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Illness Perception and its Relationship to Quality of Life among Cancer Patients

A Thesis Submitted

To the Council of Nursing College, University of Babylon
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By

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بِسۡمِ ٱللَّهِ ٱلرَّحۡمَٰنِ ٱلرَّحِيمِ

"قُلْ لَنْ يُصِيبَنَا إِلَّا مَا كَتَبَ اللَّهُ لَنَا هُوَ مَوْلَانَا ۚ وَعَلَى
اللَّهِ فَلْيَتَوَكَّلِ الْمُؤْمِنُونَ"

صدَّقَ اْللّه' اْلعَليُّ اْلعَظِيم
سورة التوبة: الآية 51

SUPERVISOR CERTIFICATE

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Dedication

I dedicate this achievement to my father and my mother, their love and effort have accompanied me in this process, without hesitating at any moment of seeing my dreams come true, which are also their dreams.

To my soul mate, my husband, Haitham.

To my little angel and companion, my beloved son Karrar.

To my siblings & friends, who have been my support in the difficulties.

Saja Mohammed 2023

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Abstract

Background: Quality of life is an important measure for evaluating and predicting treatment for cancer patients. Patients with cancer are at increased risk of a poor quality of life during cancer treatment. This study aims to assess perceptions of disease and its association with quality of life among cancer patients.

Method: A descriptive correlational study conducted in the city of Hilla during the period from November 9th , 2022 to June 4th, 2023. The study sample consisted of 150 patients who were selected according to a non-probability sampling approach. The validity of the questionnaire was validated by experts and its reliability was verified by a pilot study. Data were collected through interviews and analyzed by applying descriptive and inferential statistical analysis.

Results: The results of the study reveal a profile among participants who have an average age of 51 years, are mostly female (84%), married (74%), 36% have completed primary school, and 32.7% are self-employed, often with limited monthly income. It is worth noting that more than half (53.3%) of the study participants reported that they enjoy an average quality of life. This quality of life was found to vary significantly based on several demographic and clinical factors, including age (p = .000), marital status (p = .000), occupation (p = .000), and monthly income (p = .000). 0.000).), duration of cancer (p = .000), stage of cancer (p = .000), and presence of comorbidities (p = .000). Furthermore, the study reveals relationship between quality of life and disease perception regarding consequences (p= .000), timeline (p= .002), personal control (p= .000), treatment control (p= .000), identity (p= .000), concern (p= .009), comprehensibility (p= .000), emotions (p= .000), and overall illness perception (p= .006).

Conclusions and Recommendations: The overall quality of life for cancer patients was average and mostly influenced by demographic factors including age, marital status, occupation and monthly income as well as clinical aspects of cancer such as period and stages of disease. Ministries and social organizations should highlight ensuring that cancer patients have adequate financial resources to meet their demands in order to minimize the negative effects of individual variables that affect their quality of life.

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CHAPTER FOUR
RESULT OF THE STUDY

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LIST OF ACRONYMS, ABBREVIATION AND SYMBOLS

No.	Item	Meaning
1.	AD	Anno Domini
2.	AH	Anno Hegirae
3.	BC	Before Christ
4.	CA	Cancer
5.	CSM	Common Sense Model
6.	CT	Chemotherapy
7.	C-61 ICD 10	Code for Malignant neoplasm of prostate
8.	DNA	Deoxyribonucleic Acid
9.	DALYs	Disability Adjusted Life Years
10.	DF	Degrees of freedom
11.	*et al.*,	And others
12.	EORTC QLQ-C30	European Organization for research and Treatment of Cancer Quality of Life Questionnaire -Core 30
13.	ECR	Eindhoven Cancer Registry
14.	HADS	Hospital Anxiety and Depression Scale
15.	HIV	Human Immunodeficiency Virus
16.	HMGA1	High Mobility Group A1
17.	HMGA2	High Mobility Group AT-hook 2
18.	HRQoL	Health related quality of life
19.	HRQL	Health related quality of life

20.	ICB	Iraqi Cancer Board
21.	IPs	Illness perceptions
22.	IPQ	Illness perception Questionnaire
23.	R-IPQ	Revised Illness perception Questionnaire
24.	B-IPQ	Brief Illness perception Questionnaire
25.	IQ	Intelligence quotient
26.	M	Mean
27.	M.s.	Average of the scores
28.	M±	overall average score
29.	Min.	Minimum
30.	Max.	Maximum
31.	MRI	Magnetic resonance imaging
32.	N	Number
33.	NSCLC	Non-Small Cell Lung Cancer
34.	No.	Frequencies
35.	*P*	P value
36.	PROs	Patient Reported Outcomes
37.	PROFILES	Patient Reported Outcomes Following Initial Treatment and Long Term Evaluation of Survivorship
38.	PCa	prostate cancer
39.	QoL	Quality of Life
40.	RNA	Ribonucleic Acid
41.	SCR	Saudi Cancer Registry
42.	SRM	Self-Regulation Model
43.	SF-36	Short Form 36 Health Survey Questionnaire.
44.	SD	Standard deviation
45.	Sig	Significant
46.	STDs	Sexually Transmitted Diseases
47.	SPSS	Statistical Package for the Social Sciences
48.	SDVs	Socio-demographic Variables
49.	TM	Tumor-Node-Metastasis
50.	US	United States
51.	USA	United States of America
52.	WHO	World Health Organization
53.	WHOQOL-BREF	World Health Organization Quality of Life Bref

54.	X^2	Chi-square
55.	A	Alpha
56.	**bχ2**	Kruskal Wallis Test
57.	***cz _***	Mann-Whitney Test
58.	**e**	Level of sampling error
59.	∑	Sum
60.	%	Percentage
61.	<	Less than
62.	>	More than
53.	≤	Equal or less than

LLST OF APPENDICES

Appendices	Title
A	**Administrative Arrangements**
B	**Questionnaire**
C	**Panel of Experts**
D	**Linguistic Approval**

Chapter One

Introduction

CHAPTER ONE

INTRODUCTION

1.1. Introduction

The name cancer comes from the Latin word crab, presumably as a result of the fact that a crab continuously clings to whatever part it grabs. Tumor, which means new formation in Greek and is the official medical name for cancer, is also a widely used general term. Cancer cells are grouped and given names as malignant neoplasms based on the tissue from whence they originated. As a result of the immune system's slow elimination of abnormal cells, these cells may eventually become too large to be regulated by conventional immunological mechanisms (Choenyi *et al.*, 2016) .

Cancer is a type of chronic disease that is brought on by mutations that may be inherited, brought on by environmental factors, or likely resulted from errors in DNA replication (Tomasetti *et al.*, 2017)

Cancer is the top cause of death in all age groups and is increasingly recognized as a chronic condition that is frequently treatable, especially when caught early. There are still many unsolved issues about this stigmatized condition. Cancer causes a change in one's routine and the beginning of a crisis (Frade *et al.*, 2017).

There are more than a hundred different forms of cancer, and they differ in their capacity to be diagnosed, their level of cellular differentiation, their rate of growth, their invasiveness, their propensity for metastasis, and how they respond to treatment (AL-Mamoori & Shatha, 2019)

Cancer can be treated with surgery, chemotherapy, radiation therapy, hormone therapy, targeted therapy, and synthetic drugs. The location, extent, and stage of the disease as well as the patient's overall health (performance status) dictate the type of therapy. Additionally, there are many cancer therapies under development (Sivakumar & Susila, 2021).

Modern cancer patients often have greater survival times because to early identification and cutting-edge therapy options. However, this does not imply that the illness will no longer affect them. Physical problems, such as exhaustion and functional impairment, as well as mental problems, might persist for years as a result of illness and vigorous treatment. As a result, a growing number of cancer patients view their condition as a chronic one.

The previously mentioned concerns underline how important it is for cancer patients to successfully manage their health and face its obstacles. There are several ways that people can handle their illness, some of which may be more or less adaptive depending on the situation. How people perceive their illness affects how they react to it (Hopman & Rijken, 2015)

The Common-Sense Model of illness representation, which describes how patients understand the impact of their sickness on their lives by integrating lay information, personal experience, and information from the social environment, served as the foundation for earlier studies on illness perception (Hagger *et al*., 2017).

According to Broadbent *et al*. (2015), a patient's impression of illness is based on their cognitive evaluation and in-depth understanding of a medical condition and its prospective implications. How a person perceives and experiences having a condition is the main focus of illness perception. This may include both upbeat and pessimistic health perspectives that could influence how well someone can manage their illness and whether they believe it to be dangerous or under control (Sawyer *et al*., 2019).

Cancer can affect a person's perception and compliance, depending on how the patient views his or her condition and the challenges brought on by the disease. Therefore, understanding how cancer patients view their condition is crucial to reducing these issues (Saritas & Özdemir, 2018).

The way that patients understand their cancer and how they perceive the disease affects how they react to it and how long they live (Kus et al., 2017). According to the World Health Organization, a person's perception of their place in life in relation to their goals, aspirations, standards, and concerns within the framework of the culture and value systems they live in is referred to as their quality of life (Akyıldız *et al*., 2019).

Measuring quality of life (QoL) is important for patient assessment and therapy; for cancer patients in particular, it is seen as a key indicator of the standard of care (Mickevičiene *et al*., 2013).

When given a cancer diagnosis, each person reacts differently to the disease and treatment. The way a patient perceives their sickness may have an impact on their mental health and how they handle medical conditions. Patients with cancer can deal more successfully if they have knowledge about how their illness is perceived and their quality of life (QOL) (Vatvani *et al*., 2017).

1.2. Importance of the study:

The majority of countries have seen a rise in cancer incidence rates since 1990 as a result of population growth, aging, the prevalence of unhealthy behaviors, and some risk factors including smoking. On a worldwide level, this poses an increasing threat to public health. 17.5 million new instances of cancer have been reported worldwide since 2005, up 33% (Hussain & Lafta, 2021).

One in every six fatalities in 2018, or 9.6 million deaths, were caused by cancer, which is the second-leading cause of mortality worldwide. Compared to women, who are more likely to acquire breast, colorectal, lung, cervical, and thyroid cancers, men are more likely to develop lung, prostate, colorectal, stomach, and liver cancers (WHO, 2022).

With more than 9.5 million cancer deaths worldwide and 607 000 cancer deaths in the US alone in 2019, cancer continues to be a leading cause of death, especially in high-income nations. The burden of cancer and the deaths it causes are rapidly increasing on a global scale. This is evident in the population's aging and senility as well as modifications in the distribution and growth of cancer risk factors (Hartman *et al*., 2020).

In terms of disability-adjusted life years, a sizeable portion of the world's disease burden is related to cancer, one of the leading causes of premature death worldwide. The prevalence of cancer is predicted to increase globally by about 50% during the next ten years (Pangestu & Rencz, 2022).

Cancer is one of the leading causes of death in Thailand. The most prevalent form of cancer for both sexes is lung cancer in the north; liver cancer is more prevalent in the northeast. In the south, cervical cancer affects more women than men in terms of prevalence. In Bangkok, men are most at risk for lung cancer. Overall, colon cancers, lung cancers, and liver cancers are the most common cancer sites in men; breast, cervix, and colorectal cancers are the most common cancer sites in women (Piamjariyakul *et al*., 2010).

In Jordan, there were a total of 58788 cancer patients recorded between 2000 and 2013. Men made up 48.6% and women made up 51.4% of those. Approximately 77.3% of the patients who were documented had an age of 40 or higher. The overall cancer incidence rate was 82.8 per 100,000 people (Khader *et al*., 2018).

In 2012, the Saudi Cancer Registry (SCR) recorded 14,336 incident cases of cancer overall, with 6,791 (47.5%) males and 7,545 (52.6%) females. Of this total, there were 120 cases (0.8%) of patients of unknown nationality, 3,393 cases (22.9%), and 11,034 cases (76.9%) of patients of Saudi origin (Bazarbashi *et al*., 2017) .

Over the previous two years, there has been an upsurge in various cancer types among Lebanese people. The most notable of these was colon and rectal cancer, which showed an obvious rise in both sexes (Khachfe *et al*., 2019).

In Iraq, there were 5720 cancer cases reported in 1991 (31.05) per 100,000 people, and there were 14,180 cases (44.46) per 100,000 people in 2008. The top 10 cancers in terms of incidence in Iraq were breast cancer, lung cancer, leukemia, bladder cancer, brain and CNS, non-Hodgkin's lymphoma, colorectal cancer, stomach cancer, skin cancer excluding melanoma, and larynx cancer. While age incidence of cancer in Iraq increased with age, starting from almost 7 cases per 100,000 population at age below 10 years to 398 cases per 100,000 population at age 70, the top 10 cancers in terms of incidence (Husain & Al-Alawachi, 2014).

According to data from the Global Cancer Observatory, the age-standardized cancer incidence and death rate among Iraqis in 2018 were 105.5 and 64.7, respectively. According to data recently published by the Iraqi Cancer Board (ICB), there were 31,502 new cases of cancer in 2018, with an incidence rate of 82.6 cases per 100,000 people. Women were involved in 57% of these occurrences, while men made up 43%. Breast cancer (19.7%), bronchus and lung (8.2%), colorectal (6.1%), leukemia (6.0%), and urinary bladder (4.9%) malignancies were the most common cancers identified. The three most common cancers in men were leukemia (7.8%), urinary bladder (8.6%), and bronchus and lung (13.4%, with an incidence of 9.5/100,000 male population). On the other side, the three most common cancers in women were breast cancer (34.1%, with an incidence of 32.3/100,000 women), thyroid cancer (6.1%), and colon cancer (5.1%) (Al-shamsi *et al*., 2022).

According to a study done between January 2018 and January 2019 on (1152) cases, Baghdad (72%), Dayala (7.6%), Anbar (4.6%), and Wasit (4.5%) had the highest rates of instances. The gastrointestinal tract (26.8%), respiratory tract (14.3%), uterine (8.1%), and prostate (6.1%) were the four most common cancer types (Khader *et al.*, 2018).

When it comes to cancers afflicting Iraqis, breast cancer ranks first, accounting for 34.3% of female cancers and 19.5% of male cancers. That illness, which is identified as the leading cause of cancer-related fatalities among Iraqi women in 2016, claimed 897 lives in 2016 (Alwan *et al*., 2019).

In the near future, the aging of cancer patients could provide a significant challenge to medical institutions and society at large. This calls for a thorough understanding of the variables influencing the health-related quality of life of cancer patients, in addition to clinical traits and sociodemographic variables (O´smiałowska *et al*., 2022).

The cognitive and emotional perceptions that the individual has about his or her health issue, particularly in relation to chronic diseases like cancer, are related to the individual's quality of life in that his or her actions may either worsen his or her problem's negative symptoms (for example, an increase in pain) or enhance their prognosis. In this way, when a person's perspective of their sickness is primarily negative, they are more likely to feel their symptoms more intensely, to think that their illness will stay longer, and to anticipate a gradual recovery if one does occur (De Castro *et al.*, 2012).

Illness perceptions (IPs) diverge significantly from conventional medical expertise and do not always reflect medically accurate facts. According to the tenets of the common-sense model of self-regulation of health and illness, numerous empirical studies have shown that IPs have an impact on the outcomes of illness, such as functional health and QOL, both directly and indirectly through illness behavior. Therefore, addressing IPs and working to make them better might be beneficial for patients' overall health (Vollmann *et al*., 2020).

Examining the link between disease perception and quality of life

(QoL) may aid in identifying potential targets for therapies targeted at enhancing QoL (P.T. van Gemert & C.S. Bonhof, 2017).

The study of illness perception and its relationship to quality of life among cancer patients is significant for several reasons. Firstly, understanding how cancer patients perceive their illness is crucial for providing appropriate support and care. Each individual's perception of their illness can vary widely and influence their emotional well-being, coping strategies, treatment adherence, and overall quality of life. Secondly, examining the link between illness perception and quality of life can help healthcare professionals identify patients who may be at risk of experiencing poor psychosocial outcomes. By assessing patients' perceptions of their illness, healthcare providers can tailor interventions and support services to address specific concerns and improve their overall well-being (Tang et al., 2017).

Moreover, studying illness perception and its impact on quality of life can contribute to the development of targeted psychosocial interventions. By identifying the factors that influence patients' perceptions, healthcare professionals can design interventions that address specific aspects of illness perception, such as misconceptions, fear, or negative emotional responses. These interventions can potentially enhance patients' understanding of their illness, reduce anxiety, improve treatment adherence, and ultimately enhance their quality of life (Shallcross et al., 2015).

Furthermore, investigating illness perception and its relationship to quality of life can provide valuable insights for healthcare policy and resource allocation. By understanding the factors that influence patients' quality of life, policymakers can make informed decisions regarding the allocation of resources and the implementation of supportive services to meet the specific needs of cancer patients (Tarricone et al., 2016).

In summary, studying illness perception and its relationship to quality of life among cancer patients is significant because it can improve the provision of individualized care, identify patients at risk of poor psychosocial outcomes, inform the development of targeted interventions, and guide healthcare policy and resource allocation. Ultimately, this research can contribute to enhancing the overall well-being and quality of life of cancer patients.

1.3. Research Problem:

The goal of the current study is to understand how cancer patients perceive their condition, how those two factors relate to one another, and how the quality of life of those patients varies depending on their clinical and demographic characteristics. When discussing the traits and the connection, healthcare providers can better respond to unique qualities and address the phenomenon that underlies the study (Illness Perception and its Relationship to Quality of Life Among Cancer Patients).

1.4. Study questions

1.4. Is there a correlation between illness perception and quality of life in patients with cancer?

1.5. Objectives of the study

1. To assess illness perception among patients with cancer using the Brief Illness Perception Questionnaire (BIPQ).
2. To assess quality of life of patients with cancer using the WHOQOL-BREF.
3. To Determine the correlation between illness perception and quality of life among patients with cancer.
4. To investigate the difference in quality of life among cancer patients in regard to sociodemographic information and clinical information.

1.6. Definition of Terms:

1.6.1. Illness Perception:

1.6.1.a. Theoretical definition:

Is a patient's own outlook on their condition, how they're being treated, and how they feel about it (Ashley *et al*., 2015).

1.6.1.b. Operational definition:

It is the manner in which a cancer patient analyzes his physical state in light of the information he learns about it from his environment.

1.6.2. Quality of life:

1.6.2.a. Theoretical definition:

The combination of two factors that determine one's level of well-being: the capacity to carry out daily tasks that satisfy bodily and psychological needs, as well as their social well-being and satisfaction with their level of functioning and illness management (Lavdaniti, Maria; Tsitsis, 2015) .

1.6.2.b. Operational definition:

The capacity of cancer patients to act in ways that provide them life satisfaction, especially in matters of physical health, family, education, employment, money, safety, and security as well as freedom, religious views, and the environment.

1.6.3. Cancer:

1.6.3.a. Theoretical definition:

A category of illnesses known as cancer are defined by the unchecked growth and spread of aberrant cells (American Cancer Society, 2020).

1.6.3.b. Operational definition:

The name of a disease that involves unchecked cell reproduction and spread and whose term is determined by the location of its onset in the body. It is sometimes thought to be the primary cause of mortality since it spreads to neighboring tissues.

1.6.4. Patient:

1.6.4.a. Theoretical definition :

The term patient, derived from a Latin verb meaning “to suffer,” has traditionally been used to describe a person who is a recipient of care(Hinkle & Cheever, 2018).

1.6.4.b. Operational definition :

Patient is an adult, male or female person who has been diagnosed with different types of cancer, different duration and stage, and is undergoing different treatment type.

Chapter Two
Review of Literature

Chapter Two

Literature Review

2.1. Historical Overview

The name cancer is attributed to Hippocrates, a Greek physician known as the Father of Medicine who practiced from 460 to 370 BC. Hippocrates distinguished between tumors that don't result in ulcers and those that do by using the terms carcinoses and carcinoma. These words, which translate to crab in Greek, were probably employed to describe the condition because the spreading projections from cancer that looked like fingers reminded people of crabs' shells. The Greek name was then translated by a Roman physician named Celsus as cancer, which is the Latin word for crab (28–50 BC). Galen (130–200 AD), a different Greek physician, called tumors oncos (Greek for swelling). Although the crab analogy from Hippocrates and Celsus is still used to describe deadly malignancies, Galen’s term is now used as a part of the name for canacer specialists – oncologists (The American Cancer Society medical and editorial content team, 2018).

2.1.1.Cancer: An Overview

A collection of illnesses known as cancer can invade or spread to various bodily regions as a result of aberrant cell multiplication. Adenomas, on the other hand, do not metastasis (WHO, 2018). Possible signs and symptoms include a lump, abnormal bleeding, prolonged cough, unexplained weight loss, and a change in bowel movements. While these symptoms may indicate cancer, they can also have other causes. People are affected by more than 100 distinct types of cancer (Pradhan & Bhadra, 2020).

Tobacco use is linked to 22% of cancer-related deaths. According toJayasekara (2016), an additional 10% of instances are caused by obesity, poor diet, inactivity, or excessive drinking. Additional factors include certain infections, exposure to ionizing radiation, and environmental pollutants (Hossain *et al*., 2023).

Infections include Helicobacter pylori, hepatitis B, hepatitis C, human papillomavirus infection, Epstein-Barr virus, and human immunodeficiency virus (HIV) are to blame for 15% of cancer cases in underdeveloped nations. These elements influence a cell's genes in some way. Typically, a high number of genetic changes are needed for cancer to grow (Wani, 2023).

Malignancies are caused by inherited genetic defects in 5–10% of cases. Cancer can be identified using a few early warning signs and symptoms as well as screening exams. It is then typically further investigated by medical imaging and confirmed by biopsy (WHO, 2018).

Avoiding tobacco use, maintaining a healthy weight, abstaining from alcohol, eating plenty of fruits, vegetables, whole grains, and resistant starches, getting immunized against certain infectious diseases, consuming less processed and red meat, and limiting prolonged sun exposure are all ways to lower your risk of developing certain cancers (Sharan *et al*., 2022).

The benefits of breast cancer screening are controversial. Cancer is routinely treated with radiation therapy, surgery, chemotherapy, and targeted therapy. Controlling pain and symptoms is a crucial part of treatment (Mahapatra & Nayyar, 2019). Palliative care should be prioritized for people with advanced illness. The likelihood of survival depends on the type of cancer and its stage at the start of treatment (Jain, 2018).

2.1.2. Epidemiology

Globally, 9.6 million people will pass away from cancer in 2018, according to estimates. At some point, 17% of women and 20% of men will develop cancer, and 13% of men and 9% of women will pass away from it

(Bravo & Muñoz, 2018).

Taking non-melanoma skin cancers and other non-invasive malignancies out of the equation, more than 12.7 million persons had a cancer diagnosis in 2008, and there were approximately 7.98 million cancer-related deaths in 2010. Deaths from cancer account for 16% of all deaths. The most frequent cancers are lung cancer (1.76 million deaths), colorectal cancer (860,000), stomach cancer (780,000), liver cancer (780,000), and breast cancer (620,000), according to 2018 figures. Therefore, invasive cancer is the second most common cause of mortality in impoverished countries and the first in industrialized countries. More than half of accidents happen in developing nations (Bergovec *et al*., 2015).

In 1990, there were 5.8 million cancer-related deaths. Longer lifespans and alterations in lifestyle in the developing world are the main causes of the rising death rate. Age is the biggest risk factor for getting cancer. Even though cancer can strike at any age, most invasive cancer patients are over 65. Robert A. Weinberg, a cancer researcher, asserts that "If we lived long enough, sooner or later we all would get cancer" (Skovlund *et al*., 2021).

Immunosenescence, DNA mistakes collected over a lifetime, and age-related alterations in the endocrine system are all thought to play a role in the relationship between aging and cancer. Aging effect on cancer is complicated by factors such as DNA damage and inflammation promoting it and factors such as vascular aging and endocrine changes inhibiting it (Kong *et al*., 2022).

2.1.3.Signs and Symptoms

When cancer first appears, it has no symptoms. The appearance of symptoms and indicators occurs as the mass grows or ulcerates. The outcomes depend on the kind and location of the cancer. Particular symptoms are specific. Many frequently occur in individuals who have other conditions. Cancer can be difficult to diagnose and is a great imitator (Elshami *et al*., 2020). People may experience anxiety or depression after receiving a diagnosis. Cancer patients have a nearly two-fold increased risk of suicide (Kawashim *et al*., 2019).

1.Local symptoms

Local symptoms could be brought on by the size or ulceration of the tumor. For instance, lung cancer's widespread effects may obstruct the bronchi, leading to a cough or pneumonia; esophageal cancer's widespread effects may cause the esophagus to narrow, making swallowing uncomfortable or difficult; and colorectal cancer's widespread effects may cause the intestine to narrow or become obstructed, upsetting bowel habits. Masses in breasts or testicles may produce observable lumps.. Ulceration can cause bleeding that can lead to symptoms such as blood in the urine (bladder cancer), anemia or rectal bleeding (colon cancer), abnormal vaginal bleeding (endometrial or cervical cancer), and spitting up blood (lung cancer). Although localized discomfort from advanced cancer is possible, the first tumor is usually painless. Some cancers may cause fluid to build up in the chest or abdomen (Si *et al*., 2020).

2.Systemic symptoms

The body's response to the cancer may result in systemic symptoms. This could involve fatigue, changes in the skin, or unintentional weight loss. Some cancers can cause cachexia, which is a systemic inflammatory state that leads to ongoing muscle loss and weakness (Wulff-Burchfield *et al*., 2019).

Hormones and other substances produced by the tumor are the source of many paraneoplastic syndromes, which are signs and symptoms of systemic cancer. Hypercalcaemia, which can result in changed mental state, constipation, and dehydration, and hyponatremia, which can result in altered mental status, vomiting, headaches, or seizures, are two common symptoms linked to paraneoplastic (Murphy *et al*., 2019).

2.1.4.Causes

About 90–95% of cancer cases are caused by genetic abnormalities brought on by environmental and lifestyle factors. Inherited genetics are responsible for the remaining 5–10%. Environmental causes include all non-inherited causes, including lifestyle, economic, and behavioral influences, and do not just refer to pollution (Cohen *et al*., 19).

According to Lewandowsk et al. (2018), common environmental variables that increase the risk of dying from cancer include smoking (25–30%), diet and obesity (30–35%), infections (15–20%), radiation (both ionizing and non-ionizing, up to 10%), lack of physical activity, and pollution. Psychological stress does not appear to be a risk factor for the onset of the disease, despite the fact that it may affect outcomes for those who already have cancer (Li *et al*., 2016).

It is frequently impossible to pinpoint the precise source of a particular cancer since none of the alternative causes has a unique fingerprint. For instance, if a person who uses tobacco heavily develops lung cancer, then it was probably caused by the tobacco use, but since everyone has a small chance of developing lung cancer as a result of air pollution or radiation, the cancer may have developed for one of those reasons (Hollstein *et al*., 2017).

Except for the rare transmissions linked to pregnancy and occasional organ donors, cancer is frequently not contagious. Oncoviruses, such as the hepatitis B, Epstein-Barr, and HIV viruses, may have contributed to the development of cancer(Greaves & Hughes, 2018).

2.1.5.Pathophysiology

1.Genetics

There are two major categories in which the impacted genes fall. Oncogenes are genes that encourage cell division and development. Genes known as tumor suppressors prevent cell division and survival. Malignant transformation can happen as a result of the development of new oncogenes, the inappropriate overexpression of normal oncogenes, the underexpression or inactivation of tumor suppressor genes, or any combination of these processes. A normal cell must typically undergo changes in several genes in order to become a cancer cell (De Rosa, 2015).

2.Epigenetics

Epigenetic modifications are defined as changes to the genome that affect function but do not modify the nucleotide sequence. These modifications, for instance, can affect how DNA is methylated (both hyper- and hypomethylation), how histones are modified, and how chromosomes are arranged (due to improper synthesis of certain proteins like HMGA2 or HMGA1). Without changing the fundamental DNA sequence, each of these alterations controls how genes are expressed. These changes may remain through cell divisions, endure for multiple generations, and can be considered as equivalent to mutations (Langevin *et al*., 2015).

3.Metastasis

The spread of cancer to further parts of the body is known as metastasis. While the main tumor is the original, the disseminated tumors are known as metastatic tumors. Most malignancies have the potential to spread. The majority of cancer deaths are caused by metastatic cancer (Qian *et al*., 2017).

Metastasis is a common occurrence in the later stages of cancer; it can spread through the lymphatic system, the blood, or both. Malignancy often goes through several stages, including local invasion, lymphatic or blood vessel penetration, body-wide circulation, infiltration into new tissues, proliferation, and angiogenesis. Different types of cancers tend to metastasize to particular organs, but overall the most common places for metastases to occur are the lungs, liver, brain and the bones (Lyden *et al.*, 2022).

4.Metabolism

The majority of malignancies rely on glycolysis for energy production, whereas normal cells normally only produce around 30% of their energy from this process (Warburg effect). However, a small number of cancer types, such as lymphoma, leukemia, and endometrial cancer, use oxidative phosphorylation as their main source of energy. However, even in these circumstances, glycolysis is rarely used for more than 60% of the energy needs. Because glutamine contains the nitrogen necessary for the production of nucleotides (DNA and RNA), some tumors use it as their primary energy source. Oxidative phosphorylation or glutamine are frequently used by cancer stem cells as their main energy sources (Kim, 2018).

2.1.6.Classification

Cancers are categorized according to the type of cell that the tumor cells resemble, which is assumed to be the tumor's primary cause. According to Martin *et al*. (2015), these classifications include:

1. Carcinoma: Cancers developed from epithelial cells. This group includes almost all of the most common cancers, including those of the breast, prostate, lung, pancreas, and colon.
2. Sarcoma: Connective tissue cancers occur from cells originating in mesenchymal cells outside of the bone marrow, including cancers of the bone, cartilage, fat, and nerve.
3. Leukemia and lymphoma: These two varieties are generated by hematopoietic (blood-forming) cells, which leave the bone marrow and mostly develop in the lymph nodes and blood, respectively.

4. Germ cell tumor: Cancers developed from pluripotent cells that typically present as seminoma or dysgerminoma in the testis or ovary.
5. Cancers derived from embryonic tissue or immature "precursor" cells are known as blastomas.

2.1.7.Prevention

Cancer prevention refers to taking proactive measures to minimize cancer risk. Most cancer cases can be attributed to environmental risk factors. Numerous of these environmental factors are susceptible to lifestyle choices. Consequently, cancer is typically preventable. Between 70% and 90% of common cancers are caused by environmental factors, making them potentially preventable (Wu *et al*., 2016).

More than 30% of cancer deaths could be prevented by avoiding risk factors like smoking, excessive weight/obesity, poor nutrition, inactivity, alcohol, sexually transmitted disease (STDs), and air pollution. Furthermore, poverty could be considered as an indirect risk factor in human cancers. Not all environmental influences, such as naturally occurring background radiation and cancers brought on by inherited genetic defects, may be avoided by modifying one's behavior (Tran *et al*., 2019).

2.1.8. Diagnosis of cancer

The assessment of physiologic and functional alterations and the findings of the diagnostic examination serve as the foundation for a cancer diagnosis. Patients who are suspected of having cancer undergo a battery of tests to: (1) identify the presence and extent of the disease; (2) spot potential metastases; (3) assess the function of affected and unaffected body organs and systems; and (4) collect tissue and cells for analysis, including the assessment of tumor stage and grade. A system overview, physical examination, imaging examinations, laboratory tests of blood, urine, and other bodily fluids, procedures, and pathologic analysis are all included in the diagnostic evaluation.

Patients undergoing extensive testing may be fearful of the procedures and anxious about possible test results. By describing the tests that will be performed, the feelings that are likely to be experienced, and the patient's role in the test processes, nurses can aid patients who are experiencing dread and worry. The nurse supports the patient and family throughout the diagnostic examination, encourages the patient and family to express their concerns regarding the test results, and confirms and clarifies information given by the doctor. The nurse also promotes communication, sharing of concerns, and open discussion of issues and questions between the patient and family (Hinkle, Janice L., Cheever, 2018).

2.1.9. Tumor Staging and Grading

A thorough diagnostic evaluation includes determining the tumor's grade and stage. This is done in advance of treatment to establish a baseline for assessing therapy results and to uphold a methodical and consistent approach to ongoing diagnosis and treatment. The stage and grade of the tumor determine treatment options and the prognosis. Staging provides a common language used by health care providers and scientists to accurately communicate about cancer across clinical settings and in research. These systems also provide a convenient shorthand notation that condenses lengthy descriptions into manageable terms for comparisons of treatments and prognoses.

The tumor's size, the presence of local invasion, lymph node involvement, and distant metastasis are all determined by the staging. The anatomic extent of disease is categorized using a number of different ways. TNM stands for tumor, nodes, and metastasis.

For many solid tumors, the tumor-node-metastasis (TNM) system is one employed:

■ Tumor (T)

- TX – unable to evaluate the primary tumor
- T0 – no evidence of primary tumor
- Tis – tumor in situ
- T1, T2, T3, and T4 – size and extent of tumor

■ Node (N)

- NX – unable to evaluate regional lymph nodes
- N0 – no evidence of regional node involvement
- N1, N2, and N3 – number of nodes that are involved and/or extent of spread

■ Metastasis (M)

- MX – unable to evaluate distant metastasis
- M0 – no evidence of distant metastasis
- M1 – presence of distant metastasis

Many investigation approaches are found to categorize the degree of malignant disease. In case of cancer in situ, using a four stage system as follows:

- **Stage one:** the malignant disorder continue to be in the limited organ supply.
- **Stage two:** the malignant disorder are spreading locally.
- **Stage three:** the malignant disorder invades the local structure such as lymph node and blood vessels.
- **Stage four:** The malignant condition that spreads to distant areas, such as prostate cancer spreading to the bone marrow or liver cancer spreading to the lung (Sommer *et al*., 2013).

The pathologic classification of tumor cells is called grading. Grading systems aim to identify the tissue type from which the tumor developed and the extent to which the tumor cells have differentiated to retain the functional and histologic characteristics of the tissue of origin. Cell samples used to determine the tumor grade might be taken from surgical excision, biopsy, bodily fluids, secretions, washings, or tissue scrapings. This information helps providers predict the behavior and prognosis of various tumors. The grade is represented by a number between I and IV. Well-differentiated tumors, commonly referred to as grade I tumors, share many characteristics with the tissue from which they originated. Poorly differentiated or undifferentiated tumors are characterized as having no discernible structural or functional resemblance to the tissue of origin and are given grade IV status. Compared to grade I, well-differentiated tumors, these tumors tend to be more aggressive, less receptive to treatment, and linked with a worse prognosis. Various staging and grading systems are used to characterize cancers (American Cancer Society, 2015)

.2.1.10.Management

The methods used to treat cancer vary widely. Targeted therapy, hormone therapy, chemotherapy, radiation therapy, surgery, and palliative care are some of the more important ones. The type, location, and grade of the cancer, as well as the patient's health and preferences, all affect the treatment options. The treatment intent may or may not be curative (Siravegna *et al.*, 2017).

1.Chemotherapy

Chemotherapy is the application of one or more cytotoxic anti-neoplastic drugs (often referred to as chemotherapeutic agents) as a recommended course of action for the treatment of cancer. The term refers to a broad class of drugs that fall under broad categories like alkylating agents and antimetabolites. Traditional chemotherapy treatments kill rapidly dividing cells, which is a fundamental feature of the majority of cancer cells (Ma *et al.*, 2017).

2.Radiation

In radiotherapy, ionizing radiation is used to treat or lessen symptoms. By eradicating the DNA of cancerous tissues, it results in a mitotic catastrophe that kills cancer cells. The tumor receives a dose that is significantly higher than that of the surrounding healthy tissue. To spare normal tissues (such as skin or organs, which radiation must pass through to treat the tumor), shaped radiation beams are aimed from multiple exposure angles to intersect at the tumor, providing a much larger dose there than in the surrounding, healthy tissue. As with chemotherapy, cancers vary in their response to radiation therapy (Bray *et al.*, 2015).

3.Surgery

The majority of isolated, solid tumors are treated primarily with surgery, which may also contribute to palliation and survival extension. It is typically an important part of definitive diagnosis and staging of tumors, as biopsies are usually required. In localized cancer, surgery typically attempts to remove the entire mass along with, in certain cases, the lymph nodes in the area. For some cancer kinds, this is enough to cure the disease (Song *et al.*, 2017).

4.Palliative care

Palliative care is treatment that attempts to help the patient feel better and may be combined with an attempt to treat the cancer. Palliative care includes procedures to lessen suffering on all levels—physical, psychological, spiritual, emotional, and social. In contrast to therapies that specifically target cancer cells, palliative care's primary objective is to enhance the quality of life (Ariad *et al.*, 2019).

2.1.11.Prognosis

Five years following diagnosis, survival rates can range from majority survival to total mortality depending on the type of cancer and the stage at which it is discovered. When a malignancy has spread, the prognosis typically gets more worse. About half of invasive cancer patients who are getting therapy pass away from the illness or its therapies, with the exception of carcinoma in situ and non-melanoma skin malignancies. The majority of cancer deaths are caused by metastases from the primary tumor (Tammela & Sage, 2020).

2.2.Illness Perception of Cancer

The effects of a cancer diagnosis may include surgery, radiation, chemotherapy, remission, progression, palliative care, and even death over time. Different patients will go through various sequences of events over various amounts of time, and they may react in various ways to similar situations. These reactions are influenced by how patients view and believe about their condition. These beliefs, according to Petrie and Weinman, are arranged in cognitive models or mental representations that have a direct impact on the person's emotional reaction to the illness and their coping mechanisms (Petrie & John Weinman, 2006). Consequently, it's crucial to evaluate a patient's beliefs about their sickness (Kloot *et al*., 2016).

When someone is diagnosed with an illness, their ideas about it typically begin to take shape in their thinking. These views are heavily impacted by the medical information or their subjective observations of other affected family members exhibiting similar symptoms. The illness perception varies by individual and culture, including religious beliefs and patients’ attitudes toward cancer.

Each person has a unique experience when it comes to how they see their illness. Through their unique experiences, knowledge, attitudes, beliefs, and needs, patients attempt to comprehend their illness. According to the illness perception model, when people are faced with a sickness, their primary coping mechanisms are determined by the disease's physical and psychosocial effects. These replies are a reflection of the attitudes and feelings people have toward the illness (Saritas & Özdemir, 2018).

Cancer is associated with negative health and emotional outcomes in those affected by it, suggesting the need to better understand the psychosocial determinants of illness outcomes and coping. The common sense model is the leading psychological model of self- regulation in the face of illness and assumes that subjective illness representations explain how people attempt to cope with illness.

Additionally, it has been also found that cultural and social beliefs of the patient toward their illness influence perceptions about the meaning of an illness, the useful types of treatment, and the likely outcome of health behaviors related to the prevention and control of the disease (Kahissay *et al*., 2017). Additionally, it has been discovered that patients' attitudes concerning cancer have a substantial impact on their willingness to seek treatment and assistance (Samoil *et al*., 2021).

Late diagnosis and treatment, however, continue to be major obstacles to improving outcomes, which, in turn, contributes to patients' perceptions that they are less likely to receive treatment (Ouasmani et al., 2016). The effectiveness of understanding various cancer diagnostic and treatment choices among cancer patients, as well as the effectiveness of perception regarding various cancer preventative measures among the general public, therefore, seems to require analysis. (Vidhya *et al.,* 2022).

Before starting treatment, patients should be informed about their condition, the potential advantages and disadvantages of the suggested therapy, and should provide their agreement. In order for patients to develop the necessary perception to actively participate in shared decision-making, adhere to the treatment plan, be aware of potential side effects, and understand what to do if side effects do arise, relevant and understandable information must be provided. Furthermore, well informed patients are more satisfied with care, have a better sense of control of their total situation, and report a higher level of quality of life (Berger *et al*., 2018).

Positive views of disease have been linked to psychological wellbeing, a decreased need for benefits, and an earlier return to work. In contrast, regardless of the severity of the medical illness or the existence of any litigation, negative impressions are linked to a higher likelihood of future incapacity, a slower rate of healing, and a delayed return to work (Giri *et al*., 2009).

2.2.1.Illness perception scales :

The Illness Perception Questionnaire (IPQ), has 80 items across five domains of disease perception, the Revised Disease Perception Questionnaire (IPQ-R), has 70 items across nine domains, and the Brief Illness Perception Questionnaire (Brief IPQ), has eight items across eight domains, are the most frequent instruments used for measuring disease perception. The list of domains assessed by the three versions of this instrument includes coherence, concern, consequences, control (personal and treatment), emotional representation, identity, and timeline (acute/ chronic and cyclical) (Sawyer *et al*., 2019).

The Brief Illness Perception Questionnaire (Brief IPQ), divides into a number of categories according to common sense model (CSM): The term identity refers to the medical danger (such as cancer) and its signs and symptoms (such as fatigue). The notion of cause relates to one's theories regarding the source of a health threat (such as a genetic defect). The concept of a timeline describes how long a condition is anticipated to last, how long it lasts, and how long it takes to heal (e.g., acute, chronic, or cyclical). Consequences are assessments of how the health risk may change a person's life (for instance, missed work). They might be both imagined and real. Curability or controllability refers to the extent to which a person believes that the health issue may be managed or treated by themselves or others (for example, incurable but treatable with medicine). Later, this dimension was modified to reflect two distinct dimensions: personal control, which refers to how much control a person feels they have over the course of their illness, and treatment control, which refers to how much influence they think their therapy has over their condition. A person's emotional responses to their illness are described by their emotional representations, and the degree to which a patient's illness representations provide coherent understanding of the illness is referred to as illness coherence (Richardson *et al*., 2017).

2.3.Quality of Life among Patients with Cancer

We all have a rolling question all the time that, what is meant by the phrase “quality of life.” We are aware that being free is preferable to being locked up, that being healthy is preferable to being ill, and that being at ease is preferable to being under stress. Some people opt to live in a city because they enjoy the availability to social and cultural amenities. However, other people prefer the slower tempo, lack of traffic, and proximity to nature in rural areas and opt to live there. These characteristics have an impact on our wellbeing, which is also known as quality of life in the medical and scientific fields. In medicine, we are often interested in how disease or its treatment affects quality of life, which is generally considered health-related quality of life. Health-related quality of life, also abbreviated as HRQOL or HRQL, has evolved over the time into a broad, multidimensional concept that includes both physical and mental health, and also social factors (Gour & Chaudhary, 2023).

Currently, the study of quality of life, particularly as it relates to cancer, is a key area of research in the field of chronic diseases. In every instance, this illness has varied degrees of an impact on the patients' quality of life. Pain is among the most significant of the many physical and mental issues that cancer patients face. Cancer-related pain is a multifaceted issue that influences different facets of a person's life, potentially altering both the quality and quantity of life. Anxiety, especially fear of dying, is another frequent psychological side effect of cancer and is seen as a crucial psychiatric diagnosis. Patients who experience the disease's progression start to fear pain, isolation, and losing control—all of which have been classified as symptoms of death anxiety. The quality of life for this group of people with mental and even emotional disorders might be impacted by death anxiety (Nugraha Agung *et al.*, 2022).

Cancer is a chronic condition, despite the fact that early detection and innovative treatments reduce the disease and offer better prognoses. The quality of life of cancer patients was impacted by toxicity and side consequences. Cancer and its treatment might make it difficult to carry out family and social responsibilities, such as working or taking part in regular social activities (Lavdaniti, Maria; Tsitsis, 2015)

The attitudes and assumptions that patients have regarding their condition have an impact on HRQOL. The information given about the disease affects both HRQOL and how people perceive their illness. Appropriate information sharing can lead to better treatment adherence, more informed decision-making, lower levels of distress (anxiety and depression), higher levels of HRQoL, higher levels of satisfaction with care, and a greater sense of control (Husson *et al.*, 2013).

The World Health Organization (WHO) defined health in 1947 as a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity, which is where the roots of the QOL concept can be traced back to (CONSTITUTION of the World Health Organization, 1947).

For cancer patients, one of the most concerning health issues is QoL. Patients perceive it as a particular and multifaceted type of patient-reported outcomes (PROs) that includes their social, economical, psychosocial, and physical activities (Reale *et al.*, 2020).

The anticipated survival time of cancer patients has increased due to advances in medical research and ongoing progress in early detection and treatment. This has led to a rise in interest in researching cancer survivors' health-related quality of life (HRQoL). Therefore, it is imperative to meet the needs of cancer patients so that they can have healthy lives (Ravasco, 2019).

Surgery, radiation therapy, and chemotherapy (CT) are the most often used cancer treatments. The course of these treatments causes patients to experience physical, emotional, and cognitive changes that may ultimately lower their quality of life (Moreira *et al.*, 2021).

Many cancer patients report having problems sleeping, feeling depressed, and having a poor quality of life after obtaining a cancer diagnosis and treatment. In order to create interventions that will improve patients' outcomes, it is crucial to evaluate QoL among cancer patients. Similarly, QoL assessment helps individuals understand how illness, treatment, and health affect quality of life. Additionally, it helps to understand the potential beneficial and risky aspects of a treatment thus help in weighing the impact of a decision (Alam *et al.*, 2020).

2.3.1. Impact of QOL on life expectancy of various cancers

Different malignancies have all range of life expectancies; some have excellent life expectancies while others have very low ones. This life expectancy is always influenced by the quality of life a cancer patient live after getting diagnosed and when on treatment. Cancer treating medical professional must never forget role of QOL in survival of patients. Maintaining a high quality of life should be a key component of all cancer preventive and control efforts. A high quality of life for cancer patients will also affect DALYs (Disability Adjusted Life Years), and this decrease in morbidity will give cancer patients the chance to rehabilitate their social and occupational lives. This will also guarantee that cancer sufferers have the most productive lives possible (Nayak *et al.*, 2017).

2.3.2.Cancer Effects on Quality of life domains

Quality of life is a multifaceted term that should only be evaluated by the individuals themselves. Quality of life assessment tools, which can be self-administered or conducted through interviews, are being utilized more frequently in the field of health (Moreira *et al.*, 2021).

The physical, environmental, psychological, and social consequences of patients with chronic illnesses and their treatments are taken into account by an assessment method known as WHO Quality of Life-BREF (WHOQOL-BREF). The WHOQOL-BREF questionnaire has 24 satisfaction items broken down into four domains: physical health (domain 1), psychological health (domain 2), social relationships (domain 3), and environmental health (domain 4). Domain 1 deals with physical health and has seven questions, Domain 2 has six questions, Domain 3 has three questions and Domain 4 deals with environmental health and has eight questions . The questionnaire also includes two questions about general health and overall quality of life. A range of detrimental side effects can occur during and after treatment for cancer patients (Shaheed *et al.*, 2019).

The physical aspect of quality of life for cancer patients includes pain, dietary issues, anorexia, nausea, vomiting, and insomnia brought on by the progression of the disease and the unfavorable consequences of treatment. Being unable to regulate one's body, changes in body image (alopecia and cachexia), and nearly every area of life are all factors that contribute to the psychological component of QOL in cancer patients. For instance, emotional anguish happens at turning points during the clinical course of cancer for family members of patients undergoing palliative/supportive care. The social dimension of QOL among the cancer patients are often affected by withdrawal from work, social activities and one’s role in the family (SHAH, 2011).

By affecting physical and mental health, functional status, independence, overall wellbeing, interpersonal relationships, and social functioning, cancer has an impact on quality of life (QOL). It has been described as a terminal illness that has a lasting effect on the patient. Following diagnosis and therapy, a patient with cancer frequently experiences uncertainty that defines his or her life in the survival road. The way a person views cancer as an illness will affect how they respond to it and how they live their own lives. Most patients lose their sense of equilibrium in life. They experience constant psychological tension and a sense of helplessness and hopelessness. Socially, they feel ignored, worry losing their jobs, have an additional financial burden on their families, and are unable to participate in social activities (SHAH, 2011).

A cancer diagnosis is a distressing event for everyone. At all stages of cancer treatment, psychosocial anguish is extremely common, diverse, and can cause just as much distress as the physical effects of cancer (Holland & Alici, 2010).

An individual's life might be disrupted by receiving a cancer diagnosis since it puts their sense of security at jeopardy, which can induce anxiety and uncertainty. Additionally, cancer can lower a person's quality of life by having detrimental effects on their physical and mental health (Epplein *et al.*, 2011).

Malignancy can have an impact on many aspects of a person's quality of life. The decline in quality of life begins after the diagnosis of the cancer and continues because of the aggressive nature of the treatment. Cancer patients receive chemotherapy to fight against the affliction. 25% of patients with cancer out of the 65% that have the disease utilize chemotherapy as their first line of treatment (Fitch & Pyenson, 2010).

Anticancer medications take aim at the aberrant cells that divide quickly, aiding in the fight against cancer and extending patients' lives. Despite having a therapeutic effect, chemotherapy is linked to the occurrence of severe adverse medication responses, which can negatively impact a person's quality of life (QoL).

Anticancer treatment also needs to be administered for a longer period of time in order to have the desired impact. Patients with cancer bear an excessive burden due to frequent hospitalizations. Thus, anticancer therapy causes cancer patients to experience exorbitant levels of personal, mental, and emotional suffering, which negatively impacts their overall quality of life (QoL) (Ramasubbu *et al.*, 2021).

The psychological issues that are associated with the treatment of cancer patients are complex. Patients go through a variety of negative emotions that negatively impact their daily lives, such as rage, anxiety, pain, worry, and uncertainty about life impending doom of the diagnosis (Shaheed *et al*., 2019).

About half of all cancer cases involve the use of radiotherapy (RT), which is utilized as part of curative and/or palliative care. Although RT can be beneficial for cancer patients' health, its side effects can have a negative impact on QOL (Yucel *et al*., 2014).

2.4.Relationship between Cancer Perception and Quality of Life among Cancer Patients

A patient's personal beliefs regarding their condition and course of therapy, as well as their emotional reactions to it, are represented by their disease perceptions, which can be a variable predictor of HRQoL. According to the common sense model of disease self-regulation, a person's perception of their illness affects how they adapt to it and how it will turn out. According to SRM, when a person is ill, they create beliefs about the illness (cognitive representation) and have an emotional response to it (affective representation), both of which have an effect on both physical and psychosocial consequences. Interventions to alter these representations may enhance patients' wellbeing and outcomes since they have a major impact on patient outcomes (Ashley *et al.*, 2015).

The quality of life is influenced by how one thinks and feels about their sickness. The negative belief about the disease is associated with the development of disability and late improvement in the future (Safdari-Molan *et al*., 2021)

Patients with negative illness perceptions exhibited lower quality of life (QoL) than those who appraised their condition positively or neutrally. The very concept of disease perception is based on the assumption that the patient’s response to the illness is shaped by their personal experiences (O´smiałowska *et al.*, 2022).

2.5. Nursing’s Role Toward Cancer Patients:

The majority of oncology nurses work with patients who are receiving new diagnoses, starting therapy, and continuing their current course of treatment. These patients and their families are going through one of the most serious crises of their lives. The oncology nurse must be aware of the serious psychosocial consequences that the disease can have (Northouse & Northouse, 1996), listed delivering information, expressing hope, and aiding patients with the vast spectrum of emotions connected to their cancer experiences as the essential interpersonal roles of oncology nurses. They viewed the major issues confronting patients as maintaining a sense of control, obtaining information, searching for meaning, and disclosing feelings.

Nurses play an important role in assisting patients in all of these areas. Even if a patient is unable to control their condition themselves, nurses can still assist them regulate their reactions to the sickness and educate them about the disease and its treatment. If patients are informed, they will have the control they need to manage side effects and make the best decisions. Education enhances emotional support and promotes the development of a reliable rapport with patients. Aiding patients in coping with intense and puzzling emotions is one of the primary duties of nurses and a critical component of the nurse/patient contact (Shakespeare, 2018).

2.6.Some of the reviewed research relevant to the current study:

A study conducted by (O´smiałowska *et al.*, 2022) was **“Illness Perception and Quality of Life in Patients with Breast Cancer”** . The study included 202 women (mean age 53.0 ± 10.3) treated surgically for breast cancer at the Lower Silesian Oncology Centre. In our study, we aimed to demonstrate the relationship between illness perception and quality of life in breast cancer patients. The results of our study confirm the beneficial effect of positive illness perception on the intensity of symptoms related to cancer and treatment, as well as functional domains of EORTC QLQ-C30.

By (Matsuda *et al.*, 2021) “**Quality of life and its associations with illness perceptions over a 3-month follow-up period in patients with non-small cell lung cancer: A prospective longitudinal study**” was a study conduct to investigates changes in global QOL over a period of 3 months in patients with non-small cell lung cancer (NSCLC) to compare illness perceptions. The associations between QOL changes and illness perceptions were also examined. Study design. From October, 2016 until July, 2019, the present prospective longitudinal study evaluated patients with NSCLC over a 3-month follow-up period at Saitama International Medical Centre, Nippon Medical School Hospital and Shimane University in Japan. Study participants: A flow chart of the patients with NSCLC , 52 patients were considered eligible. At baseline, 18 patients did not complete the global QOL surveys, leaving 34 patients. At the 1-month follow-up, 5 patients did not complete surveys, leaving 29 patients. At the 3-month follow-up, 6 patients did not complete surveys, leaving 23 patients; these 23 patients were finally analysed. The analysis revealed no significant change in global QOL over time in the majority of illness perception dimensions, apart from that related to identity. In this item, the global QOL exhibited a significant difference between the groups over time. The strong group exhibited increased global QOL scores over the 3-month period than the weak group. Patients who did not have a more sinister view of the illness prior to treatment exhibited a tendency for a decreased global QOL. In addition, patients in the strong perception group had several complaints prior to treatment in the identity item at baseline, and these patients had an increased global QOL.

“**Untangling the relationship between negative illness perceptions and worse quality of life in patients with advanced cancer—a study from the population-based PROFILES registry”** was a study carried out in the southern part of the Netherlands by (Jabbarian *et al*., 2021). performed on patients with advanced cancer to define the connection between sickness perceptions and QoL, using feelings of anxiety and depression as potential mediators. Methods: The 'Patient Reported Outcomes Following Initial Treatment and Long term Evaluation of Survivorship' (PROFILES) registry provided information on 377 patients with advanced cancer. Information for studying the psychological and physical impacts of cancer and cancer treatment is available in this register. PROFILES is linked to the Eindhoven Cancer Registry (ECR), which keeps track of all patients in the southern Netherlands who have recently been diagnosed with cancer. Patients completed surveys on their quality of life (EORTC QLQ-C30), their anxiety and depressive symptoms (HADS), and their IPs (BIPQ). Mediation analyses were performed to separate the overall effect of IPs on QoL into a direct effect and an indirect effect. Patients' QoL was often worse in those with more negative IPs. Except for Comprehensibility, all IPs were negatively correlated with QoL ($p<0.001$). The most significant effects were perceived by patients who felt that their illness had a higher impact on their lives (Consequences), who were more concerned about their illness (Concern), and who thought that their illness had a substantial emotional impact (Emotions). Together, Anxiety mediated 41–87%and depression mediated 39–69%ofthe total effect of patients’ IPs on quality of life.

The quality of life, functional health, and sickness perceptions of lung cancer patients receiving chemotherapy were the subjects of a study by Vollmann *et al.* (2020). The research project's full title is **Illness Perceptions and Quality of Life in Patients with Non-Small-Cell Lung Cancer: A 3-Month Follow-Up Pilot Study**. Procedures and Patients : a longitudinal trial that measured quality of life (EORTC QLQ-C-30), functional health, and illness perceptions (BIPQ) at baseline 12 days after the first therapy and follow-up measure 3 months. The Leiden University Medical Center in the Netherlands was used to gather 21patients. The trial included patients who were receiving first-line adjuvant or neo-adjuvant treatment and had been diagnosed with non-small cell lung cancer (NSCLC) at any stage. The results of the study demonstrated that there were minor to moderate gains in both functional health and perception of illness between the two testing periods. At both the beginning and the conclusion of therapy, less functionality and a lower quality of life were associated with more pessimistic views of the illness. The findings demonstrate the importance of lung cancer patients' IPs for functional health and quality of life, and they should be taken into consideration during medical treatment.

A study conducted by (Akyıldız *et al.*, 2019) was **"The relationship between illness perception and quality of life in thyroid patients who received radioactive iodine-131 ablation treatment"** aimed to evaluate the effect of illness perception on quality of life in thyroid cancer patients who had radioactive iodine-131 treatment after total thyroidectomy. Methods: Totally one hundred patients were included in this cross-sectional study. Patients' age, educational level, marital status and disease characteristics including stage, treatment and follow-up period since diagnosis were reviewed. Short Form 36 Health Survey Questionnaire (SF-36), the illness Perception Questionnaire were used to assess the quality of life and illness perception, respectively. Results The low ability of patients to understand the disease significantly affects the negative impact on the quality of life of the disease perception.

A study conducted by (Vatvani *et al.,* 2017) was "**Association between illness perception and health related quality of life in Indonesian cancer patients"**. This study is a cross sectional study that took place in Siloam General Teaching Hospital located in a suburban area of Tangerang. This study took place from July 2016 to January 2017. The samples included in this study were adult solid cancer patients. Health related QOL was measured using EORTCQLQ-C30. Illness perception was measured using Brief Illness Perception Questionnaire (B-IPQ). Results: From total 56 patients, 50 (89.3%) were female. The mean age of the patients was 48.6 (610.9) years. Breast cancer was the most common type of cancer (76.7%), followed by adenocarcinoma of the colon (8.9%). The emotional representation sub- scale has significant correlation with global health status (r ¼ -0.268; p¼ 0.046), cognitive functioning (r ¼ -0.288; p¼ 0.031) and social functioning (r ¼ -0.268; p¼ 0.045) domains of QOL. The identity domain has significant correlation with dyspnea (r¼0.297; p¼ 0.026) and diarrhea (r¼0.297; p¼ 0.026). The other subscales of illness perception did not have significant association with QOL.

In 2017, a study by P.T. van Gemert and C.S. Bonhof examined the **relationship between illness perceptions and quality of life in colorectal cancer patients**. This study looks at the connection between quality of life and colorectal cancer patients' views of their illness as well as any gender-specific variations in these relationships. Methods: The information was gathered using the PROFILES (Patient Reported Outcomes Following Initial Treatment and Long-Term Evaluation of Survivorship) registry. Participants in the study include colorectal cancer patients and survivors from the Netherlands. Information from 2625 patients was used in this investigation. People's perceptions of their illnesses were evaluated using the Brief Illness Perception on Questionnaire (BIPQ). This study used the Dutch version of the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-Core 30 (EORTC-QLQ-C30) to assess QoL . Results: All BIPQ items were significantly associated with a worse quality of life. Women generally had a poorer perception of disease than did males. Only the patient's estimation of the illness' duration, their level of anxiety, and their estimation of how it will affect them emotionally revealed a discernible gender difference. The association between perceptions of illness and quality of life was substantially stronger for men than for women in two BIPQ measures, such as the perception of the value of the treatment and knowledge of the condition. The feeling of having some control over the disease, for example, was one BIPQ feature that was more strongly linked to women's quality of life.

Does Illness Perception explain Quality of life of Patients with Prostate Cancer? 2013 saw the completion of a study by Mickeviiene *et al*. The goal of this study was to determine whether changes in the quality of life of prostate cancer (PCa) patients might be attributable to how they perceive their illness. Materials and Procedures. The cross-sectional national-level study was carried out. QoL was evaluated with the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core 30 and the Visual Analogue Scale (VAS) while IPs were measured by the revised Illness Perception Questionnaire. A minimal sample size of 372 individuals was established to accurately represent the population of PCa patients in Lithuania with a 95% confidence level. The six largest hospitals in Lithuania that provide a full range of oncology and urology services are the Institute of Oncology of Vilnius University, the Hospital of Lithuanian University of Health Sciences, the Oncology Hospital of Lithuanian University of Health Sciences, Klaipda University Hospital, Iauliai County Hospital, and Panevys County Hospital. All participants in the study were over the age of 18, had the C-61 (by ICD 10) diagnosis, were able to complete the questionnaire, and gave their consent. Our research showed that IPQ-R, sociodemographic, and clinical factors can account for between 27.0% and 43.0% of the difference in QoL measures. The levels of emotional representation and consequences ; physical functioning by the EORTC QLQ-C30, consequences and chemotherapy; role functioning by emotional representations, timeline cyclical, and stage of the disease; emotional functioning by emotional representations and educational level; cognitive functioning by educational level, emotional representations, illness coherence, consequences, and hormonal therapy can all be used to explain the variation in global QoL measured by the VAS. Age, employment, disease duration, marital status, residence, and some treatment modalities (active surveillance, surgery, and radiotherapy) had no discernible impact on any of the QoL domains in this population.

2.7. Illness Perception and Its Relationship to Quality of Life Among Cancer Patients: A Literature Synthesis:

Abstract:

This literature synthesis explores the relationship between illness perception and quality of life among cancer patients. Illness perception refers to individuals' cognitive and emotional representations of their illness, including their beliefs, understanding, and expectations. Quality of life encompasses various aspects of physical, psychological, social, and functional well-being. Understanding the impact of illness perception on quality of life can help healthcare professionals develop tailored interventions and support strategies for cancer patients. This synthesis presents an overview of the existing literature on illness perception and its influence on the quality of life among individuals with cancer.

Introduction:

Cancer is a complex and life-altering illness that affects millions of people worldwide. The experience of cancer goes beyond its physical manifestations and encompasses psychological, emotional, and social dimensions. Illness perception, as proposed by Leventhal's Common-Sense Model, emphasizes the role of patients' beliefs and understanding in shaping their response to illness. The relationship between illness perception and quality of life is a crucial area of investigation, as it offers insights into the subjective experiences of cancer patients and informs supportive care interventions.

Methods:

A systematic search was conducted across major academic databases (e.g., PubMed, PsycINFO) using keywords such as "illness perception," "quality of life," and "cancer patients." Studies published between 2010 and 2023 were included to ensure relevance to contemporary healthcare practices. Both quantitative and qualitative studies were considered, allowing for a comprehensive synthesis of the literature.

Results:

The synthesis of literature identified several key themes related to illness perception and quality of life among cancer patients. Firstly, illness perception was found to influence emotional well-being, with individuals who perceived their illness as more threatening or chronic reporting lower quality of life. Secondly, cognitive representations, such as perceived control and understanding of cancer, were associated with better quality of life outcomes. Thirdly, illness perception interacted with treatment-related factors, including side effects, treatment efficacy, and adherence, which in turn influenced quality of life. Finally, social support and coping strategies were identified as potential mediators between illness perception and quality of life outcomes.

Discussion:

The findings from the literature synthesis highlight the importance of illness perception in shaping the quality of life among cancer patients. Understanding patients' beliefs, expectations, and emotional responses to cancer can assist healthcare professionals in providing appropriate support and interventions. Addressing misconceptions, providing accurate information, and fostering a sense of control and understanding may positively impact patients' quality of life. Additionally, integrating psychosocial support and coping strategies tailored to individual illness perceptions can contribute to improved well-being.

Conclusion:

Illness perception plays a significant role in the quality of life experienced by cancer patients. This literature synthesis provides evidence for the impact of illness perception on various aspects of well-being, including emotional, physical, and social dimensions. Healthcare professionals need to recognize the importance of assessing and addressing illness perception when providing care to cancer patients. Further research is needed to develop targeted interventions that enhance illness perception and ultimately improve the quality of life for individuals living with cancer.

Chapter Three

Methodology

Chapter Three

Methodology

The chapter methodology refers to the approach or set of methods used in conducting a study or research project. It outlines the systematic process followed by researchers to gather, analyze, interpret, and present their findings. The chapter methodology provides a detailed description of the methods employed to answer the research questions or achieve the study's objectives.

3.1.Study Design

In this study, the researcher followed the descriptive correlational approach. The descriptive correlational approach is done by interrogating the study participants about the illness perception and quality of life. Since the problem of the study is related to the present, and that its study will be done through direct interrogation, as well as the aim of this study is to stop at the limit of description and correlate between study variables (*Illness Perception vs. Quality of Life*), and therefore the appropriate approach is the correlational design, which depends on the study of the phenomenon and the statement of its characteristics and size, as well as the collection and interpretation of information. The study was conducted in the period from November 9th 2022 to June 4th 2023.

3.2. Administrative Arrangements

Before collecting the study data, the following official clearances were sought from appropriate authorities:

1. Approval from the University of Babylon/ College of Nursing Council for the study (Appendix A).
2. Official permission have been obtained from Babylon Health Directorate (Appendix A) in order to formally access to Babylon Oncology Center.

3. An official is obtained from Babylon Oncology Center (Appendix A)
4. In addition, the consent of the patients to participate in the study, after explaining the objectives and usefulness of the study to them and assuring that all information provided will be confidential and for scientific and research purposes (autonomy and privacy).

3.3. Setting of the Study

The study was conducted at Babylon Oncology Centers in Hilla City. It is a specialized center affiliated with Marjan Teaching Hospital / Babylon Health Department. This center was established in 2008, and it is the first center for cancerous tumors in the governorate, along with the cancerous tumors department in Imam Al-Sadiq Hospital, while it indicated that the center is capable of providing services for 16 patients per day.

3.4. Sample of the Study

The study sample is selected according to non-probability sampling approach with a total of (150) patients who are attended Babylon Oncology Centers in Hilla city. This purposive sample is selected according to the following criteria include:

3.4.1. Inclusions criteria:

1. Patients who have been diagnosed with cancer duration for 6 months or more.
2. Patients who have been diagnosed with different types of cancer.
3. Patients who are aged 18 years and more.
4. Patients with different education.

3.4.2.Exclusion Criteria:

1. Patients who are chosen for pilot study.

2. Patients who have been diagnosed with cancer duration for less than 6 moths.
3. Patients who disagree to take part or refused to participate in present study
4. Patients unable to communicate.

3.5. Sample Size Determination:

Sample size is an essential aspect of scientific research as it helps to ensure that the results obtained from a study are significant (Andrade, 2020). The present study is employing the (Yamane's formula: n = N/(1+N(e)2.) to determine the sample size.

$$n = \frac{N}{1 + N(e)2}$$

$$n = \frac{250}{1 + 250(0.05)2}$$

$$n = 153$$

The variables in this formula are:

n = the sample size
N = the population of the study
e = the margin error in the calculation

3.6. Study Instruments

The questionnaire is one of the means to help collect data that contribute to achieving the results expected by the study, which aims to clarify the study objectives and significance by obtaining answers to the study’s questions. The questionnaire include the following parts (Appendix B):

3.6.1. Socio-Demographic Characteristics

Patients' characteristics include demographic characteristics such as age, gender, marital status, educational level, occupation, monthly income, and residents as well as the clinical characteristics that deal with cancer types, duration, staging, and associated comorbidities.

3.6.2. Brief Illness Perception Questionnaire

The Brief Illness Perception Questionnaire (BIPQ) is a self-report measure designed to assess individuals' cognitive and emotional representations of their illness or health condition. It was developed by Broadbent *et al*. (2015).

The BIPQ consists of eight items, each assessing a different aspect of illness perception. The questionnaire aims to provide a brief and reliable assessment of how individuals perceive their illness, as these perceptions can significantly influence their behaviour, coping strategies, and treatment outcomes.

The eight items of the BIPQ cover the following domains:

1. Identity: This item assesses how well individuals understand their illness and its symptoms, as well as how much it affects them.
2. Timeline: This item examines individuals' perceptions of the duration and course of their illness, whether they view it as acute (short-term) or chronic (long-term).
3. Consequences: This item explores individuals' beliefs about the impact of their illness on different aspects of their life, such as work, relationships, and daily activities.
4. Personal control: This item assesses the extent to which individuals believe they have control over their illness and its management.
5. Treatment control: This item examines individuals' beliefs about the effectiveness of medical treatments and interventions in controlling their illness.

6. Illness coherence: This item evaluates individuals' understanding of their illness in terms of its causes and consequences, and how well they can make sense of it.
7. Emotional representations: This item assesses individuals' emotional responses to their illness, including feelings of fear, anger, and worry.
8. Illness concern: This item explores individuals' level of worry or concern about their illness and its potential consequences.

Each item in the BIPQ typically ranges from 0 to 10, where higher scores indicate more negative or distressing perceptions of illness.

3.6.3. WHOQOL-BREF

The WHOQOL-BREF (World Health Organization Quality of Life - Brief version) is a widely used questionnaire developed by the World Health Organization (WHO) to measure an individual's quality of life. It is a shorter version of the original WHOQOL-100 questionnaire and is designed to be more practical and easier to administer.

Some key details about the WHOQOL-BREF include:

Purpose: The WHOQOL-BREF aims to assess an individual's perception of their quality of life across various domains. It provides a comprehensive evaluation of an individual's physical health, psychological well-being, social relationships, and environmental factors that may influence their quality of life.

Structure: The questionnaire contains two items from the Overall QOL and General Health and 24 items of satisfaction divided into four domains:

a. Physical domain (7 items): This domain explores an individual's perception of their physical health, including pain, energy levels, sleep, mobility, and activities of daily living.
b. Psychological domain (6 items): This domain examines an individual's psychological well-being, including their self-esteem, body image,

negative feelings (such as depression and anxiety), positive feelings, and overall satisfaction with life.

c. Social relationships domain (3 items): This domain focuses on an individual's satisfaction with their social support network, interpersonal relationships, and the extent to which they feel accepted and understood by others.

d. Environmental domain (8 items): This domain assesses an individual's perception of their physical environment, including safety, access to health care, financial resources, living conditions, transportation, and participation in leisure activities.

Scoring: Each item in the WHOQOL-BREF is rated on a Likert scale ranging from 1 (never) to 3 (always). The scores for each domain are calculated by summing the item scores within that domain. Higher scores indicate a better quality of life.

Adaptation and Translation: The WHOQOL-BREF has been translated and adapted into multiple languages to facilitate its use in different cultural contexts. This allows for cross-cultural comparisons of quality of life.

Applications: The WHOQOL-BREF is widely used in research studies, clinical trials, and population surveys to assess the impact of various interventions, policies, and health conditions on individuals' quality of life. It provides valuable insights into the multidimensional aspects of well-being and helps in identifying areas that require improvement.

It's important to note that the WHOQOL-BREF is just one of several tools available for measuring quality of life and should be used in conjunction with other assessment methods to obtain a comprehensive understanding of an individual's well-being.

3.7. Validity of the Questionnaire

The study protocol and the study instrument underwent series of revisions and modifications and was achieved by 12 experts from different scientific branches, each of those experts had greater than ten years of experience in their field of specialty. The researcher proposed each expert member to review the study instrument for content, simplicity, relevance, style, and suitability.

The face validity of the study tool was conducted after the tool translated into Arabic, which assessed by 12 specialists in diverse departments of nursing. Experts were invited to provide their thoughts and ideas on each study questionnaire item in terms of linguistic relevance, relationship to the dimensions of the study variables allocated to it, and applicability to the study community's setting.

The validity was determined through the use of a panel of (12) experts. They are (2) faculty member from the College of Nursing/ University of Babylon, (2) faculty member from the College of Nursing/ University of Baghdad, (5) faculty member from the College of Nursing/ University of Kufa, and (3) faculty member from the College of Nursing/ University of Karbala (Appendix C).

All the modifications took it into consideration to the instrument according to experts’ recommendations. The experts' responses indicated that minor changes should be made to some items and it's were made according to their suggestions, then the final draft was completed to be ready for conducting the study.

3.8. Pilot Study

This preliminary study was carried out to determine the study tool's stability and credibility, as well as its clarity and efficiency, as well as the standard time required to collect data for each subject, which can be estimated during the interview procedures, and to identify any difficulties that may arise.

The pilot study aimed to achieve the following objectives.

1. Adequacy of research tools development and testing
2. Evaluation of the instrument's viability.
3. Identifying any logistical issues that may arise as a result of the proposed methods.
4. Assessment of proposed data analysis approaches for the detection of potential issues.
5. The researcher's time estimate during data collecting.

3.8.1. Results of pilot study

1. The questionnaire is reliable.
2. The time required for answering the questionnaire ranged from (15-20) minutes.
3. The instrument items were clarified and understood the phenomenon underlying of the study (Table 3-1).

The accepted coefficients reliability of the used study questionnaire regarding internal consistency (Alpha Cronbach) is 0.70 (as shows in table 3-1) by findings calculation in which the instrument was effective, significant, and valid to the research topic of (Illness Perception and its Relationship to Quality of Life among Cancer Patients).

3.8.2. Reliability of the Questionnaire:

Study samples were performed with a total of 15 patients. The researcher meets the participants and introduces them here, and then asks them to participate in conducting this study by expressing their opinion about their illness and quality of life. The interviews were based on individual basis. Then the researcher explained to them the purpose and title of the research and asked them during the interview to answer the questionnaire to confirm simplicity, understanding and estimate the time needed to fill out the study tool.

The researcher remains with the participants until the interview time is up. The estimated time to fill out each form was about 15-20 minutes. The data obtained from the pilot study were analyzed and no adjustments were made so the experimental study was excluded from the original sample. The Cronbach α value ranged from 0.70 and above, indicating a high degree of reliability.

Table 3-1: Reliability of the Studied Questionnaire (*n=15*)

Reliability Statistics			
Scale	**N of Items**	**Cronbach's Alpha**	**Ass.**
BIPQ	**8**	**.91**	**Acceptable**
WHOQoL	**26**	**.82**	**Acceptable**

This table is statistically formed to show the reliability coefficient for the study instrument. The calculated result shows that the questionnaire is reliable measure to study the phenomenon of illness perception and quality of life among patients with cancer on the same population at any time in the future.

3.9. Ethical Considerations

Ethical obligations are one of the most important things that the researcher must follow and abide it when doing the study. Before collecting the data from the community that has been identified for the study, the researcher clarified the main purpose and desired goal of conducting this study for the sample to be included in the study, as well as adhering the strict confidentiality of the data taken from the study sample and pledge to use it for scientific purposes related to the study only.

Before gathering the data from the samples who are participating in the study, the researcher given a brief explanation about the scientific background of the research and the purpose of conducting. Patients were verbally informed about the aims of the study and were asked to participate voluntary. After they consented to take part in the study, they were given an anonymous questionnaire to complete in order to protect the participants' privacy.

3.10. Data Collection

The actual data collection took about 2 months from February 7th , 2023 to April 7th , 2023. The questionnaire has been interviewed with study participants. After obtaining the approval of the Babylon Health Directorate and verifying the validity and reliability of the study instruments.

The researcher interviewed the participants (Patients with Cancer), explained the instructions, answered their questions regarding the form, urged them to participate and thanked them for the cooperation. The interview techniques was used on individual bases, and each interview take (15-20) minutes.

3.11. Statistics Data Analysis

In order to statistically analyze the data collected from the study sample to arrive at the results, the researcher used the *SPSS-20* and Microsoft Excel (2010) program to analyze this data and deal with it statistically, to find the relationships between the variables, and obtain the final results of the research based on a set of statistical tests.

3.11.1. Descriptive approach

Descriptive statistics includes a set of mathematical and statistical methods that are adopted to describe the main features of a data quantitatively by using tables and charts. Descriptive statistics always aim to present and describe the data which is required to be processed, organized, summarized and categorized, as well as presenting them in a simple and clear manner that makes it easier for the recipient to recognize and understand its content. The analysis performed through use:

A. Statistical tables "Frequencies (No.) and Percent (%)"

B. Average of the scores M.s. and the overall average score (M±).

The average score can be calculated by using the following:

$$\boldsymbol{M.s = \frac{Maximum\ total\ sores - munimum\ total\ sores}{Levels}}$$

$$\boldsymbol{= \frac{3-1}{3} = 0.66}$$

1-1.66 were poor

1.67-2.33 were moderate

2.34-3 were good

The average score can be calculated by using the following:

$$\boldsymbol{\sum of\ scores = \frac{Maximum\ total\ sores - Munimum\ total\ sores}{Levels}}$$

Quality of Life in General Health Domain

[Poor= 2-3.33; Moderate= 3.34-4.66; Good= 4.67-6]

Quality of Life in Physical Health Domain

[Poor= 7-11.66; Moderate= 11.67-16.33; Good= 16.34-21]

Quality of Life in Psychological Health Domain

[Poor= 6-10; Moderate= 10.1-14; Good= 14.1-18]

Quality of Life in Environmental Health Domain

[Poor= 8-13.33; Moderate= 13.34-18.66; Good= 18.67-24]

Quality of Life in Social Relationship Domain

[Poor= 3-5; Moderate= 5.1-7; Good= 7.1-9]

Overall Quality of Life

[Poor= 26-43.33; Moderate= 43.66-60.66; Good= 60.67-78]

For IPQ Overall

According to Kuiper *et al.* (2022)

∑<42 indicating low experienced threat

∑42-49 indicating moderate experienced threat

∑≥50 indicating high experienced threat

C. Standard Deviation test ±*SD*.

D. It uses a correlational coefficient "Cronbach alpha" used in estimating the internal consistency of the study tool.

3.11.2.Inferential approach

1. **Cronbach alpha**

The analysis involves employing the Cronbach alpha correlational coefficient, which assesses the internal consistency of the study instrument.

2. **Tests of Normality**

Non-normally distributed data were presented as median or mean ± standard deviation and compared using Kolmogorov-Smirnov (K–S test) and Shapiro-Wilk tests are two common methods used to assess the normality of data. As long as the data does not follow a normal distribution, the student researcher follows non-parametric statistical methods, which include (Kruskal-Wallis H Test and Mann-Whitney U Test).

1. **Kruskal-Wallis H Test**

The Kruskal-Wallis H test is a non-parametric method designed for cases of non-normal distribution. It is employed to assess variations in dependent variables concerning independent variables, particularly discerning disparities in nurses knowledge, attitudes and practices across distinct socio-demographic attributes. This test is applicable when there are more than two categorical variables. When the obtained p-value is below 0.05, it signifies statistically significant differences.

2. **Mann-Whitney U Test**

The Mann-Whitney U test, also a non-parametric technique suitable for non-normally distributed data, serves to identify discrepancies in dependent variables relative to independent variables. It is specifically geared towards scenarios where there are two categorical variables. A significance level of 0.05 is employed to interpret the results, whereas a significance level of less than 0.05 indicates whether statistically significant differences exist.

3. Chi-Squared Test

To test the difference between the number of nominal standards of random variables dichotomous as health workers knowledge and attitudes with demographic characteristics.

$$\chi^2 = \frac{\sum_{all\ i}(O_i - E_i)^2}{E_i}$$

3.12. The Limitation of Study:

The study adopts a purposive approach, which restricts widely generalization of findings.

Chapter Four

Result of study

Chapter Four
Results of the Study

Chapter Four

Results of the Study

Systematically, the findings of the data analysis in the following tables are based on the stated objectives:

4-1.Study Sample Characteristics

Table 4-1.1. Distribution of Study Sample by their Socio-demographic Variables (SDVs)

Socio-demographic Variables	**Classification**	**No.**	**%**
Age	<20 years	2	1.3
	20-29 years	7	4.7
	30-39 years	13	8.7
	40-49 years	38	25.3
	50-59 years	29	19.3
	60 and older	61	40.7
	Min-Max	**18-76**	
	Mean ± SD	**51 ± 12.8**	
Sex	Male	24	16.0
	Female	126	84.0
Marital status	Single	2	1.3
	Married	111	74.0
	Divorced	2	1.3
	Widowed	35	23.3
Education level	Illiterate	23	15.3
	Read & write	19	12.7
	Elementary	54	36.0
	Middle school	33	22.0
	High school	5	3.3
	College	16	10.7
Occupation	Employed	32	21.3
	Free-business	49	32.7
	Retired	27	18.0
	Unemployment	42	28.0
Monthly income	Enough	18	12.0
	Enough to certain limit	80	53.3
	Not enough	52	34.7
Residents	Urban	90	60.0
	Rural	60	40.0

No= number; %= Percentage; Min=Minimum; Max=Maximum; SD=Standard Deviation

The study's findings reveal interesting participant demographics. On average, participants were 51 years old (with a standard deviation of 12.8). The majority of the participants were female (84%), married (74%), had completed elementary school education (36%), were engaged in free-business activities (32.7%), reported having enough income up to a certain limit (53.3%), and resided in urban areas (60%).

Table 4-1.2. Distribution of Study Sample by their Clinical Characteristics

Clinical Data	Classification	No.	%
Type of Cancer	Digestive system and liver	29	19.3
	Kidney and urinary system	9	6.0
	Breast	98	65.3
	Reproductive system	7	4.7
	Blood and lymphatic system	3	2.0
	Bone	2	1.3
	Skin	2	1.3
Duration of Cancer	<1 year	18	12.0
	1-3 years	111	74.0
	>3 years	21	14.0
Stage of Cancer	I	51	34.0
	II	60	40.0
	III	26	17.3
	IV	13	8.7
Type of Treatment	Chemotherapy	107	71.3
	Radiotherapy	5	3.3
	Both	38	25.3
Comorbidities	No	61	40.7
	Diabetes	31	20.7
	Hypertension	25	16.7
	Heart diseases	5	3.3
	Kidney disease	10	6.7
	Liver disease	6	4.0
	Digestive system diseases	7	4.7
	Asthma	5	3.3

No= number; %= Percentage

The findings from present study reveal crucial insights into the clinical data of participants. Among the studied sample, breast cancer emerged as the predominant cancer type, accounting for a significant majority at 65.3%. Furthermore, a substantial portion of participants received their cancer diagnosis within the past 1-3 years, comprising 74% of the total cases.

In terms of cancer staging, more than half of the participants were found to be in stage II metastasis, representing 40% of the overall sample. This information underscores the importance of early detection and intervention in cancer care.

Chemotherapy emerged as the most prevalent form of treatment, with 71.3% of participants undergoing this therapeutic approach, highlighting its widespread use in cancer management.

Remarkably, 40.7% of participants were devoid of associated comorbidities, shedding light on the relatively healthier status of a significant proportion of the study population.

These findings collectively provide valuable insights into the prevalence, timing of diagnosis, stage, and treatment modalities of cancer within our participant group, paving the way for a deeper understanding of cancer care and management in the study population

Table 4-2. Distribution of Brief Illness Perception Questionnaire (BIPQ) among Patients with Cancer

Scales	Min.	Max.	M	SD	Score	No.	%
Consequences	0	10	5.76	4.042	Low	47	31.3
					Moderate	23	15.3
					High	80	53.3
Timeline	0	10	2.75	2.854	Low	98	65.3
					Moderate	35	23.3
					High	17	11.3

Personal control	0	10	4.29	3.306	Low	56	37.3
					Moderate	47	31.3
					High	47	31.3
Treatment control	0	10	4.95	3.880	Low	57	38.0
					Moderate	20	13.3
					High	73	48.7
Identity	0	10	3.98	3.486	Low	63	42.0
					Moderate	50	33.3
					High	37	24.7
Concern	0	10	4.01	3.866	Low	77	51.3
					Moderate	23	15.3
					High	50	33.3
Comprehensibility	0	10	3.97	3.614	Low	68	45.3
					Moderate	35	23.3
					High	47	31.3
Emotions	0	10	4.61	3.587	Low	58	38.7
					Moderate	36	24.0
					High	56	37.3
Overall Illness Perception	0	80	34.32	21.50	Low	74	49.3
					Moderate	36	24.0
					High	40	26.7

Min.: Minimum; Max.: Maximum, M: sum of score, SD=Standard Deviation (Low= 0-3.33; Moderate= 3.34-6.66; High= 6.67-10)

Overall IPQ (<42 indicating low experienced threat, 42-49 indicating moderate experienced threat, and ≥50 indicating high experienced threat)

According to The Brief Illness Perception Questionnaire (B-IPQ), the study reveals a range of perceptions among cancer patients regarding their illness. A significant portion of patients (53.3%) perceived their cancer as having substantial consequences. However, the majority (65.3%) viewed the timeline of their cancer as less threatening. A notable proportion (37.3%) felt they had limited personal control over their illness, while a substantial number (48.7%) believed that treatment options provided a low level of control. Additionally, many patients reported low levels of identification with their illness (42.0%), low concern (51.3%), low comprehensibility (45.3%), and low emotional impact (38.7%). Overall, nearly half (49.3%) of cancer patients expressed a low overall illness perception. These findings suggest that cancer patients' perceptions of their illness vary widely and highlight the complexity of their emotional and cognitive responses to the disease.

4-3. Quality of Life Among Patients with Cancer

Table 4-3-1. Quality of Life in terms of General Health

List	General Health Items	Responses	No.	%	M.s	Ass.
1	How would you rate your quality of life?	Poor	36	24.0	1.89	Moderate
		Moderate	94	62.7		
		Good	20	13.3		
2	Are you satisfied with your health conditions ?	Never	40	26.7	1.93	Moderate
		Sometime	81	54.0		
		Always	29	19.3		

Level of Assessment (Poor= 1-1.66; Moderate=1.67-2.33; Good=2.34-3)

In terms of statistical mean, this table demonstrated that the cancerous patients expressed a moderate responses to QOL in terms of general health (*M.s=1.67-2.33*).

Table 4-3-2. Quality of Life in terms of Physical Health

List	Physical Health Items	Responses	No.	%	M.s	Ass.
1	Does Physical pain preventing you from getting your work done?	Always	28	14.1	2.40	Good
		Sometime	62	31.3		
		Never	108	54.5		
2	Do you need any medical treatment to function in your daily life?	Always	17	8.6	2.53	Good
		Sometime	60	30.3		
		Never	121	61.1		
3	Do any difficulties in movement affect your way of life?	Always	42	21.2	1.98	Moderate
		Sometime	117	59.1		
		Never	39	19.7		
4	Do you have enough energy for daily life?	Never	43	21.7	2.00	Moderate
		Sometime	112	56.6		
		Always	43	21.7		
5	Are you satisfied with your sleep?	Never	31	15.7	2.20	Moderate
		Sometime	97	49.0		
		Always	70	35.4		
6	Are you satisfied with your ability to perform your daily living activities?	Never	35	17.7	2.22	Moderate
		Sometime	85	42.9		
		Always	78	39.4		
7	Are you satisfied with your capacity for work	Never	45	22.7	2.02	Moderate
		Sometime	105	53.0		
		Always	48	24.2		

Level of Assessment (Poor= 1-1.66; Moderate=1.67-2.33; Good=2.34-3)

In terms of statistical mean, this table demonstrated that the cancerous patients expressed a moderate responses to QOL in terms of physical health (M.s=1.67-2.33) at all studied items except, the items number (1 and 2) the responses were good (M.s≥2.34).

Table 4-3-3. Quality of Life in terms of Psychological Health

List	Psychological Health Items	Responses	No.	%	M.s	Ass.
1	How much do you enjoy life?	Never	73	48.7	1.63	Poor
		Sometime	59	39.3		
		Always	18	12.0		
2	Do you feel your life is meaningful?	Never	88	58.7	1.50	Poor
		Sometime	49	32.7		
		Always	13	8.7		
3	How well are you able to concentrate and memorize?	Never	82	54.7	1.53	Poor
		Sometime	57	38.0		
		Always	11	7.3		
4	Are you able to accept your body appearance?	Never	82	54.7	1.55	Poor
		Sometime	53	35.3		
		Always	15	10.0		
5	Are you satisfied with yourself?	Never	66	44.0	1.61	Poor
		Sometime	76	50.7		
		Always	8	5.3		
6	How often do you have negative feelings such as blue mood, despair, anxiety, or depression?	Never	49	32.7	1.81	Moderate
		Sometime	81	54.0		
		Always	20	13.3		

Level of Assessment (Poor= 1-1.66; Moderate=1.67-2.33; Good=2.34-3)

In terms of statistical mean, this table demonstrated that the cancerous patients expressed a poor responses to QOL in terms of psychological health (*M.s≤1.66*) at all studied items except, the items number (6) the responses were moderate (*M.s=1.67-2.33*).

Table 4-3-4. Quality of Life in terms of Environmental Health

List	Environmental Health Items	Responses	No.	%	M.s	Ass.
1	Your physical environment is healthy?	Never	77	51.3	1.71	Moderate
		Sometime	39	26.0		
		Always	34	22.7		
2	Do you have enough money to meet your needs?	Never	85	56.7	1.57	Poor
		Sometime	44	29.3		
		Always	21	14.0		
3	How available to you is the information you need in your day-to-day life?	Never	71	47.3	1.71	Moderate
		Sometime	51	34.0		
		Always	28	18.7		
4	Do you have the opportunity for leisure activities?	Never	75	50.0	1.65	Poor
		Sometime	52	34.7		
		Always	23	15.3		
5	How safe do you feel in your daily life?	Never	75	50.0	1.53	Poor
		Sometime	70	46.7		
		Always	5	3.3		
6	Satisfied with the conditions of your living place?	Never	105	70.0	1.37	Poor
		Sometime	34	22.7		
		Always	11	7.3		
7	Satisfied with your access to health services?	Never	72	48.0	1.59	Poor
		Sometime	67	44.7		
		Always	11	7.3		
8	Satisfied with your transport?	Never	80	53.3	1.57	Poor
		Sometime	54	36.0		
		Always	16	10.7		

Level of Assessment (Poor= 1-1.66; Moderate=1.67-2.33; Good=2.34-3)

In terms of statistical mean, this table demonstrated that the cancerous patients expressed a poor responses to QOL in terms of environmental health (*M.s≤1.66*) at all studied items except, the items number (1 and 3) the responses were moderate (*M.s=1.67-2.33*).

Table 4-3-5. Quality of Life in terms of Social Relationship

List	Social Relationship Items	Responses	No.	%	M.s	Ass.
1	Satisfied with your relationships?	Never	67	44.7	1.69	Moderate
		Sometime	63	42.0		
		Always	20	13.3		
2	Satisfied with the support you receive from your family?	Never	79	52.7	1.68	Moderate
		Sometime	40	26.7		
		Always	31	20.7		
3	Satisfied with the support you get from your friends?	Never	69	46.0	1.60	Poor
		Sometime	72	48.0		
		Always	9	6.0		

Level of Assessment (Poor= 1-1.66; Moderate=1.67-2.33; Good=2.34-3)

This table demonstrated that the cancerous patients expressed a moderate and poor responses to QOL in terms of social relationship.

Table 4-3.6. Quality of Life among Patients with Cancer by Overall Domains

Scales	Min.	Max.	M	SD	Score	No.	%
QOL related to General Health (2Q)	2	6	3.82	1.12	Poor	51	34.0
					Moderate	66	44.0
					Good	33	22.0
QOL related to Physical Health (7Q)	7	20	15.35	2.50	Poor	3	2.0
					Moderate	93	62.0
					Good	54	36.0
QOL related to Psychological Health (6Q)	6	18	9.63	3.34	Poor	85	56.7
					Moderate	53	35.3
					Good	12	8.0
QOL related to Environmental Health (8Q)	8	22	12.7	4.57	Poor	72	48.0
					Moderate	63	42.0
					Good	15	10.0
QOL related to Social Relationship (3Q)	3	9	4.97	1.89	Poor	82	54.7
					Moderate	54	36.0
					Good	14	9.3
Overall QOL (Q26)	33	67	47.3	8.82	Poor	58	38.7
					Moderate	80	53.3
					Good	12	8.0

Min.: Minimum; Max.: Maximum, M: Sum of score, SD=Standard Deviation for total score

This table presents an overview of the Quality of Life Domains among patients with cancer, highlighting several key findings. In terms of general health, approximately 44% of participants reported a moderate level of quality of life, with average scores averaging at 3.82±1.12. When it came to physical health, 62% of participants fell within the moderate level category, recording average scores of 15.35±2.50. On the psychological health front, 56.7% of participants reported a poor level of quality of life, with an average score of 9.63±3.34. Similarly, in the domain of environmental health, 48% of participants had a poor quality of life, indicated by average scores of 12.7±4.57. In the context of social relationships, 54.7% of participants were classified as having a poor quality of life, with an average score of 4.97±1.89. Overall, a majority of cancer patients, approximately 53.3%, reported experiencing an average quality of life, with an average overall score of 47.3±8.82.

Table 4-4:Relationship between illness perception and quality of life among patients with cancer

Illness perception	QOL	Illness Perception				Df	χ^2	*p-value*
		Low	**Moderate**	**High**	**Total**			
Consequences	Poor	37	7	3	47	4	52.635	.000
	Moderate	1	18	4	23			
	Good	20	55	5	80			
Timeline	Poor	49	41	8	98	4	16.854	.002
	Moderate	5	27	3	35			
	Good	4	12	1	17			
Personal control	Poor	41	15	0	56	4	63.188	.000
	Moderate	14	32	1	47			
	Good	3	33	11	47			
Treatment control	Poor	39	16	2	57	4	39.520	.000
	Moderate	7	13	0	20			
	Good	12	51	10	73			
Identity	Poor	37	22	4	63	4	21.129	.000
	Moderate	9	35	6	50			
	Good	12	23	2	37			
Concern	Poor	39	31	7	77	4	13.569	.009
	Moderate	3	18	2	23			
	Good	16	31	3	50			
Comprehensibility	Poor	43	21	4	68	4	33.294	.000
	Moderate	9	23	3	35			
	Good	6	36	5	47			
Emotions	Poor	37	14	7	58	4	37.396	.000
	Moderate	4	28	4	36			
	Good	17	38	1	56			
Overall IP	Poor	39	30	5	74	4	14.273	.006
	Moderate	6	26	4	36			
	Good	13	24	3	40			

"χ^2 = *Chi-square; P-value= Probability value*"

The research findings indicate a highly significant relationship between the quality of life among cancer patients and their perceptions of illness across various dimensions. These dimensions include consequences (p= .000), timeline (p= .002), personal control (p= .000), treatment control (p= .000), identity (p= .000), concern (p= .009), comprehensibility (p= .000), emotions (p=

.000), and overall illness perception (p= .006).

4.5. Statistical Differences in Quality of Life with respect Patients Socio-Demographic and Clinical Variables

Table 4-5-1. Quality of Life between Groups of Age

QOL	**Ranks**			$^{b}\chi^2$	**d.f**	**Sig.**
	Class	**N**	**Mean Rank**			
Age Groups	<20 years	2	149.50	77.887	5	.000
	20-29 years	7	127.50			
	30-39 years	13	110.65			
	40-49 years	38	102.64			
	50-59 years	29	78.98			
	60 and older	61	41.05			

[b]= Kruskal Wallis Test; n= number,; sig.= significant level at 0.05.

The Kruskal-Wallis analysis indicates highly significant variations in the quality of life among cancer patients, depending on their age groups (*p= 0.000*).

Table 4-5-2. Quality of Life between Groups of sex

QOL	**Class**	**n**	**Mean Rank**	***cz*** _	***Sig.***
Sex	Male	24	76.79	1481.000	.874
	Female	126	75.25		

[c]= Mann-Whitney Test; n= number,; sig.= significant level at 0.05.

The Mann-Whitney Test analysis showed that there were no statistically significant differences in quality of life between patients who are male and those who are female (*p= 0.874*).

Table 4-5-3. Quality of Life between Groups of Marital Status

QOL	Ranks			$^{b}\chi^2$	d.f	Sig.
	Class	**N**	**Mean Rank**			
Marital status	Single	2	51.50	65.087	3	.000
	Married	111	92.25			
	Divorced	2	54.00			
	Widowed	35	24.97			

^{b}= Kruskal Wallis Test; n= number,; sig.= significant level at 0.05.

The Kruskal-Wallis analysis indicates highly significant differences in the quality of life among patients with cancer, depending on different marital status classes (*p= 0.000*).

Table 4-5-4. Quality of Life between Groups of Educational Level

QOL	Ranks			$^{b}\chi^2$	d.f	Sig.
	Class	**N**	**Mean Rank**			
Education level	Illiterate	23	67.63	3.557	5	.615
	Read & write	19	66.21			
	Elementary	54	74.36			
	Middle school	33	83.82			
	High school	5	89.00			
	College	16	80.31			

^{b}= Kruskal Wallis Test; n= number,; sig.= significant level at 0.05.

The findings showed that there were no statistically significant differences in quality of life between patients with cancer in relation to their educational level (*p=.615*).

Table 4-5-5. Quality of Life between Groups of Occupation

QOL	Ranks			$^b\chi^2$	d.f	Sig.
	Class	**N**	**Mean Rank**			
Occupation	Employed	32	112.83	72.394	3	.000
	Free-business	49	50.80			
	Retired	27	113.07			
	Unemployment	42	51.73			

^{b}= Kruskal Wallis Test; n= number,; sig.= significant level at 0.05.

The analysis of Kruskal Wallis Test showed that there were statistically significant differences in quality of life between patients with cancer in relation to their occupation (*p=.000*).

Table 4-5-6. Quality of Life between Groups of Monthly Income

QOL	Ranks			$^b\chi^2$	d.f	Sig.
	Class	**N**	**Mean Rank**			
Monthly income	Enough	18	137.56	46.500	2	.000
	Enough to certain limit	80	73.63			
	Not enough	52	56.90			

^{b}= Kruskal Wallis Test; n= number,; sig.= significant level at 0.05.

The analysis of Kruskal Wallis Test showed that there were statistically significant differences in quality of life between patients with cancer in relation to their monthly income (*p=.000*).

Table 4-5-7. Quality of Life between Groups of Residents

QOL	Class	n	Mean Rank	*cz _*	*Sig.*
Residents	Urban	90	78.44	2435.500	.310
	Rural	60	71.09		

^{c}= Mann-Whitney Test; n= number,; sig.= significant level at 0.05.

The Mann-Whitney Test analysis showed that there were no statistically significant differences in quality of life between patients who are urban and those who are rural residents (*p= .310*).

Table 4-5-8. Quality of Life between Groups of Type of Cancer

QOL	Ranks			$^b\chi^2$	d.f	Sig.
	Class	N	Mean Rank			
Type of Cancer	Digestive system and liver	29	78.81	2.688	6	.847
	Kidney and urinary system	9	68.94			
	Breast	98	74.42			
	Reproductive system	7	95.50			
	Blood and lymphatic	3	54.00			
	Bone	2	77.25			
	Skin	2	70.50			

^{b}= Kruskal Wallis Test; n= number,; sig.= significant level at 0.05.

The findings showed that there were no statistically significant differences in quality of life between patients with respect to their types of cancer (*p=.847*).

Table 4-5-9. Quality of Life between Groups of Cancer Duration

QOL	Ranks			$^b\chi^2$	d.f	Sig.
	Class	N	Mean Rank			
Duration of Cancer	<1 year	18	115.03	25.488	2	.000
	1-3 years	111	74.91			
	>3 years	21	44.76			

^{b}= Kruskal Wallis Test; n= number,; sig.= significant level at 0.05.

The Kruskal Wallis Test showed that there were statistically significant differences in quality of life between patients with respect to their duration of cancer (*p=.000*).

Table 4-5-10. Quality of Life between Groups of Cancer Stages

QOL	**Ranks**			**$^{b}\chi^2$**	**d.f**	**Sig.**
	Class	**N**	**Mean Rank**			
Stage of cancer	I	20	117.45	89.522	3	.000
	II	45	90.97			
	III	50	52.54			
	IV	22	17.43			

^{b}= Kruskal Wallis Test; n= number,; sig.= significant level at 0.05.

The Kruskal Wallis Test showed that there were statistically significant differences in quality of life between patients with respect to their duration of cancer (*p=.000*).

Table 4-5-11. Quality of Life between Groups of Treatment Types

QOL	**Ranks**			**$^{b}\chi^2$**	**d.f**	**Sig.**
	Class	**N**	**Mean Rank**			
Treatment	Chemotherapy	107	75.61	.128	2	.938
	Radiotherapy	5	81.70			
	Both	38	74.38			

^{b}= Kruskal Wallis Test; n= number,; sig.= significant level at 0.05.

The Kruskal Wallis Test showed that there were no statistically significant differences in quality of life between patients with respect to their treatment types (*p=.938*).

Table 4-5-11. Quality of Life between Groups of Comorbidities

QOL	Ranks			$^b\chi^2$	d.f	Sig.
	Class	**N**	**Mean Rank**			
Comorbidities	No	61	100.77	52.857	7	.000
	Diabetes	31	37.06			
	Hypertension	25	70.92			
	Heart diseases	5	60.40			
	Kidney disease	10	74.80			
	Liver disease	6	67.50			
	GIT Diseases	7	93.29			
	Asthma	5	29.60			

^{b}= Kruskal Wallis Test; n= number,; sig.= significant level at 0.05.

The Kruskal Wallis showed that there were statistically significant differences in quality of life between patients with respect to their associated comorbidities (*p=.000*).

Chapter Five
Discussion

Chapter Five

Discussion of the Study Results

This chapter deals with discussion the results of the research in tables and these refer to the objectives of this report, which are as follows:

5.1.Socio-Demographic and Clinical Characteristics of the Study Sample

Findings show participants characteristics, the mean age is 51 (SD=12.8). This findings come because most people get cancer at advanced ages. The age of studied sample in study of Kifle (2019) were above 55 years and those come concurrent with our findings.

Among the results of the study, it was noted that most of the participants in the study were mostly women compared to male. These results come because most of the participants had breast cancer of the gender as women. The undergo chemotherapy patients were female more than male in study of Kolankiewicz *et al*. (2017). Also, most of participants that undergo chemotherapy in study of Legese (2021), were female due to the cancer patients who are female more than male.

The results of the study confirmed that most of the participants are married, and these results come because most of them are of advanced ages, so they are considered in the post-marriage age. Marital status may play an important role in the quality of life of cancer patients in terms of social support. The married patients with cancer were the majority of study conducted in Netherlands as linked to the patient's age (Gerritsen & Vincent, 2016).

It is clear that most of the participants in the current study were primary school graduates, and this level of education does not qualify them to obtain a government job, which leads to a decrease in economic referral, as stated in our results. Those findings come consisting with Qian and Yuan (2012), who mentioned in their study that cancer patients were unemployment and make low monthly income. In identification cancer study, the patients were female gender, higher age groups, low level of education, married, unemployed and take care by their family (Christiansen et al., 2020). In addition, all patients undergo chemotherapy were residences at urban areas in Egypt (Gibb, 2019).

The demographic characteristics of our studied sample come alone with Indonesian cancerous patients who reviews the public hospitals. Findings demonstrated that most of patients who diagnosed with cancer who are female aged 40-45 years old primary educated and married without employment (Haryani et al., 2017).

The most of cancer patients were female aged over 50 years old elementary educated and did not work due to moderately monthly income (Chin et al., 2021). As well as, our findings come consisting with findings conducted in Nepal among cancerous patients. It demonstrated that more than half of participants were female at mean age 52.31 informally educated and works as a housewife (Chalise *et al*., 2012).

The findings from the study reveal some important information about the participants' clinical data. Firstly, it was observed that among the studied sample, the most common type of cancer was breast cancer, accounting for 65.3% of the cases. This suggests that breast cancer was prevalent among the participants in the study.

Additionally, a significant proportion of the participants were diagnosed with cancer relatively recently, between 1 to 3 years ago. This finding indicates that the study included individuals who were in the early stages of their cancer journey, potentially allowing for interventions and treatments to be administered at an earlier phase.

In terms of the stage of cancer, it was found that a majority of the participants (40%) were in stage II metastasis. This suggests that the cancer had spread beyond the initial site but had not yet reached advanced stages. Identifying the stage of cancer is crucial for determining appropriate treatment options and prognosis.

Furthermore, the study revealed that chemotherapy was the most common type of treatment among the participants, with 71.3% of individuals undergoing this form of therapy. Chemotherapy is a widely used treatment method for various types of cancer, and its high prevalence in this study could indicate its effectiveness or the preference of healthcare providers in the given context.

Lastly, approximately 40.7% of the participants did not have any associated comorbidities. This finding suggests that a significant portion of the studied sample had cancer as their primary health concern, without additional chronic or pre-existing conditions. This information could be valuable in assessing the impact of comorbidities on cancer management and treatment outcomes.

Overall, these findings provide insights into the prevalence of breast cancer, the recency of cancer diagnoses, the stage of cancer, treatment patterns, and comorbidity profiles within the studied sample. Such information can contribute to a better understanding of the demographic and clinical characteristics of individuals affected by cancer and help guide future research, interventions, and healthcare strategies.

5.2.Illness Perception among Cancer Patients

The Brief Illness Perception Questionnaire (B-IPQ) provides valuable insights into the diverse range of perceptions held by cancer patients regarding their illness. These perceptions can have a profound impact on how individuals cope with and manage their condition. In this discussion, the researcher will explore the key findings from the study and their implications.

Consequences and Threat Perception: One of the noteworthy findings of the study is that a significant portion of cancer patients (53.3%) perceive their illness as having substantial consequences. This perception may encompass concerns about the impact of cancer on their overall health, quality of life, and future prospects. It underscores the importance of addressing patients' fears and uncertainties about the consequences of their illness, as these perceptions can influence their mental and emotional well-being.

Timeline Perception: Interestingly, while many patients perceived the consequences of cancer as substantial, a majority (65.3%) viewed the timeline of their illness as less threatening. This may suggest that, despite recognizing the severity of the disease, patients often maintain hope for a positive outcome or believe that their cancer can be managed effectively. Healthcare providers can build on this aspect to support patients in maintaining a positive outlook and managing their illness over the long term.

Personal Control and Treatment Perception: A substantial proportion of patients felt they had limited personal control (37.3%) over their illness, and even more (48.7%) believed that treatment options provided a low level of control. These perceptions can affect adherence to treatment plans and overall coping strategies. Healthcare professionals should aim to empower patients by providing clear information about their treatment options and involving them in decision-making processes, which can enhance their sense of control.

Psychological and Emotional Aspects: The study also highlights various psychological and emotional aspects of illness perception. Many patients reported low levels of identification with their illness (42.0%), low concern (51.3%), low comprehensibility (45.3%), and low emotional impact (38.7%).

These findings indicate that some individuals may distance themselves emotionally from their diagnosis, while others may struggle to understand or come to terms with it. Healthcare providers should tailor their communication and support strategies to address these diverse emotional responses effectively.

Overall Illness Perception: Nearly half (49.3%) of the cancer patients in the study expressed a low overall illness perception. This implies that a substantial proportion of individuals may need additional support and intervention to improve their understanding of their illness and its management. Patient education, counseling, and peer support programs can be valuable resources to address this gap.

These findings from the B-IPQ study underscore the complexity of cancer patients' perceptions of their illness. These diverse perceptions can significantly influence their emotional and cognitive responses to the disease, which, in turn, can impact their overall well-being and treatment outcomes. Healthcare providers should recognize and address these varied perceptions through tailored communication, support, and intervention strategies to help patients navigate their cancer journey more effectively. Additionally, ongoing research in this area can provide further insights into improving the quality of care for cancer patients by addressing their unique illness perceptions.

Understanding how patients with cancer make sense of their diagnosis and addressing these illness perceptions is a promising approach when supporting patients with psychosocial burden, and can thus be a way of improving the QoL of patients with cancer. Since the prevalence of low quality of life is higher in patients with advanced cancer than in colorectal cancer survivors, and even higher in comparison to the normative population (Mols et al., 2018), patients are in clear need of support. The findings emphasize the importance of raising awareness for patients’ illness perceptions (Gilligan et al., 2017; , especially since previous research found that healthcare providers' understanding of the illness perceptions of their patients was relatively poor (Kus et al., 2017).

Recent findings in cancer research have shed light on the correlation between the quality of life and the timeline of cancer. These studies have revealed a negative relationship between the two variables, indicating that as the timeline of cancer progresses, the quality of life tends to decline.

When a person is diagnosed with cancer, their life undergoes significant changes and challenges. Initially, the shock and uncertainty surrounding the diagnosis can have a substantial impact on the individual's well-being. However, as time passes and the cancer progresses, additional factors come into play.

The physical symptoms and side effects of cancer treatment can be debilitating. Pain, fatigue, nausea, and loss of appetite are commonly experienced, leading to a decline in the overall quality of life. The treatment itself, such as chemotherapy or radiation therapy, can also have a profound impact on the patient's physical and emotional well-being.

Furthermore, the progression of cancer often necessitates adjustments in daily life. As the disease advances, individuals may face limitations in their ability to perform routine activities, maintain social relationships, or engage in hobbies and interests. The need for frequent medical appointments, hospitalizations, and invasive procedures can further disrupt the patient's sense of normalcy and independence.

Psychological factors also come into play as the timeline of cancer extends. The emotional burden of living with a life-threatening illness, coupled with the uncertainty of prognosis, can lead to anxiety, depression, and feelings of hopelessness. The fear of death or the loss of control over one's life can significantly impact a person's mental well-being, further deteriorating their quality of life.

It is important to note that while the correlation between the timeline of cancer and quality of life is generally negative, individual experiences may vary. Some individuals may find ways to adapt and cope effectively with the challenges posed by cancer, maintaining a relatively high quality of life despite the progression of the disease.

These findings underscore the importance of a holistic approach to cancer care. Addressing the physical, emotional, and social aspects of a patient's well-being becomes crucial in enhancing their quality of life. Palliative care and supportive interventions aimed at managing symptoms, improving emotional well-being, and providing a support system can play a vital role in mitigating the negative impact of cancer progression on a person's quality of life.

In summary, the research findings indicate that the quality of life is negatively correlated with the timeline of cancer. As the disease progresses, the physical, emotional, and social challenges associated with cancer can significantly impact an individual's well-being. Recognizing and addressing these challenges through comprehensive care can help improve the quality of life for individuals living with cancer.

5.3.Quality of Life among Cancer Patients

Cancer patients generally have a worse quality of life compared to the general population. We have observed that only (8%) had good QOL and the remaining were poor (38.7%) or moderate (53.3%) (table 4-3-6). This findings corroborated with a recently conducted study findings from India using the same QoL tool, confirmed that the quality of life among cancer patients were suboptimal due to patients experienced many symptoms that affected their QOL. There is a need to develop interventions for effective management of symptoms that will empower the patients to have a greater sense of control over their illness and treatment and to improve the QOL (Nayak *et al.*, 2017).

The present study results show that the quality of life in terms of general health and physical health was within the average level. The quality of life in terms of psychological, environmental and social health was within the low level. With aligns findings from Germany (Hinz *et al.*, 2018). Among such patients, psychosocial functioning was found to be the most impaired sub-domain. Previous studies have emphasized the importance of social support for cancer patients, which has a great impact on QoL (Hofman et al., 2021; Juma Elywy *et al.*, 2022).

The present study findings are supported by findings from India, conducted a cohort study comprising 100 patients of advanced incurable head-and-neck cancer who were offered palliative radiation and suffered from many symptoms such as pain, insomnia, loss of appetite, and fatigue, most of the aspects that are affected by the disease are psychological, social and environmental (Gandhi *et al*., 2014).

Results of other research studies also show that there is a significant decrease in QOL in terms of psychosocial and environmental aspects due to common symptoms resulting from cancer (Shavi et al., 2015; Memtsa et al., 2017). Patients with advanced breast cancer had lower psychosocial QOL due to altered body image (Knobf et al., 2014). Several authors have reported that side effects of treatment affect a patient's QOL depending on individual circumstances, type of cancer and its treatment (Sarfati *et al*., 2016; Shrestha *et al*., 2019).

the findings indicate the significant need for recognition and management of QOL-related problems for cancer patients because they negatively affect different aspects of cancer survivorship (e.g., adherences to cancer therapy) (Lam *et al*., 2019). For example, cognitive impairments affect patients' cancer prognosis, comorbid conditions, or adherences to cancer treatments (Pendergrass *et al*., 2018); psychosocial problems can be barriers to patients' engagement in cancer survivorship care and returning to usual activities in addition to disrupting their adherence to treatment (Brandenbarg *et al*., 2019); and patients with worse functional wellbeing often have more difficulties tolerating rigorous cancer treatments and have less favorable treatment outcomes (West & Jin, 2015).

This study revealed that cancer patients suffer from decreased quality of life in terms of psychological, social and environmental aspects. Cancer management is a critical issue in cancer care. All health professionals must ensure that patients receive appropriate education and care at the right time. There is a need to develop measures for the effective management of symptoms and improvement of QOL. The main issues are the management of symptoms and the need to use strategies that will enable patients to gain a better sense of control over their disease and treatment.

In general, the level of quality of life among cancer patients, whether it is poor or medium, is not considered optimal because of the different demographic and social characteristics. Factors associated with a good quality of life among cancer patients include sex, age, marital status, employment status, and income. More resources should be explored for single or low-income patients, and special attention should be given to patients who are unemployed, female, elderly, or undergoing radiotherapy that would improve their quality of life (Wu *et al*., 2017).

In order to improve the quality of life of cancer patients, the results of this study highlight the importance of supporting cancer patients. After the diagnosis of a chronic disease such as cancer, patients and their families will bear significant economic burdens and thus spur significant concerns about the costs of treatment and medical and care services. Accordingly, financial support may improve QoL by reducing the related financial anxieties of patients and their families (Lathan *et al.*, 2016).

5.4.Relationship between Illness Perception and Quality of Life

The findings highlight a crucial relationship between the quality of life among cancer patients and their perceptions of illness across multiple dimensions. These dimensions encompass consequences, timeline, personal control, treatment control, identity, concern, comprehensibility, emotions, and overall illness perception. This discussion will delve into these findings, providing context and citing relevant research.

Consequences (p= .000): The significant relationship between the quality of life and patients' perception of the consequences of their illness underscores the psychological impact of cancer. Studies such as Salsman et al. (2009), have shown that cancer patients who perceive the consequences of their illness as severe are more likely to experience a diminished quality of life. This can manifest in various ways, including emotional distress and physical discomfort.

Timeline (p= .002): A statistically significant relationship between patients' perceptions of the timeline of their illness and their quality of life suggests that the perception of illness as a chronic condition can negatively affect well-being. A study by Leventhal et al. (2016), discusses how patients who perceive cancer as a long-term or chronic condition tend to experience higher levels of distress and lower quality of life compared to those with a more optimistic perception of the timeline.

Personal control (p= .000) and Treatment control (p= .000): These dimensions highlight the importance of patients' beliefs in their ability to influence the course of their illness and the effectiveness of treatment. Patients who feel they have personal control and believe in the efficacy of treatment tend to experience better quality of life. Research by Barberia et al. (2013), supports this idea, showing that a sense of control over one's illness positively impacts psychological well-being.

Identity (p= .000): Patients' perception of how cancer affects their sense of self is a critical dimension. Those who feel that cancer negatively impacts their identity may struggle with self-esteem and overall quality of life. Research by Thoits (2003), discusses the concept of identity disruption in the context of chronic illness, emphasizing its psychological consequences.

Concern (p= .009): The significance of concern in relation to quality of life suggests that the level of worry and anxiety about the illness can have a direct impact on well-being. Patients who are highly concerned about their cancer may experience more psychological distress. A study by Stanton et al. (2000), demonstrates the adverse effects of illness-related concern on quality of life.

Comprehensibility (p= .000): This dimension relates to how well patients understand their illness. Patients who find their illness comprehensible may cope better and experience a higher quality of life. Research by Schwarzer et al. (2011), explores the importance of health-related information and understanding in the context of chronic illness.

Emotions (p= .000): The emotional dimension highlights the strong connection between psychological well-being and cancer patients' emotional responses to their illness. Negative emotions such as anxiety and depression can significantly impact quality of life. Studies like Kashani et al. (2015), have extensively examined the emotional experiences of cancer patients and their influence on overall well-being.

Overall illness perception (p= .006): The overall perception of illness serves as a comprehensive indicator of how patients view their condition. A study by Broadbent et al. (2015), underscores the importance of considering the holistic perspective of illness perception when assessing its impact on quality of life.

This research findings demonstrate that cancer patients' perceptions of their illness across various dimensions have a profound and statistically significant impact on their quality of life. Understanding these dimensions and their relationships can inform healthcare professionals in providing tailored support and interventions to improve the well-being of cancer patients.

5.5.Factors Associated Quality of Life among Cancer Patients

5.5.1.Patients Age

It was noted among the results of the current study that there are differences in the quality of life according to the different age groups (table 4-5-1). The differences were in favor of the younger age groups, on the contrary, with increasing age, the quality of life gradually decreased. Due to the advanced age and changes, aging added to disease and treatments has negative effects on quality of life. This findings come in the same line with the findings from Saudi Arabia, the quality of life decreases among cancer patients with increasing age for physiological reasons related to aging and chemotherapy (AlJaffar *et al.*, 2023).

Numerous studies have explored the impact of age on the quality of life for patients with cancer, and the results consistently indicate differences among various age groups. These studies reveal a clear trend: younger patients tend to experience better quality of life compared to older patients, while the quality of life gradually decreases with increasing age (Sibeoni *et al.*, 2018).

One primary reason for the observed differences is the physiological resilience and overall health of younger individuals. Younger patients often have a stronger immune system, higher physical fitness levels, and fewer comorbidities, which can contribute to a better quality of life during cancer treatment. Their bodies may tolerate the side effects of cancer therapies more effectively, leading to less severe symptoms and a reduced impact on daily functioning (Zhuang *et al*., 2018).

Additionally, younger patients generally have greater social and financial resources, which can positively influence their quality of life. They may have a larger support network, including family, friends, and peers, who provide emotional support and assistance with practical matters. Financial stability and the ability to maintain employment can alleviate stress and improve overall well-being (Charalambous & Kouta, 2016).

Moreover, in a study conducted in Michigan, USA, reported that the that long-term survivors of cancer who were diagnosed at an older age (<65 years) showed significantly worse QOL outcomes in all domain, while those who were diagnosed at a younger age (20–40) showed better quality of life and worse QOL in the social domain than other age groups (Cimprich & Ronis, 2011).

On other hand, younger age group felt more social inhibitions while undergoing treatment for carcinoma as compared to older age group. Younger patients were more concerned about their future too (Sharma & Purkayastha, 2017). The development of role, emotional, and cognitive functioning over time of the oldest age group differed from the younger age groups, with a trend towards better outcomes in the younger group and worse outcomes in the oldest age group (Bantema-Joppe, 2015).

Limitations on physical and social function, insomnia, fatigue, and psychiatric disorders such as depression and anxiety are among the issues faced by older people with chronic diseases such as cancer, which may lead them to experience low QoL (Saraçli et al., 2015; Brunet *et al*., 2017).

5.5.2.Patients Sex

Though females had lesser mean QoL scores than males, the sex did not affect the overall QoL of patients in the study. Two other QoL studies in cancer patients have reported similar results (Cheng & Lee, 2011; Ramasubbu *et al*., 2020). On the other hand, in two this studies, female patients had lower physical, social, psychological life qualities.

Several studies have examined the quality of life (QoL) in patients with cancer and investigated whether there are any significant differences based on sex. The findings from these studies have consistently shown that there are no statistically significant differences in QoL between male and female cancer patients. One possible reason for this lack of difference could be the fact that cancer affects both men and women in similar ways. The physical and emotional challenges faced by patients, such as pain, fatigue, anxiety, and depression, can be experienced by individuals of any gender. Additionally, the impact of cancer treatment on QoL, including side effects and changes in daily activities, may not differ significantly based on sex.

Moreover, the perception of QoL is subjective and can vary from person to person, regardless of sex. Factors such as individual coping mechanisms, social support, personal values, and psychological resilience can play a more significant role in determining one's QoL than gender itself. It is important to note that while statistically significant differences may not exist, there can still be variations in individual experiences and needs. Healthcare providers should consider the unique circumstances of each patient and provide personalized support and care to address their specific concerns and enhance their overall QoL.

5.5.3.Marital Status

The findings showed that there were statistically significant differences in quality of life between patients with respect to their marital status (table 4-5-3). The differences were in favor of married couples compared to single, divorced, or widowed ones. The quality of life among married couples was much better compared to other types of marital status, perhaps due to social support. Similar with findings from USA (Miller *et al*., 2010) and Israel (Pud, 2011), indicated that the married patients is significant quality of life.

The quality of life, regardless of marital status, increases with the increase in social support and friends, so married people express more support than bachelors or those who have marital problems (Yildiz *et al*., 2016). Executive programs and decision makers should draw attention to cancer patients, especially those who are unmarried or have marital problems such as divorce and widowhood.

Several studies have examined the impact of marital status on the quality of life (QoL) of cancer patients, and the results consistently indicate statistically significant differences. Marital status plays a significant role in shaping the emotional, social, and practical support available to individuals facing a cancer diagnosis.

One common finding is that married cancer patients generally report higher levels of QoL compared to those who are single, divorced, or widowed. The presence of a spouse often provides emotional support, companionship, and a sense of security during a challenging time. Married individuals may also have better access to practical assistance, such as help with daily activities or navigating the healthcare system. As a result, they may experience reduced stress levels and a greater overall satisfaction with life.

Conversely, unmarried individuals may encounter additional burdens and challenges. They may experience feelings of isolation, limited social support networks, and a lack of assistance with their physical and emotional needs. These factors can contribute to lower QoL scores among unmarried cancer patients.

It is worth noting that these findings are not meant to suggest that being married guarantees a higher QoL or that being unmarried implies a lower QoL. Each person's experience is unique, and individual circumstances can greatly influence QoL. Furthermore, it is important to consider that studies in this area have limitations, such as potential confounding variables or selection bias, which should be taken into account when interpreting the results.

Nevertheless, the consistent evidence indicating statistically significant differences in QoL based on marital status underscores the importance of social support and companionship in the lives of cancer patients. Healthcare professionals and support networks should recognize the potential impact of marital status on a patient's well-being and tailor interventions accordingly. Providing additional support and resources to unmarried individuals may help mitigate the challenges they face and improve their overall QoL throughout the cancer journey.

5.5.4.Educational Level

Among the results of the study, it was not confirmed that the difference in educational levels makes a difference in the quality of life (table 4-5-4), that is, the quality of life among cancer patients is affected regardless of the educational levels. We must take into account the quality of life of cancer patients, regardless of their educational levels. In agreement with findings Lis et al. (2006) and Yildiz *et al.* (2013) reported the same results.

Moreover, Knight *et al.* (2007), found that lower education levels in urinary cancer patients had worse physical, social and role functions and experienced more side-effects. Can et al. (2007), observed that university graduates had higher life levels than others. Güner *et al.* (2016), similarly reported that the quality of life worsened when the education level was low.

In contrast, it is reported that the low educational levels may have a protective and positive effect on psychological health in patients, leading to better QoL and satisfaction at the end of life than experienced by patients with higher levels of education. Two factors seem to be involved in this situation: level of trust and awareness in the physician and timing of the illness evaluation (Bovero *et al*., 2016). Better educated patients are more likely to possess a decent job, earn a good income, and enjoy better social status. Furthermore, people with higher levels of education may be expected to have greater compliance with the disease and have better adherence with treatment plans (Muhammad et al., 2016).

The good news is that the World Health Organization has reported that improving family income has been responsible for 75% of the increase in life expectancy observed over the past 50 years. Although individuals in middle- and low-income countries with a lower educational level experience higher mortality rates from cancer, they possess better overall risk factor profiles. Nevertheless, these people receive significantly poorer healthcare. Policies for reducing the global health inequities must involve plans to overcome barriers to care, particularly for people with lower levels of education (Rosengren *et al*., 2019).

Several studies have investigated the potential impact of education level on the quality of life among cancer patients. However, the results consistently indicate that there are no statistically significant differences in quality of life based on educational attainment. Moreover, quality of life is a complex construct that encompasses various factors beyond education, such as social support, psychological well-being, and overall health status. These factors might have a stronger influence on an individual's quality of life compared to their educational background.

It's worth noting that while education level may not directly impact quality of life, it can influence other factors indirectly associated with well-being, such as access to information, health literacy, and socioeconomic status. These factors can influence treatment decisions, coping strategies, and overall healthcare experiences.

5.5.5.Occupation

It was observed that there were statistically significant differences in the quality of life according to the occupation of the patients (table 4-5-5), as the patients who practiced free-business or who did not work (unemployed) had the worst quality of life compared to those who were employed or retired. Perhaps this is due to the poor economic situation among those who engage in self-employment and social isolation among those who do not work. This findings come in the same line with findings from Turkey, working women with breast cancer had better quality of life. The lower life levels of unemployed might be because of their distance from social life and their lesser social support. Government employee had better and general well-being than other professions (Üstündag & Zencirci, 2015).

These results suggest that occupation plays a crucial role in determining an individual's quality of life. Patients who engage in free-business, which may involve self-employment or entrepreneurship, may face additional stressors and challenges that negatively impact their overall well-being. The demands and uncertainties associated with being self-employed or unemployed, such as financial instability and a lack of social support, can contribute to a lower quality of life.

On the other hand, employed individuals and retirees exhibited higher quality of life scores. Being employed typically provides a sense of stability, financial security, and social connections, all of which can positively influence well-being. Retirees, who have completed their working years and enjoy the benefits of retirement, often experience a more relaxed lifestyle and have more time for personal interests, hobbies, and social engagement.

These findings highlight the importance of considering occupation as a significant factor when evaluating an individual's quality of life. They suggest that efforts should be made to support individuals engaged in free-business or those who are unemployed by addressing their unique needs and providing resources to improve their well-being. Additionally, promoting employment opportunities and retirement planning may contribute to enhancing the overall quality of life for individuals in these respective groups.

5.5.6.Socioeconomic Status

Cancer diagnosis alters the family functioning and imposes a financial strain on the family which might make the patient perceive a loss of family. Family members experience psychological stress which in turn causes problems in their job, including absence, a decrease in their productivity, threat of dismissal, and financial issues (Alexander *et al*., 2019). The results of the current study confirmed that there are differences in the quality of life depending on the monthly income (table 4-5-6), as the quality of life was low among those who had an insufficient monthly income. That is, monthly income in general can predict an improvement in the quality of life. Decision makers, cancer care providers and social welfare networks must draw attention to the economic situation among cancer patients. In agreement with the findings from Iran, reported that the positive and significant association between socioeconomic status and QoL among patients with cancer (Sadoughi *et al*., 2017). However, in a study of cancer survivors in San Diego, USA, no significant relationship was found between QoL and socioeconomic status (Medeiros *et al*., 2015).

In contrast, to the results of the current study, a study conducted in India confirmed that socio-economic status cannot lead to any statistical significance for improving the quality of life among cancer patients when it comes to treatment. This may be explained by the provision of free treatment to all patients in the study setting (Sharma & Purkayastha, 2017). In order to improve the quality of life among cancer patients, decision makers in the Ministry of Health must provide free treatment to such patients to reduce the economic burden.

The study also highlighted potential mechanisms through which income influences quality of life. Higher income levels can enable patients to access better healthcare services, including advanced treatments, which may positively impact their physical health outcomes. Additionally, financial stability can alleviate stress related to medical expenses, housing, and other daily necessities, leading to improved emotional well-being and social support.

These findings have important implications for healthcare providers, policymakers, and support organizations. Recognizing the impact of income disparities on the quality of life of cancer patients can help inform the development of targeted interventions and support systems. Efforts to provide financial assistance, improve access to affordable healthcare, and enhance social support networks can potentially help mitigate the disparities in quality of life outcomes among individuals with different income levels.

In conclusion, recent research has highlighted the existence of statistically significant differences in the quality of life of cancer patients based on their monthly income. The findings underscore the importance of addressing socioeconomic factors to ensure equitable support and care for all individuals affected by cancer.

5.5.7.Metastasis Stage

The findings showed that there were statistically significant differences in quality of life between patients with respect to their stages of cancer (table 4-5-10). The advanced stage of cancer is inversely proportional to the quality of life. This is a logical result. Whenever the severity of the disease increases, the physical symptoms, fatigue and exhaustion increase, and the psychological aspects worsen, and thus all aspects of the quality of life are affected. These results are supported by a study conducted in India, indicating that advanced stages of the disease lead to wear on QOL in cancer patients (Sharma & Purkayastha, 2017).

When cancer progresses to advanced stages, it often implies a more severe disease burden, increased symptoms, and greater physical and psychological challenges. These factors can have a profound impact on a patient's well-being and overall QoL. Physical symptoms such as pain, fatigue, and loss of appetite tend to be more pronounced in advanced stages, limiting a person's ability to engage in daily activities and reducing their overall enjoyment of life.

Psychological and emotional factors also play a significant role. Patients with advanced cancer often experience heightened anxiety, depression, and uncertainty about the future. Coping with the physical symptoms, undergoing intensive treatments, and facing the possibility of disease progression or limited life expectancy can lead to a decline in mental health and overall QoL.

Moreover, the treatment options for advanced-stage cancer are often more aggressive, involving stronger medications, surgeries, or invasive procedures. These interventions may further impact QoL by causing additional side effects, functional impairments, and disruptions to social and familial relationships.

It is important to note that the impact of cancer on QoL is not solely determined by the disease stage. Other factors such as the type of cancer, individual characteristics, social support, access to healthcare, and personal resilience can also influence a patient's QoL. However, research consistently demonstrates that as cancer progresses to advanced stages, there is a marked decline in overall QoL.

Understanding the relationship between cancer stage and QoL can inform healthcare professionals in tailoring appropriate interventions to address the unique needs of patients at different stages of the disease. Supportive care measures, such as pain management, psychosocial support, palliative care, and end-of-life planning, can help mitigate the negative impact of advanced-stage cancer on a patient's QoL and enhance their well-being.

In conclusion, the existing body of research provides compelling evidence that there are statistically significant differences in QoL among patients with respect to their stages of cancer. Advanced-stage cancer is consistently associated with a decrease in QoL due to a combination of physical, psychological, and social factors. Recognizing this inverse relationship is crucial for healthcare providers to implement appropriate supportive interventions and improve the overall well-being of patients facing advanced-stage cancer.

5.5.8.Associated Comorbidities

The findings showed that there were statistically significant differences in quality of life between patients with respect to their stages of cancer (table 4-5-11). As the quality of life differs between those who have cancer only compared to those who have diseases associated with cancer. Cancer patients with asthma and diabetes mellitus recorded the lowest quality of life compared to other comorbidities. The research findings come in agreement with findings from Kenya, among 108 cancer patients, it was confirmed that comorbidities are a factor that predicts the quality of life. There are significant differences between patients who have one disease such as cancer and patients who have more than one comorbidity (Kung'u *et al*., 2022).

Moreover, there exists a significant association between comorbidities and QOL among Chinese cancerous patients, and participants with comorbidities generally reported lower QOL scores. Note that the comorbidities were based on the data of a study conducted in China, including high blood pressure, diabetes, heart and cardiovascular diseases, and diseases of the respiratory, digestive and musculoskeletal systems. The results showed that patients with some comorbidities such as heart, respiratory and musculoskeletal diseases had a lower QOL (Wang *et al*., 2016).

With another decade. in a study conducted in Spain 2008 confirmed its results indicated that across most cancer types, cancer patients reported significantly more comorbid conditions and poorer physical and mental health compared with patients without cancer. Negative associations were most pronounced in those with two or more comorbidities and in those diagnosed with cancer within the past year (Smith *et al*., 2008).

Cancer survivors with comorbidities have different clinical and health care needs than those without comorbidities. Furthermore, cancer survivors tend to have more than one disease. Remarkably, more than half of the cancer patients had a respiratory disease, which is the most common disease condition in the China sample (Wang *et al*., 2016).

A high caloric intake and physical inactivity are suspected to be the associated factors of colorectal disease and known to often result in many other comorbidities, for example, diabetes mellitus, hypertension, dyslipidemia, coronary heart disease, gallbladder disease, arthritis, and constipation (Sharif et al., 2018). Previous studies have also clearly indicated that the comorbidities and unhealthy lifestyle have negative influence on QOL among cancer survivors (Sammarco, 2010; Corbett *et al*., 2018).

Therefore, in order to enhance the QOL of patients with cancer, more attention should be paid to their comorbidities, especially respiratory, gastrointestinal, endocrine and skeletal disorders. It is more important to implement a comprehensive management program for chronic diseases and address systemic problems rather than applying temporary and partial solutions.

The study compared patients with cancer only to those who had comorbidities such as asthma and diabetes mellitus. Interestingly, the findings indicated that cancer patients with these specific comorbidities reported the lowest quality of life when compared to patients with other comorbidities.

The implications of these findings are significant, as they highlight the potential challenges faced by individuals with cancer who also have asthma or diabetes mellitus. The presence of these comorbidities may contribute to additional physical and emotional burdens, which can impact the overall well-being and quality of life of cancer patients.

These results emphasize the importance of comprehensive healthcare management for individuals with cancer, especially those with specific comorbidities. By addressing and effectively managing these additional health conditions, healthcare providers can strive to improve the quality of life for patients, thereby enhancing their overall treatment experience and outcomes.

Further research and intervention strategies may be necessary to better understand the underlying mechanisms and develop tailored approaches to support cancer patients with asthma and diabetes mellitus. By addressing the unique challenges associated with these comorbidities, healthcare professionals can work towards improving the quality of life for these individuals, ultimately enhancing their overall well-being during their cancer journey.

Chapter six
Conclusions
and
Recommendations

Chapter Six

Conclusions and Recommendations

6.1.Conclusion:

In light of the results interpretations and its discussion, the study concludes that:

1. The study utilizing The Brief Illness Perception Questionnaire (B-IPQ) reveals that cancer patients exhibit diverse perceptions of their illness. Highlight the complexity of emotional and cognitive responses among cancer patients, with almost half reporting a low overall illness perception.
2. The majority of participants reported an average quality of life, there were notable variations across domains. Physical health fared better, with a higher percentage falling within the moderate level category, whereas psychological, environmental, and social aspects of quality of life showed higher proportions of poor ratings.
3. Findings highlight a statistically significant relationship between cancer patients' perceptions of illness across multiple dimensions and their overall quality of life. These findings underscore the importance of addressing and improving patients' perceptions of their illness to enhance their well-being during cancer treatment and survivorship.
4. Factors such as age play significantly influence the quality of life among cancer patients. Younger age groups tend to have better quality of life due to factors like physical resilience and social support.
5. Marital status can impact quality of life, with married individuals often reporting higher satisfaction. Occupation and socioeconomic status have significant implications for quality of life, with unemployment

and lower income often associated with poorer well-being.

6. Advanced cancer stages typically result in a lower quality of life due to increased physical and emotional challenges. Comorbidities, such as asthma and diabetes, can further reduce quality of life for cancer patients.

6.2.Recommendations:

In light of the conclusions reached by the study, the researcher recommends the following:

1. Develop and implement support programs for cancer patients that take into account their diverse perceptions of illness, focusing on addressing emotional and cognitive responses. Consider offering counseling or psychotherapy services to help patients cope with their perspectives on their condition.
2. Incorporate education about illness perception into cancer patient care. Healthcare providers should discuss and clarify patients' perceptions, addressing any misconceptions and helping them develop a more accurate understanding of their illness. This could be part of the patient's initial assessment and treatment planning.
3. Recognize that age is a significant factor influencing the quality of life among cancer patients. Tailor support and rehabilitation programs to meet the unique needs of older patients, focusing on issues like managing comorbidities and enhancing social support networks.
4. Develop initiatives to support cancer patients who are unemployed or have lower incomes. This could involve job training programs, financial counseling, or access to resources for housing and transportation to alleviate financial stressors that impact their quality of life.

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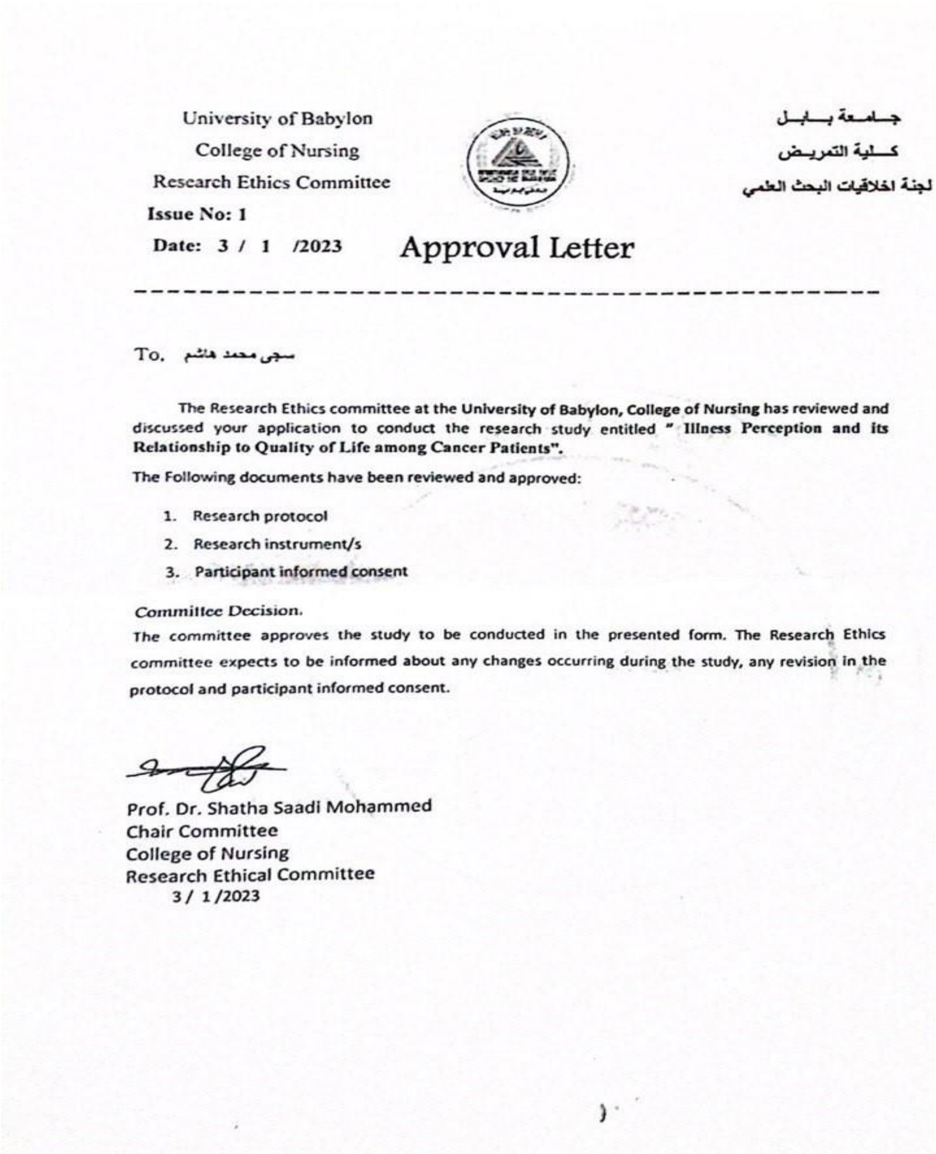
APPENDICES

APPENDIX (A)

ADDEMINSTRIVE ARRANGEMENTS



University of Babylon
College of Nursing
Research Ethics Committee

جامعة بابل
كلية التمريض
لجنة اخلاقيات البحث العلمي

Issue No: 1

Date: 3 / 1 /2023

Approval Letter

To. سجى محمد هاشم

The Research Ethics committee at the University of Babylon, College of Nursing has reviewed and discussed your application to conduct the research study entitled **" Illness Perception and its Relationship to Quality of Life among Cancer Patients".**

The Following documents have been reviewed and approved:

1. Research protocol
2. Research instrument/s
3. Participant informed consent

Committee Decision.

The committee approves the study to be conducted in the presented form. The Research Ethics committee expects to be informed about any changes occurring during the study, any revision in the protocol and participant informed consent.

Prof. Dr. Shatha Saadi Mohammed
Chair Committee
College of Nursing
Research Ethical Committee
3 / 1 /2023

Ministry of Higher Education
and Scientific Research

University of Babylon
College of Nursing

وزارة التعليم العالي والبحث العلمي
جمهورية العراق
جامعة بابل
كلية التمريض
شعبة الدراسات العليا

Ref. No. :
Date: / /

العدد : ١٥٤
التاريخ : ٢ / ٢ / ٢٠٢٣

وزارة الصحة - دائرة صحة بابل
قسم الأمور الإدارية
الواردة
العدد : ٨٦٧
التاريخ : ١ / ٢ / ٢٠٢٣

الى / دائرة صحة بابل/ مركز التدريب والتطوير
م/ تسهيل مهمة

تحية طيبة :

يطيب لنا حسن التواصل معكم ويرجى تفضلكم بتسهيل مهمة طالبة الماجستير (سجى محمد هاشم) لغرض جمع عينة دراسة الماجستير والخاصة بالبحث الموسوم:

ادراك المرض وعلاقته بجودة الحياة لدى مرضى السرطان

Illness Perception and its Relationship to Quality of Life among Cancer Patients.

مع الاحترام ...

المرافقات //
- بروتوكول.
- استبانة.

ا.د. نهاد محمد قاسم
معاون العميد للشؤون العلمية والدراسات العليا
٢٠٢٣/٢/٢

الدكتور
الأعرجي
معاون المدير العام الفني

صورة عنه الى //
- مكتب السيد العميد للتفضل بالاطلاع مع الاحترام.
- شعبة الدراسات العليا
- الصادرة .

E-mail:nursing@uobabylon.edu.iq

STARS

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Appendices

جمهورية العـــــراق

وزارة الصحة والبيئة
دائرة صحة محافظة بابـــــل
المديـــر العـــام
مركـــز التدريب والتنمية البشرية
لجنة البحوث

Ministry Of Health
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استمارة رقم :- ٢٠٢١/٠٣

رقم القرار :- ١٤
تاريخ القرار :- ٢٠/ ٢/٢٠٢٣

قرار لجنة البحوث

تحية طيبة ...

درست لجنة البحوث في دائرة صحة بابل مشروع البحث ذي الـرقم (٢٠٢٣/٠١٦/ بابل) المعنون (أدراك المرضى وعلاقته بجودة الحياة لدى مرضى السرطان) والمقدم من الباحثة (سجى محمد هاشم) إلى وحدة أدارة البحوث والمعرفي مركز التدريب والتنمية البشرية في دائرة صحة بابل بتاريخ ٢٠٢٣/٢/٧ وقررت :

قبول مشروع البحث أعلاه كونـه مستوفيا للمعايير المعتمدة في وزارة الصحة والخاصة بتنفيذ البحوث ولا مانع من تنفيذه في مؤسسات الدائرة .

مــــــع الاحتـــــرام

وزارة الصحة
دائرة صحة بابل
مركز التدريب والتنمية البشرية
لجنة البحوث

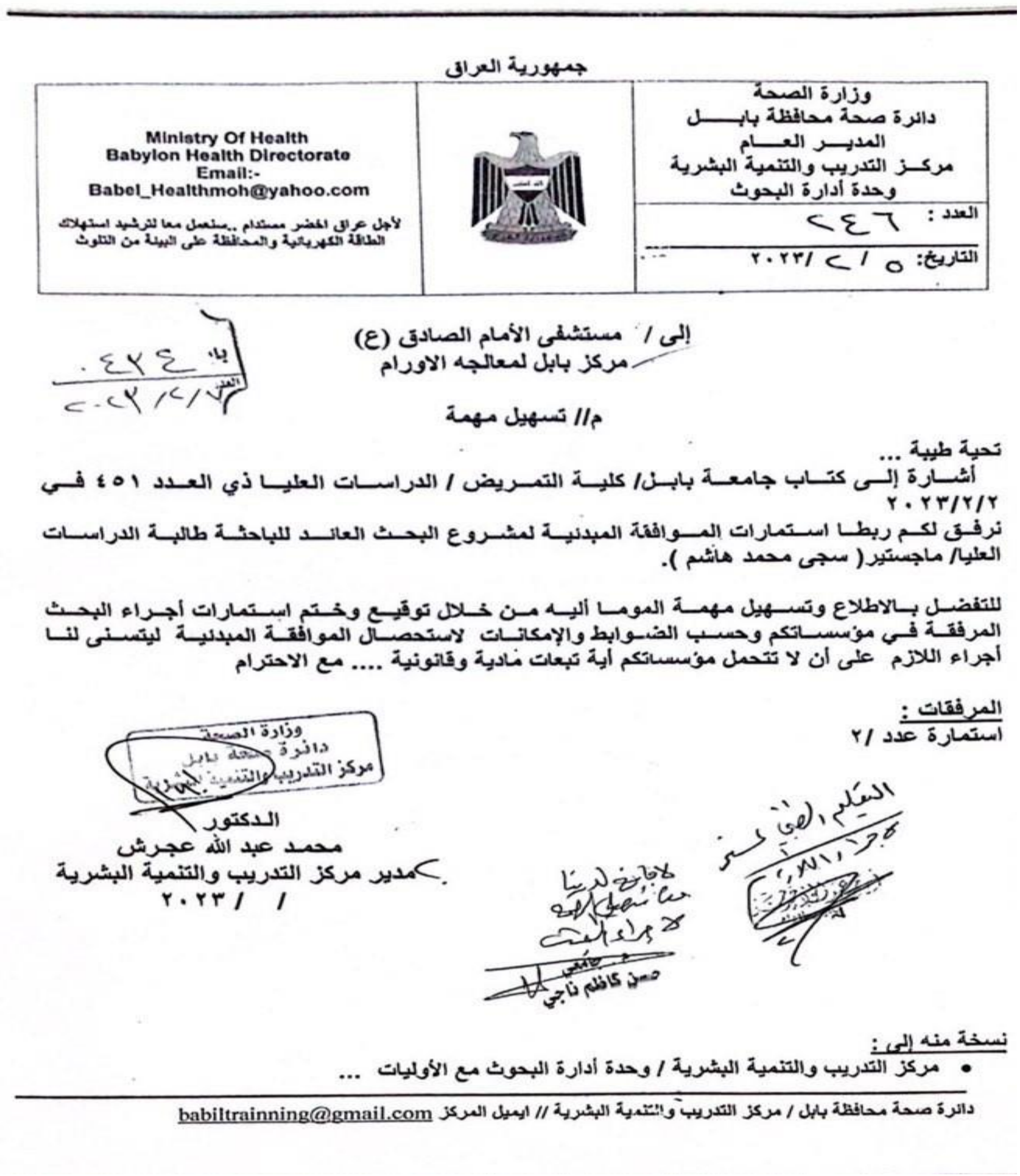
الـدكتور
محمد عبد الله عجرش
رئيس لجنة البحوث
/ / ٢٠٢٣

<u>نسخة منه إلى :</u>

- مكتب المدير العام / مركز التدريب والتنمية البشرية / وحدة إدارة البحوث ... مع الأوليات.

سوزان

دائرة صحة محافظة بابل / مركز التدريب والتنمية البشرية // ايميل المركز **babiltrainning@gmail.com**



جمهورية العراق

وزارة الصحة
دائرة صحة محافظة بابـــل
المديـــر العـــام
مركـــز التدريب والتنمية البشرية
وحدة أدارة البحوث

Ministry Of Health
Babylon Health Directorate
Email:-
Babel_Healthmoh@yahoo.com

لأجل عراق اخضر مستدام ..ستعمل معا للترشيد استهلاك الطاقة الكهربائية والمحافظة على البيئة من التلوث

العدد : ٢٤٦

التاريخ: ٥ / ٢ / ٢٠٢٣

العدد ٤٢٤
التاريخ ٧/٢/٢٠٢٣

إلى / مستشفى الأمام الصادق (ع)
مركز بابل لمعالجه الاورام

م// تسهيل مهمة

تحية طيبة ...

أشارة إلى كتاب جامعة بابل/ كلية التمريض / الدراسات العليا ذي العدد ٤٥١ في ٢٠٢٣/٢/٢
نرفق لكم ربطا استمارات الموافقة المبدئية لمشروع البحث العائد للباحثة طالبة الدراسات العليا/ ماجستير(سجى محمد هاشم).

للتفضل بالاطلاع وتسهيل مهمة المومأ أليه من خلال توقيع وختم استمارات أجراء البحث المرفقة في مؤسساتكم وحسب الضوابط والإمكانات لاستحصال الموافقة المبدئية ليتسنى لنا أجراء اللازم على أن لا تتحمل مؤسساتكم أية تبعات مادية وقانونية .... مع الاحترام

المرفقات :
استمارة عدد /٢

وزارة الصحة
دائرة صحة بابل
مركز التدريب والتنمية البشرية

الدكتور
محمد عبد الله عجرش
مدير مركز التدريب والتنمية البشرية
٢٠٢٣/ /

لا مانع لدينا
مع تسهيل المهمة
لاجراء البحث
حسن كاظم ناجي

نسخة منه إلى :
- مركز التدريب والتنمية البشرية / وحدة أدارة البحوث مع الأوليات ...

دائرة صحة محافظة بابل / مركز التدريب والتنمية البشرية // ايميل المركز babiltrainning@gmail.com

جمهورية العراق

وزارة الصحة
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مركـــز التدريب والتنمية البشرية
وحدة أدارة البحوث

العدد : ٢٤٦
التاريخ: ٥/ ٢/ ٢٠٢٣

Ministry Of Health
Babylon Health Directorate
Email:-
Babel_Healthmoh@yahoo.com

لأجل عراق اخضر مستدام ..سنعمل معا لترشيد استهلاك الطاقة الكهربائية والمحافظة على البيئة من التلوث

٢١٨٢
٧/ ٢/ ٢٠٢٣

إلى / مستشفى الأمام الصادق (ع)
مركز بابل لمعالجه الاورام

م// تسهيل مهمة

دائرة صحة محافظة بابل
مستشفى الامام الصادق (ع)
الواردة
العدد
التاريخ

تحية طيبة ...

أشـــارة إلـــى كتـــاب جامعـــة بابـــل/ كليـــة التمـــريض / الدراســـات العليـــا ذي العـــدد ٤٥١ فـــي ٢٠٢٣/٢/٢

نرفـق لكـم ربطـا اسـتمارات المـوافقة المبدئيـة لمشـروع البحـث العائـد للباحثـة طالبـة الدراسـات العليا/ ماجستير(سجى محمد هاشم).

للتفضـل بـالاطلاع وتسـهيل مهمـة المومـا أليـه مـن خـلال توقيـع وخـتم اسـتمارات أجـراء البحـث المرفقـة فـي مؤسسـاتكم وحسـب الضـوابط والإمكانـات لاستحصـال الموافقـة المبدئيـة ليتسـنى لنـا أجراء اللازم على أن لا تتحمل مؤسساتكم أية تبعات مادية وقانونية .... مع الاحترام

المرفقات :
استمارة عدد /٢

وزارة الصحة
دائرة صحة بابل
مركز التدريب والتنمية البشرية

الدكتور
محمد عبد الله عجرش
مدير مركز التدريب والتنمية البشرية
/ /٢٠٢٣

لا مانع
٧/ ٢/ ٢٠٢٣

د. محمد علي الغازي
اختصاص طب الاورام والاشعة العلاجية
M.B.Ch.B-D.M.R T-ISCO

نسخة منه إلى :
- مركز التدريب والتنمية البشرية / وحدة أدارة البحوث مع الأوليات ...

دائرة صحة محافظة بابل / مركز التدريب والتنمية البشرية // ايميل المركز babiltrainning@gmail.com

Appendix (B)

Questionnaire

Part I: Sample Information:

First: demographic information:

1- **Age** : ☐ year

2- **Sex** : male ☐ female ☐

3- **Marital Status** :

Single ☐ Married ☐ Divorced ☐ Widowed ☐

4- **Level of education** :

Illiterate ☐ Read and write ☐ Elementary ☐
Middle school ☐ High school ☐ Institution ☐
College graduate ☐ Post graduate ☐

5- **Occupation :**

Employed ☐ Free-business ☐ Retired ☐
Unemployment ☐

6- **Monthly income :**

Enough ☐ Enough to certain limit ☐ Not enough ☐

7- **Residents :**

Urban ☐ Rural ☐

Second: Clinical Characteristics:

1- Diagnosis (type of cancer):

Digestive system and liver ☐ Kidney and urinary system ☐
Breast ☐ Reproductive system ☐
Blood and lymphatic system ☐ Bone ☐
Skin ☐ Respiratory System ☐

2- Duration of the Disease in Months: ☐

3- Stage of Disease :

Stage one (I) ☐ Stage two (II) ☐ Stage three (III) ☐
Stage four (IV) ☐

4- Type of Treatment :

Chemotherapy ☐ Radiation therapy ☐ Both ☐

5- Do you Suffer from Chronic Diseases or Health Problems Besides Cancer (comorbidities) ?

Yes ☐

No ☐

If yes: what is it?

Diabetes ☐ Hypertension ☐ Heart Disease ☐
Kidney disease ☐ Liver disease ☐ Digestive system disease ☐
Asthma ☐ Rheumatoid ☐ Joint stiffness ☐
Epilepsy ☐ Fainting ☐

Part II: Patient's perceptions of cancer:

1. **Consequences : "** How much does your illness affect your life?**"**

0 no affect at all	1	2	3	4	5	6	7	8	9	10 severely affects my life

2. **Timeline : "**How long do you think your illness will continue?**"**

0 a very short time	1	2	3	4	5	6	7	8	9	10 forever

3. **Personal control : "**How much control do you feel you have over your illness?**"**

0 absolutely no control	1	2	3	4	5	6	7	8	9	10 extreme amount of control

4. **Treatment control :"** How much do you think your treatment can help your illness?

0 not at all	1	2	3	4	5	6	7	8	9	10 extremely helpful

5. **Identity :"** How much do you experience symptoms from your illness?**"**

0 no symptoms at all	1	2	3	4	5	6	7	8	9	10 Many severe symptoms

6. **Concern : "**How concerned are you about your illness?**"**

0 not at all concerned	1	2	3	4	5	6	7	8	9	10 extremely concerned

7. **Comprehensibility :"** How well do you feel you understand your illness?**"**

0 don't understand at all	1	2	3	4	5	6	7	8	9	10 understand very clearly

8. **Emotions : "** How much does your illness affect you emotionally? (e.g. does it make you angry, scared, upset or depressed?)"

0 not at all affected emotionally	1	2	3	4	5	6	7	8	9	10 extremely affected emotionally

Part III: Quality of life for cancer patient :

General health domain:6 items				
		Poor	**Neither**	**Good**
1	How would you rate your quality of life?			
		never	**Sometime**	**Always**
2	Are you satisfied with your health conditions ?			

Physical health domain:7 items				
		Never	**Sometime**	**Always**
1	Does Physical pain preventing you from getting your work done?			
2	Do you need any medical treatment to function in your daily life?			
3	Do any difficulties in movement affect your way of life?			
4	Do you have enough energy for daily life?			
5	Are you satisfied with your sleep?			
6	Are you satisfied with your ability to perform your daily living activities?			
7	Are you satisfied with your capacity for work			
Psychological health domain:6 item				
		Never	**Sometime**	**Always**
1	How much do you enjoy life?			
2	Do you feel your life is meaningful?			
3	How well are you able to concentrate and memorize?			
4	Are you able to accept your body appearance?			
5	Are you satisfied with yourself?			

6	How often do you have negative feelings such as blue mood, despair, anxiety, or depression?			
Environmental health domain:8				
		Never	**Sometime**	**Always**
1	Your physical environment is Healthy?			
2	Do you have enough money to meet your needs?			
3	How available to you is the information you need in your day-to-day life?			
4	Do you have the opportunity for leisure activities?			
5	How safe do you feel in your daily life?			
6	Satisfied with the conditions of your living place?			
7	Satisfied with your access to health services?			
8	Satisfied with your transport?			
Social relationship domain :3				
		Never	**Sometime**	**Always**
1	satisfied with your relationships?			
2	satisfied with the support you			

	receive from your family?			
3	satisfied with the support you get from your friends?			

Appendix (B)

استمارة استبيان

عزيزي المريض/ ه

هل توافق على اجراء مقابلة لغرض البحث العلمي علماً إن المعلومات التي تصدر عنك ستكون في غاية السرية ولن تستخدم إلا لغرض البحث العلمي فقط. لذا يمكنك الإدلاء برأيك بكل جدية ومصداقية

موافق ☐ **غير موافق** ☐

الجزء الاول: معلومات العينة:

اولا: المعلومات الديموغرافية:

1. **العمر :** ☐ سنة
2. **الجنس:** ذكر ☐ أنثى ☐
3. **الحالة الزوجية :** أعزب ☐ متزوج ☐ مطلق ☐
   ارمل ☐
4. **المستوى التعليمي:** غير متعلم ☐ يقرا ويكتب ☐ ابتدائي ☐
   ثانوي ☐ معهد ☐ كلية ☐
   دراسات عليا ☐
5. **المهنة:** موظف حكومي ☐ إعمال حرة ☐
   متقاعد ☐ عاطل عن العمل ☐
6. **الدخل الشهري :** كافي ☐ يكفي الى حد ما ☐ غير كافي ☐
7. **الاقامة (السكن) :** مدينة ☐ ريف ☐

ثانيا: المعلومات السريرية:

1- التشخيص(نوع السرطان) :

الجهاز الهضمي والكبد ☐
الثدي ☐
الدم والجهاز اللمفاوي ☐
الجلد ☐
الكلى والجهاز البولي ☐
الجهاز التناسلي ☐
العظام ☐
الجهاز التنفسي ☐

2- مدة المرض بالشهور: ☐

3- مرحلة المرض

المرحلة الاولى (I) ☐ المرحلة الثانية (II) ☐ المرحلة الثالثة (III) ☐

المرحلة الرابعة (IV) ☐

4- نوع المعالجة :

علاج كيمياوي ☐ علاج اشعاعي ☐ كلاهما ☐

5- هل تعاني من امراض او مشاكل صحية مزمنة الى جانب السرطان (امراض مصاحبة) :

كلا ☐

نعم ☐

في حالة نعم : ماهي؟

سكر ☐
امراض الكلى ☐
ربو ☐
صرع ☐
ضغط ☐
امراض الكبد ☐
الامراض الرثوية ☐
اغماء ☐
امراض القلب ☐
امراض الجهاز الهضمي ☐
تصلب المفاصل ☐

الجزء الثاني: ادراك المريض لمرض السرطان

1. **العواقب: "الى أي حد يؤثر مرضك على حياتك؟"**

0 لا يؤثر عليها ابدا	1	2	3	4	5	6	7	8	9	10 يؤثر عليها بشدة

2. **الجدول الزمني: " كم تظن أن مرضك سيدوم ؟"**

0 لمدة قليلة جدًا	1	2	3	4	5	6	7	8	9	10 إلى الأبد

3. **التحكم الشخصي: "كيف تقيّم سيطرتك على مرضك ؟"**

0 لا سيطرة على الاطلاق	1	2	3	4	5	6	7	8	9	10 سيطرة هائلة

4. **التحكم في العلاج: "كم تظن ان علاجك يمكن أن يساعدك ؟"**

0 لا يساعدني على الاطلاق	1	2	3	4	5	6	7	8	9	10 مفيد الى اقصى درجة

5. **التشخيص: "الى أي درجة تشعر بأعراض مرضك ؟"**

0 لا أعراض على الإطلاق	1	2	3	4	5	6	7	8	9	10 أعراض حادة جدا

6. **مخاوف: "الى اي حد يسبب لك مرضك القلق ؟"**

0 لا قلق على الإطلاق	1	2	3	4	5	6	7	8	9	10 قلق هائل

7. الاستيعاب: "كيف تقيّم فهمك لمرضك ؟"

0 لا أفهم على الإطلاق	1	2	3	4	5	6	7	8	9	10 افهمه بوضوح شديد

8. المشاعر: "كم يؤثر عليك مرضك على الصعيد العاطفي ؟ (مثلا يثير غضبك، يخزنك، يخيفك او يسبب لك الاحباط ...)؟"

0 لا اتأثر على الإطلاق	1	2	3	4	5	6	7	8	9	10 اتأثر بدرجة هائلة

الجزء الثالث: جودة حياة مرضى السرطان

مجال الصحة العامة				
		سيئة	**لا بأس**	**جيدة**
1	كيف تقيم مستوى (جودة) حياتك؟			
		ابدا	**احيانا**	**دائما**
2	هل انت راض عن ظروفك الصحية؟			
مجال الصحة البدنية				
		ابدا	**احيانا**	**دائما**
1	هل الألم الجسدي يمنعك من إنجاز عملك؟			
2	هل تحتاج للعلاجات الطبية للقيام بأنشطتك اليومية الروتينية؟			
3	هل تؤثر صعوبة الحركة على حياتك؟			
4	هل لديك طاقة كافية للحياة اليومية؟			
5	هل انت راض عن نومك؟			
6	هل انت راض عن قدرتك على أداء أنشطة حياتك اليومية؟			
7	هل انت راض عن قدرتك على العمل			
مجال الصحة النفسية				
		ابدا	**احيانا**	**دائما**
1	ما مدى استمتاعك بالحياة			
2	تشعر أن حياتك ذات معنى؟			

3	ما مدى جودة قدرتك على التركيز والذاكرة؟			
4	راض عن مظهرك الخارجي؟			
5	هل انت راض عن نفسك؟			
6	هل تتعرض الى مشاعر سلبية مثل المزاج المتقلب و اليأس و القلق أو الاكتئاب؟			
مجال البيئة الصحية				
		ابدا	**احيانا**	**دائما**
1	البيئة التي تحيط بك صحية؟			
2	هل لديك ما يكفي من المال لتلبية احتياجاتك؟			
3	هل تتوفر المعلومات التي تحتاجها في حياتك اليومية؟			
4	هل تتاح لك الفرصة لممارسة الأنشطة الترفيهية؟			
5	هل تشعر بالأمان في حياتك اليومية؟			
6	هل لديك قناعة بمسكنك؟			
7	راض عن حصولك على الخدمات الصحية؟			
8	راض عن توفر وسائل النقل العامة			
مجال العلاقات الاجتماعية				
		ابدا	**احيانا**	**دائما**
1	هل انت راض عن علاقاتك الشخصية مع الآخرين؟			
2	هل انت راض عن العون الذي تتلقاه من اسرتك			
3	هل انت راض عن الدعم الذي تحصل عليه من أصدقائك؟			

APPENDIX (C)

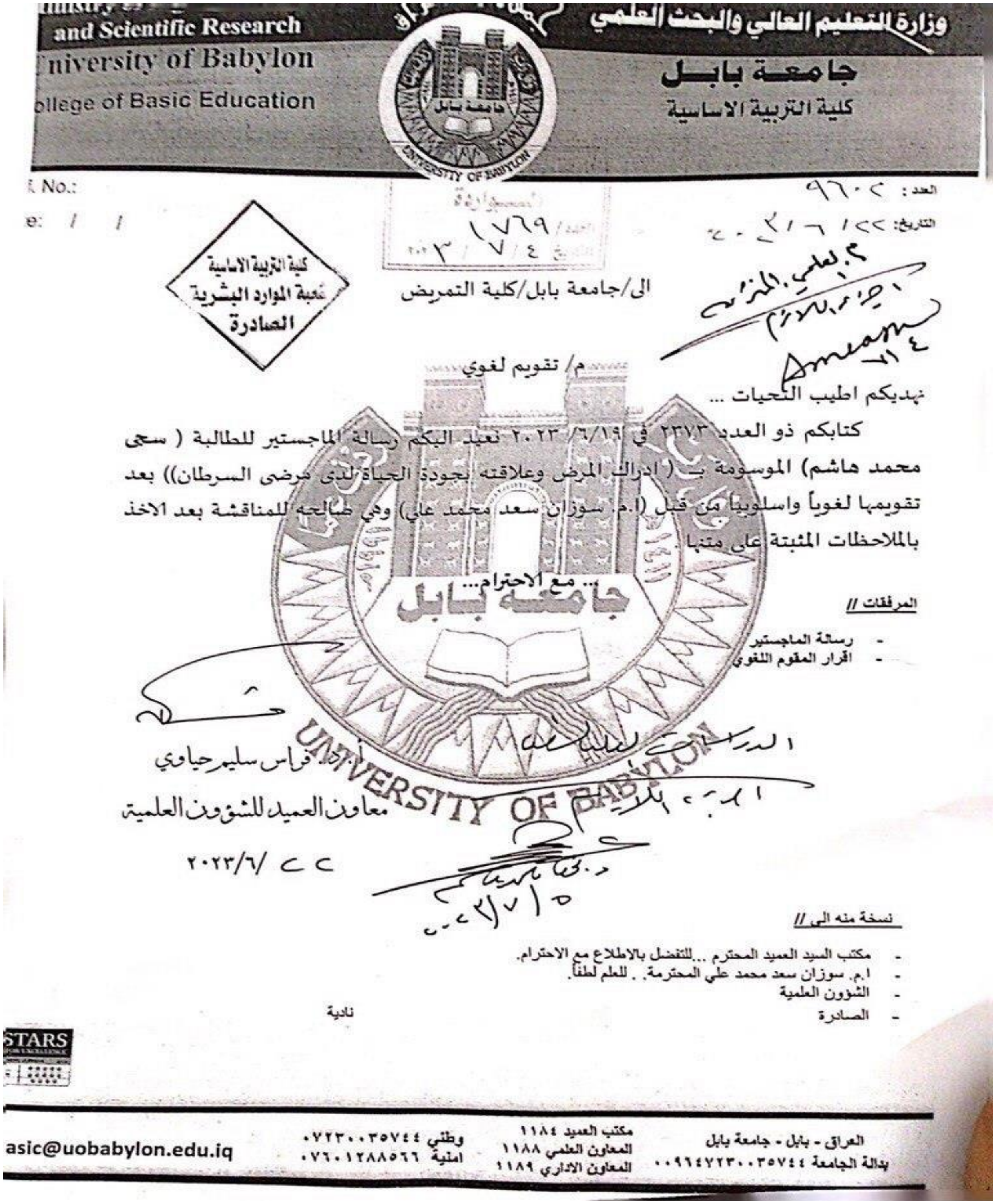
PANEL OF EXPERTS

قائمة بأسماء الخبراء:

ت	اسم الخبير	الاختصاص	اللقب العلمي	مكان العمل	سنوات الخبرة
1	د. راجحة عبد الحسن حمزة	تمريض صحة البالغين	استاذ	جامعة الكوفة/ كلية التمريض	39
2	د. صباح عباس احمد	تمريض صحة البالغين	استاذ	جامعة بغداد/ كلية التمريض	34
3	د. سحر ادهم علي	تمريض صحة البالغين	استاذ	جامعة بابل/ كلية التمريض	34
4	د. خالده محمد خضر	تمريض صحة البالغين	استاذ	جامعة بغداد/ كلية التمريض	20
5	د. فاطمة مكي محمود	تمريض صحة البالغين	استاذ مساعد	جامعة كربلاء/ كلية التمريض	28
6	د. صافي داخل نوام	تمريض الصحة النفسية والعقلية	استاذ مساعد	جامعة كربلاء/ كلية التمريض	20
7	د. حسن عبد الله عذبي	تمريض صحة البالغين	استاذ مساعد	جامعة كربلاء/ كلية التمريض	20
8	د. ضياء كريم عبد علي	تمريض الصحة النفسية والعقلية	استاذ مساعد	جامعة العميد/ كلية التمريض	16
9	د .محمد عبد الكريم	تمريض صحة البالغين	استاذ مساعد	جامعة الكوفة/ كلي التمريض	15
10	د. حيدر حمزه علي	تمريض الصحة النفسية والعقلية	استاذ مساعد	جامعة الكوفة/ كلي التمريض	14
11	د. جهاد جواد كاظم	تمريض صحة البالغين	استاذ مساعد	جامعة الكوفة / كلية التمريض	14
12	د. علي احمد كاظم	تمريض الصحة النفسية والعقلية	مدرس	جامعة بابل / كلية التمريض	10

APPENDIX (D)

Linguistic Approval



and Scientific Research
niversity of Babylon
ollege of Basic Education

وزارة التعليم العالي والبحث العلمي
جامعة بابل
كلية التربية الاساسية

No.:
e: / /

العدد : ٩٦٠٢
التاريخ: ٢٢/ ٦ /٢٠٢٣

العدد/ ١٧٦٩
التاريخ ٤/ ٧ /٢٠٢٣

كلية التربية الاساسية
شعبة الموارد البشرية
الصادرة

الى/جامعة بابل/كلية التمريض

م/ تقويم لغوي

نهديكم اطيب التحيات ...

كتابكم ذو العدد ٢٣٧٣ في ١٩/٦/ ٢٠٢٣ نعيد اليكم رسالة الماجستير للطالبة (سجى محمد هاشم) الموسومة بـ (ادراك المرض وعلاقته بجودة الحياة لدى مرضى السرطان)) بعد تقويمها لغوياً واسلوبياً من قبل (ا.م. سوزان سعد محمد علي) وهي صالحه للمناقشة بعد الاخذ بالملاحظات المثبتة على متنها .

... مع الاحترام...

المرفقات //

- رسالة الماجستير
- اقرار المقوم اللغوي

أ.د. فراس سليم حياوي
معاون العميد للشؤون العلمية
٢٠٢٣/٦/ ٢٢

الدراسات العليا

٥/٧/٢٠٢٣

نسخة منه الى //

- مكتب السيد العميد المحترم ...للتفضل بالاطلاع مع الاحترام.
- ا.م. سوزان سعد محمد علي المحترمة. . للعلم لطفاً.
- الشؤون العلمية
- الصادرة

نادية

الخلاصة

الخلفية : تعد جودة الحياة مقياسًا مهمًا للتقييم والتنبؤ بعلاج مرضى السرطان. يتعرض المرضى الذين يعانون من السرطان خطر متزايد لسوء نوعية الحياة أثناء علاج السرطان. هذه الدراسة تهدف إلى تقييم ادراك المرض وعلاقته بجودة الحياة لدى مرضى السرطان.

المنهجية: دراسة ارتباطية وصفية أجريت في مدينة الحلة خلال الفترة من 9 تشرين الثاني 2022 إلى 4 حزيران 2023. تتكون عينة الدراسة من 150 مريضًا اختيروا وفقًا لنهج أخذ العينات الغير الاحتمالي. تم التحقق من صدق الاستبيان من قبل الخبراء وتم التحقق من موثوقيتها من خلال دراسة تجريبية. جمعت البيانات من خلال المقابلات وحللت من خلال تطبيق التحليل الإحصائي الوصفي والاستنتاجي.

النتائج: تكشف نتائج الدراسة عن لمحة بين المشاركين الذين يبلغ متوسط عمرهم 51 عامًا، معظمهم من الإناث (84%)، والمتزوجات (74%)، وأكمل 36% دراستهم الابتدائية، و32.7% يعملون لحسابهم الخاص، وغالبًا ما يعانون من دخل شهري محدود. ومن الجدير بالذكر أن أكثر من النصف (53.3٪) من المشاركين في الدراسة أفادوا بأنهم يتمتعون بنوعية حياة متوسطة. وقد وجد أن نوعية الحياة هذه تختلف بشكل كبير بناءً على العديد من العوامل الديموغرافية والسريرية، بما في ذلك العمر ($p=0.000$)، والحالة الاجتماعية ($p=0.000$)، والمهنة ($p=0.000$)، والدخل الشهري ($p=0.000$)، ومدة السرطان ($p=0.000$)، ومرحلة السرطان

(p=0.000)، ووجود أمراض مصاحبة (p=0.000). علاوة على ذلك، تكشف الدراسة عن وجود علاقة بين نوعية الحياة وإدراك المرض فيما يتعلق بالعواقب (p= .000), والجدول الزمني (p= .002)، والتحكم الشخصي (p= .000)، والتحكم في العلاج (p= .000)، والتشخيص (p= .000)، والمخاوف (p= .009)، والاستيعاب (p= .000)، والمشاعر (p= .000) .

الاستنتاجات والتوصيات: كانت جودة الحياة لمرضى السرطان بشكل عام متوسطة وتتأثر في الغالب بالعوامل الديموغرافية بما في ذلك العمر والحالة الاجتماعية والمهنة والدخل الشهري بالإضافة إلى الجوانب السريرية للسرطان مثل فترة ومراحل المرض. الوزارات والمنظمات الاجتماعية يجب ان تسلط الضوء على ضمان حصول مرضى السرطان على الموارد المالية الكافية لتلبية مطالبهم من أجل تقليل الآثار السلبية للمتغيرات الفردية التي تؤثر على جودة حياتهم.

جمهورية العراق
وزارة التعليم العالي والبحث العلمي
جامعة بابل
كلية التمريض

ادراك المرض وعلاقته بجودة الحياة لدى مرضى السرطان

رسالة مقدمة

الى مجلس كلية التمريض / جامعة بابل
وهي جزء من متطلبات نيل درجة الماجستير علوم في التمريض

تقدمت بها

سجى محمد هاشم

بإشراف

أ. د. شذى سعدي محمد

حزيران 2023 م　　ذو القعدة 1445 هـ