the only patient but the family caregivers are exposed to severe pressure. When providing care to people with life-threatening diseases such as cancer, family caregivers face severe physical and emotional challenges. The patient needs help even in the simplest matters of daily activities. Although caring for cancer patients has positive effects, as caregivers feel a high level of satisfaction during their experiences of care, others feel negative effects in terms of physical, psychological, economic, and social burden. In qualitative terms, the majority of those interviewed indicated that the experience was difficult and had negative effects.

The experience was very difficult, and I wish others would not experience this tragedy. As 11 out of 12 participants who are family caregivers said:

F.C.7: "It was a trying experience (I started crying). Until now, my daughter did not know what she had. We told her that you have just an infection, and God willing, no one will ever live through this experience. Although everyone reassures me and tells me that her condition *is simple, so far, I have been crying every day when I see her hair loosening. This is all very difficult."*

F.C12: "To be honest, the experience was difficult. At night I didn’t sleep because I worried about her a lot, and I used to think about her a lot because the thing that happened to her was difficult, and suddenly it happened to her like this. Her psyche was tired, and my psyche was tired of me because of her tiredness. The whole house became anxious because of her."

F.C2: "The experience was difficult, not easy. It has a relationship with the psychological situation, the material factor, and the time factor at home. There is more than one factor that plays a role, and I am accompanying her, and the most important thing is the psychological factor for us, for the home, and for the patient himself. The experience I am talking about is not bad, but it is very, very difficult because I live a certain lifestyle, and then I discover that there has been a problem that is not easy. You want to accept it, and others accept it. My entire life has changed in my work, in my sleep, and even in my relationships with family and friends. Everything has changed; my entire life has changed by 100%, and this is not an easy thing for me, the patient, or the home. Praise be to God, it passes, but frankly, it is not an easy stage."

In contrast, one person experienced a high level of satisfaction during their experiences with the care; they said:

F.C1: "The experience was a very large degree of support for the patient. I did not feel any resentment during this experience."

4.15 Mean difference of family caregivers’ domains related to the gender

Table (4.26): Mean difference of family caregivers’ domains related to the gender

Domains	Gender	n	Mean score	SD	t	P-value
1. Health and psychological problems	Male	183	1.14	0.80	-3.147	0.002*
	Female	205	1.41	0.85		
2. Family/ social support	Male	183	1.29	0.83	-1.787	0.075
	Female	205	1.44	0.89		
3. Health-care staff	Male	183	1.63	0.94	0.862	0.389
	Female	205	1.55	0.97		
4. Information needs	Male	183	1.74	0.83	-0.574	0.566
	Female	205	1.79	0.87		
5. Religious/ spiritual support	Male	183	1.19	1.09	-1.165	0.245
	Female	205	1.32	1.13		
6. Hospital facilities & services	Male	183	1.49	0.85	0.277	0.782
	Female	205	1.47	0.92		
7. Practical support	Male	183	1.72	0.83	-1.704	0.089
	Female	205	1.87	0.86		
Total	Male	183	1.37	0.61	-1.993	0.047*
	Female	205	1.50	0.67		

*P≤0.05: Significant, P>0.05: Not significant; **n**: number of the subjects; **SD:** standard deviation; & **t:** independent t-test.

The relation between family caregivers’ domains and gender showed in **Table 4.26**. According to the current study findings, the t-test (independent t-test) showed a statistically significant difference between males and females. It was observed (P<0.05). that females had a perceived higher mean in health and psychological needs. This means that females feel more needs in this domain, indicating the necessity to focus more on them compared to males. This is consistent with a study conducted in Iran (Ashrafian et al., 2018).The table showed that there was no statistically significant difference between males and females in other domains (P>0.05). Most studies have shown that women suffer from psychological and physical problems more than men(Otten et al., 2021). This can be explained by the domestic and professional obligations of women.

4.16 Mean difference of family caregivers' domains related to the working status

Table (4.27): Mean difference of family caregivers' domains related to the working status

Domains	Working status	n	Mean score	SD	t	P-value
1. Health and psychological problems	Employee	125	1.21	0.78	-1.240	0.216
	Non-employee	263	1.32	0.86		
2. Family/ social support	Employee	125	1.31	0.84	-0.874	0.383
	Non-employee	263	1.40	0.88		
3. Health-care staff	Employee	125	1.67	0.94	1.210	0.227
	Non-employee	263	1.55	0.96		
4. Information needs	Employee	125	1.72	0.85	-0.692	0.489
	Non-employee	263	1.79	0.85		
5. Religious/ spiritual support	Employee	125	1.18	1.07	-0.970	0.333
	Non-employee	263	1.29	1.13		
6. Hospital facilities & services	Employee	125	1.55	0.84	1.093	0.275
	Non-employee	263	1.44	0.90		
7. Practical support	Employee	125	1.67	0.86	-2.083	0.038*
	Non-employee	263	1.86	0.84		
Total	Employee	125	1.39	0.59	-0.978	0.329
	Non-employee	263	1.46	0.66		

*P≤0.05: Significant, P>0.05: Not significant; **n**: number of the subjects; **SD:** standard deviation; & **t:** independent t-test.

The relation between family caregivers' domains and working status showed in **Table 4.27**. According to the current study findings, the t-test (independent t-test) showed a statistically significant difference between Employee and Non-employee. It was observed (P<0.05). that Non-employee had a perceived higher mean in Practical support needs. This means that Non-employee feel more needs in this domain, indicating the necessity to focus more on them compared to Employee .This is consistent with a study conducted in Iran (Ashrafian et al., 2018). The table showed that there was no statistically significant difference between Employee and Non-employee in other domains (P>0.05). I believe that this group's financial status, which prevents them from providing transportation and puts them in a precarious financial position, is what accounts for the relationship between the non-employee and practical support.

4.17 Mean difference of family caregivers' domains related to their caring for the patient with other escorts during the escorting period

Table (4.28): Mean difference of family caregivers domains related to their caring for the patient with other escorts during the escorting period

Domain	Caring for the patient with other escorts during the escorting period?	n	Mean score	SD	F	P-value
1. Health and psychological problems	There is no alternative	183	1.29	0.89	0.150	0.860
	Switches from time to time	158	1.29	0.80		
	It is switched periodically	47	1.22	0.75		
	Total	388	1.28	0.84		
2. Family/ social support	There is no alternative	183	1.33	0.95	0.662	0.516
	Switches from time to time	158	1.38	0.80		
	It is switched periodically	47	1.49	0.78		
	Total	388	1.37	0.87		
3. Health-care staff	There is no alternative [a]	183	1.50	0.98	3.695	0.026*
	Switches from time-to-time [b]	158	1.74	0.92		
	It is switched periodically [c]	47	1.41	0.90		
	Total	388	1.59	0.96		
4. Information needs	There is no alternative [a]	183	1.67	0.85	5.138	0.006*
	Switches from time-to-time [b]	158	1.93	0.82		
	It is switched periodically [c]	47	1.59	0.88		
	Total	388	1.77	0.85		
5. Religious/ spiritual support	There is no alternative [a]	183	1.21	1.09	5.050	0.007*
	Switches from time-to-time [b]	158	1.42	1.15		
	It is switched periodically [c]	47	0.86	0.94		
	Total	388	1.26	1.11		
6. Hospital facilities & services	There is no alternative	183	1.44	0.90	1.084	0.339
	Switches from time to time	158	1.55	0.88		
	It is switched periodically	47	1.36	0.83		
	Total	388	1.48	0.89		
7. Practical support	There is no alternative	183	1.81	0.84	2.460	0.087
	Switches from time to time	158	1.86	0.84		
	It is switched periodically	47	1.55	0.86		
	Total	388	1.80	0.85		
Total	There is no alternative	183	1.42	0.66	1.765	0.173
	Switches from time to time	158	1.50	0.62		
	It is switched periodically	47	1.30	0.62		
	Total	388	1.44	0.64		

*P≤0.05: Significant, P>0.05: Not significant; n: number of the subjects; SD: standard deviation & F: one-way ANOVA.

The mean difference of family caregivers' domains related to their caring for the patient with other escorts during the escorting period is detected in **table 4.28**. The statistical test by ANOVA pointed out there are statistical differences in the average of Domain 3: Health-care staff, Domain 4: Information needs & Domain: 5. Religious/ spiritual support regarding caring for the patient with other escorts during the escorting period (P<0.05). While there was no statistically significant different in the average of others domains regarding caring for the patient with other escorts during the escorting period (P>0.05). A post hoc test showed up in (**Annex 15, table1)**.

4.18 Mean difference of family caregivers' domains related to the age years

Table (4.29): Mean difference of family caregivers' domains related to the theirs the age years

Domains	Age (years)	n	Mean score	SD	F	P-value
1. Health and psychological problems	30 years or less	110	1.11	0.79	2.627	0.050
	31-40	89	1.32	0.83		
	41-50	106	1.32	0.86		
	More than 50	83	1.43	0.84		
	Total	388	1.28	0.84		
2. Family/ social support	30 years or less	110	1.16	0.81	3.100	0.027*
	31-40	89	1.47	0.89		
	41-50	106	1.45	0.90		
	More than 50	83	1.43	0.85		
	Total	388	1.37	0.87		
3. Health-care staff	30 years or less	110	1.63	0.85	1.244	0.293
	31-40	89	1.64	0.97		
	41-50	106	1.64	0.99		
	More than 50	83	1.41	1.01		
	Total	388	1.59	0.96		
4. Information needs	30 years or less	110	1.74	0.76	1.494	0.216
	31-40	89	1.92	0.86		
	41-50	106	1.77	0.88		
	More than 50	83	1.65	0.92		
	Total	388	1.77	0.85		
5. Religious/ spiritual support	30 years or less	110	1.20	1.04	0.469	0.704
	31-40	89	1.32	1.13		
	41-50	106	1.32	1.15		
	More than 50	83	1.17	1.12		
	Total	388	1.26	1.11		
6. Hospital facilities & services	30 years or less	110	1.35	0.83	5.104	0.002*
	31-40	89	1.74	0.89		
	41-50	106	1.54	0.88		
	More than 50	83	1.28	0.90		
	Total	388	1.48	0.89		
7. Practical support	30 years or less	110	1.68	0.81	1.652	0.177
	31-40	89	1.87	0.86		
	41-50	106	1.77	0.92		
	More than 50	83	1.93	0.78		
	Total	388	1.80	0.85		
Total	30 years or less	110	1.35	0.56	1.868	0.134
	31-40	89	1.54	0.69		
	41-50	106	1.49	0.68		
	More than 50	83	1.39	0.65		
	Total	388	1.44	0.64		

*P≤0.05: Significant, P>0.05: Not significant; n: number of the subjects; SD: standard deviation & F: one-way ANOVA.

Table 4.29 showed the relation between the family caregivers' domains and the age years. The statistical test by ANOVA pointed out that there are statistical differences in Domain 2: Family/ social support, & Domain 6: Hospital facilities & services regarding age groups (P<0.05). This is consistent with a study conducted in china, which showed that there is a significant relationship between age and hospital facilities & services (Wang et al., 2021).

While there was no statistically significantly different in in the average of others domains regarding caring for the patient with other escorts during the escorting period (P>0.05). A post hoc test showed up in (**Annex 15, table2)**.

4.19 Mean difference of family caregivers’ domains related to the income

Table (4.30): Mean difference of family caregivers’ domains related to theirs the income

Domains	Income (NIS)	n	Mean score	SD	F	P-value
1. Health and psychological problems	Less than 500	178	1.31	0.86	2.070	0.104
	500-1000	104	1.28	0.84		
	1001-1500	28	1.15	0.61		
	More than 1500	78	1.28	0.87		
	Total	388	1.28	0.84		
2. Family/ social support	Less than 500	178	1.37	0.90	3.100	0.104
	500-1000	104	1.37	0.84		
	1001-1500	28	1.44	0.68		
	More than 1500	78	1.35	0.92		
	Total	388	1.37	0.87		
3. Health-care staff	Less than 500	178	1.53	0.96	1.244	0.743
	500-1000	104	1.62	0.96		
	1001-1500	28	1.58	0.96		
	More than 1500	78	1.68	0.95		
	Total	388	1.59	0.96		
4. Information needs	Less than 500	178	1.80	0.87	1.494	0.232
	500-1000	104	1.73	0.86		
	1001-1500	28	1.78	0.75		
	More than 1500	78	1.74	0.84		
	Total	388	1.77	0.85		
5. Religious/ spiritual support	Less than 500	178	1.31	1.15	0.469	0.127
	500-1000	104	1.24	1.05		
	1001-1500	28	1.21	1.22		
	More than 1500	78	1.17	1.05		
	Total	388	1.26	1.11		
6. Hospital facilities & services	Less than 500	178	1.45	0.92	0.677	0.567
	500-1000	104	1.43	0.91		
	1001-1500	28	1.46	0.75		
	More than 1500	78	1.60	0.82		
	Total	388	1.48	0.89		
7. Practical support	Less than 500	178	1.89	0.85	1.287	0.278
	500-1000	104	1.77	0.83		
	1001-1500	28	1.73	0.85		
	More than 1500	78	1.67	0.86		
	Total	388	1.80	0.85		
Total	Less than 500	178	1.45	0.67	0.060	0.981
	500-1000	104	1.44	0.65		
	1001-1500	28	1.41	0.46		
	More than 1500	78	1.42	0.65		
	Total	388	1.44	0.64		

$^{*}P \leq 0.05$: Significant, $P>0.05$: Not significant; **n**: number of the subjects; **SD:** standard deviation & **F**: one-way ANOVA.

Table 4.30 showed the relation between the family caregivers’ domains and income. The statistical test by ANOVA showed that there is no statistically significant difference in the average of Domain 1: Health and psychological problems, Domain 2: Family/ social support, Domain 3: Health-care staff, Domain 4: Information needs, Domain 5: Religious/

spiritual support, Domain 6: Hospital facilities & services, Domain and 7: Practical support; Domain and domain as a total regarding income (P>0.05).

4.20 Mean difference of family caregivers' domains related to the patient escort time

Table (4.31): Mean difference of family caregivers' domains related to theirs the patient escort time

Domains	Patient escort time	n	Mean score	SD	F	P-value
1. Health and psychological problems	Within the last month	121	1.17	0.84	2.070	0.104
	1-12 months ago,	156	1.27	0.81		
	Over 1 year – 3 years ago	59	1.37	0.87		
	Over 3 years ago	52	1.49	0.83		
	Total	388	1.28	0.84		
2. Family/ social support	Within the last month	121	1.21	0.84	3.100	0.104
	1-12 months ago,	156	1.47	0.87		
	Over 1 year – 3 years ago	59	1.41	0.81		
	Over 3 years ago	52	1.39	0.96		
	Total	388	1.37	0.87		
3. Health-care staff	Within the last month	121	1.58	0.98	1.244	0.743
	1-12 months ago,	156	1.59	0.98		
	Over 1 year – 3 years ago	59	1.69	0.81		
	Over 3 years ago	52	1.49	0.98		
	Total	388	1.59	0.96		
4. Information needs	Within the last month	121	1.76	0.87	1.494	0.232
	1-12 months ago,	156	1.78	0.85		
	Over 1 year – 3 years ago	59	1.91	0.74		
	Over 3 years ago	52	1.58	0.92		
	Total	388	1.77	0.85		
5. Religious/ spiritual support	Within the last month	121	1.32	1.15	0.469	0.127
	1-12 months ago,	156	1.34	1.11		
	Over 1 year – 3 years ago	59	1.16	1.06		
	Over 3 years ago	52	0.95	1.04		
	Total	388	1.26	1.11		
6. Hospital facilities & services	Within the last month	121	1.50	0.91	0.167	0.919
	1-12 months ago,	156	1.44	0.89		
	Over 1 year – 3 years ago	59	1.53	0.77		
	Over 3 years ago	52	1.48	0.96		
	Total	388	1.48	0.89		
7. Practical support	Within the last month	121	1.70	0.92	1.186	0.315
	1-12 months ago,	156	1.83	0.81		
	Over 1 year – 3 years ago	59	1.80	0.77		
	Over 3 years ago	52	1.96	0.87		
	Total	388	1.80	0.85		
Total	Within the last month	121	1.38	0.66	0.621	0.601
	1-12 months ago,	156	1.46	0.66		
	Over 1 year – 3 years ago	59	1.51	0.53		
	Over 3 years ago	52	1.42	0.68		
	Total	388	1.44	0.64		

*P≤0.05: Significant, P>0.05: Not significant; **n**: number of the subjects; **SD:** standard deviation & **F**: one-way ANOVA.

Table 4.31 showed the relation between the studied domains and patient escort time. The statistical test by ANOVA showed that there is no statistically significant difference in the average of Domain 1: Health and psychological problems, Domain 2: Family/ social support, Domain 3: Health-care staff, Domain 4: Information needs, Domain 5: Religious/ spiritual support, Domain 6: Hospital facilities & services, Domain 7: Practical support; Domain and domain as a total regarding patient escort time (P>0.05). From my perspective, this result is expected because they experience the same suffering from the first day the patient is treated, as cancer is seen as a chronic illness that requires treatment beginning on the day the sickness manifests.

4.21 Mean difference of family caregivers' domains related to the educational levels

Table (4.32a): Mean difference of family caregivers' domains related to theirs the educational levels

Domains	Educational levels	n	Mean score	SD	F	P-value
1. Health and psychological problems	Primary and less	21	1.25	0.87	0.458	0.766
	Preparatory school	48	1.33	0.86		
	Secondary school	123	1.35	0.81		
	Bachelor	179	1.23	0.84		
	Post-graduate	17	1.21	0.97		
	Total	388	1.28	0.84		
2. Family/ social support	Primary and less	21	1.26	0.97	0.438	0.781
	Preparatory school	48	1.41	0.88		
	Secondary school	123	1.43	0.89		
	Bachelor	179	1.32	0.84		
	Post-graduate	17	1.44	0.92		
	Total	388	1.37	0.87		
3. Health-care staff	Primary and less	21	1.19	0.98	2.340	0.055
	Preparatory school	48	1.59	1.10		
	Secondary school	123	1.49	1.01		
	Bachelor	179	1.66	0.86		
	Post-graduate	17	2.00	0.96		
	Total	388	1.59	0.96		
4. Information needs	Primary and less	21	1.43	0.87	1.051	0.381
	Preparatory school	48	1.71	1.00		
	Secondary school	123	1.76	0.91		
	Bachelor	179	1.82	0.77		
	Post-graduate	17	1.76	0.81		
	Total	388	1.77	0.85		
5. Religious/ spiritual support	Primary and less	21	0.79	1.16	1.066	0.373
	Preparatory school	48	1.24	1.26		
	Secondary school	123	1.31	1.13		
	Bachelor	179	1.27	1.06		
	Post-graduate	17	1.35	0.98		
	Total	388	1.26	1.11		

Table (4.32b): Mean difference of family caregivers' domains related to theirs the educational levels

6. Hospital facilities & services	Primary and less	21	1.05	0.98	2.612	0.035*
	Preparatory school	48	1.48	0.99		
	Secondary school	123	1.42	0.92		
	Bachelor	179	1.52	0.81		
	Post-graduate	17	1.93	0.81		
	Total	388	1.48	0.89		
7. Practical support	Primary and less	21	1.64	0.85	0.769	0.546
	Preparatory school	48	1.80	0.85		
	Secondary school	123	1.90	0.91		
	Bachelor	179	1.76	0.82		
	Post-graduate	17	1.72	0.73		
	Total	388	1.80	0.85		
Total	Primary and less	21	1.31	0.69	0.286	0.887
	Preparatory school	48	1.48	0.76		
	Secondary school	123	1.45	0.67		
	Bachelor	179	1.43	0.60		
	Post-graduate	17	1.49	0.58		
	Total	388	1.44	0.64		

$^{*}P\leq0.05$: Significant, $P>0.05$: Not significant; **n**: number of the subjects; **SD:** standard deviation & **F**: one-way ANOVA.

Table 4.32 showed the relation between the family caregivers' domains and the educational levels. The statistical test by ANOVA pointed out that there are statistical differences in Domain 6: Hospital facilities & services regarding educational levels ($P<0.05$). This is consistent with a study conducted in China and Singapore, which showed that there is a significant relationship between educational levels and hospital facilities & services(Chua et al., 2020; Wang et al., 2021).While there was no statistically significantly different in in the average of other domains regarding educational levels ($P>0.05$). A post hoc test showed up in (**Annex 15, table3)**.

4.22 Mean difference of family caregivers' domains related to the residency/living condition

Table (4.33): Mean difference of family caregivers' domains related to theirs the residency/living condition

Domains	Governorate	n	Mean score	SD	F	P-value
1. Health and psychological problems	North	67	1.31	0.80	0.456	0.768
	Gaza	139	1.28	0.86		
	Middle zoon	71	1.37	0.77		
	Khan Younis	71	1.23	0.86		
	Rafah	40	1.18	0.92		
	Total	388	1.28	0.84		
2. Family/ social support	North	67	1.39	0.81	0.049	0.996
	Gaza	139	1.37	0.93		
	Middle zoon	71	1.39	0.74		
	Khan Younis	71	1.35	0.94		
	Rafah	40	1.33	0.88		
	Total	388	1.37	0.87		
3. Health-care staff	North	67	1.60	0.90	0.064	0.992
	Gaza	139	1.60	0.98		
	Middle zoon	71	1.60	0.92		
	Khan Younis	71	1.57	1.01		
	Rafah	40	1.53	0.97		
	Total	388	1.59	0.96		
4. Information needs	North	67	1.68	0.83	0.280	0.891
	Gaza	139	1.79	0.88		
	Middle zoon	71	1.75	0.77		
	Khan Younis	71	1.81	0.91		
	Rafah	40	1.81	0.85		
	Total	388	1.77	0.85		
5. Religious/ spiritual support	North	67	1.26	1.14	0.494	0.740
	Gaza	139	1.16	1.10		
	Middle zoon	71	1.32	1.05		
	Khan Younis	71	1.30	1.12		
	Rafah	40	1.39	1.22		
	Total	388	1.26	1.11		
6. Hospital facilities & services	North	67	1.42	0.86	0.696	0.595
	Gaza	139	1.46	0.91		
	Middle zoon	71	1.51	0.78		
	Khan Younis	71	1.42	0.95		
	Rafah	40	1.68	0.90		
	Total	388	1.48	0.89		
7. Practical support	North	67	1.94	0.76	2.400	0.051
	Gaza	139	1.71	0.87		
	Middle zoon	71	1.63	0.85		
	Khan Younis	71	1.92	0.82		
	Rafah	40	1.99	0.88		
	Total	388	1.80	0.85		
Total	North	67	1.45	0.63	0.109	0.979
	Gaza	139	1.43	0.65		
	Middle zoon	71	1.41	0.57		
	Khan Younis	71	1.47	0.71		
	Rafah	40	1.45	0.67		
	Total	388	1.44	0.64		

*P≤0.05: Significant, P>0.05: Not significant; **n**: number of the subjects; **SD:** standard deviation & **F**: one-way ANOVA.

Table 4.33 showed the relation between the family caregivers' domains and the residency/living condition. The statistical test by ANOVA pointed out that there is no statistically significant difference in the average of Domain 1: Health and psychological problems, Domain 2: Family/ social support, Domain 3: Health-care staff, Domain 4: Information needs, Domain 5: Religious/ spiritual support, Domain 6: Hospital facilities & services, Domain 7: Practical support and domain as a total regarding residency/living condition (P>0.05). From my point of view, the reason is due to the transformation of some rural areas into urban areas as a result of the increase in population and the availability of services, as the GS has become one environment and one culture from north to south.

4.23 Mean difference of family caregivers' domains related to the relationship with patients

Table (4.34a): Mean difference of family caregivers' domains related to the relationship with patients

Domains	Relationship with patients	n	Mean score	SD	F	P-value
1. Health and psychological problems	Son/daughter	178	1.20	0.81	2.776	* 0.027
	Brother/sister	75	1.42	0.86		
	Husband/wife	53	1.52	0.88		
	Mother/father	29	1.34	0.82		
	Other	53	1.10	0.79		
	Total	388	1.28	0.84		
2. Family/ social support	Son/daughter	178	1.29	0.85	2.071	0.066
	Brother/sister	75	1.42	0.86		
	Husband/wife	53	1.63	0.93		
	Mother/father	29	1.63	0.85		
	Other	53	1.16	0.82		
	Total	388	1.37	0.87		
3. Health-care staff	Son/daughter	178	1.61	0.90	0.586	0.673
	Brother/sister	75	1.70	1.02		
	Husband/wife	53	1.52	1.02		
	Mother/father	29	1.52	0.85		
	Other	53	1.47	1.04		
	Total	388	1.59	0.96		
4. Information needs	Son/daughter	178	1.80	0.83	1.221	0.301
	Brother/sister	75	1.85	0.85		
	Husband/wife	53	1.83	0.93		
	Mother/father	29	1.53	0.80		
	Other	53	1.62	0.87		
	Total	388	1.77	0.85		
5. Religious/ spiritual support	Son/daughter	178	1.27	1.05	0.706	0.588
	Brother/sister	75	1.33	1.18		
	Husband/wife	53	1.32	1.17		
	Mother/father	29	0.97	1.05		
	Other	53	1.18	1.17		
	Total	388	1.26	1.11		

Table (4.34b): Mean difference of family caregivers' domains related to the relationship with patients

6. Hospital facilities & services	Son/daughter	178	1.49	0.88	0.431	0.786
	Brother/sister	75	1.56	0.82		
	Husband/wife	53	1.47	1.00		
	Mother/father	29	1.41	0.92		
	Other	53	1.36	0.87		
	Total	388	1.48	0.89		
7. Practical support	Son/daughter	178	1.68	0.86	2.448	0.059
	Brother/sister	75	1.84	0.86		
	Husband/wife	53	2.08	0.81		
	Mother/father	29	1.87	0.76		
	Other	53	1.83	0.83		
	Total	388	1.80	0.85		
Total	Son/daughter	178	1.40	0.64	0.952	0.434
	Brother/sister	75	1.50	0.62		
	Husband/wife	53	1.56	0.72		
	Mother/father	29	1.38	0.64		
	Other	53	1.38	0.62		
	Total	388	1.44	0.64		

*P≤0.05: Significant, P>0.05: Not significant; **n**: number of the subjects; **SD:** standard deviation & **F**: one-way ANOVA.

Table (4.34) showed the relation between the family caregivers' domains and to the relationship with patients. The statistical test by ANOVA pointed out that there is statistically significant difference in the average of Domain 1: Health and psychological problems (P>0.05). While there is no statistically significant difference in the average of Domain 2: Family/ social support, Domain 3: Health-care staff, Domain 4: Information needs, Domain 5: Religious/ spiritual support, Domain 6: Hospital facilities & services, Domain 7: Practical support and domain as a total regarding relationship with patients (P>0.05). A post hoc test showed up in (**Annex 15, table1)**.

4.24 Correlations regarding the DASS and studied domains among caregiver

Table (4.39) Correlations between the patients, DASS and studied domains

DASS		**Domains**								
		DASS	**Health and psychological problems**	**Family/ social support**	**Health-care staff**	**Information needs**	**Religious/ spiritual support**	**Hospital facilities & services**	**Practical support**	**Total**
DASS	Anxiety	0.921**	0.494**	0.462**	0.258**	0.326**	0.290**	0.376**	0.433**	0.694**
	Depression	0.541**	0.523**	0.321**	0.343**	0.331**	0.395**	0.428**	0.727**	00.686**
	Stress	0.547**	0.524**	0.294**	0.372**	0.314**	0.423**	0.484**	0.745**	00.714**
	Total Score	00.943**	0.565**	0.539**	0.311**	0.372**	0.334**	0.427**	0.482**	0.774**

Note: ** = Correlation is significant at the 0.01 level (two-tailed); * = Correlation is significant at the 0.05 level (two-tailed).

As shown in the **table 4.39:** correlation results between DASS and palliative care needs for family caregivers. There was a statistically significant strong correlation between anxiety, depression, and stress and all domains in the PC needs for family caregivers (correlation coefficient 0.774). This is consistent with another study that shows the relationship between the domain of the needs of family caregivers for cancer patients and the psychological problem (Yang et al., 2020).

Chapter Five

Conclusion and Recommendations

5.1 Conclusion

A comprehensive examination of patients' and family caregivers' care needs, along with the factors that influence them, can offer valuable insights to researchers and policymakers. This understanding is crucial for the development of tailored interventions and services in the field of palliative care. Therefore, assessing the patient's PC needs is the first step in coming up with answers to the issues that cancer patients and family caregivers encounter since they must be treated as a single entity when developing PC services. For this reason, this study was conducted so that no one in the GS assessed the palliative care needs of patients and family caregivers with each other. The study was conducted at the Turkish Friendship Hospital in the Gaza Strip. A cross-sectional survey and in-depth interviews were used in the study, and they produced important data that gives a thorough picture of palliative care needs. where These findings have led to a conclusive outcome for the study.

The study findings indicated that cancer patients and their family caregivers had significant palliative care (PC) needs, emphasizing the necessity for intervention and the establishment of a dedicated palliative care team to address the needs of both patients and caregivers.

Among patients, financial issues were the most prevalent, affecting a large percentage, while physical symptoms such as fatigue and pain were also significant concerns.

Family caregivers, on the other hand, expressed a strong need for information, particularly regarding financial support and the patient's condition and prognosis.

Gender differences were observed, with male patients exhibiting greater autonomy and financial difficulties compared to female patients. Additionally, the study revealed a correlation between patient income and the extent of PC needs, indicating that individuals with lower incomes experienced greater physical, autonomy, social, and psychological needs.

Female family caregivers demonstrated higher statistical differences in health and psychological problems compared to their male counterparts.

Furthermore, non-employed family caregivers experienced more significant differences in practical support compared to employed individuals.

The semi-structured interviews showed the majority of family caregivers suffer because of the unavailability of some services in the hospital and the long wait for their transfer to other hospitals due to the Israeli occupation, which impedes freedom of movement for these patients, as well as because of waiting inside the hospital while receiving the service. and family caregivers exposed to high financial and professional pressures, as financial pressures include running out of savings, transportation, and providing some treatments for the patient.

5.2 Recommendations

The issues raised by this study may be useful in improving the quality of palliative care provided to cancer patients and their family caregivers, so the researcher recommends the following:

5.2.1 Suggestions For decision makers

- Create and implement ongoing programs to evaluate the palliative care needs of patients and family caregivers in hospitals.
- Creating and implementing family-centered healthcare services and programs in clinical practice
- providing in-service training for oncology staff in new palliative care techniques.

- Offering clinical and research training fellowships in the science of palliative care.
- Develop palliative care protocols and guidelines for dealing with cancer patients and their family caregivers.

5.2.2 Suggestions for further investigations

- To conduct a study to evaluate palliative care needs from the perspective of the health care staff.
- to conduct a study to examine healthcare provider knowledge, attitudes, and practices in palliative care in the GS.
- to conduct a study to assess Children's Patients with Cancer and Their Caregivers Needs for Palliative Care in The Gaza Strip.

5.2.3 Suggestions For healthcare staff

- Work to integrate palliative care early in the treatment process.
- Emphasis on commitment to a multidisciplinary approach to palliative care.
- Encourage open and honest communication between patients, families, and healthcare providers.

5.3 Limitations of the study

Although the total number of patients and family caregivers exceeded 750, the convenience sampling technique utilized to choose the participants may restrict the generalizability of the study's findings. Moreover, the significant heterogeneity of the study participants, resulting from a mixed sample comprising different types of cancer diagnoses. The current study focused on cancer patients and their family caregivers who are inside the Turkish-Palestinian Friendship Hospital only, so it is necessary to conduct a study on cancer patients who are unable to go to the hospital. Even though a triangulated study design was employed, semi-structured interviews were used to create and examine the palliative care needs of family caregivers only. Even though there are many limitations, the main goal of this master's research project was to offer initial evidence to policymakers and investigators regarding the development of palliative care services and programs to better meet the palliative care needs of cancer patients and the needs of family caregivers.

Reference

Abu Hamad, Na'el Skaik, & Abu-Odah. (2016). Evaluation of Palliative Care Services Provided to Cancer Patients in the Gaza Strip. *Journal of US-China Medical Science, 13*(2). https://doi.org/10.17265/1548-6648/2016.02.006

Abu-Odah, H., Molassiotis, A., & Liu, J. (2020). Challenges on the provision of palliative care for patients with cancer in low- and middle-income countries: a systematic review of reviews. *BMC Palliative Care*, *19*(1). https://doi.org/10.1186/S12904-020-00558-5

Abu-Odah, H., Molassiotis, A., & Liu, J. Y. W. (2022). Gathering policymakers' perspectives as an essential step in planning and implementing palliative care services at a national level: an example from a resource-limited country. *BMC Palliative Care, 21*(1), 1–13. https://doi.org/10.1186/S12904-022-00936-1/TABLES/1

Abu-Odah, H., Molassiotis, A., Zhao, I. Y., Su, J. J., & Allsop, M. J. (2022). Psychological distress and associated factors among Palestinian advanced cancer patients: A cross-sectional study. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/FPSYG.2022.1061327

Abu-Rmeileh, N. M. E., Gianicolo, E. A. L., Bruni, A., Mitwali, S., Portaluri, M., Bitar, J., Hamad, M., Giacaman, R., & Vigotti, M. A. (2016). Cancer mortality in the West Bank, Occupied Palestinian Territory. *BMC Public Health*, *16*(1). https://doi.org/10.1186/S12889-016-2715-8

Akinyemiju, T., Ogunsina, K., Gupta, A., Liu, I., Braithwaite, D., & Hiatt, R. A. (2022). A Socio-Ecological Framework for Cancer Prevention in Low and Middle-Income Countries. *Frontiers in Public Health*, *10*, 884678. https://doi.org/10.3389/FPUBH.2022.884678

al Qadire, M., & al Khalaileh, M. (2016). Prevalence of Symptoms and Quality of Life Among Jordanian Cancer Patients. *Clinical Nursing Research*, *25*(2), 174–191. https://doi.org/10.1177/1054773814564212

Alharahsheh, S. T., Abdelmoneium, A. O., Abdelmoneium, A. O., & Alharahsheh, S. T. (2016). Family Home Caregivers for Old Persons in the Arab Region: Perceived Challenges and Policy Implications. *Open Journal of Social Sciences*, ٤(١), 720–726. https://doi.org/10.4236/JSS.2016.41019

Al-Husban, R. Y., Obeidat, R., & Shamieh, O. (2021). Unmet Supportive Care Needs of Jordanian Patients with Colorectal Cancer: A Cross-Sectional Survey. *Asia-Pacific Journal of Oncology Nursing*, *8*(5), 565. https://doi.org/10.4103/APJON.APJON-2110

Ali elsayed, A., Sobhy Sorour, A., Rashad Aboel-Seoud, A., & Mahmoud Sarhan, A. (2015). Supportive Care Needs in Relation to Psychological Distress Level among Women under Treatment for Breast Cancer. *Zagazig Nursing Journal*, *11*(2).

Ali, A. M., Ahmed, A., Sharaf, A., Kawakami, N., Abdeldayem, S. M., & Green, J. (2017). The Arabic Version of The Depression Anxiety Stress Scale-21: Cumulative scaling and discriminant-validation testing. *Asian Journal of Psychiatry*, *30*, 56–58. https://doi.org/10.1016/J.AJP.2017.07.018

Al-Natour, A., al Momani, S. M., & Qandil, A. M. A. (2017). The Relationship Between Spirituality and Quality of Life of Jordanian Women Diagnosed with Breast Cancer. *Journal of Religion and Health*, *56*(6), 2096–2108. https://doi.org/10.1007/S10943-017-0370-8

Alwali, A., Alborno, A., Shaikhah, A., AbuHamed, E., Abulqumboz, S., AbuQamar, A., Diab, A., & Bottcher, B. (2022). Evaluating the amount of knowledge about palliative care concepts among health professionals and medical students in the Gaza Strip: a cross-sectional study. *The Lancet, 399,* S34. https://doi.org/10.1016/S0140-6736(22)01169-2

Anagnostou, D. (2017). Palliative care improves quality of life and reduces symptom burden in adults with life-limiting illness. *Evidence-Based Nursing*, *20*(2), 47–48. https://doi.org/10.1136/EB-2016-102603

Anderson, N., & Ozakinci, G. (2018). Effectiveness of psychological interventions to improve quality of life in people with long-term conditions: rapid systematic review of randomised controlled trials. *BMC Psychology, 6*(1). https://doi.org/10.1186/S40359-018-0225-4

Areia, N. P., Fonseca, G., Major, S., & Relvas, A. P. (2019). Psychological morbidity in family caregivers of people living with terminal cancer: Prevalence and predictors. *Palliative & Supportive Care*, *17*(3), 286–293. https://doi.org/10.1017/S1478951518000044

Ashrafian, S., Feizollahzadeh, H., Rahmani, A., & Davoodi, A. (2018). The Unmet Needs of the Family Caregivers of Patients with Cancer Visiting a Referral Hospital in Iran. *Asia-Pacific Journal of Oncology Nursing*, *5*(3), 342–352. https://doi.org/10.4103/APJON.APJON_7_18

Bajwah, S., Oluyase, A. O., Yi, D., Gao, W., Evans, C. J., Grande, G., Todd, C., Costantini, M., Murtagh, F. E., & Higginson, I. J. (2020). The effectiveness and cost-effectiveness of hospital-based specialist palliative care for adults with advanced illness and their caregivers. *The Cochrane Database of Systematic Reviews*, *2020*(9). https://doi.org/10.1002/14651858.CD012780.PUB2

Bandeali, S., Des Ordons, A. R., & Sinnarajah, A. (2020). Comparing the physical, psychological, social, and spiritual needs of patients with non-cancer and cancer diagnoses in a tertiary palliative care setting. *Palliative and Supportive Care*, *18*(5), 513–518. https://doi.org/10.1017/S1478951519001020

Bekui, B. A. A., Ohene, L. A., Badzi, C., Ampomah, M. O., & Aziato, L. (2023). Physical and socioeconomic burden of caregiving on family caregivers of children with cancer at a tertiary Hospital in Ghana. *Nursing Open*, *10*(2), 915–925. https://doi.org/10.1002/NOP2.1359

Best, M., Butow, P., & Olver, I. (2015). Do patients want doctors to talk about spirituality? A systematic literature review. *Patient Education and Counseling*, *98*(11), 1320–1328. https://doi.org/10.1016/J.PEC.2015.04.017

Bijnsdorp, F. M., Pasman, H. R. W., Boot, C. R. L., Van Hooft, S. M., Van Staa, A. L., & Francke, A. L. (2020). Profiles of family caregivers of patients at the end of life at home: A Q-methodological study into family caregiver' support needs. *BMC*

Palliative Care, *19*(1), 1–13. https://doi.org/10.1186/S12904-020-00560-X/TABLES/4

Blum, K., & Sherman, D. W. (2010). Understanding the experience of caregivers: a focus on transitions. *Seminars in Oncology Nursing*, *26*(4), 243–258. https://doi.org/10.1016/J.SONCN.2010.08.005

Bożek, A., Nowak, P. F., & Blukacz, M. (2020). The Relationship Between Spirituality, Health-Related Behavior, and Psychological Well-Being. *Frontiers in Psychology*, *11*, 1997. https://doi.org/10.3389/FPSYG.2020.01997/BIBTEX

Bradley, N., Lloyd-Williams, M., & Dowrick, C. (2018). Effectiveness of palliative care interventions offering social support to people with life-limiting illness—A systematic review. *European Journal of Cancer Care*, *27*(3), e12837. https://doi.org/10.1111/ECC.12837

Breen, L. J., Aoun, S. M., O'Connor, M., Howting, D., & Halkett, G. K. B. (2018). Family Caregivers' Preparations for Death: A Qualitative Analysis. *Journal of Pain and Symptom Management*, *55*(6), 1473–1479. https://doi.org/10.1016/J.JPAINSYMMAN.2018.02.018

Bseiso, R. A., Thabet, A. M., Aziz, A., & Thabet, M. (2017). *The Relationship between Siege Stressors, Anxiety, and Depression among Patients with Cancer in Gaza Strip*. https://doi.org/10.21767/1791-809X.1000499

Carrera, P. M., Kantarjian, H. M., & Blinder, V. S. (2018). The Financial Burden and Distress of Patients with Cancer: Understanding and Stepping-Up Action on the Financial Toxicity of Cancer Treatment. *CA: A Cancer Journal for Clinicians*, *68*(2), 153. https://doi.org/10.3322/CAAC.21443

Chai, H., Guerriere, D. N., Zagorski, B., & Coyte, P. C. (2014). The magnitude, share and determinants of unpaid care costs for home-based palliative care service provision in Toronto, Canada. *Health & Social Care in the Community*, *22*(1), 30–39. https://doi.org/10.1111/HSC.12058

Chang, T. T., Liang, S. Y., & Rosenberg, J. (2023). Burden of Family Caregivers of Patients with Oral Cancer in Home Care in Taiwan. *Healthcare 2023, Vol. 11, Page 1107*, *11*(8), 1107. https://doi.org/10.3390/HEALTHCARE11081107

Cherny, N. I., Paluch-Shimon, S., & Berner-Wygoda, Y. (2018). Palliative care: needs of advanced breast cancer patients. *Breast Cancer : Targets and Therapy*, *10*, 231. https://doi.org/10.2147/BCTT.S160462

Chua, G. P., Pang, G. S. Y., Yee, A. C. P., Neo, P. S. H., Zhou, S., Lim, C., Wong, Y. Y., Qu, D. L., Pan, F. T., & Yang, G. M. (2020). Supporting the patients with advanced cancer and their family caregivers: what are their palliative care needs? *BMC Cancer 2020 20:1*, *20*(1), 1–15. https://doi.org/10.1186/S12885-020-07239-9

Chua, G. P., Tan, H. K., & Gandhi, M. (2018). Information sources and online information seeking behaviours of cancer patients in Singapore. *Ecancermedicalscience*, *12*. https://doi.org/10.3332/ECANCER.2018.880

Clair, R., Gordon, M., Kroon, M., & Reilly, C. (2021). The effects of social isolation on well-being and life satisfaction during pandemic. *Humanities and Social Sciences Communications 2021 8:1*, *8*(1), 1–6. https://doi.org/10.1057/s41599-021-00710-3

Cui, J., Song, L. J., Zhou, L. J., Meng, H., & Zhao, J. J. (2014). Needs of family caregivers of advanced cancer patients: A survey in Shanghai of China. *European Journal of Cancer Care*, *23*(4), 562–569. https://doi.org/10.1111/ecc.12174

Deatrick, J. A. (2017). Where Is "Family" in the Social Determinants of Health? Implications for Family Nursing Practice, Research, Education, and Policy. *Journal of Family Nursing*, *23*(4), 423–433. https://doi.org/10.1177/1074840717735287/ASSET/IMAGES/LARGE/10.1177_1074840717735287-FIG1.JPEG

Dingfield, L., Kirkpatrick, J., & Elnadry, J. (2017). Home-Based Palliative Care Reduces Hospital Readmissions (S735). *Journal of Pain and Symptom Management*, *53*(2), 428–429. https://doi.org/10.1016/J.JPAINSYMMAN.2016.12.245

Dong, J., Pollack, H., & Konetzka, R. T. (2019). Effects of long-term care setting on spousal health outcomes. *Health Services Research*, *54*(1), 158–166. https://doi.org/10.1111/1475-6773.13053

Duran, S., Kaynak, S., & Karadas, A. (2019). Family Practice and Palliative Care. *Fam Pract Palliat Care*, *4*(3), 120–125. https://doi.org/10.22391/fppc.532571

Effendy, C., Vissers, K., Osse, B. H. P., Tejawinata, S., Vernooij-Dassen, M., & Engels, Y. (2015). Comparison of Problems and Unmet Needs of Patients with Advanced Cancer in a European Country and an Asian Country. *Pain Practice*, *15*(5), 433–440. https://doi.org/10.1111/PAPR.12196

Ellis, J. (2012). The impact of lung cancer on patients and carers. *Chronic Respiratory Disease*, *9*(1), 39–47. https://doi.org/10.1177/1479972311433577

ElMokhallalati, Y., Alaloul, E., Shatat, M., Shneewra, T., El Massri, S., Shaer, O., & Allsop, M. (2020). *98 The symptom burden and quality of life in cancer patients in Gaza, palestine: a cross-sectional study*. A43.1-A43. https://doi.org/10.1136/SPCARE-2020-PCC.118

ElMokhallalati, Y., Alaloul, E., Shatat, M., Shneewra, T., el Massri, S., Shaer, O., Relton, S., Abu-Odah, H., & Allsop, M. J. (2022). The Symptom Burden and Quality of Life in Cancer Patients in the Gaza Strip, Palestine: A Cross-Sectional Study. *PloS One*, *17*(1). https://doi.org/10.1371/JOURNAL.PONE.0262512

Esam, S., Ihab, N., Kanan, W., & Ashraf, S. (2022). *Assessment of Nutritional Status of Patients Receiving Chemotherapy: Sample from European Gaza Hospital*. https://doi.org/10.21203/rs.3.rs-2027714/v1

Etkind, S. N., Bone, A. E., Gomes, B., Lovell, N., Evans, C. J., Higginson, I. J., & Murtagh, F. E. M. (2017). How many people will need palliative care in 2040? Past trends, future projections and implications for services. *BMC Medicine*, *15*(1), 1–10. https://doi.org/10.1186/s12916-017-0860-2

Evangelista, C. B., Lopes, M. E. L., Costa, S. F. G. da, Abrão, F. M. da S., Batista, P. S. de S., & Oliveira, R. C. de. (2016). Spirituality in patient care under palliative care: A study with nurses. *Escola Anna Nery - Revista de Enfermagem*, *20*(1), 176–182. https://doi.org/10.5935/1414-8145.20160023

Evangelos. (2018). *Quality of life in lung cancer Assessment of psychological distress and quality of life in lung cancer patients receiving chemotherapy: A single center experience*. https://doi.org/10.5604/01.3001.0012.1144

Evans, C. J., Bone, A. E., Yi, D., Gao, W., Morgan, M., Taherzadeh, S., Maddocks, M., Wright, J., Lindsay, F., Bruni, C., Harding, R., Sleeman, K. E., Gomes, B., & Higginson, I. J. (2021). Community-based short-term integrated palliative and supportive care reduces symptom distress for older people with chronic noncancer conditions compared with usual care: A randomised controlled single-blind mixed method trial. *International Journal of Nursing Studies*, *120*, 103978. https://doi.org/10.1016/J.IJNURSTU.2021.103978

FCA. (n.d.). *Definitions - Family Caregiver Alliance*. Retrieved November 18, 2021, from https://www.caregiver.org/resource/definitions-0/

Felicia Knaul, Lukas Radbruch, S. C. (2020). How many adults and children are in need of palliative care worldwide? *TotalAtlas of Palliative Care*, *November*, 17–32.

Flemming, K., Atkin, K., Ward, C., & Watt, I. (2019). *Open Peer Review Adult family carers' perceptions of their educational needs when providing end-of-life care: a systematic review of qualitative research [version 1; peer review: 3 approved with reservations]*. https://doi.org/10.12688/amrcopenres.12855.1

Gardiner, C., Brereton, L., Frey, R., Wilkinson-Meyers, L., & Gott, M. (2014). Exploring the financial impact of caring for family members receiving palliative and end-of-life care: A systematic review of the literature. *Palliative Medicine*, *28*(5), 375–390. https://doi.org/10.1177/0269216313510588

Gijsberts, M. J. H. E., Liefbroer, A. I., Otten, R., & Olsman, E. (2019). Spiritual Care in Palliative Care: A Systematic Review of the Recent European Literature. *Medical Sciences*, *7*(2). https://doi.org/10.3390/MEDSCI7020025

Glajchen, M., Goehring, A., Johns, H., & Portenoy, R. K. (2022). Family Meetings in Palliative Care: Benefits and Barriers. *Current Treatment Options in Oncology*, *23*(5), 658. https://doi.org/10.1007/S11864-022-00957-1

Goebel, S., Mai, S. S., Gerlach, C., Windschmitt, U., Feldmann, K. H., & Weber, M. (2017). Family members of deceased palliative care patients receiving bereavement anniversary cards: a survey on the recipient's reactions and opinions. *BMC Palliative Care*, *16*(1), 1–4. https://doi.org/10.1186/S12904-017-0199-7/TABLES/2

Gopalan, M. R., Karunakaran, V., Prabhakaran, A., & Jayakumar, K. L. (2016). Prevalence of psychiatric morbidity among cancer patients – hospital-based, cross-sectional survey. *Indian Journal of Psychiatry*, *58*(3), 275. https://doi.org/10.4103/0019-5545.191995

Gu, Z. H., Qiu, T., Yang, S. H., Tian, F. Q., & Wu, H. (2020). <p>A Study on the Psychological Factors Affecting the Quality of Life Among Ovarian Cancer Patients in China</p>. *Cancer Management and Research*, *12*, 905–912. https://doi.org/10.2147/CMAR.S239975

Guerra-Martín, M. D., Casado-Espinosa, M. D. R., Gavira-López, Y., Holgado-Castro, C., López-Latorre, I., & Borrallo-Riego, Á. (2023). Quality of Life in Caregivers of Cancer Patients: A Literature Review. *International Journal of Environmental Research and Public Health*, *20*(2). https://doi.org/10.3390/IJERPH20021570

Hakulinen, C., Pulkki-Råback, L., Virtanen, M., Jokela, M., Kivimäki, M., & Elovainio, M. (2018). Social isolation and loneliness as risk factors for myocardial infarction, stroke and mortality: UK Biobank cohort study of 479 054 men and women. *Heart*, *104*(18), 1536–1542. https://doi.org/10.1136/HEARTJNL-2017-312663

Halkett, G. K. B., Lobb, E. A., Shaw, T., Sinclair, M. M., Miller, L., Hovey, E., & Nowak, A. K. (2017). Distress and psychological morbidity do not reduce over time in carers of patients with high-grade glioma. *Supportive Care in Cancer : Official Journal of the Multinational Association of Supportive Care in Cancer*, *25*(3), 887–893. https://doi.org/10.1007/S00520-016-3478-6

Harandi, T. F., Taghinasab, M. M., & Nayeri, T. D. (2017). The correlation of social support with mental health: A meta-analysis. *Electronic Physician*, *9*(9), 5212. https://doi.org/10.19082/5212

Hasegawa, T., Goto, N., Matsumoto, N., Sasaki, Y., Ishiguro, T., Kuzuya, N., & Sugiyama, Y. (2016). Prevalence of unmet needs and correlated factors in advanced-stage cancer patients receiving rehabilitation. *Supportive Care in Cancer : Official Journal of the Multinational Association of Supportive Care in Cancer*, *24*(11), 4761–4767. https://doi.org/10.1007/S00520-016-3327-7

Hirvonen, O. M., Leskelä, R. L., Grönholm, L., Haltia, O., Voltti, S., Tyynelä-Korhonen, K., Rahko, E. K., Lehto, J. T., & Saarto, T. (2020). The impact of the duration of the palliative care period on cancer patients with regard to the use of hospital services and the place of death: A retrospective cohort study. *BMC Palliative Care*, *19*(1), 1–9. https://doi.org/10.1186/S12904-020-00547-8/TABLES/3

Hulme, C., Carmichael, F., & Meads, D. (2016). What about informal carers and families? *Care at the End of Life: An Economic Perspective*, 167–176. https://doi.org/10.1007/978-3-319-28267-1_12

Hunt, A., Handorf, E., Blau, M., Chertock, Y., Fang, C., Hall, M. J., & Jain, R. (2021). Psychological distress in patients with metastatic cancer enrolling on phase I clinical trials. *Journal of Cancer Survivorship*, *15*(3), 398–402. https://doi.org/10.1007/S11764-021-01014-W/FIGURES/1

Husson, O., Mols, F., & van de poll-franse, L. V. (2011). The relation between information provision and health-related quality of life, anxiety and depression among cancer survivors: a systematic review. *Annals of Oncology*, *22*(4), 761–772. https://doi.org/10.1093/ANNONC/MDQ413

Insamran, W., & Sangrajrang, S. (2020). National Cancer Control Program of Thailand. *Asian Pacific Journal of Cancer Prevention*, *21*(3), 577–582. https://doi.org/10.31557/APJCP.2020.21.3.577

Jansen, T., Rademakers, J., Waverijn, G., Verheij, R., Osborne, R., & Heijmans, M. (2018). The role of health literacy in explaining the association between educational attainment and the use of out-of-hours primary care services in chronically ill people: a survey study. *BMC Health Services Research*, *18*(1). https://doi.org/10.1186/S12913-018-3197-4

Karayannis, N. V., Baumann, I., Sturgeon, J. A., Melloh, M., & Mackey, S. C. (2019). The Impact of Social Isolation on Pain Interference: A Longitudinal Study. *Annals of Behavioral Medicine*, *53*(1), 65–74. https://doi.org/10.1093/ABM/KAY017

Karunanithi, G., Sagar, R. P., Joy, A., & Vedasoundaram, P. (2018). Assessment of Psychological Distress and its Effect on Quality of Life and Social Functioning in Cancer Patients. *Indian Journal of Palliative Care*, *24*(1), 72. https://doi.org/10.4103/IJPC.IJPC_104_17

Kazemi, A., Azimian, J., Mafi, M., Allen, K. A., & Motalebi, S. A. (2021). Caregiver burden and coping strategies in caregivers of older patients with stroke. *BMC Psychology*, *9*(1), 1–9. https://doi.org/10.1186/S40359-021-00556-Z/TABLES/3

Khleif, M. H., & Imam, A. M. (2013). Quality of life for Palestinian patients with cancer in the absence of a palliative-care service: a triangulated study. *The Lancet*, *382*, S23. https://doi.org/10.1016/S0140-6736(13)62595-7

Klimasiński, M., Baum, E., Praczyk, J., Ziemkiewicz, M., Springer, D., Cofta, S., & Wieczorowska-Tobis, K. (2022). Spiritual Distress and Spiritual Needs of Chronically Ill Patients in Poland: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, *19*(9). https://doi.org/10.3390/IJERPH19095512

Koo, M. M., Swann, R., McPhail, S., Abel, G. A., Elliss-Brookes, L., Rubin, G. P., & Lyratzopoulos, G. (2020). Presenting symptoms of cancer and stage at diagnosis: evidence from a cross-sectional, population-based study. *The Lancet Oncology*, *21*(1), 73–79. https://doi.org/10.1016/S1470-2045(19)30595-9/ATTACHMENT/09B66C75-4CC2-4657-BCD7-28438EED7FC2/MMC1.PDF

Kriegler, M., & Jebril, M. (2021). *The Political Economy of Health in the Gaza Strip (Occupied Palestinian Territory)*. www.cbr.cam.ac.uk

Kugbey, N., Meyer-Weitz, A., & Oppong Asante, K. (2019). Access to health information, health literacy and health-related quality of life among women living with breast cancer: Depression and anxiety as mediators. *Patient Education and Counseling*, *102*(7), 1357–1363. https://doi.org/10.1016/J.PEC.2019.02.014

Lalani, N., Duggleby, W., & Olson, J. (2018). Spirituality among family caregivers in palliative care: an integrative literature review. *Https://Doi.Org/10.12968/Ijpn.2018.24.2.80*, *24*(2), 80–91. https://doi.org/10.12968/IJPN.2018.24.2.80

Lambert, S., Bellamy, T., & Girgis, A. (2017). Routine assessment of unmet needs in individuals with advanced cancer and their caregivers: A qualitative study of the palliative care needs assessment tool (PC-NAT). *Https://Doi.Org/10.1080/07347332.2017.1382645*, *36*(1), 82–96. https://doi.org/10.1080/07347332.2017.1382645

Lee, J., & Cha, C. (2017). Unmet Needs and Caregiver Burden among Family Caregivers of Hospice Patients in South Korea. *Journal of Hospice and Palliative Nursing*, *19*(4), 323–331. https://doi.org/10.1097/NJH.0000000000000350

Lee, Y. J., Kim, J. E., Choi, Y. S., Hwang, I. C., Hwang, S. W., Kim, Y. S., Kim, H. M., Ahn, H. Y., & Kim, S. J. (2016). Quality of life discordance between terminal cancer patients and family caregivers: a multicenter study. *Supportive Care in Cancer : Official Journal of the Multinational Association of Supportive Care in Cancer*, *24*(7), 2853–2860. https://doi.org/10.1007/S00520-016-3108-3

Leow, K., Lynch, M. F., & Lee, J. (2019). Social Support, Basic Psychological Needs, and

Social Well-Being Among Older Cancer Survivors. *Https://Doi.Org/10.1177/0091415019887688*, *92*(1), 100–114. https://doi.org/10.1177/0091415019887688

Li, J., Zhou, L., Van Der Heijden, B., Li, S., Tao, H., & Guo, Z. (2021). Social Isolation, Loneliness and Well-Being: The Impact of WeChat Use Intensity During the COVID-19 Pandemic in China. *Frontiers in Psychology*, *12*, 3188. https://doi.org/10.3389/FPSYG.2021.707667/BIBTEX

Lindsay Smith, G., Banting, L., Eime, R., O'Sullivan, G., & van Uffelen, J. G. Z. (2017). The association between social support and physical activity in older adults: A systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, *14*(1), 1–21. https://doi.org/10.1186/S12966-017-0509-8/TABLES/4

Liu, Y., Dokos, M., Fauth, E. B., Lee, Y. G., & Zarit, S. H. (2019). Financial Strain, Employment, and Role Captivity and Overload Over Time Among Dementia Family Caregivers. *The Gerontologist*, *59*(5), e512. https://doi.org/10.1093/GERONT/GNZ099

Liu, Z., Heffernan, C., & Tan, J. (2020). Caregiver burden: A concept analysis. *International Journal of Nursing Sciences*, *7*(4), 438. https://doi.org/10.1016/J.IJNSS.2020.07.012

Longo, C. J., Fitch, M. I., Loree, J. M., Carlson, L. E., Turner, D., Cheung, W. Y., Gopaul, D., Ellis, J., Ringash, J., Mathews, M., Wright, J., Stevens, C., D'Souza, D., Urquhart, R., Maity, T., Balderrama, F., & Haddad, E. (2021). Patient and family financial burden associated with cancer treatment in Canada: a national study. *Supportive Care in Cancer : Official Journal of the Multinational Association of Supportive Care in Cancer*, *29*(6), 3377–3386. https://doi.org/10.1007/S00520-020-05907-X

Maltoni, C., Bruera, E., Al-Omari, A., Al-Rawashdeh, N., Damsees, R., Ammar, K., Alananzeh, I., Inserat, B., Al-Rimawi, D., Tbayshat, S., Ababneh, H., Alishreim, H., Serhan, H. A., Al-Noaaimi, F., & Abdel-Razeq, H. (2022). Supportive Care Needs Assessment for Cancer Survivors at a Comprehensive Cancer Center in the Middle East: Mending the Gap. *Cancers*, *1002*, 1002. https://doi.org/10.3390/cancers14041002

Maziak, W. (2009). The crisis of health in a crisis ridden region. *International Journal of Public Health*, *54*(5), 349–355. https://doi.org/10.1007/S00038-009-0061-7

McDonald, J., Swami, N., Hannon, B., Lo, C., Pope, A., Oza, A., Leighl, N., Krzyzanowska, M. K., Rodin, G., Le, L. W., & Zimmermann, C. (2017). Impact of early palliative care on caregivers of patients with advanced cancer: cluster randomised trial. *Annals of Oncology*, *28*(1), 163–168. https://doi.org/10.1093/ANNONC/MDW438

Mesquita, A. C., Chaves, É. D. C. L., & Barros, G. A. M. De. (2017). Spiritual needs of patients with cancer in palliative care: An integrative review. *Current Opinion in Supportive and Palliative Care*, *11*(4), 334–340. https://doi.org/10.1097/SPC.0000000000000308

Mitchell, S., Bennett, K., Morris, A., Slowther, A. M., Coad, J., & Dale, J. (2020). Achieving beneficial outcomes for children with life-limiting and life-threatening conditions receiving palliative care and their families: A realist review. *Palliative Medicine*, *34*(3), 387–402. https://doi.org/10.1177/0269216319870647

Mithrason, A. T., & Parasuraman, G. (2017). Physical problems and needs of patients in palliative care center. *International Journal Of Community Medicine And Public Health*, *4*(11), 4145. https://doi.org/10.18203/2394-6040.IJCMPH20174818

Mithrason, A. T., Parasuraman, G., Iyer, R. H., & Varadarajan, S. (2018). Psychosocial problems and needs of patients in palliative care center. *International Journal Of Community Medicine And Public Health*. https://doi.org/10.18203/2394-6040.IJCMPH20181048

MOH. (2018). *Health annual report paliestine 2018*.

MOH. (2019). *On World Cancer Day, statistics of cancer patients in the Gaza Strip, facts and figures 2015-2019 – Palestinian Ministry of Health*. https://www.moh.gov.ps/portal

MOH. (2020). *Health annual report paliestine 2020*.

MOH. (2020). *The workforce in the health sector - Gaza*.

MOH. (2022). *The Annual Health Report for 2021*.

Molassiotis, A., & Wang, M. (2022). Understanding and Supporting Informal Cancer Caregivers. *Current Treatment Options in Oncology*, *23*(4), 494–513. https://doi.org/10.1007/S11864-022-00955-3/TABLES/1

Morishita, M., & Kamibeppu, K. (2014). Quality of life and satisfaction with care among family caregivers of patients with recurrent or metastasized digestive cancer requiring palliative care. *Supportive Care in Cancer : Official Journal of the Multinational Association of Supportive Care in Cancer*, *22*(10), 2687–2696. https://doi.org/10.1007/S00520-014-2259-3

Muzzatti, B., Bomben, F., Flaiban, C., Piccinin, M., & Annunziata, M. A. (2020). Quality of life and psychological distress during cancer: A prospective observational study involving young breast cancer female patients. *BMC Cancer*, *20*(1), 1–8. https://doi.org/10.1186/S12885-020-07272-8/TABLES/4

NAC. (2020). Caregiving in the U.S. In *2020*. Retrieved October 30, 2021, from https://www.caregiving.org/research/caregiving-in-the-us/caregiving-in-the-us-2020/

NCPPC. (2014). *Palliative Care Needs Assessment Guidance* (Karen Ryan, Ed.; 1.0). The National Clinical Programme for Palliative Care, HSE Clinical Strategy and Programmes Division.

Nemati, S., Rassouli, M., Ilkhani, M., & Baghestani, A. R. (2018). Perceptions of family caregivers of cancer patients about the challenges of caregiving: a qualitative study. *Scandinavian Journal of Caring Sciences*, *32*(1), 309–316. https://doi.org/10.1111/SCS.12463

Newcomb, R. A., Nipp, R. D., Waldman, L. P., Greer, J. A., Lage, D. E., Hochberg, E. P., Jackson, V. A., Fuh, C. X., Ryan, D. P., Temel, J. S., & El-Jawahri, A. R. (2020). Symptom burden in patients with cancer who are experiencing unplanned hospitalization. *Cancer*, *126*(12), 2924–2933. https://doi.org/10.1002/CNCR.32833

NIH. (2021). *Cancer - National Cancer Institute*. https://www.cancer.gov/about-cancer/understanding/what-is-cancer

Nipp, R. D., El-Jawahri, A., Moran, S. M., D'Arpino, S. M., Johnson, P. C., Lage, D. E., Wong, R. L., Pirl, W. F., Traeger, L., Lennes, I. T., Cashavelly, B. J., Jackson, V. A., Greer, J. A., Ryan, D. P., Hochberg, E. P., & Temel, J. S. (2017). The relationship between physical and psychological symptoms and health care utilization in hospitalized patients with advanced cancer. *Cancer*, *123*(23), 4720–4727. https://doi.org/10.1002/CNCR.30912

Nipp, R. D., Sonet, E. M., & Guy, G. P. (2018). Communicating the Financial Burden of Treatment With Patients. *American Society of Clinical Oncology Educational Book, 38*, 524–531. https://doi.org/10.1200/edbk_201051

Noguchi, T., Saito, M., Aida, J., Cable, N., Tsuji, T., Koyama, S., Ikeda, T., Osaka, K., & Kondo, K. (2021). Association between social isolation and depression onset among older adults: a cross-national longitudinal study in England and Japan. *BMJ Open, 11*(3), e045834. https://doi.org/10.1136/BMJOPEN-2020-045834

Norinder, M., Årestedt, K., Lind, S., Axelsson, L., Grande, G., Ewing, G., Holm, M., Öhlén, J., Benkel, I., & Alvariza, A. (2021). *Higher levels of unmet support needs in spouses are associated with poorer quality of life-a descriptive cross-sectional study in the context of palliative home care*. https://doi.org/10.1186/s12904-021-00829-9

Nwagbara, U. I., Ginindza, T. G., & Hlongwana, K. W. (2020). Health systems influence on the pathways of care for lung cancer in low- and middle-income countries: a scoping review. *Globalization and Health 2020 16:1*, *16*(1), 1–11. https://doi.org/10.1186/S12992-020-00553-8

Oberoi, D. V., White, V., Jefford, M., Giles, G. G., Bolton, D., Davis, I., Winship, I., Prince, H. M., Millar, J., Harrison, S., Kay, A., & Hill, D. (2016). Caregivers' information needs and their "experiences of care" during treatment are associated with elevated anxiety and depression: a cross-sectional study of the caregivers of renal cancer survivors. *Supportive Care in Cancer : Official Journal of the Multinational Association of Supportive Care in Cancer*, *24*(10), 4177–4186. https://doi.org/10.1007/S00520-016-3245-8

OCHA. (2023). *Movement in and out of Gaza: update covering March 2023 | United Nations Office for the Coordination of Humanitarian Affairs - occupied Palestinian territory*. https://www.ochaopt.org/content/movement-and-out-gaza-update-covering-march-2023

Oechsle, K., Ullrich, A., Marx, G., Benze, G., Heine, J., Dickel, L. M., Zhang, Y., Wowretzko, F., Wendt, K. N., Nauck, F., Bokemeyer, C., & Bergelt, C. (2019). Psychological burden in family caregivers of patients with advanced cancer at initiation of specialist inpatient palliative care. *BMC Palliative Care*, *18*(1). https://doi.org/10.1186/S12904-019-0469-7

Osama E.Kamil S, H. E. T. M. et al. (2020). Burden among Parents of Children with Cancer in Jordan: Prevalence and Predictors. *Cancer Nursing*, *43*(5), 396–401. https://doi.org/10.1097/NCC.0000000000000724

Osama, E., Kamil, S., Hiba, E., & Tahani, M. (2020). *Psychological Distress among Family Caregivers of Cancer Patients Khartoum State 2020*. www.austinpublishinggroup.com

Osse, B. H. P., Vernooij-Dassen, M. J. F. J., de Vree, B. P. W., Schadé, E., & Grol, R. P. T. M. (2000). Assessment of the need for palliative care as perceived by individual cancer patients and their families: A review of instruments for improving patient participation in palliative care. *Cancer*, *88*(4), 900–911. https://doi.org/10.1002/(SICI)1097-0142(20000215)88:4<900::AID-CNCR22>3.0.CO;2-2

Osse, B. H. P., Vernooij-Dassen, M. J. F. J., Schadé, E., & Grol, R. P. T. M. (2007). A practical instrument to expore patients' needs in palliative care: The problems and needs in palliative care questionnaire - Short version. *Palliative Medicine*, *21*(5), 391–399. https://doi.org/10.1177/0269216307078300

Otten, D., Tibubos, A. N., Schomerus, G., Brähler, E., Binder, H., Kruse, J., Ladwig, K. H., Wild, P. S., Grabe, H. J., & Beutel, M. E. (2021). Similarities and Differences of Mental Health in Women and Men: A Systematic Review of Findings in Three Large German Cohorts. *Frontiers in Public Health*, *9*, 553071. https://doi.org/10.3389/FPUBH.2021.553071

Owoo, B., Ninnoni, J. P. K., Ampofo, E. A., & Seidu, A. A. (2022). "I always find myself very tired and exhausted": The physical impact of caring; a descriptive phenomenological study of the experiences of prostate cancer caregivers in Cape Coast, Ghana. *PLoS ONE*, *17*(7). https://doi.org/10.1371/JOURNAL.PONE.0268627

PCBS. (2020). *State of Palestine Palestinian Central Bureau of Statistics Palestine Statistical Year book 2020*.

PCBS. (2023). *Palestinian Central Bureau of Statistics (PCBS) On the Occasion of the World Health*. 4–6.

Preksha, S., Kaur, M. R., & Maheshwari, S. K. (2018). *(PDF) Perceived Need-fulfillment among Family Caregivers of Cancer Patients.* 2018. https://www.researchgate.net/publication/326033009_Perceived_Need-fulfillment_among_Family_Caregivers_of_Cancer_Patients

Prompantakorn, P., Angkurawaranon, C., Pinyopornpanish, K., Chutarattanakul, L., Aramrat, C., Pateekhum, C., & Dejkriengkraikul, N. (2021). Palliative Performance Scale and survival in patients with cancer and non-cancer diagnoses needing a palliative care consultation: a retrospective cohort study. *BMC Palliative Care*, *20*(1), 1–7. https://doi.org/10.1186/S12904-021-00773-8/TABLES/3

Rankin, A. (2018). The role of spirituality in palliative care. *The New Zealand Medical Student Journal Issue, 27*.

Riahi, S., Goudarzi, F., Hasanvand, S., Abdollahzadeh, H., Ebrahimzadeh, F., & Dadvari, Z. (2018). Assessing the Effect of Spiritual Intelligence Training on Spiritual Care Competency in Critical Care Nurses. *Journal of Medicine and Life*, *11*(4), 346–354. https://doi.org/10.25122/JML-2018-0056

Ripamonti, C. I., Giuntoli, F., Gonella, S., & Miccinesi, G. (2018). Spiritual care in cancer patients: a need or an option? *Current Opinion in Oncology*, *30*(4), 212–218. https://doi.org/10.1097/CCO.0000000000000454

Rocha, R. C. N. P., Pereira, E. R., Silva, R. M. C. R. A., Medeiros, A. Y. B. B. V. de, Refrande, S. M., & Refrande, N. A. (2018). Spiritual needs experienced by the patient's family caregiver under Oncology palliative care. *Revista Brasileira de Enfermagem, 71*, 2635–2642. https://doi.org/10.1590/0034-7167-2017-0873

Rosenberg, K. (2017). Palliative Care Improves Quality of Life, Reduces Symptoms. *The American Journal of Nursing*, *117*(4), 66. https://doi.org/10.1097/01.NAJ.0000515237.74666.C3

Ruijs, C. D. M., Kerkhof, A. J. F. M., Van Der Wal, G., & Onwuteaka-Philipsen, B. D. (2013). Symptoms, unbearability and the nature of suffering in terminal cancer patients dying at home: A prospective primary care study. *BMC Family Practice*, *14*. https://doi.org/10.1186/1471-2296-14-201

Saito, M., Aida, J., Cable, N., Zaninotto, P., Ikeda, T., Tsuji, T., Koyama, S., Noguchi, T., Osaka, K., & Kondo, K. (2021). Cross-national comparison of social isolation and mortality among older adults: A 10-year follow-up study in Japan and England. *Geriatrics & Gerontology International*, *21*(2), 209–214. https://doi.org/10.1111/GGI.14118

Schulz, R., Eden, J., Adults, C. on F. C. for O., Services, B. on H. C., Division, H. and M., & National Academies of Sciences, E. and M. (2016). *Family Caregiving Roles and Impacts*. https://www.ncbi.nlm.nih.gov/books/NBK396398/

Senderovich, H., & McFadyen, K. (2020). Palliative Care: Too Good to Be True? *Rambam Maimonides Medical Journal*, *11*(4). https://doi.org/10.5041/RMMJ.10394

Shah, S. C., Kayamba, V., Peek, R. M., & Heimburger, D. (2019). Cancer Control in Low- and Middle-Income Countries: Is It Time to Consider Screening? *Journal of TotalOncology*, *5*(5). https://doi.org/10.1200/JGO.18.00200

Shamallakh, A. N., & Imam, A. M. (2017). Quality of life in patients with cancer in the Gaza Strip: a cross-sectional study. *The Lancet*, *390*, S21. https://doi.org/10.1016/S0140-6736(17)32072-X

Sherman, D. W. (2019). A Review of the Complex Role of Family Caregivers as Health Team Members and Second-Order Patients. *Healthcare*, *7*(2). https://doi.org/10.3390/HEALTHCARE7020063

Shin, D. W., Park, J.-H., Shim, E.-J., Park, J.-H., Choi, J.-Y., Kim, S. G., & Park, E.-C. (2010). *The development of a comprehensive needs assessment tool for cancer-caregivers in patient-caregiver dyads*. https://doi.org/10.1002/pon.1857

Siegel, R. L., Miller, K. D., & Jemal, A. (2020). Cancer statistics, 2020. *CA: A Cancer Journal for Clinicians*, *70*(1), 7–30. https://doi.org/10.3322/CAAC.21590

Siegel, R. L., Miller, K. D., Fuchs, H. E., & Jemal, A. (2021). Cancer Statistics, 2021. *CA: A Cancer Journal for Clinicians*, *71*(1), 7–33. https://doi.org/10.3322/CAAC.21654/FORMAT/PDF/OEBPS/PAGES/1.PAGE.XHTML

Simão, T. P., Caldeira, S., & de Carvalho, E. C. (2016). The effect of prayer on patients' health: Systematic literature review. *Religions*, *7*(1), 1–11. https://doi.org/10.3390/rel7010011

Sjolander, C., & Ahlstrom, G. (2012). The meaning and validation of social support networks for close family of persons with advanced cancer. *BMC Nursing*, *11*. https://doi.org/10.1186/1472-6955-11-17

Sleeman, K. E., Gomes, B., de Brito, M., Shamieh, O., & Harding, R. (2021). The burden of serious health-related suffering among cancer decedents: Totalprojections study to 2060. *Palliative Medicine*, *35*(1), 231–235. https://doi.org/10.1177/0269216320957561

Stiller, A., Goodwin, B. C., Crawford-Williams, F., March, S., Ireland, M., Aitken, J. F., Dunn, J., & Chambers, S. K. (2021). The Supportive Care Needs of Regional and Remote Cancer Caregivers. *Current Oncology 2021, Vol. 28, Pages 3041-3057*, *28*(4), 3041–3057. https://doi.org/10.3390/CURRONCOL28040266

Sullivan, D. R., Chan, B., Lapidus, J. A., Ganzini, L., Hansen, L., Carney, P. A., Fromme, E. K., Marino, M., Golden, S. E., Vranas, K. C., & Slatore, C. G. (2019). Association of Early Palliative Care Use With Survival and Place of Death Among Patients With Advanced Lung Cancer Receiving Care in the Veterans Health Administration. *JAMA Oncology*, *5*(12), 1702–1709. https://doi.org/10.1001/JAMAONCOL.2019.3105

Sung, H., Ferlay, J., Siegel, R. L., Laversanne, M., Soerjomataram, I., Jemal, A., & Bray, F. (2021). TotalCancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA: A Cancer Journal for Clinicians*, *71*(3), 209–249. https://doi.org/10.3322/CAAC.21660

Taylor, H. O., Taylor, R. J., Nguyen, A. W., & Chatters, L. (2018). Social Isolation, Depression, and Psychological Distress Among Older Adults. *Journal of Aging and Health*, *30*(2), 229–246. https://doi.org/10.1177/0898264316673511

Taylor, R., Ellis, J., Gao, W., Searle, L., Heaps, K., Davies, R., Hawksworth, C., Garcia-Perez, A., Colclough, G., Walker, S., & Wee, B. (2020). A scoping review of initiatives to reduce inappropriate or non-beneficial hospital admissions and bed days in people nearing the end of their life: Much innovation, but limited supporting evidence. *BMC Palliative Care*, *19*(1). https://doi.org/10.1186/s12904-020-0526-2

TIKA. (2020). *Handing over the "Turkish-Palestinian Friendship" hospital to the Palestinian government*. Retrieved October 4, 2021, from https://www.tika.gov.tr/ar/news/detail-56288

TPFH. (2022). *Turkish-Palestinian Friendship Hospital.* Retrieved October 4, 2021, from https://tpfh.ps/

Turcotte, M. (2013). *Family caregiving: What are the consequences?* Retrieved December 3, 2021, from https://www.statcan.gc.ca/

Ugarte, S. V. G., & Calderón, L. E. M. (2022). Anxiety, Depression, and Delirium in Terminally Ill Cancer Patient. *Supportive and Palliative Care and Quality of Life in Oncology*. https://doi.org/10.5772/INTECHOPEN.107325

UNCTAD. (2020). *Economic costs of the Israeli occupation for the Palestinian people: the Gaza Strip under closure and restrictionsrestrictions*. *10461*(August), 1–19.

UNRWA. (2020). *Gaza_15 years of blockade | UNRWA*. Retrieved October 22, 2021, from https://www.unrwa.org/gaza15-years-blockade

Unrwa. (2020). *HEALTH IN THE GAZA STRIP*. Retrieved October 22, 2021, from https://www.unrwa.org/activity/health-gaza-strip

van den Boogaard, W. M. C., Komninos, D. S. J., & Vermeij, W. P. (2022). Chemotherapy Side-Effects: Not All DNA Damage Is Equal. *Cancers 2022, Vol. 14, Page 627*, *14*(3), 627. https://doi.org/10.3390/CANCERS14030627

Varela, C., Young, S., Mkandawire, N., Groen, R. S., Banza, L., & Viste, A. (2019). TRANSPORTATION BARRIERS to ACCESS HEALTH CARE for SURGICAL CONDITIONS in MALAWI a cross sectional nationwide household survey. *BMC Public Health*, *19*(1), 1–8. https://doi.org/10.1186/S12889-019-6577-8/TABLES/4

Von Blanckenburg, P., & Leppin, N. (2018). Psychological interventions in palliative care. *Current Opinion in Psychiatry*, *31*(5), 389–395. https://doi.org/10.1097/YCO.0000000000000441

Wang, T., Molassiotis, A., Chung, B. P. M., & Tan, J. Y. (2018). Current research status of palliative care in Mainland China. *Journal of Palliative Care*, *33*(4), 215–241. https://doi.org/10.1177/0825859718773949

Wang, T., Molassiotis, A., Tan, J. Y., Chung, B. P. M., & Huang, H. Q. (2021). Prevalence and correlates of unmet palliative care needs in dyads of Chinese patients with advanced cancer and their informal caregivers: a cross-sectional survey. *Supportive Care in Cancer*, *29*(3), 1683–1698. https://doi.org/10.1007/S00520-020-05657-W

Wang, Y., & Feng, W. (2022). Cancer-related psychosocial challenges. *General Psychiatry*, *35*(5), 100871. https://doi.org/10.1136/GPSYCH-2022-100871

Ward, M., May, P., Normand, C., Kenny, R. A., & Nolan, A. (2021). Mortality risk associated with combinations of loneliness and social isolation. Findings from The Irish Longitudinal Study on Ageing (TILDA). *Age and Ageing*, *50*(4), 1329. https://doi.org/10.1093/AGEING/AFAB004

WHO. (2019). *Gaza patients' painful journey to cancer treatment*. Retrieved October 22, 2021, from https://www.who.int/news-room/feature-stories/detail/gaza-patients-painful-journey-to-cancer-treatment

WHO. (2020). *Palliative Care*. https://www.who.int/news-room/fact-sheets/detail/palliative-care

WHO. (2021). *Cancer*. Retrieved October 23, 2021, from https://www.who.int/health-topics/cancer#tab=tab_3

Wu, L. F., Lin, C., Hung, Y. C., Chang, L. F., Ho, C. L., & Pan, H. H. (2020). Effectiveness of palliative care consultation service on caregiver burden over time between terminally ill cancer and non-cancer family caregivers. *Supportive Care in Cancer 2020 28:12*, *28*(12), 6045–6055. https://doi.org/10.1007/S00520-020-05449-2

Yaghi, H. R., Mhesen, M., & Alwihady, M. H. (2015). *Cancer incidence in the Gaza Strip Facts & Review and Audit: Specialist pediatric oncology-hematology*.

Yang, W. F. Z., Liu, J., Chan, Y. H., Griva, K., Kuparasundram, S., & Mahendran, R. (2020). Validation of the Needs Assessment of Family Caregivers-Cancer scale in an Asian population. *BMC Psychology*, *8*(1), 1–14. https://doi.org/10.1186/S40359-020-00445-X/TABLES/5

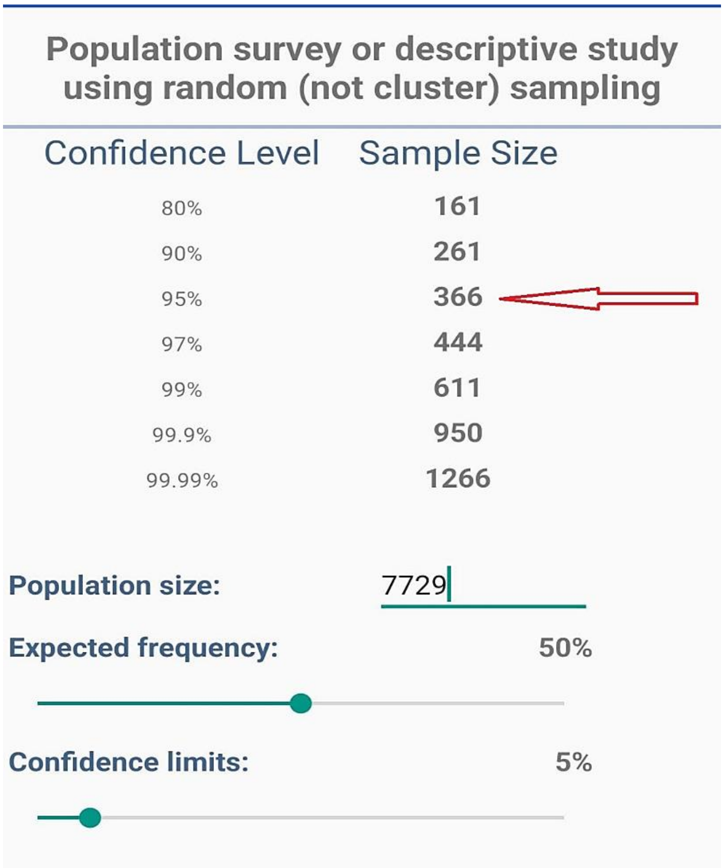
Yeager, K. A., & Quest, T. E. (2018). Living with Symptoms: A Qualitative Study of Black Adults with Advanced Cancer Living in Poverty. *Pain Management Nursing : Official Journal of the American Society of Pain Management Nurses, 19*(1), 34. https://doi.org/10.1016/J.PMN.2017.10.017

Annexes

Annex (1) Study activities time table

Activity			**1**	**2**	**3**	**4**	**5**	**6**
Proposal writing	▨	▨						
Proposal defense and approval from Helsinki Committee &MoH			▨					
Development of instruments & check for validity			▨					
Pilot Study & Modifications				▨				
Data Collection					▨	▨		
Data Entry					▨	▨		
Data cleaning & Analysis						▨	▨	
Research writing							▨	▨

Annex (2) Sample size calculation



Population survey or descriptive study using random (not cluster) sampling

Confidence Level	Sample Size
80%	161
90%	261
95%	366
97%	444
99%	611
99.9%	950
99.99%	1266

Population size: 7729

Expected frequency: 50%

Confidence limits: 5%

Annex (3): List of Arbitrators

1.	Dr. Bassam Abu Hamad	Al-Quds University
2.	Dr. Yehia Abed	Al-Quds University
3.	Dr. Esra Hamdan	Al-Quds University
4.	Dr. Asma Imam	Al-Quds University
5.	Dr. Hamza Abdeljawad	Al-Quds University
6.	Dr. Manar Nabolsi	The University of Jordan
7.	Dr. Hammoda Abu-Odah	The Hong Kong Polytechnic University
8.	Dr. Saad Abu El-Kass	university college of applied sciences
9.	Dr. Khalid Khadoura	Israa University - Gaza
10.	Dr. Ahmed A. Najim	Al Azhar University-Gaza
11.	Dr. Khaled Thabet	Oncologist
12.	Dr. Ahmed Al-Shurafa	Oncologist
13.	Dr. Zaki Zagzoog	Oncologist

Annex (4) Map of Palestine

المصدر: الجهاز المركزي للإحصاء الفلسطيني
Source: Palestinian Central Bureau of Statistics

(PCBS, 2017)

Annex (5) patient tool Arabic language

استبيان المرضى

عزيزي المشارك/ة:

انا الباحث/ محمد ناصر الخالدي اقوم بإجراء دراسة بهدف تقييم احتياجات مرضى السرطان والقائمين على رعايتهم للرعاية التلطيفية في قطاع غزة.

تُعرَّف الرعاية التلطيفية بأنها نهج يعمل على تحسن نوعية حياة المرضى وأسرهم الذين يواجهون مشاكل مرتبطة بمرض يهدد الحياة. حيث يعمل على منع المعاناة وتخفيفها من خلال التحديد المبكر والتقييم الشامل والعلاج للألم والمشاكل الأخرى، سواء كانت جسدية أو نفسية أو روحية.

تم اختيارك كأحد من يمثلون المستفيدين من الخدمة الصحية في هذا المستشفى.

أقر بأنك مشغول، لكن مساهمتك في ملء الاستبيان ستعزز جودة الخدمات المقدمة للمرضى والمرافقين.

الرجاء الإجابة على جميع بنود الاستبيان مع العلم أنه لا توجد إجابات خاطئة.

لا حاجة لكتابة اسمك مع العلم أن المعلومات التي سيتم جمعها ستستخدم فقط لأغراض البحث.

يرجى ملاحظة أن المشاركة في هذه الدراسة طوعية تمامًا ولك الحرية التامة بالانسحاب عن المشاركة في أي وقت وبدون إعطاء مبررات وأن انسحابك لن يؤثر على علاجك أو الخدمة الصحية التي تتلقاها.

شكراً لوقتك ومشاركتك في الدراسة .

الرقم المتسلسل

1- المعلومات الشخصية

الرجاء التأشير على الاختيار المتطابق معك:

الجنس	1- ذكر	2- انثى

العمر بالسنوات	

الحالة الاجتماعية	1-أعزب	2-متزوج	3-منفصل	4-أرمل

المستوى التعليمي	1. ابتدائي فأقل	2. اعدادي	3. ثانوي	4. جامعي	5. دراسات عليا

طبيعة العمل	1- يعمل	2- لا يعمل

الدخل الشهري (بالشيكل)	

مكان السكن	1. محافظة الشمال	2. محافظة غزة	3. محافظة الوسطى	4. محافظة خانيونس	5. محافظة رفح

مدة المرض منذ التشخيص	1. خلال الشهر الماضي	2. من شهر الى 12	3. من سنة الى 3 سنوات	4. أكثر من 3 سنوات

التشخيص/النوع	1. سرطان الثدي	2. سرطان القولون	3. سرطان الرئة	4. سرطان نخاع العظم
	5. سرطان البروستاتا	6. سرطان المثانة	7. سرطان الغدة الدرقية	8. سرطان الغدة اللمفاوية
	9. سرطان الدماغ العنق	10. سرطان المعدة	11. سرطان البنكرياس	12. سرطان الكبد
	أخرى، الرجاء التحديد			

مكان تلقي الخدمة	1. العيادة النهارية	2. العيادة الخارجية	3. قسم المبيت

العلاج الذي تتلقيه او تتلاقه	1. كيماوي	2. اشعاعي	3. جراحي	4. هرموني	5. زراعة نخاع العظم	6. متابعة
	أخرى، الرجاء التحديد					

☒ مشكلات واحتياجات المرضى في قسم الرعاية التلطيفية (النسخة العربية)

تعليمات لتعبئة الاستبيان: صمم هذا الاستبيان لتشخيص المشكلات التي تواجهها كمريض، *بالإضافة إلى التعرف الجوانب التي تحتاج لرعاية (إضافية) بها.*

سوف تجيب عن سؤالين عن كل بند في الاستبيان:

على اليسار: هل تعتقد أن هذا البند يُشكل مشكلة بالنسبة لك؟

على اليمين: هل تعتقد أنك بحاجة لرعاية *إضافية في هذا البند؟*

من فضلك قم *بالإجابة* على السؤالين معا

هل تعتقد أنك بحاجة لرعاية *إضافية في البند التالي؟*			**مشكلاتك ومدى احتياجك للرعاية**	*هل تعتقد أن البند التالي يُشكل مشكلة بالنسبة لك؟*		
لا	**في هذه الأثناء، نعم**	**نعم، كثيراً**		**لا**	**احياناً**	**نعم**
			الأنشطة اليومية			
1	2	3	1. العناية بالجسم أو الغسيل أو ارتداء الملابس أو المرحاض	1	2	3
1	2	3	2. التنقل الشخصي (ركوب الدراجات، قيادة السيارة، استخدام وسائل النقل العام، إلخ)	1	2	3
1	2	3	3. القيام بالأعمال المنزلية الخفيفة (ترتيب البيت، إلخ).	1	2	3
			الأعراض الجسدية			
1	2	3	4. الألم	1	2	3
1	2	3	5. التعب	1	2	3
1	2	3	6. الأرق وقلة النوم	1	2	3
1	2	3	7. ضيق التنفس	1	2	3
1	2	3	8. السعال	1	2	3
1	2	3	9. الحكة	1	2	3
1	2	3	10. العجز الجنسي	1	2	3
1	2	3	11. الإحساس بالوخز أو التنميل	1	2	3
1	2	3	12. التعرق ليلاً	1	2	3
			الكفاءة الوظيفية			
1	2	3	13. أواجه صعوبات في مواصلة الأنشطة المعتادة	1	2	3
1	2	3	14. فقدان السيطرة على الكثير من الأمور	1	2	3

1	2	3	15. الاعتماد على الآخرين	1	2	3
1	2	3	16. المعاناة من فقدان السيطرة على أمور الحياة	1	2	3
القضايا الاجتماعية						
1	2	3	17. أواجه صعوبات في العلاقة مع شريك حياتي	1	2	3
1	2	3	18. أواجه صعوبة في الحديث عن المرض مع شريك حياتي	1	2	3
1	2	3	19. أواجه صعوبة في الحديث عن المرض، بسبب عدم تقبلي لفكرة الحديث عن المرض	1	2	3
1	2	3	20. اوجه صعوبة من اشخاص غير المرضى غير متقبلين للحديث عن المرض	1	2	3
1	2	3	21. أواجه صعوبة في العثور على شخص للتحدث معه (صديق مقرب)	1	2	3
القضايا النفسية						
1	2	3	22. الشعور بالإحباط	1	2	3
1	2	3	23. الخوف من المعاناة الجسدية	1	2	3
1	2	3	24. الخوف من انتشار المرض	1	2	3
1	2	3	25. القلق والخوف من المستقبل	1	2	3
1	2	3	26. أواجه صعوبات في إظهار مشاعري	1	2	3
القضايا الروحانية						
1	2	3	27. أواجه صعوبات في الانسجام بشكل جيد	1	2	3
1	2	3	28. أواجه صعوبات في كوني عديم الفائدة للأخرين	1	2	3
1	2	3	29. أخاف من الموت	1	2	3
1	2	3	30. أواجه صعوبات بتقبل مرضي	1	2	3
المشكلات المالية						
1	2	3	31. نفقات اضافية بسبب المرض	1	2	3
1	2	3	32. فقدت دخلي بسبب المرض	1	2	3
الحاجة للمعلومات والارشادات						
1	2	3	33. أشعر أن المعلومات التي تقدم لي حول المرض وعلاجه غير كافية.	1	2	3

هل تعتقد أن هناك أمور مهمة لم يتم التطرق لها في هذه البنود؟ الرجاء قم بكتابتها بالأسفل.

Annex (6) Family caregiver tool Arabic language

استبيان مقدم الرعاية الاسرية

عزيزي المشارك/ة:

انا الباحث/ محمد ناصر الخالدي اقوم بإجراء دراسة بهدف تقييم احتياجات مرضى السرطان والقائمين على رعايتهم للرعاية التلطيفية في قطاع غزة.

تُعرَّف الرعاية التلطيفية بأنها نهج يعمل على تحسن نوعية حياة المرضى وأسرهم الذين يواجهون مشاكل مرتبطة بمرض يهدد الحياة. حيث يعمل على منع المعاناة وتخفيفها من خلال التحديد المبكر والتقييم الشامل والعلاج للألم والمشاكل الأخرى، سواء كانت جسدية أو نفسية أو روحية.

تم اختيارك كأحد من يمثلون المستفيدين من الخدمة الصحية في هذا المستشفى.

أقر بأنك مشغول، لكن مساهمتك في ملء الاستبيان ستعزز جودة الخدمات المقدمة للمرضى والمرافقين.

الرجاء الإجابة على جميع بنود الاستبيان مع العلم أنه لا توجد إجابات خاطئة.

لا حاجة لكتابة اسمك مع العلم أن المعلومات التي سيتم جمعها ستستخدم فقط لأغراض البحث.

يرجى ملاحظة أن المشاركة في هذه الدراسة طوعية تمامًا ولك الحرية التامة بالانسحاب عن المشاركة في أي وقت وبدون إعطاء مبررات وأن انسحابك لن يؤثر على علاجك أو الخدمة الصحية التي تتلقاها.

شكراً لوقتك ومشاركتك في الدراسة .

الرقم التسلسلي

☐☐☐

1- المعلومات الشخصية

الرجاء التأشير على الاختيار المتطابق معك:

الجنس	3- ذكر	4- انثى

العمر بالسنوات	

الحالة الاجتماعية	1. أعزب	2. متزوج	3. منفصل	4. أرمل

المستوى التعليمي	1. ابتدائي فأقل	2. اعدادي	3. ثانوي	4. جامعي	5. دراسات عليا

طبيعة العمل	1- يعمل	2- لا يعمل

الدخل الشهري (بالشيكل)	

مكان السكن	1. محافظة الشمال	2. محافظة غزة	3. محافظة الوسطى	4. محافظة خانيونس	5. محافظة رفح

مدة المرافقة	1. خلال الشهر الماضي	2. من شهر الى 12	3. من سنة الى 3 سنوات	4. أكثر من 3 سنوات

هل تناوبت على رعاية المريض مع مرافقين اخرين خلال فترة المرافقة؟	1. لا يوجد بديل	2. يتم التبديل من حين الى اخر	3. يتم التبديل بشكل دوري

علاقتك مع المريض	1- ابن/ ابنة	2- اخ/اخت	3- زوج/زوجة	4- ام/اب
	أخرى، الرجاء التحديد			

البند	**التقييم**			
	لا حاجة	احتياج قليل	احتياج متوسط	احتياج كبير
مشاكل صحية ونفسية				
1. كنت بحاجة الى المساعدة في مشاكلي الصحية	0	1	2	3
2. كنت بحاجة إلى مساعدة بخصوص مخافتي على المريض	0	1	2	3
3. كنت بحاجة الى المساعدة بخصوص الاكتئاب	0	1	2	3
4. كنت بحاجة للمساعدة عند الشعور بالغضب أو الانفعال أو العصبية	0	1	2	3
5. كنت بحاجة للمساعدة عند الشعور بالوحدة أو العزلة	0	1	2	3
6. كنت بحاجة للمساعدة عند الشعور بالقلق الغير معروف الاسباب	0	1	2	3
الدعم الأسري/ المجتمعي				
7. كنت بحاجة للمساعدة في الاعتماد المفرط للمريض	0	1	2	3
8. كنت بحاجة للمساعدة في عدم تقدير المريض للرعاية	0	1	2	3
9. كنت بحاجة للمساعدة في مواجهة الصعوبات المتعلقة بالعلاقات الأسرية بعد تشخيص السرطان	0	1	2	3
10. كنت بحاجة للمساعدة في مواجهة الصعوبات في العلاقات الشخصية بعد تشخيص السرطان	0	1	2	3
11. كنت بحاجة للمساعدة في الاسترخاء وممارسة حياتي الشخصية	0	1	2	3
طاقم الرعاية الصحية				
12. كنت بحاجة إلى أن يحترمني الطبيب ويعاملني كشخص	0	1	2	3
13. كنت بحاجة إلى أن يكون الطبيب واضحًا ومحددًا وصادقًا في عمله	0	1	2	3
14. كنت بحاجة لرؤية الطبيب بسرعة وسهولة عند الحاجة	0	1	2	3
15. كنت بحاجة إلى المشاركة في عملية صنع القرار في اختيار أي فحوصات أو علاجات يتلقها المريض	0	1	2	3
16. كنت بحاجة إلى التعاون والتواصل المشترك بين العاملين في مجال الرعاية الصحية	0	1	2	3

	لا حاجة	احتياج قليل	احتياج متوسط	احتياج كبير
17. كنت بحاجة إلى مزيد من الاهتمام الصادق والتعاطف من التمريض	0	1	2	3
18. كنت بحاجة للتوضيح من قبل الممرض حول العلاج والرعاية التي تقدم للمريض	0	1	2	3
19. كنت بحاجة إلى التمريض للاهتمام على الفور بالمريض عند الشعور بعدم الراحة أو الشعور بالألم.	0	1	2	3
الحاجة الى المعلومات				
20. كنت بحاجة إلى معلومات اضافية حول الوضع الحالي لمرض المريض ومساره المستقبلي	0	1	2	3
21. كنت بحاجة إلى معلومات حول الفحوصات والعلاج	0	1	2	3
22. كنت بحاجة إلى معلومات حول كيفية رعاية المريض (علاج الأعراض، والنظام الغذائي، والتمارين الرياضية، وما إلى ذلك)	0	1	2	3
23. كنت بحاجة إلى إرشادات أو معلومات حول الطب التكميلي او البديل	0	1	2	3
24. كنت بحاجة إلى معلومات حول المستشفيات أو العيادات والأطباء الذين يعالجون السرطان	0	1	2	3
25. كنت بحاجة للمعلومات الكافية عن الدعم المالي وتكاليف العلاج المقدمة سواء من المؤسسات الحكومية او المؤسسات الخاصة.	0	1	2	3
26. كنت بحاجة للمساعدة في التواصل مع المريض أو أفراد الأسرة الآخرين	0	1	2	3
27. كنت بحاجة إلى معلومات حول التعامل مع الإجهاد المرتبط بتقديم الرعاية	0	1	2	3
الدعم الروحاني/ الديني				
28. كنت بحاجة إلى دعم ديني.	0	1	2	3
29. كنت بحاجة للمساعدة في ايجاد معنى وتفسير للوضع الحالي والتأقلم معه	0	1	2	3
مرافق وخدمات المستشفى				
30. أنا بحاجة لطاقم صحي ذو كفاءة عالية ليقدموا للمريض العلاج، الاستشارات، التعليمات، والتوصيات طوال فترة العلاج.	0	1	2	3
31. كنت بحاجة إلى إرشادات حول مرافق وخدمات المستشفى	0	1	2	3

32. كنت بحاجة إلى مساحة مخصصة لمقدمي الرعاية داخل المستشفى	0	1	2	3
33. كنت بحاجة إلى خدمة الزيارات المنزلية من قبل التمريض	0	1	2	3
34. كنت بحاجة إلى فرصة لتبادل الخبرات أو المعلومات مع مقدمي الرعاية الآخرين	0	1	2	3
	لا حاجة	**احتياج قليل**	**احتياج متوسط**	**احتياج كبير**
35. كنت بحاجة إلى خدمات الرعاية مثل الإرشاد النفسي لمقدمي الرعاية	0	1	2	3
الدعم العملي				
36. كنت بحاجة إلى خدمة نقل للوصول من وإلى المستشفى	0	1	2	3
37. كنت بحاجة أن يكون العلاج بالقرب من منزل المريض	0	1	2	3
38. كنت بحاجة إلى أن تكون خدمات الإقامة بالقرب من المستشفى حيث كان المريض يعالج	0	1	2	3
39. كنت بحاجة للمساعدة في العبء الاقتصادي الناجم عن السرطان	0	1	2	3
40. كنت بحاجة إلى شخص ما لمساعدتي في التدبير المنزلي و / أو رعاية الأطفال	0	1	2	3
41. كنت بحاجة إلى مساعدة لتقديم الرعاية في المستشفى أو في المنزل	0	1	2	3

Annex (7) dass21 tool Arabic language

مقياس الاكتئاب والقلق والتوتر - 21 عنصرًا

اقرأ كل من النصوص التالية ثم ضع دائرة حول الرقم 2,1,0 أو 3 الذي يبين درجة انطباق هذا الشعور عليك في الأسبوع

الماضي. لا يوجد إجابات صحيحة أو خاطئة. لا تقضي وقتاً طويلاً في أي منها.

استعمل التقديرات التالية:

0 . لا ينطبق علي بتاتاً

1. ينطبق علي بعض الشيء أو قليلاً من الأوقات

2. ينطبق على بدرجة ملحوظة أو بعض الأوقات

3. ينطبق علي كثراً جداً؛ أو معظم الأوقات

		لا ينطبق	ينطبق قليلا	ينطبق بعض الوقت	ينطبق دائما
1.	وجدت صعوبة في الاسترخاء والراحة	0	1	2	3
2.	شعرت بجفاف في حلقي	0	1	2	3
3.	لم يبدو لي ان بإمكاني الإحساس بمشاعر إيجابية على الاطلاق	0	1	2	3
4.	شعرت بصعوبة في التنفس (شدة التنفس السريع، اللهثان بدون القيام بمجهود جسدي مثلا)	0	1	2	3
5.	وجدت صعوبة في اخذ المبادرة بعمل الأشياء	0	1	2	3
6.	كنت اميل الى ردة فعل مفرطة للظروف والأحداث	0	1	2	3
7.	شعرت برجفة (باليدين مثلا)	0	1	2	3
8.	شعرت بأنني أستهلك الكثير في الطاقة العصبية (شعرت بأنني استهلك الكثير من قدرتي على تحمل التوتر العصبي)	0	1	2	3
9.	كنت خائفا من مواقف قد أفقد فيها السيطرة على أعصابي واسبب احراجا لنفسي	0	1	2	3
10.	شعرت بأن ليس لدي أي شيء أتطلع اليه	0	1	2	3
11.	شعرت بأنني مضطرب ومنزعج	0	1	2	3
12.	أجد صعوبة في الاسترخاء	0	1	2	3
13.	شعرت بالحزن والغم	0	1	2	3
14.	كنت لا أستطيع تحمل أي شيء يحول بيني وبين ما ارغب في القيام به	0	1	2	3
15.	شعرت بأنني على وشك الوقوع في حالة من الرعب المفاجئ بدون سبب	0	1	2	3

		لا ينطبق	ينطبق قليلا	ينطبق بعض الوقت	ينطبق دائما
16.	فقدت الشعر بالحماس لأي شيء	0	1	2	3
17.	شعرت بأن قيمتي قليلة كشخص	0	1	2	3
18.	شعرت بأنني اميل الى الغيظ بسرعة	0	1	2	3
19.	شعرت بضربات قلبي بدون مجهود جسدي (زيادة في معدل الدقات، او غياب دقة قلب، مثلا)	0	1	2	3
20.	شعرت بالخوف بدون أي سبب وجيه	0	1	2	3
21.	شعرت بأن الحياة ليس لها معنى	0	1	2	3

Annex (8) patient tool English language

Patient questionnaire

Dear participant:

I am the researcher/ Muhammad Nasser Al-Khaldi. I am conducting a study with the aim of assessing the needs of cancer patients and their caregivers for palliative care in the Gaza Strip.

Palliative care is defined as an approach that improves the quality of life for patients and their families who are facing problems associated with a life-threatening illness. It works to prevent and alleviate suffering through the early identification, comprehensive evaluation and treatment of pain and other problems, whether physical, psychological or spiritual.

You have been selected as one of the beneficiaries representing the health service in this hospital.

I acknowledge that you are busy, but your contribution to filling out the questionnaire will enhance the quality of services provided to patients and companions.

Please answer all items in the questionnaire knowing that there are no wrong answers.

No need to write your name knowing that the information that will be collected will only be used for research purposes.

Please note that participation in this study is completely voluntary and you are free to withdraw from participation at any time without giving justification and that your withdrawal will not affect your treatment or health service.

Thank you for your time and participation in the study.

Serial Number

gender	1- male	2- female

age	

Marital status	2. Single	2. Married	3. Separated	4. Widowed

Education level	1. primary or less	1. preparatory	3.secondary	4. university	5. postgraduate

Work	1. working	2. not working

Monthly income (in shekels)	

duration of diagnosis	1.During the last month	2.From one month to 12 months	3.From one year to 3 years	4.More than 3 years

Place of residence	1. North Governorate	2. Gaza Governorate	3. Central Governorate	4. Khan Yunis Governorate	5. Rafah Governorate

diagnosis	1. Breast cancer	2. Colon cancer	3. Lung cancer	4. Bone marrow cancer	5. Prostate cancer
	6. Bladder cancer	7. Thyroid cancer	8. Lymphoma	9. Neck Brain Cancer	10. Stomach Cancer
	11. Pancreatic Cancer	12. Liver Cancer	**Other, please specify**................................		

Place of receiving the service	1.The day clinic	2.The outpatient clinic	3.The overnight ward

The treatment you receive	1. Chemotherapy	2. Radiation	3. Surgical	4. Hormonal	5.Bone marrow transplant	6.Follow-up
	Other, please specify					

Problems and Needs in Palliative Care- short version (PNPC-sv),English version

Instruction: This questionnaire is designed to clarify what problems you experience, and forwhat issues you need (extra) attention or care.

At each item, you will be asked 2 questions:

Left: Do you experience the item to be a **problem**?

Right: Do you need (extra) professional **attention** for the item?

So please provide 2 answers at each item!

Is this a problem?			**Your problems and needs for care**	**Do you want Professional attention for this?**		
Yes	**Some-what**	**No**		**Yes, more**	**As much as now**	**No**
			Daily activities			
			Body care, washing, dressing, or toilet			
			Personal transportation (cycling, driving a car, using public transportation etc.)			
			Doing light housework (tidying up, etc.)			
			Physical symptoms			
			pain			
			Fatigue			
			Sleeping problems			
			Shortness of breath			
			Cough			
			Itch			
			Sexual dysfunction			
			Prickling or numb sensation			
			(Nightly) Sweating or hot flushes			
			Autonomy			
			Difficulties in continuing the usual activities			
			Difficulty to give tasks out of hands			
			Being dependent of others			
			Experiencing loss of control over one’s life			
			Social issues			
			Problems in the relationship with life companion			
			Difficulties in talking about the disease with life companion			
			Finding it difficult to talk about the disease, because of not receptive to talking about the disease			

			Difficulties in finding someone to talk to (confidant)			
Psychological issues						
			Depressed mood			
			Fear of physical suffering			
			Fear of metastases			
			Difficulty coping with the unpredictability of the future			
			Difficulties to show emotions			
Spiritual issues						
			Difficulties to be engaged usefully			
			Difficulties to be avail for others			
			Difficulties concerning the meaning of death			
			Difficulties to accept the disease			
Financial problem						
			Extra expenditures because of the disease			
			Loss of income because of the disease			
Need of information						
			Insufficient information e.g. about the disease and its treatment, aids and agencies that can provide help, alternative healing methods, etc.			
			Are important issues missing from this list? Please add your personal issues below!			
			1.			
			2.			
			3.			
			4.			
			5.			

Annex (9) family caregiver tool English language

Family caregiver questionnaire

Dear participant:

I am the researcher/ Muhammad Nasser Al-Khaldi. I am conducting a study with the aim of assessing the needs of cancer patients and their caregivers for palliative care in the Gaza Strip.

Palliative care is defined as an approach that improves the quality of life for patients and their families who are facing problems associated with a life-threatening illness. It works to prevent and alleviate suffering through the early identification, comprehensive evaluation and treatment of pain and other problems, whether physical, psychological or spiritual.

You have been selected as one of the beneficiaries representing the health service in this hospital.

I acknowledge that you are busy, but your contribution to filling out the questionnaire will enhance the quality of services provided to patients and companions.

Please answer all items in the questionnaire knowing that there are no wrong answers.

No need to write your name knowing that the information that will be collected will only be used for research purposes.

Please note that participation in this study is completely voluntary and you are free to withdraw from participation at any time without giving justification and that your withdrawal will not affect your treatment or health service.

Thank you for your time and participation in the study.

Serial Number

☐☐☐

gender	1- Male	2- Female

age	

Marital status	1. Single	2. Married	3. Separated	4. Widowed

Education level	1. primary or less	2. preparatory	3. secondary	4. university	5. postgraduate

Work	1. working	2. not working

Monthly income (in shekels)	

Place of residence	1. North Governorate	2. Gaza Governorate	3. Central Governorate	4. Khan Yunis Governorate	5. Rafah Governorate

Accompanying period	1.During the last month	2.From one month to 12 months	3.From one year to 3 years	4.More than 3 years

Did you take turns caring for the patient with other companions during the period of companionship؟	1. no alternative	2. Switching is done from time to time	3. Switching is done periodically

relationship with the patient	1. Son/daughter	2. Brother/sister	3. Husband/wife	4. Mother/father
	Other, please specify			

Item	Rating			
	High need	Moderate need	Low need	No need
health and psychological problems				
1. I need help with my own health problems	0	1	2	3
2. I need help with concerns about the patient	0	1	2	3
3. I need help with depression	0	1	2	3
4. I need help with feelings of anger, irritability, or nervousness	0	1	2	3
5. I need help with loneliness or feelings of isolation	0	1	2	3
6. I need help with feelings of vague anxiety	0	1	2	3
family/ social support				
7. I need help with patient over-dependence	0	1	2	3
8. I need help with patient lack of appreciation of the caregiving	0	1	2	3
9. I need help with difficulties in family relationships after cancer diagnosis	0	1	2	3
10. I need help with difficulties in interpersonal relationship after cancer diagnosis	0	1	2	3
11. I need help with my own relaxation and my personal life	0	1	2	3
Health-care staff				
12. I need Being respected and treated as a person by my doctor	0	1	2	3
13. I need Doctor to be clear, specific, and honest in his/her explanation	0	1	2	3
14. I need to See the doctor quickly and easily when in need	0	1	2	3
15. I need Being involved in the decision-making process in choosing any tests or treatments that the patient receive	0	1	2	3
16. I need cooperation and communication among health-care staff	0	1	2	3
17. I needed Sincere interest and empathy from my nurse	0	1	2	3
18. I need Nurses to explain treatment or care that is being given to the patient	0	1	2	3
19. I need Nurses to promptly attend to patient discomfort and pain	0	1	2	3
information needs				
20. I need Information about the current status of a patient’s illness and its future course	0	1	2	3
21. I need Information about tests and treatment	0	1	2	3
22. I need Information about caring for the patient (symptom management, diet, exercise, etc.)	0	1	2	3

23. I need Guidelines or information about complementary and alternative medicine	0	1	2	3
24. I need Information about hospitals or clinics and physicians who treat cancer	0	1	2	3
25. I need Information about financial support for medical expenses, either from government and/or private organizations	0	1	2	3
26. I need Help with communication with the patient and/or other family members	0	1	2	3
27. I needed Information about caregiving-related stress management	0	1	2	3
Religious/ spiritual support				
28. I need Religious support	0	1	2	3
29. I need help in finding the meaning of my situation and coming to terms with it	0	1	2	3
Hospital facilities & services				
30. I need a designated hospital staff member who would be able to provide counselling for any concerns, and guidance with the course of the treatment, from the point of diagnosis to the period after discharge	0	1	2	3
31. I need guidance about hospital facilities and services	0	1	2	3
32. I need a space reserved for caregivers within the hospital	0	1	2	3
33. I need a visiting nurse service for home	0	1	2	3
34. I need the opportunity to share experiences or information with other caregivers	0	1	2	3
35. I need Welfare services (e.g. psychological counselling) for caregivers	0	1	2	3
Practical support				
36. I need a transportation service for getting to and from the hospital	0	1	2	3
37. I need the treatment to be near home for the patient	0	1	2	3
38. I need accommodation services near the hospital where the patient was being treated	0	1	2	3
39. I need help with the economic burden caused by cancer	0	1	2	3
40. I need Someone to help me with housekeeping and/or child care	0	1	2	3
41. I need assisted care in hospital or at home	0	1	2	3

Annex (10) Qualitative Interview Guide: Caregiver

نقدر مشاركتكم في هذه المقابلة!

كما ناقشنا مسبقاً، سيتم تسجيل هذه المقابلة صوتيًا حتى نتمكن من مراجعة ردودك بعد هذه المقابلة على أن تبقى جميع ردودك سرية، ولن تتم مشاركة أي شيء من الردود مع الفريق الطبي أو توثيقه في السجل الطبي. هل أنت موافق على تسجيل هذه المقابلة بالصوت؟

الغرض من هذه المقابلة هو فهم تجربتكم بخصوص تقديم الرعاية الصحية لأحد أحبتكم طوال فترة مرضه، والطرق التي يمكننا بها دعم المرضى بشكل أفضل. السبب في أننا نطلب منكم تقديم صوتكم لهذه المقابلة هو لأنكم خبراء في كونكم مقدمين رعاية لشخص مصاب بمرض السرطان.

ستستغرق هذه المقابلة حوالي 30 دقيقة. إذا كان لديك سؤال في أي وقت، أو ترغب في أخذ قسط من الراحة، فيرجى إبلاغي بذلك. هل لديك أي أسئلة قبل البدء؟

الجنس : **العمر :**

المهنة: **مدة المرافقة:**

علاقتك مع المريض:

خبرات عامة

1. كيف كانت تجربتك منذ أن أصبحت مقدم الرعاية الأساسي لمن تحب؟

الاضطراب النفسي الاجتماعي والتأقلم

2. هل يمكنك أن تخبرني عن بعض المخاوف التي كانت لديك منذ تشخيص أحد أفراد أسرتك؟

الاضطراب الفسيولوجي

3. من الممكن أن يكون هناك عبء جسدي على مقدم الرعاية الأساسي لشخص آخر. هل تعتقد أن كونك مقدم الرعاية لأحبائك قد أثرعلى صحتك الجسدية؟

الدعم والتواصل

4. بالتفكير في الوقت الذي أصبحت فيه مقدم رعاية لأحبائك لأول مرة، هل هناك أي شيء من الممكن أن يكون مفيداً تتمنى أن تعرفه وما هي أنواع الدعم التي كانت مفيدة لك؟

الحاجة للمعلومات:

5. بصفتك مقدم رعاية للأسرة، ما نوع المعلومات التي تحتاجها / تحتاجها منذ أن عرفت تشخيص المريض؟

- ما هي المعلومات الأكثر أهمية بالنسبة لك؟
- لماذا تعتقد / تعتقد أن المعلومات مهمة؟

تصورات ومواقف حول الرعاية التلطيفية

نأمل في معرفة ما إذا كانت الرعاية التلطيفية قد تساعد المرضى والقائمين على رعايتهم في مواجهة ضغوطات وتحديات إدارة مرض السرطان.

1. هل مررت أنت أو أحد أفراد أسرتك بأي تجارب مع الرعاية التلطيفية من قبل؟

نعم **لا**

2. عندما تسمع مصطلح "الرعاية التلطيفية"، ما هي الأفكار والمشاعر التي تتبادر إلى ذهنك؟
3. بالإضافة إلى الرعاية التي يتلقاها المرضى بالفعل لمرض السرطان، ما أنواع المساعدة والدعم الأخرى التي تعتقد أن مرضى السرطان بحاجة إليها؟

- هل هناك أي شيء آخر تود مناقشته أو إخبارنا به قبل إنهاء المقابلة؟

يقودنا هذا إلى نهاية المقابلة. نحن نقدر بشدة وقتك وتعليقاتك المفيدة في الإجابة على هذه الأسئلة. شكرا لك!

Annex (11) Helsinki Committee Approval Letter

المجلـس الفلسطيــني للبحـــث الصحــــي

Palestinian Health Research Council

تعزيز النظام الصحي الفلسطيني من خلال مأسسة استخدام المعلومات البحثية في صنع القرار

Developing the Palestinian health system through institutionalizing the use of information in decision making

Helsinki Committee

For Ethical Approval

Date: 07/02/2022 **Number:** PHRC/HC/1050/22

Name: mohammed Nasser Alkhaldi الاسم:

We would like to inform you that the committee had discussed the proposal of your study about:

نفيدكم علماً بأن اللجنة قد ناقشت مقترح دراستكم حول:

Assessing patients with cancer and their caregivers needs for palliative care in the Gaza Strip

The committee has decided to approve the above mentioned research. Approval number PHRC/HC/1050/22 in its meeting on 07/02/2022

و قد قررت الموافقة على البحث المذكور عاليه بالرقم والتاريخ المذكوران عاليه

Signature

Member د/ خالد

Member

Chairman

2

7 2022

Genral Conditions:-

1. Valid for 2 years from the date of approval.
2. It is necessary to notify the committee of any change in the approved study protocol.
3. The committee appreciates receiving a copy of your final research when completed.

Specific Conditions:-

E-Mail:pal.phrc@gmail.com

Gaza - Palestine غزة - فلسطين

شارع النصر - مفترق العيون

Annex (12) Administrative approval from Al-Quds University

Al-Quds University
Jerusalem
School of Public Health

جامعة القدس
القدس
كلية الصحة العامة

التاريخ: 2022/4/3

حضرة الأستاذ/ جهاد عكاشة المحترم
مدير دائرة البحث الصحي–وزارة الصحة

تحية طيبة وبعد،،،

الموضوع: مساعدة الطالب محمد الخالدي

نشكر لكم دعمكم الدائم لمسيرة العلم والتعليم وخصوصاً دعم كلية الصحة العامة وطلابها، ونود أعلامكم بأن الطالب المذكور أعلاه يقوم بعمل بحث كمتطلب للحصول على درجة الماجستير في الصحة العامة– مسار علم الأوبئة بعنوان:

"Assessing patients with cancer and their caregivers needs for palliative care in the Gaza Strip"

وعليه نرجو التكرم بالموافقة على تسهيل مهمة الطالب في إنجاز هذا البحث حيث أن الفئه المستهدفة هم المرضى والمرافقين لهم في مستشفى الصداقة التركي، وسيتم جمع المعلومات من خلال استبانة تم اعدادها.

و اقبلوا فائق التحية و الاحترام،،،

د. بسام أبو حمد
منسق عام برامج الصحة العامة
فرع غزة

نسخة:
- الملف

Jerusalem Branch/Telefax 02-2799234
Gaza Branch/Telefax 08-2644220 -2644210
P.O. box 51000 Jerusalem

فرع القدس / تلفاكس 02-2799234
فرع غزة / تلفاكس 08-264420-2644210
ص.ب. 51000 القدس

Annex (13) Administrative consent from the ministry of health

State of Palestine
Ministry of health

دولة فلسطين
وزارة الصحة

التاريخ:05/04/2022
رقم المراسلة 931253

السيد : جهاد عبدالقادر عكاشه المحترم

مدير دائرة /الإدارة العامة للوحدات الإدارية المساعدة /وزارة الصحة

السلام عليكم ...

الموضوع/ تسهيل مهمة الباحث محمد ناصر موسى الخالدي

التفاصيل //
السلام عليكم
نهديكم أطيب التحيات ونود منكم تسهيل مهمة الباحث/ة محمد ناصر موسى الخالدي الملتحق/ة ببرنامج ماجستير الصحة العامة- جامعة القدس في إجراء بحث بعنوان
Assessing patients with cancer and their caregivers needs for palliative care in the Gaza Strip
حيث الباحث/ة بحاجة لتعبئة استبانة من عدد من العاملين والمرضى المراجعين في مرافق وزارة الصحة (مستشفى الصداقة التركي) دون أخذ عينات دم، بما لا يتعارض مع مصلحة العمل وضمن أخلاقيات البحث العلمي، ودون تحمل الوزارة أي أعباء أو مسئولية

وتفضلوا بقبول التحية والتقدير،

ملاحظات /
تسهيل المهمة الخاص بالدراسة أعلاه صالح لمدة 3 أشهر من تاريخه.
يرجي التأكد من توافق الاستبانة المرفقة والتي يتم تعبئتها ميدانيا على ان لا يتم أي إضافة او تعديل على الإستبانة المرفقة

علي حسن البلبيسي
حكيم جامعي

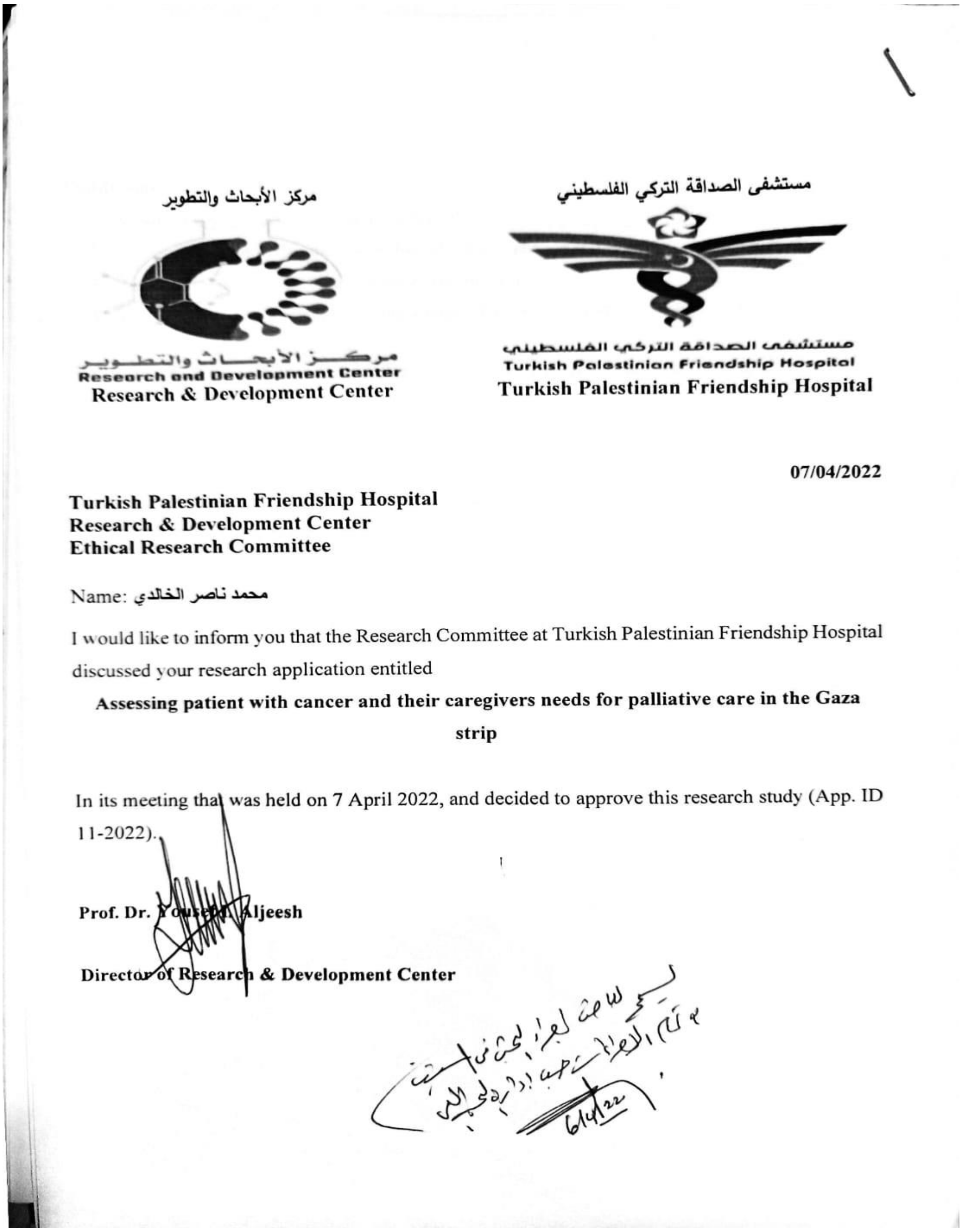
المرفقات

- استبانة محمد الخالدي pdf.2
- استبانة محمد الخالدي pdf.1

Gaza Tel. (+970) 8-2846949
Fax. (+970) 8-2826295

غزة تلفون. (970+) 8-2846949
فاكس. (970+) 8-2826295

Annex (14) administrative approval from ministry of Turkish-Palestinian Friendship Hospital



مركز الأبحاث والتطوير

مركـــز الأبحـــاث والتطـــويــر
Research and Development Center
Research & Development Center

مستشفى الصداقة التركي الفلسطيني

مستشفى الصداقة التركي الفلسطيني
Turkish Palestinian Friendship Hospital
Turkish Palestinian Friendship Hospital

07/04/2022

Turkish Palestinian Friendship Hospital
Research & Development Center
Ethical Research Committee

Name: محمد ناصر الخالدي

I would like to inform you that the Research Committee at Turkish Palestinian Friendship Hospital discussed your research application entitled

Assessing patient with cancer and their caregivers needs for palliative care in the Gaza strip

In its meeting that was held on 7 April 2022, and decided to approve this research study (App. ID 11-2022).

Prof. Dr. Yousef M. Aljeesh

Director of Research & Development Center

يسمح للباحث إجراء البحث في المستشفى
مع تمام الإجراءات حسب إدارة المجمع
6/4/22

Annex (15) :Post Hoc test for family caregivers

Table (1) Post Hoc test of the means of significant difference domains related to their Take turns caring for the patient with other escorts during the escort period

Dependent Variable	(I) Take turns caring for the patient with other escorts during the escort period	(J) Take turns caring for the patient with other escorts during the escorting period	Mean Difference (I-J)	Std. Error	P-value	95% Confidence Interval	
						Lower	Upper
3. Health-care staff	There is no alternative	Switches from time to time	-0.24	0.10	0.019*	-0.45	-0.04
		It is switched periodically	0.09	0.16	0.584	-0.22	0.39
	Switches from time to time	There is no alternative	0.24	0.10	0.019*	0.04	0.45
		It is switched periodically	0.33	0.16	0.038*	0.02	0.64
	It is switched periodically	There is no alternative	-0.09	0.16	0.584	-0.39	0.22
		Switches from time to time	-0.33	0.16	0.038*	-0.64	-0.02
4. Information needs	There is no alternative	Switches from time to time	-0.26	0.09	0.005*	-0.44	-0.08
		It is switched periodically	0.09	0.14	0.534	-0.19	0.36
	Switches from time to time	There is no alternative	0.26	0.09	0.005*	0.08	0.44
		It is switched periodically	0.34	0.14	0.015*	0.07	0.62
	It is switched periodically	There is no alternative	-0.09	0.14	0.534	-0.36	0.19
		Switches from time to time	-0.34	0.14	0.015	-0.62	-0.07
5. Religious/ spiritual support	There is no alternative	Switches from time to time	-0.21	0.12	0.074	-0.45	0.02
		It is switched periodically	0.35	0.18	0.053	0.00	0.70
	Switches from time to time	There is no alternative	0.21	0.12	0.074	-0.02	0.45
		It is switched periodically	0.56	0.18	0.002*	0.20	0.92
	It is switched periodically	There is no alternative	-0.35	0.18	0.053	-0.70	0.00
		Switches from time to time	-0.56	0.18	0.002	-0.92	-0.20

The results illustrated the Post Hoc test of mean difference in Domain 3: Health-care staff, Domain 4: Information needs & Domain: 5. Religious/ spiritual support regarding caring for the patient with other escorts during the escorting period (P<0.05). The results showed that the average of Domain 3: Health-care staff, Domain 4: Information needs & Domain 5: Religious/ spiritual support regarding caring for the patient with other escorts during the escorting period among switched periodically is higher statistically significant compared to switches from time-to-time levels.

Also, the results showed that the average of Domain 3: Health-care staff, &Domain 4: Information needs regarding caring for the patient with other escorts during the escorting period among switched periodically is higher statistically significant compared to the no alternative.

In contrast, the results showed that it is not statistically significantly different in the average of other studied domains regarding taking turns caring for the patient with other escorts during the escorting period. In my view, this is because the family caregivers who stay in their roles for a longer period of time, and the lack of an alternative strengthens the caregiver's knowledge of the patient's condition and their dependence on the medical team, which increases their spiritual status.

Table (2) Post Hoc test of the means of significant difference domains related to their age

Dependent Variable	(I) Age groups (years)	(J) Age groups (years)	Mean Difference (I-J)	Std. Error	P-value	95% Confidence Interval	
						Lower	**Upper**
2. Family/ social support	30 years or less	31-40	-0.31	0.12	0.012*	-0.55	-0.07
		41-50	-0.30	0.12	0.012*	-0.53	-0.07
		More than 50	-0.28	0.13	0.029*	-0.52	-0.03
	31-40	30 years or less	0.31	0.12	0.012*	0.07	0.55
		41-50	0.01	0.12	0.904	-0.23	0.26
		More than 50	0.04	0.13	0.785	-0.22	0.29
	41-50	30 years or less	0.30	0.12	0.012*	0.07	0.53
		31-40	-0.01	0.12	0.904	-0.26	0.23
		More than 50	0.02	0.13	0.868	-0.23	0.27
	More than 50	30 years or less	0.28	0.13	0.029*	0.03	0.52
		31-40	-0.04	0.13	0.785	-0.29	0.22
		41-50	-0.02	0.13	0.868	-0.27	0.23
6. Hospital facilities & services	30 years or less	31-40	-0.39	0.12	0.002*	-0.63	-0.15
		41-50	-0.19	0.12	0.114	-0.42	0.05
		More than 50	0.07	0.13	0.568	-0.18	0.32
	31-40	30 years or less	0.39	0.12	0.002*	0.15	0.63
		41-50	0.20	0.13	0.107	-0.04	0.45
		More than 50	0.46	0.13	0.001	0.20	0.72
	41-50	30 years or less	0.19	0.12	0.114	-0.05	0.42
		31-40	-0.20	0.13	0.107	-0.45	0.04
		More than 50	0.26	0.13	0.042*	0.01	0.51
	More than 50	30 years or less	-0.07	0.13	0.568	-0.32	0.18
		31-40	-0.46	0.13	0.001*	-0.72	-0.20
		41-50	-0.26	0.13	0.042*	-0.51	-0.01

The results illustrated the Post Hoc test of mean difference in Domain 2: Family/ social support & Domain 6: Hospital facilities & services regarding age (P<0.05). The results showed that the average of Domain 2: Family/ social in age groups 30 years or less is lower statistically significant compared to other groups (P<0.05). Also, the results showed that the average of Domain 6: Hospital facilities & services in the age group 30 years or less are lower statistically significant compared to the group aged 31 to 40 years; and the results showed that the average of Domain 6: Hospital facilities & services in the age group 30 years or less is lower statistically significant compared to the group aged 41 to 50 years and more than 50 years (P<0.05). In contrast, the results showed that it is not statistically significantly different in the average of other studied domains regarding age groups (P>0.05). In my opinion, this is because young individuals under the age of 30 are more prepared to deal with their own relationship challenges and to take care of their own needs in terms of health-care services.

Table (3) Post Hoc test of the means of significant difference domains related to educational levels

Dependent Variable	(I) Educational level	(J) Educational level	Mean Difference (I-J)	Std. Error	P-value	95% Confidence Interval	
						Lower	Upper
6. Hospital facilities & services	Primary and less	Preparatory school	-0.43	0.23	0.061	-0.88	0.02
		Secondary school	-0.38	0.21	0.070	-0.78	0.03
		Bachelor	-0.47	0.20	0.020*	-0.87	-0.07
		Post-graduate	-0.88	0.29	0.002*	-1.45	-0.32
	Preparatory	Primary and less	0.43	0.23	0.061	-0.02	0.88
		Secondary school	0.06	0.15	0.713	-0.24	0.35
		Bachelor	-0.04	0.14	0.777	-0.32	0.24
		Post-graduate	-0.45	0.25	0.069	-0.94	0.03
	Secondary school	Primary and less	0.38	0.21	0.070	-0.03	0.78
		Preparatory school	-0.06	0.15	0.713	-0.35	0.24
		Bachelor	-0.10	0.10	0.354	-0.30	0.11
		Post-graduate	-0.51	0.23	0.026*	-0.95	-0.06
	Bachelor	Primary and less	0.47	0.20	0.020*	0.07	0.87
		Preparatory school	0.04	0.14	0.777	-0.24	0.32
		Secondary school	0.10	0.10	0.354	-0.11	0.30
		Post-graduate	-0.41	0.22	0.065	-0.85	0.03
	Post-graduate	Primary and less	0.88	0.29	0.002*	0.32	1.45
		Preparatory school	0.45	0.25	0.069	-0.03	0.94
		Secondary school	0.51	0.23	0.026*	0.06	0.95
		Bachelor	0.41	0.22	0.065*	-0.03	0.85

illustrated the Post Hoc test of mean difference in Domain 6: Hospital facilities & services regarding age (P<0.05). The results showed that the average of 6: Hospital facilities & services in post-graduate is higher statistically significant compared to primary and less, secondary school & bachelor (P<0.05). Also, the results showed that the average of Domain 6: Hospital facilities & services in the Primary and less are lower statistically significant compared to the bachelor & post-graduate (P<0.05). In contrast, the results showed that it is not statistically significantly different in the average of other studied domains regarding educational levels (P>0.05).

Table (4) Post Hoc test of mean difference of the health and psychological problem regarding relationship with patient

Relationship with Patient	Relationship with Patient	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Son/daughter	Brother/sister	-0.23	0.11	0.045*	-0.45	-0.00
	Husband/wife	-0.32	0.13	0.013*	-0.58	-0.07
	Mother / father	-0.15	0.17	0.368	-0.48	0.18
	Other	0.09	0.13	0.481	-0.16	0.35
Brother/sister	Son/daughter	0.23	0.11	0.045	0.00	0.45
	Husband/wife	-0.09	0.15	0.526	-0.39	0.20
	Mother / father	0.08	0.18	0.661	-0.28	0.44
	Other	0.32	0.15	0.032*	0.03	0.61
Husband/wife	Son/daughter	0.32	0.13	0.013*	0.07	0.58
	Brother/sister	0.09	0.15	0.526	-0.20	0.39
	Mother / father	0.17	0.19	0.364	-0.20	0.55
	Other	0.42	0.16	0.010*	0.10	0.73
Mother / father	Son/daughter	0.15	0.17	0.368	-0.18	0.48
	Brother/sister	-0.08	0.18	0.661	-0.44	0.28
	Husband/wife	-0.17	0.19	0.364	-0.55	0.20
	Other	0.24	0.19	0.209	-0.14	0.62
Other	Son/daughter	-0.09	0.13	0.481	-0.35	0.16
	Brother/sister	-0.32	0.15	0.032*	-0.61	-0.03
	Husband/wife	-0.42	0.16	0.010*	-0.73	-0.10
	Mother / father	-0.24	0.19	0.209	-0.62	0.14

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

Post Hoc test of mean difference of the health and psychological problem regarding relationship with patient is pointed out in **table** The Post Hoc (LSD) test showed there was lower statistically significant in the average the health and psychological problem among son/daughter compared to brother/sister & husband/wife (P<0.05). Also, the Post Hoc test showed there was lower statistically significant in the average the health and psychological problem among other compared to brother/sister & husband/wife (P<0.05). In contrast, the results showed that there was no statistically significant difference between the average of the health and psychological problem domains regarding other groups (P>0.05).

دراسة بعنوان: تقييم احتياجات الرعاية التلطيفية لمرضى السرطان والقائمين على رعايتهم في قطاع غزة.

إعداد: محمد ناصر موسى الخالدي

إشراف: أ.د. يوسف الجيش

الملخص:

السرطان حالة متقدمة ومهددة للحياة أدت إلى وفاة ما يقرب 10 ملايين شخص في العالم في عام 2020. ولا يختلف الوضع في فلسطين عن العالم حيث يعتبر السرطان المسبب الثالث للوفاة في فلسطين. وسيزداد العبء على المرضى ومقدمي الرعاية من الأسرة مع استمرار ارتفاع حالات السرطان في قطاع غزة. بحلول عام 2040، سيزداد عدد الأشخاص الذين يحتاجون إلى الرعاية التلطيفية بنسبة 25٪ بسبب توقعات زيادة الإصابة بالسرطان.

الأهداف: هدفت هذه الدراسة إلى تقييم احتياجات الرعاية التلطيفية لمرضى السرطان ومقدمي الرعاية الأسرية لهم في قطاع غزة.

المنهجية:

تم استخدام المنهج المختلط للجمع بين البيانات الكمية والنوعية (استبيانات المرضى ومقدمي الرعاية الأسرية الذاتية) والنماذج النوعية (المقابلات المتعمقة لمقدمي الرعاية الأسرية). تم إجراء البحث الكمي مع 371 مريضاً بالسرطان و388 من مقدمي الرعاية الأسرية. النسبة للمرضى، استخدمنا استبيان المشكلات والاحتياجات في الرعاية التلطيفية – نسخة قصيرة (PNPC-sv) ومقياس الاكتئاب والقلق والتوتر – 21 عنصرًا (DASS-21). بالنسبة لمقدمي الرعاية الأسرية، استخدمنا استبيان أداة التقييم الشامل للاحتياجات لمقدمي الرعاية من السرطان (CNAT-C). المقابلات النوعية المتعمقة مع 12 فردًا من مقدمي الرعاية في الأسرة.

النتائج:

بالنسبة للمرضى، كانت المشاكل المالية هي الأكثر انتشارًا، حيث تراوحت بين 46.9٪ و88.9٪، أما الاحتياجات المالية تراوحت بين 37.2٪ إلى 67.1٪. تلتها الاحتياجات الجسدية، حيث أشارت النتائج إلى أن التعب (87.9٪) والألم (82.2٪) كانا السببين الرئيسيين لمشاكل الأعراض الجسدية. أما بالنسبة لمقدمي الرعاية الأسرية، كانت احتياجات الرعاية التلطيفية تتعلق أساسًا باحتياجات المعلومات (83.4٪)، والدعم العملي (77.7٪)، ومرافق وخدمات المستشفى (71.7٪).

الخلاصة:

كان لدى المرضى ومقدمي الرعاية في الأسرة احتياجات رعاية ملطفة عالية وينبغي التركيز بشكل أكبر على الاحتياجات المادية والمعلوماتية والمالية.