TEHRAN UNIVERSITY OF MEDICAL SCIENCES

International Campus

School of Nursing and Midwifery

M.Sc. Thesis

Assessment of unmet needs in palliative care and their related factors in cancer patients referred to selected hospitals in Iraq in 2025

Submitted in partial fulfillment of the Requirement for a Master of Science Degree in

Medical Surgical Nursing.

Supervisor:

Prof. Dr. Leila Sayadi

By:

Ameer Hakim Samawi Aljibori

2025

Tehran, Iran.

Declaration:

I am Ameer Hakim Samawi Aljibori, declare that all written materials in this dissertation are the researcher's original work except those materials that were used as reference citation in the text. This work is submitted for the degree of Master of Science in Medical Surgical Nursing in the TUMS. The work has not been presented and will not be presented to any other University for a similar or any other degree award.

Ameer Hakim Samawi Aljibori

Dedication

I would like to express my gratitude to ALLAH Almighty for guiding me to complete my Master's degree. I also dedicate it to my parents for the love, and to my brothers and sisters without their support I could not have achieved thus far.

I dedicate this humble work to my supervisor and mentor, esteemed supervisor [**Prof. Dr. Leila Sayadi**], who illuminated my path with the light of knowledge and wisdom.

I hope to continue learning and growing, and to use the knowledge I have acquired to serve the community.

Acknowledgements

First, I would like to express my appreciation to my supervisor Prof. Dr. Leila Sayadi for her support and guide me, family for their moral support during my study. I also like to express my appreciation the administration, staff, lecturers and all professors of the School of Nursing and Midwifery, for their support and guidance during my education activities up to this level and advice throughout this study

I thank Tehran University of Medical Science (TUMS) for giving me the opportunity to study in this great University.

Supervisor Certification

I certify that the preparation of thesis entitled "**Assessment of unmet needs in palliative care and their related factors in cancer patients referred to selected hospitals in Iraq in 2025**" was presented by "Ameer Hakim Samawi Aljibori", and made under my supervision at the School of Nursing and Midwifery, TUMS, as a partial fulfillment of the requirements for the degree of Master of Science in Medical Surgical Nursing. Based on recommendations made by the supervisor, I forward this thesis for debate by the examination committee.

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Prof. Dr. Leila Sayadi

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Head of the Department

Date: / /

Committee Certification

We certify as an examining committee that we have read thesis entitled "**Assessment of unmet needs in palliative care and their related factors in cancer patients referred to selected hospitals in Iraq in 2025**" and examined the student " Ameer Hakim Aljibori" in its content and what related to it, and found it meets the standard of thesis for the degree of Master of Science in Medical Surgical Nursing.

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Biodata of Author

Mr. Ameer Hakim Samawi Aljibori was born on January 01, 2001. He completed his higher secondary education from Masoud Bin Ramadhan in 2018 from Sultanate of Oman. He graduated from College of Nursing, Al-Ameed University, Karbala, Iraq in 2022.

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Abstract:

Background: Patients with advanced cancer experience problems and unmet needs. However, we assume that patients with advanced cancer will have more problems and unmet needs in Iraq. The current work studied and identified the patient's status with advanced cancer in selected hospitals have more issues, problems and unmet needs.

Methods: We performed questionnaire survey including, daily activities, physical problems and symptoms, spiritual, psychological, financial and social issues, autonomy and need of insufficient information about the disease and its treatment that can provide help and alternative healing methods; the data collected for 337 Iraqi patients with 33 items or questions of the Problems and Needs in Palliative Care-short version questionnaire. We performed descriptive and analysis using statistical analysis programs.

Results: The prevalence of most physical, psychological, social and spiritual issues problems, were the most common and these issues need more professional attention and from the specialists and families. More than 40% of the patients reported for physical symptoms and psychological problems. As well as more than 95% of the patients notified that the pain and fatigue have most common problems and need to more care.

Conclusion and Recommendation: Apparently, social and cultural differences influence in physical problems. Nonetheless, fewer Iraqi patients reported financial issues. However, we found more unmet needs for professional attention in Iraqi patients especially in physical symptoms and psychological issues. These simple data and information analysis provide interesting insights into problems and unmet needs and give rise to our new hypothesis about cultural influences. This hypothesis should be studied in more depth.

Key Words: Cancer patients, Palliative care, Unmet needs and Iraq

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Chapter One

Introduction

1. Chapter One

1.1 Introduction

Cancer is a term that describe a large group of serious diseases which can affect any part of the human body. Other terms used are malignant tumors and neoplasms. The main feature of cancer is the rapid creation of abnormal cells that grow beyond their usual boundaries, and spread to other organs; the latter process is referred to as metastasis, which is considered the main cause of death from cancer. With an increasing number of cases each year and according to the World Health Organization (WHO), cancer accounted for approximately 10 million deaths in 2020, making it the second leading cause of death globally (1).

The Eastern Mediterranean Region (EMR) is anticipated to see the highest increase in cancer incidence over the next 15 years, driven by population growth, aging, lifestyle modifications, urbanization, and heightened exposure to carcinogens (2) . The types and burdens of cancer differ significantly across various countries in the region (2) .

In Iraq, the impact of consecutive wars, conflicts and political instability resulted in remarkable shortage in the medical recourses and requested funds with disruption of the relevant services including cancer care (3). Currently, and although that Iraq spends about 6–7% of its gross domestic product (GDP) on the health sector, nevertheless, it provides free of charge services to all citizens, as well as there are numerous cancer care hospitals and centers distributed all over the Iraqi governorates, but there is still a shortage of health care in most Iraqi hospitals (4)

While palliative care services have become the norm in health care systems in developed countries throughout the world, the lack of access to palliative care services management in Iraq remains a challenge and in the early stages of development.

Palliative care is crucial for improving the quality of life for individuals with serious illnesses, by managing symptoms, providing emotional and spiritual support, and assisting families. It's not just for those with terminal illnesses and can be integrated with curative treatments. Palliative care also supports caregivers and can positively influence the course of the illness.

This study aims to investigate the unmet needs of patients in the field of palliative care in cancer patients and the factors associated with it in selected hospitals in Karbala city in Iraq.

These items can be stated such as managing pain, breathlessness, fatigue, and other physical symptoms, as well as addressing emotional distress, anxiety, depression, and spiritual distress.

1.2 Problem Statement

Cancer is a leading cause of morbidity and mortality worldwide, with an increasing number of cases each year. According to the World Health Organization (WHO), cancer accounted for approximately 9.6 million deaths in 2018, making it the second leading cause of death globally (1). The Eastern Mediterranean Region (EMR) is anticipated to see the highest increase in cancer incidence over the next 15 years, driven by population growth, aging, lifestyle modifications, urbanization, and heightened exposure to carcinogens(2) . The types and burdens of cancer differ significantly across various countries in the region(2) . According to the Global Cancer Observatory (3), the age-standardized incidence and mortality rates of cancer in the Iraqi population for 2018 were 105.5 and 64.7, respectively. In 2018, the Iraqi Cancer Registry (ICR) reported 31,502 new cancer cases with an incidence rate of 82.6 per 100,000 population. Of these, 43% were male and 57% female. The most common cancers were breast (19.7%), bronchus and lung (8.2%), colorectal (6.1%), leukemia (6.0%), and bladder (4.9%) (4).

So, the palliative care is very important to improving the quality of life for cancer patients and addressing these needs holistically is essential for a positive patient experience and can lead to better adherence to treatment plans and improved survival rates

The literature on unmet palliative care needs highlights the importance of extending palliative care to all individuals, regardless of diagnosis, with tailored packages of care to address specific needs (5). A consensus report from the Center to Advance Palliative Care proposed criteria for identifying patients at high risk for unmet palliative care needs in the hospital setting, advocating for a checklist approach to screening and educational initiatives to address these needs (6). Studies have also explored the prevalence of palliative care needs in specific patient populations, such as ICU admissions and patients with advanced cancer (7). A cross-sectional survey conducted in Mainland China identified the prevalence and correlates of unmet palliative care needs in dyads of Chinese patients with advanced cancer and their informal caregivers, emphasizing the importance of addressing these needs in a holistic manner(8).

The physical and emotional effects of cancer and its treatment may be very different from person to another person. Palliative care can treat a wide range of issues, merge an individual's needs into care. A palliative care specialist will take into consideration the following effects in account for each patient: a) Physical effect, common physical symptoms like pain, loss of appetite, fatigue, vomiting, shortness of breath, and insomnia. b) Emotional effect, palliative care authority can give resources to help patients and their families deal with the feeling that come with a cancer diagnosis such as worry, depression and fear. c)Spiritual or affecting the human spirit, patients often look more deeply for meaning in their lives (9).

Palliative care approach and development vary significantly between developed and developing countries, developed nations generally have more established palliative care systems and resources, while developing nations face significant challenges in providing this essential care. There are several factors contribute to unmet needs in palliative care, including limited access to services, insufficient training for healthcare professionals, inadequate communication, and socioeconomic disparities. Other significant factors are patient-related, such as age, education level, functional status, and symptom burden. Despite the growing cancer burden, palliative care services in Iraq are significantly underdeveloped(10).

In 2017, Hasanein H. Ghali (11) studied the cultural styles or challenges of PC in Iraq, he said that the concept of PC among Iraqi people is initial and primitive and the most of them don't have idea about palliative care and they don't have a clear program of palliative care as well as not known or familiar with PC. In Iraq; the strength of this field in the area of culture and depends on religion and psychosocial factors. Community knowledge and awareness is very important and also within the medical community palliative care terminology is still limited to part of the oncology. Generally, in Iraq, the response to disease and health represents a combination of Eastern and Western styles. The first style is to look health as a balanced situation and disease as unbalanced situation, that is mean, the Eastern style represents the usual reaction being to adjust the situation to the environment, while the Western style is to replace the environment as much as possible. The concept the palliative care has been introduced to the Children Welfare Teaching Hospital in Medical City, Baghdad, during training courses that designed for this purpose, supervision by external organizations. This hospital one of two important centers in Iraq for treating childhood cancer (solid tumors and leukemia) with 300 new cases per year. Palliative care

is essential for managing the complex symptoms associated with advanced cancer and improving quality of life, yet access to such services remains limited (11).

The World Health Organization emphasizes that effective palliative care is critical in reducing suffering and enhancing the quality of life for patients with serious illnesses. However, reports indicate that palliative care services in many low- and middle-income countries, including Iraq, face challenges such as war, inadequate infrastructure, insufficient trained personnel, and limited availability of essential medications (12-14). In Iraq, these challenges are compounded by ongoing conflicts, which have further strained the healthcare system and hindered the development of comprehensive palliative care services(15). Numerous studies on palliative care in Iraq have emphasized the establishment of pain management units in most tertiary hospitals across the Iraqi governorates over the last 15 years(16) . However, limited research has been conducted on the needs of other patients in this context, including psychological, social, and spiritual needs. The lack of structured palliative care programs and resources exacerbates these issues, leading to a diminished quality of life for patients and their families. So, there is a critical need to assess the palliative care needs of cancer patients in Iraq to identify gaps and develop targeted interventions.

According to Ghaith F. and et al; palliative care was not established in Iraq and no specialized centers for cancer palliative care are available. There is shortage of drugs and trained doctors, there is one pain management center in Baghdad and one in the Kurdistan region in the north of Iraq. However, no formal strategies or policies, practices, guidelines and there is low awareness among health professionals regarding the use of opioids. Iraq has high ratio and spread of many cancer types (17).

Understanding the palliative care needs can inform important decisions for health managers and policymakers to optimize the care of these patients. A comprehensive assessment of unmet care needs should incorporate the perspectives of all stakeholders and rely on rigorously designed mixed-methods research and longitudinal studies within specific contexts. Understanding the specific needs and related factors affecting palliative care can help in designing strategies to improve service delivery and patient outcomes. This study aims to fill this gap by assessing unmet needs in palliative care and related factors for cancer patients in selected hospitals in Iraq in 2025, providing valuable insights for policymakers and healthcare providers to enhance palliative care services in the region (17)

1.3 Aims of the Study

1.3.1.1 Main Objective:

To determine unmet needs in palliative care and their related factors in cancer patients referred to selected hospitals in Iraq in 2025

1.3.1.2 Specific Objectives

1. To determine unmet needs in palliative care in cancer patients referred to selected hospitals in Iraq in 2025
2. To determine related factors of unmet needs in palliative care in cancer patients referred to selected hospitals in Iraq in 2025
3. To determine the relation between unmet needs in palliative care services and their related factors in cancer patients referred to selected hospitals in Iraq in 2025.

1.3.1.3 Research Questions

1. What are unmet needs in palliative care in cancer patients referred to selected hospitals in Iraq in 2025?
2. What are related factors of unmet needs in palliative care in cancer patients referred to selected hospitals in Iraq in 2025?
3. Is there any relationship between unmet needs in palliative care and some factors in cancer patients referred to selected hospitals in Iraq in 2025?

1.3.1.4 Practical objective:

By determining unmet palliative care needs the gaps in care that patients require but are not receiving will determine. This helps in understanding where additional support or interventions are necessary to improve patient outcomes. Understanding unmet needs helps in allocating resources more effectively. It allows healthcare providers to prioritize interventions and services that will have the greatest impact on patient outcomes

1.4 Variables Definitions

1.4.1 Palliative Care (PC)

World Health Organization (WHO) defined palliative care as: an approach to improve the quality of life of patients and their families facing the problems associated with life-threatening illness through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems (1).

1.4.2 Needs

Needs are clearly defined as the necessity requirement for some of action or necessary things that is eligible and beneficial to get the best well-being and comprised physical as well as psychosocial issues. these needs encompass various aspects, including physical, emotional, social, and informational needs (17)

Short Version (PNPC-SV). Instrument PNPC-SV examines the 8 dimensions of activity and exercise, physical symptoms, autonomy, psychological, spiritual, financial, and information needs.

1.4.3 Unmet Medical Care (UMC)

In general, Patients' unmet needs refer to the gaps or deficiencies in healthcare services and support that patients experience, which can hinder their ability to achieve optimal health outcomes and satisfaction. Some patients' unmet needs examples include: accessible healthcare, disease management, patient education, disease research and treatments, health information technology, etc. (17)

1.4.4 Unmet Needs in Palliative Care

Theoretical definition: Palliative care aims to stop or relieve suffering for cancer patients whom facing life's threatening diseases, through early management of physical, psychosocial, and spiritual problems. Palliative care needs encompass a wide range of multidimensional issues that impact a patient's quality of life, including physical symptoms (e.g. pain, fatigue, loss of appetite), psychological distress, social/practical concerns, and spiritual/existential needs (18).

Operational definition: In current study to determine unmet needs in palliative care, a short version of the Problems and Needs in Palliative Care Questionnaire (PNPC-sv) which used. The PNPC-sv is a concise, patient-centered tool that helps identify the prevalent problems affecting a patient's quality of life (QOL) and their needs for palliative care. The PNPC-sv is a concise, 33-item version of the original comprehensive PNPC questionnaire, which had 90 items. The PNPC-sv is a validated, dependable and practical tools for assessing the issues, problems and palliative needs attention of patients in clinical settings. This study has been conducted in Iraq, o the English version of PNPC-sv questionnaire was translated into Arabic language because most of patient don't know English language. (18).

Practical objective: By determining unmet palliative care needs the gaps in care that patients require but are not receiving will determine. This helps in understanding where additional support or interventions are necessary to improve patient outcomes. Understanding unmet needs helps in allocating resources more effectively. It allows healthcare providers to prioritize interventions and services that will have the greatest impact on patient outcomes.

1.4.5 Cancer:

Theoretical definition: a disease characterized by the uncontrolled division and spread of abnormal cells. These cells can invade and destroy nearby tissues, and may also spread to other parts of the body

Operational definition:

Operational definition defines how researchers identify and categorize cancer cases based on available data, such as diagnostic codes, treatment information, or specific tumor characteristics. These definitions can vary depending on the type of cancer, the data source, and the research question

Chapter Two

Theoretical, Conceptual framework &

Literature review

2. Chapter Two

2A.1 Theoretical and conceptual framework

This chapter contains the theoretical and conceptual foundations of research; and a literature review related to the subject of the study.

The framework of this study is a conceptual framework and, in this regard, topics such as cancer explained. Then, the two main concepts of this study, namely palliative care and unmet needs explained.

2A.2 Cancer and cancer patients

As mentioned in the first chapter, WHO defined cancer disease as a large group of diseases that can start in almost any organ or tissue of the body when abnormal cells grow uncontrollably, go beyond their usual boundaries to invade adjoining parts of the body and/or spread to other organs (1), Cancer disease kills around a quarter of the people in the world. Cancer is an extensive term that involved over 277 forms of cancer. The aberrant cell growth is caused by gene changing. Many cancer patients are diagnosed as an emergency case, which is linked to clinical and patient-reported outcomes, most malignancies disease present with displays to basic care. However, cancer sign can also be indications of a benign disease; therefore, the doctor must decide whether cancer disease is the cause. Cancer is still a main unmet medical need and many potential cancer disease targets have yet to be find (19). According to Annual Report Iraqi Cancer Registry 2020 (ICR), Ministry of Health and Environment/Iraqi Cancer Board, that the number of cases of cancer in Iraq for the period from 1994 to 2020 as shown in Figure 2.1. Rate of new cases of cancer in Iraq/100,000 populations, 1976 – 2022 shows in Figure 2.2, which shows that there is increasing with time. While rate of new cases of cancer in Iraq/100,000 populations, 1976 – 2023 as shown in Figure 2.3. Table 2.1 represents estimated number of Iraq population by governorates and gender, 2023 and the total number of new cases of cancer during the year 2023 was 43,062. The age standardized incidence rate was 171.6 /100,000P (20)

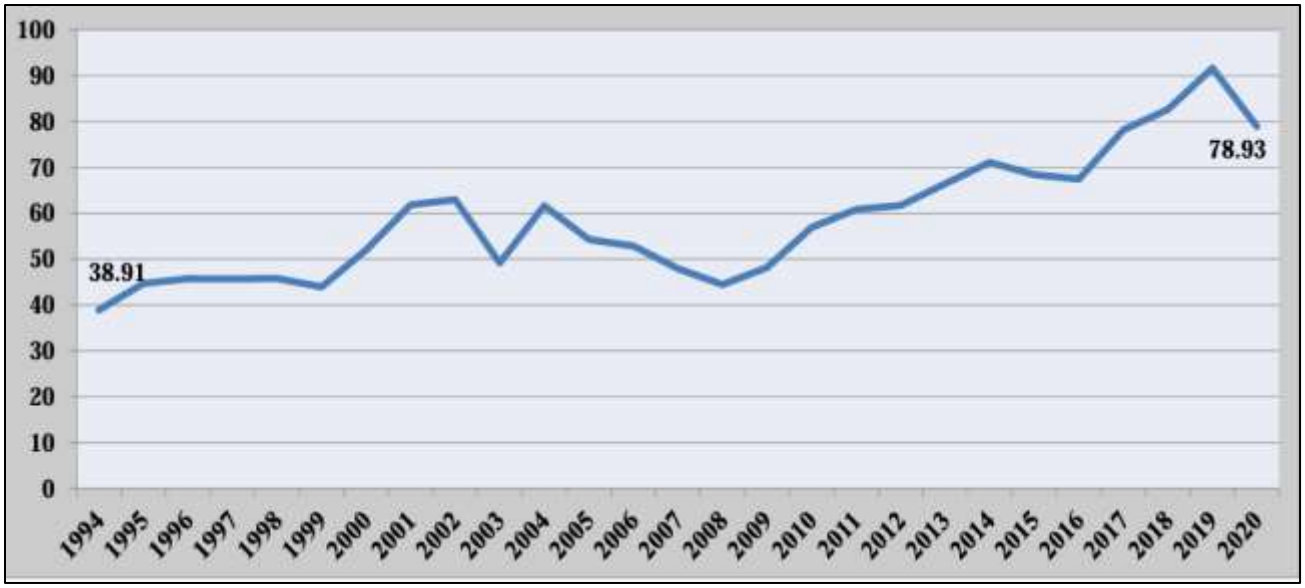

Fig.2.1: Rate of new cases of cancer in Iraq/100,000 populations, 1994-2020 (20)

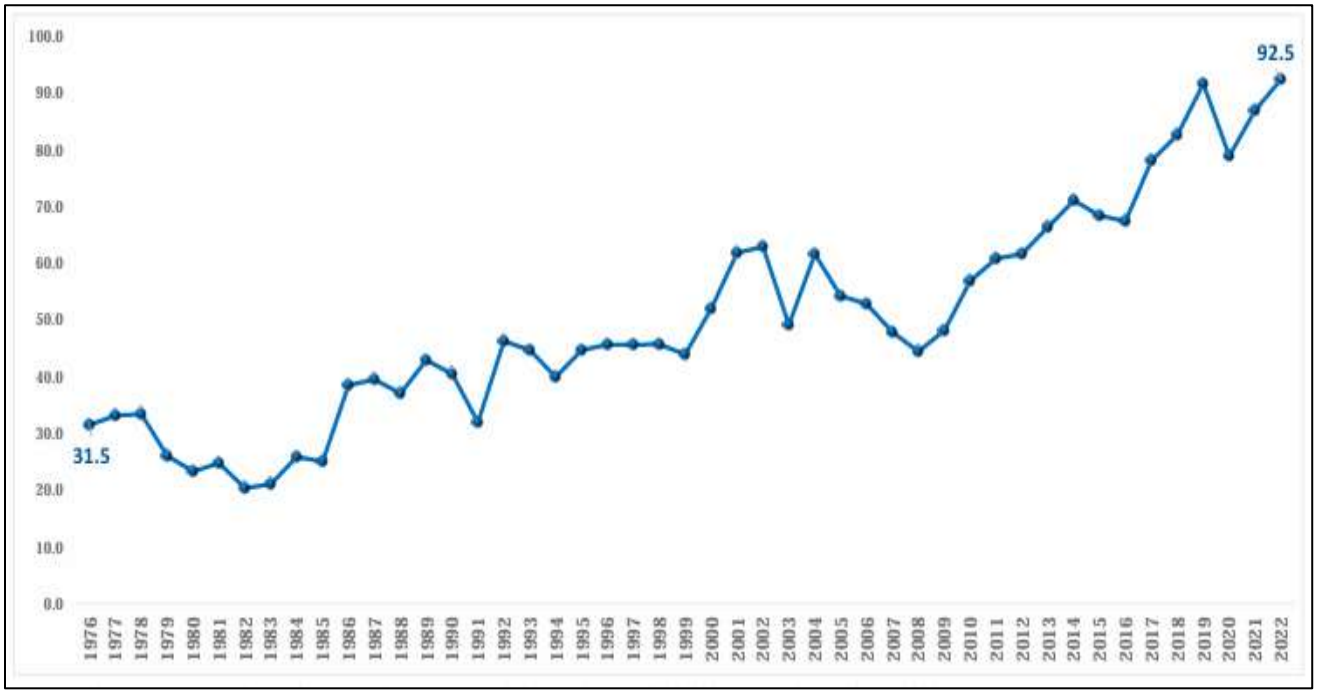

Fig.2.2: Rate of new cases of cancer in Iraq/100,000 populations, 1976 – 2022 (21)

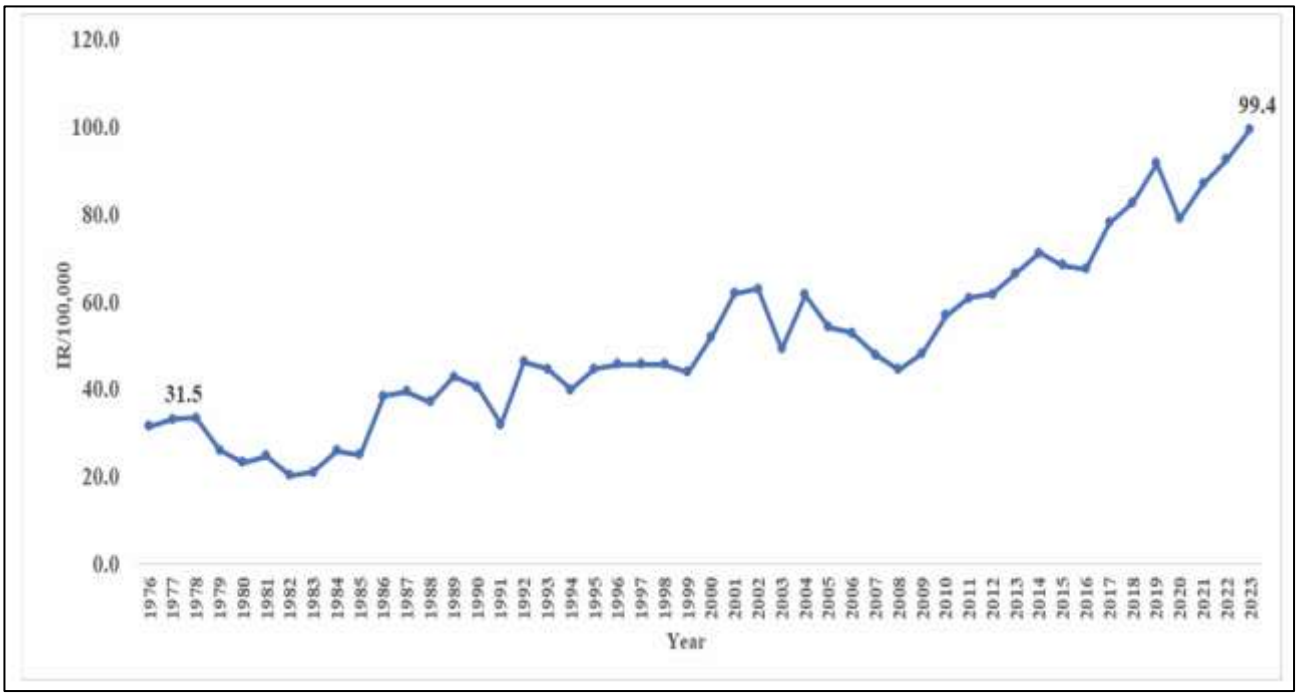

Fig.2.3**:** Rate of new cases of cancer in Iraq/100,000 populations, 1976 – 2023 (Ref. 22)

Table 2.1: Estimated Number of Iraq Population by Governorates and Gender, 2023. (Ref. 22)

Governorate	Male		Female		Total_	
	No	%	No	%	No	%
Baghdad	4701315	21.48	4563898	21.29	9265213	21.39
Nineveh	2165272	9.89	2073461	9.67	4238733	9.78
Al-Basrah	1660417	7.59	1644772	7.67	3305189	7.63
Sulaymaniyah	1229205	5.62	1227984	5.73	2457189	5.67
Thi-Qar	1195067	5.46	1185876	5.53	2380943	5.5
Babil	1185748	5.42	1160948	5.42	2346696	5.42
Erbil	1064104	4.86	1043651	4.87	2107755	4.87
Al-Anbar	1034316	4.73	978984	4.57	2013300	4.65
Diyala	924594	4.22	905909	4.23	1830503	4.23
Kirkuk	914084	4.18	901750	4.21	1815834	4.2
Salah-Deen	915720	4.18	897102	4.19	1812822	4.18
Al-Najaf	838462	3.83	833850	3.89	1672312	3.86
Wasit	790969	3.61	775820	3.62	1566789	3.62
Duhok	736004	3.36	732801	3.42	1468805	3.39
Al-Qadisiya	739454	3.38	727673	3.39	1467127	3.39
Karbala	698647	3.19	686294	3.2	1384941	3.2
Misan	629919	2.88	634508	2.96	1264427	2.92
Al-Muthanna	465041	2.12	460399	2.15	925440	2.14
Total	21888338	100.0	21435680	100.0	43324018	100.0

Table 2.2: Distribution of Cancer Cases Among Iraqis by Gender and Age Group, 2023. (22)

Age Group	Male		Female		Total		ASR
	No	%	No	%	No	%	
0-4	388	2.2	344	1.4	732	1.7	1.4
5-9	333	1.8	250	1.0	583	1.4	1.0
10-14	341	1.9	266	1.1	607	1.4	1.0
15-19	337	1.9	362	1.4	699	1.6	1.4
20-24	365	2.0	467	1.9	832	1.9	1.7
25-29	397	2.2	690	2.8	1,087	2.5	2.7
30-34	563	3.1	1,183	4.7	1,746	4.1	3.6
35-39	656	3.6	1,481	5.9	2,137	5.0	5.1
40-44	853	4.7	2,163	8.6	3,016	7.0	7.8
45-49	1,139	6.3	2,565	10.3	3,704	8.6	12.9
50-54	1,634	9.1	2,953	11.8	4,587	10.7	20.4
55-59	1,791	9.9	2,842	11.4	4,633	10.8	15.9
60-64	1,810	10.0	2,596	10.4	4,406	10.2	21.4
65-69	2,269	12.6	2,307	9.2	4,576	10.6	26.0
70-74	2,332	12.9	2,135	8.5	4,467	10.4	26.4
75-79	1,410	7.8	1,162	4.6	2,572	6.0	13.1
80+	1,423	7.9	1,255	5.0	2,678	6.2	9.9
Total	18,041	100%	25,021	100%	43,062	100%	171.6

Note: *ASR, Age standardized rate (as shown in Above Table*

2A.3 Palliative Care (PC)

Word Health Organization (WHO) definition of palliative care as a crucial part of integrated, people-centered health services. Relieving serious health-related suffering, be it physical, psychological, social, or spiritual, is a global ethical responsibility. Thus, whether the cause of suffering is cardiovascular disease, cancer, major organ failure, drug-resistant tuberculosis, severe

burns, end-stage chronic illness, acute trauma, extreme birth prematurity or extreme frailty of old age, palliative care may be needed and has to be available at all levels of care (23). There are many problems and symptoms that a cancer patient may feel can be addressed with palliative care such as pain, shortness of breath or breathlessness, vomiting, depression and grief, motion limitations and general weakness

2A. 3.1 What issues are addressed in palliative care?

The physical and emotional effects of cancer and its treatment may be very different from person to another person. Palliative care can treat a wide range of issues, merge an individual's needs into care. A palliative care specialist will take into consideration the following effects in account for each patient (24):

1) **Physical effect,** common physical symptoms like pain, loss of appetite, fatigue, vomiting, shortness of breath, and insomnia
2) **Emotional effect**, palliative care authority can give resources to help patients and their families deal with the feeling that come with a cancer diagnosis such as worry, depression and fear.
3) **Spiritual or affecting the human spirit,** patients often look more deeply for meaning in their lives. Some find the disease brings them very closer to their spiritual beliefs
4) **Caregiver needs**, friends and family are very important part of palliative care. caregivers have extra responsibilities. Many patients find it very hard to deal with them, but they trying to manage another duty, such as household duties, work and taking care of their families.
5) **Practical needs,** specialists of palliative care can give assistance with legal worries, employment concerns and insurance, include talking about advance instructions and guiding communication among families and caregivers (24)

2A. 3.2 Who gives palliative care

1) Palliative care should provide by specialists who have received particular training and certification. They provide holistic care to the patient. caregiver focusing on physical, emotional, social and spiritual effects that may patients face through the experience
2) Often, specialists of palliative care work as part of a specializations team that may consist of doctors, nurses, dieticians, pharmacists, psychologists and social workers. The palliative care team works together with the oncology care team to achieve a patient's care and keep the best quality of life
3) Specialists of palliative care also provide caregiver backing or support and facilitate exchanging the information among members of the care team and help with discussions in order to reach a decision or to exchange ideas, focusing on aims of care for the patient. Palliative care may be presented at any point through cancer care, from diagnosis to the end of life. When a patients receive palliative care, they may continue to cancer treatment (24).

2A. 3.3 Palliative Care Approach

The palliative care approach must be essential skill of every professional clinician at hospital. Many individuals with advanced disease will have their care needs met satisfactorily and comprehensively (25).

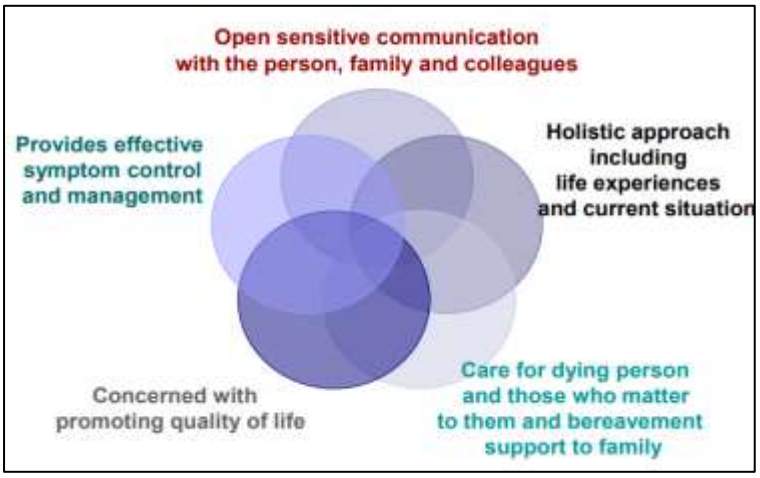

Fig. 2.4: Palliative care approach (25)

2A. 3.4 Palliative care needs (PCN) and barriers

A literature review related to the subject of the palliative care needs and barriers are presented in this section, the results of the search presented and identified and there are numerous studies have conducted on the subjects. The majority of the palliative care needs can be classifying to:

1) **Physical Needs**

- Management of physical symptoms such a general weakness, pain, fatigue and dyspnea
- Some information about treatment and diagnosis

2) **Psychological and Cognitive Needs**

- Management of psychological symptoms
- Financial concerns such as loss of income and medical costs
- Legal concerns such a preference for end-of-life care and advance care directives

3) **Social Needs**

- Need for social support
- Need related to language and information disclosure preferences

4) **Spiritual Needs**

- Spiritual and existential concerns including hope, loss of meaning and uncertainty

5) **Cultural Needs**

- Unique cultural and personal experiences are considered when planning care

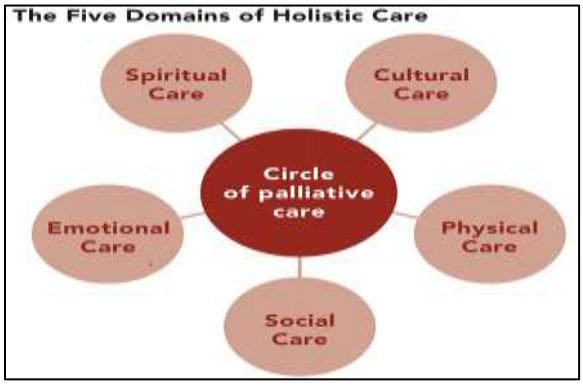

Fig. 2.5: Domains of holistic Care (25)

In December 2004, Mitsunori Miyashita and his research's team (26) carried out a survey to locate and identify barriers from the point of view of palliative care needs specialist in Japan, and determine the priorities concern for future actions to control and overcome these barriers. They sent around 2607 questionnaires to the Japanese Society of Palliative Care in Japan and asked all members two questions concerning with barriers and future steps and actions in the topics and context of palliative care in Japan. 426 questionnaires forms were completed and returned (Around 16% from the total). The results of assessment for the survey were as:

- 95 answers regarding barriers to providing effective palliative care.

- 3 most answers were ' lack of interest, skills and knowledge (n = 203),

- General population's misunderstandings about palliative care (n = 122),

- General medical practitioner failure to provide information and lack of communication skills (n = 89).

- 136 answers concerning future actions to improve palliative care.

- The three most frequent answers were organizing study sessions on palliative care or case conferences in hospitals (n = 122),

- Provide information about palliative care to the general population (n = 117)

- Some of answers suggested in undergraduate education, make palliative care a compulsory course (n = 88).

Conclusions of Survey: They specified many barriers to providing effective and successful palliative care, associated to not only medical professional, but also concern with economic factors and the general population. The findings of their results of this survey confirmed, in order to overcome these barriers, need take action on a lot of things, such as increasing social awareness and knowledge as well as addressing and classify the urgent problems and they also suggested should be collaboration with the organization to develop the palliative care in Japan (24).

In (2016) M. Horlait et al (27) studied and identified the barriers faced by medical oncologists and their needs. The study identified seven various or heterogeneous group of barriers which

discourage a medical practitioner qualified in oncology from talk or discussing palliative care, these group or categories as:

1) Oncologist-related barriers,
2) Family-related barriers,
3) Patient-related barriers,
4) Barriers relating to disease or treatment,
5) Barriers relating to the physician referring the patient to the medical oncologist,
6) Institutional/organizational barriers and
7) Societal/policy barriers.

The findings of this study provided explanation for the reasons why medical oncologists feel obstruct or hampered in initiate of palliative care and then discuss it rather late in the disease route. The description and exploration of these barriers can be as a starting point for review the medical education of cancer doctors and also a reminder to hospitals management, authorities and policy makers to be aware of the effect of these barriers on the daily practice of oncology.

In (**2014**) Ahmed al-Awamer & James Downar (28) Studied developing the palliative care (PC) service for Muslim Middle Eastern (MME) countries, in these countries growth of PC services has been slow and still limited in the region, while most PC in Western countries have been developed, because MME have different religious and cultural values that are not existing in Western countries. They conducted a qualitative and specific study to look at these differences, in order to inform acceptable method of the palliative care that meets or fit the needs of Muslim Middle Eastern (MME) patients and their families. The researchers conducted structured interviews of palliative care such nurses and physicians who have experience in both MME and Western countries. Interviews (for 30–45 minutes by telephone or face to face) were recorded and analyzed the results. The researchers conducted structured interviews of palliative care such nurses and physicians who have experience in both MME and Western countries. Interviews were recorded and analyzed the results. They conducted and achieved 13 interviews and they identified four differences between PC services in MME and Western countries including: legal and policy differences, cultural differences, PC philosophy, and the availability of resources for PC. Participants identified five limitations or barriers to progress PC, such as: Shortage of resources, unclear professional policies, barriers or restrictions in healthcare systems, barriers or restrictions

in healthcare systems, cultural barriers and unfamiliarity with the role and benefits of PC. The participants suggested there are many facilitators that makes the process easier at the institutional, societal land regional levels (28).

Table 2.3: Differences between MME and Western PC services (28)

Western Model	Muslim Middle Eastern Model
Integrated hospital and community PC	Hospital-based with limited community PC
Recognized field of medicine, distinct entity	Not a distinct entity, but a component of oncology
Special pediatric programs	Combined pediatric and adult
Cancer and non-cancer patients	Exclusively Cancer patients
Short and longer prognoses	Short prognosis
Concurrent with active disease management	Beyond disease modifying treatment
Well-structured and integrated with community	Isolated programs, no community of partners to share care
Holistic approach, Integrated with psychosocial and spiritual support	Oriented to physical symptoms, with limited psychosocial or spiritual support programs
Skilled multidisciplinary PC team members	Other disciplines are not routinely integrated with PC team

In (2012) Ghaith F. et al (29), show a review of palliative care for some Middle Eastern countries and they focus on some Arab countries, such as Bahrain, Iraq, Jordan, Lebanon, Saudi Arabia, Qatar, Oman and United Arab Emirates a case study. This review has been collected the suitable survey on the progress and history ways of palliative care in some countries until 2012, while pointing out the major barriers faced by the parties of each country. In general, most of these countries; the palliative care (PC) is still a new concept. Relatively, Saudi and Jordan have localized care and currently good examples of achievement for the field in the region at that time, Yemen and Syria still have little known Palliative due to shortage of resources and lack of education. The following some of information about palliative care in selected Arab countries which were mentioned by the researchers above in reference (29):

Bahrain

In Bahrain palliative care was established in 2009, with an official palliative care unit opening in 2011, this unit include a group of palliative care specialists in nurses, oncology, medical officers, and other staff as support team care givers and this group work with the patients at the medical centers, clinics, and on the hotline numbers for home care services, the basic problems involved legal, public knowledge and the importance to progress and development regulations for cancer pain (29).

Jordan

Jordan has a few of different PC services offered by two hospitals: Al Basheer Hospital and King Hussein Cancer Center (KHCC), this service given by organization called (Al-Malath Foundation for Humanistic Care), this non-government organization, it is a volunteer established in 1993, has a team of volunteering nurses and support staff give many services such as psychological, spiritual and social services and care issues for many patients, they have around several patients per year, most of them are patients with cancer disease. Since October 2004 that the King Hussein Cancer Center used the first palliative care team and offered support in home and hospital for adults with cancer. In December 2006, the palliative service received over 400 patients and they give cars for around 80 patients also thirty to forty patients at home. Through merging palliative care to both its outpatient and inpatient services, this center became the first cancer center in the middle east and it is comprehensive for most of these services. Although that ministry of health in Jordan officials agreed support initial palliative care, but still there is shortage in action to do in another centers and hospitals, such, Royal Hospital for Medical services, hospital of University of Jordan, and private hospitals. However, the education in this field is very limited to take training for some of nurses and it has not been added or inserted in bachelor's or equivalent degree or postgraduate programs. As well as, a great ratio of population, they still don't have good information for PC usage (29).

Lebanon

Until 2012, Ghaith F. and his team (29) shows that the Lebanese health authorities do not admit palliative care as an appropriate branch; it is not included in the general health as well as in the special health care regulations. Generally; the palliative care actions are managing by volunteers organization and it is supported by non-governmental organizations and charities. In 1999, a seminar on ethics and palliative care that held and recommendations to the ministry of health beside with a request to the World health organization. In year 2000, through a symposium held by the Cancer Society, the leaders of nursing and medical institutions were agreed to inserting a bachlor course on pain help and palliative care to their schools. Then after few years they did assessment and evaluation regarding the palliative care in training and education of health care services to be a professional in five main universities in the state and showed that the services of palliate care have been inserted into their program curriculum (29).

In May 2011, a conference was held in Beirut, on Cancer and Palliative Care services, it is focus on the pain and its needs, public health and pain management for patients of cancer. A many of issues still remain as challenge for this field, such as a shortage of skills, knowledge and understanding the requirement of this services as well as unsuitable the way of behaving between health officers, workers, financial covering, shortage of resources, bad coordinate of care, drug and treatment availability, poor of laws and awareness of the care fields (29).

Oman

Omanis and before 1970, were using classical and traditional medication to treat the pain. In year 1988, some of the cases were treated in public centers with old treatment and they used opioids. Until 2004, palliative care in Omanis still in primary stages and there are two main hospitals for cancer therapy treatment in Oman, the first one is a National Oncology Center which established in 2004 and Sultan Qaboos University hospital, and there is no expert of palliative care unit, the patients with cancer is offered in these two hospitals palliative and providing the care given to patients who predicted to lead to death, terminally ill but mostly set on a day care basis. The authority in public sector in Oman should think carefully to establishing a specialization of PC care unit for cancer patients. Meantime training courses should be confirming for medical practitioner, oncologists in the field, knowledge and awareness plans should be taken for patients

to help them on the fear. The main key takes on is shortage of training and existing of pc units and care is still in its early stages (29).

Qatar

In 1979 was established Qatar Hamad Medical Corporation in Doha and it is the first non-profit health care in Qatar by calibration with five specialized hospitals. Until 2012. Al-amal hospital is the advanced center in Qatar, it was treating more than 700 cancer patients per year of all nationalities in Qatar, then Al-Amal hospital for Palliative Care service which was delivers palliative care for cancer patients, the range of this service was to achieve the better possible quality of life (QOL) for Cancer patients by reduction of suffering, pain and other symptoms, and renewal of functional capability when remaining sensible to religious, worth and cultural values. After 2012, Three cancer groups established in Qatar: 1) Al-Hayat Cancer Support group, 2) the women of Harliy cancer relief and support group, and 3) Support team follow to Doha mothers. In the terms of palliative care, Qatar is in the second group of development and there is a good progress PC capacity building. To continue in this progress, the authors of this review recommended that the palliative care unit should be established at Hamad Medical Corporation. Health care services at home should be developed in order to persons can be given this care at home, which is the majority of Qatar cancer patients want in their last days (29).

Saudi Arabia

Saudi Arabia started with palliative care in year1992, when a specialization unit was opening in King Faisal hospital (specialist) with Research institution in Riyadh city. This unit started with two beds and then developed to ten bed at1995. and then became a center, includes consultation service, management unit and health care programs at home. The palliative care team contain of nurses, doctors, social workers, dieticians, language translator, home health care, pharmacists and other supportive care providers.

In year 2002, a new course for postgraduate systems and specialist program was developed in this fields at some of schools. In 2004, other major unit was established in National Guard Health Affairs (NGHA) in Riyadh with a Two-beds unit with the improving of the Oncology department. Most of These units and institutions have very good requirements and resources but there are no

specialists, there are limited number of patients because of the geographic places of these units. In 2010, there are more than 15 cancer centers and established a new palliative care unit with fully integrated and cooperated home care. These center work for more than 600 patients per year. Although the program of care was probably the best program in the Arab countries but also requires a lot of progress and steps to reach the best and optimal program in PC, there are many steps and needs for more awareness and strong support from authorities (29).

United Arab Emirates

Although many general hospitals in Emirates, but only two palliative care centers are specified. One of these two centers in Abu-Dhabi city called hospital of Tawam, includes more than 400 bed and the largest hospital in UAE. This hospital and in 2007, established the first unit for palliative care in the country for care services, consultation and treatment but around five patients were indicated to the pc service in the first month, with spreading for the awareness and education, the total number of patients were more than 243 consulted and treated reviewed by the palliative care service in 2007. There is a need to evaluation and assessment of psychological and social problem in the expatriate and foreigner patients who work inside the country with cancer disease. In 2005, opened around 143 bed a new hospital called American hospital which has cancer institution includes PC units (29).

Iraq

According to Ghaith F. and his team (29) and until 2012 (Review written); Palliative care services not found officially and not established in Iraq, there is a shortage number of specialized centers for cancer palliative care. There is poor of drugs and doctors who have experience, there is a limited center, it was one pain department center in Baghdad and another one in the Kurdistan area in the north. However, no formal strategies or policies, practices, guidelines and there is minimum awareness between health staff and professionals regarding the use of opioids. Iraq has a rise ratio and spread of several cancer types. there are an essential and critical needs for good developed cancer leading that can control this great number of cancer patients. Oncologists must be participating in opioid knowledge and awareness training courses, workshops and must be set the authority of treating courses about pain management and its medications inside the hospitals (29).

Although; the field palliative care is a new in the Middle east (ME), but every country has presented health care program in separate form, but about half of the ME countries have formally these services and another country still in the first stage, they planning to build an official service. Due to this field was introduced a new and being recently developed or because several countries faces a problems or challenges that have slow development this field in medical care and display the predictable standards of palliative care for cancer patients, some of challenges such as geopolitical conflicts or some time not be related to the country's political stability such as lack in funding, approval, shortage in governmental support, education and the implementation of service.

Due to high range of different cancers in ME and the patients are more present with advanced cancers, so the urgent need for established fully function of PC units to care of these patients and relieve their suffering. The impact of the general education and culture required the need for long time services; these services and easiness were not obtainable and available in any of the above reviewed countries. Home care services and at home providing care for sick are required in areas where hospital or medical center are not existing or available. The availability of those care or services will improve the type and quality of life for patients and their families will produce more agreeing and accepting to their patients. Although of lack and shortage of financial funding represents a major challenge and main problem in some these countries, another medical care services and the programs in the gulf countries receive high health services spending, thus, it is a difficult that these countries don't have good established palliative care units (29).

In order to hold out and reach a high level of health medical care in the field of PC, international cooperation and training must be established in different methods such as workshops organizing and conferences that bring specialist doctors and sharing the knowledge to develop this field. Other proposal or suggestions would include experts and professional in palliative care from outside countries to produce training courses in these fields. It has been noticed that international cooperation and communication with other advanced countries provided effective results in new care building through understanding to the maximize benefit of the involved countries, reciprocal respect, experience and trust. As well as to develop the palliative care in the countries, should be manage to providing modal education and training for professionals in medial sector and high awareness level of the public. In conclusion, the palliative care services in the Middle East (ME) countries needs urgent practical steps, studied planning to serve the suffering patients and their

families. Recommendations for establishing children palliative care systems and programs, these systems are very important step to assist patients in the end-of-life as well as to assist and to help their parents in these demanding times (29).

In 2017, Hasanein H. Ghali (30) studied the cultural styles or challenges of PC in Iraq, he said that the concept of PC among Iraqi people is initial and primitive and the most of them don't have idea about palliative care and they don't have a clear program of palliative care as well as not known or familiar with PC. In Iraq; the strength of this field in the area of culture and depends on religion and psychosocial factors. Community knowledge and awareness is very important and also within the medical community palliative care terminology is still limited to part of the oncology. Generally, in Iraq, the response to disease and health represents a combination of Eastern and Western styles. The first style is to look health as a balanced situation and disease as unbalanced situation, that is mean, the Eastern style represents the usual reaction being to adjust the situation to the environment, while the Western style is to replace the environment as much as possible. The concept the palliative care has been introduced to the Children Welfare Teaching Hospital in Medical City, Baghdad, during training courses that designed for this purpose, supervision by external organizations. This hospital one of two important centers in Iraq for treating childhood cancer (solid tumors and leukemia) with 300 new cases per year (30).

2A. 3.5 Unmet Palliative care needs

The identification and management of unmet palliative care needs is a major element of health care for cancer patients. any Information about the expansion of unmet need may be inform service redesign. David E. W. et al (31) studied the consensus report (special report) from the panel members meeting of Center to Advance Palliative Care (CAPC), they selected the main criteria of high risk for unmet palliative care needs can be predetermined before the assessment, the staff of panel of (CAPC) developed two criteria (primary and secondary), the primary criteria represent the general indicators or minimum that hospitals must use to screen patients at risk for unmet palliative care needs., and the secondary criteria were more-specific indicators of a high likelihood of unmet palliative care needs. The panel members recognized there is a gap between what the teams can provide and the needs of hospitalized patients with palliative care needs, the panel members state two checklists: the first one used for screening at the same time of admission

(chronic disease, failure-to-thrive) and the second one physician rounds, discharge planning rounds, or any other for daily patient reviews. The panel believed these checklists with other factors such as educational initiatives and other system-change work can be identify the most of needs for complex problems such as late referrals, workforce shortages, and palliative care program resource limitations. The use of these checklists in hospitals can lead to high quality outcomes, reducing in infections and develop clinical team services. (31).

National Institute for Health and Clinical Excellence (NICE) guidelines in (2013) that most of people with any disease should receive palliative care from time of diagnosis to the death, to enhance the quality of life through the time of disease. NICE showed that palliative care is a comprehensive, meeting the social, spiritual, physical and psychological needs of the person Early diagnosis by physicians is important for contact with specialist services to be set so that timely decisions about treatment can be made. Palliative care for persons with dementia is less well systematized than that for persons with cancer and the evidence base to guide practice in palliative and end-of-life care (EoLC) for persons with dementia is limited. implementing a palliative care facilitates the appropriate identification of unmet needs of patients as well as promoting a continuum of care focusing on quality of life of the persons, this information was also confirmed by Laura Dempsey et al (32).

In June 2023, Maryam Aayd Ismail et al (33) studies a descriptive design on 120 caregivers (male and female family caregivers for cancer patient) who were entered to three cancer hospitals in Baghdad. While the independent variables were (age, academic achievement, take care of cancer patient, gender, the relationship with the patient and work. The study focused to assess the psychological status among family caregivers of cancer patients. General health questionnaire (GHQ) was used to collect the data to determine of psychological status and its impact on them. This study consists of two parts: the first part (independent variables) includes information about nurses like (marital status, age, relationship, gender, educational, family, occupation, income the family, number of children, number of adults, history of cancer in the family, spiritual belief, place and type of cancer, stage of cancer, treatment of cancer, many years you taking care of your patient, the patient ability of self-care, will you do patient care at home and so on and this part called. While the second part (Dependent variables) is the part that measures the psychological state of the patient caregiver in four hospitals. To save the privacy, the names of the participants did not

use in the questions. These data were analyzed by using descriptive statistics SPSS (Statistical package for Social Sciences) and Excel application, they found that 54.2% of caregivers were suffering from medium psychological status or psychological distress and there is relationship between psychological distress and social variables such as the relationship to a cancer patient. The author observed that the caregivers of cancer patients were having psychological problems due to they have emotional problems and they became more closed to patient and spend many times with them. The majority of the samples were Male (51.7%), while the economic status of (41.7%) of the study sample, (32%) of the caregiver are smoking. While 20% (mother) & 19.2% (father) of care givers 67.5% were married and 20.8% of theme were graduated. This study also shows the majority of caregivers don't provide care of cancer patient before and many of caregiver care for cancer patient in home and unable to self-care. (33)

In 2019, Rick A. Vreman et al. (34) presented a general definition, information, understanding and stakeholder perceptions of unmet medical need (UMN) in literature in drug development, assessment and regulation, they discussed a common definition and mechanisms for literature review. The reviews produce 16 definitions. The results showed there are differences were clear, but all included one or more of the following elements: (available treatments 100%- 16 of 16, disease riskiness or load 38% - 6 of 16, size of patient population size 6% - 1 of 16. The stakeholder discussions showed that quantification of UMN is depends on the range or scope and the value framework that used based on different stakeholder priority and responsibility. These definitions were discussed and classified of many stakeholders' author group, issues related and presented many workshops with a public or audience. The elements of unmet medical needs and stakeholder considerations on unmet medical need found for the results shown in Figures 2.7 and 2.8. Conclusion of above study (34), they encouraged stakeholders to enhance and promote the concept of unmet medical needs (UMN) to discuss the future or prospectively scope in which they want to set or apply the concept, and what important elements for keeping or consideration in each case (34). There are several factors affect the provision of palliative care, including healthcare system factors, social and cultural features, and individual-level barriers.

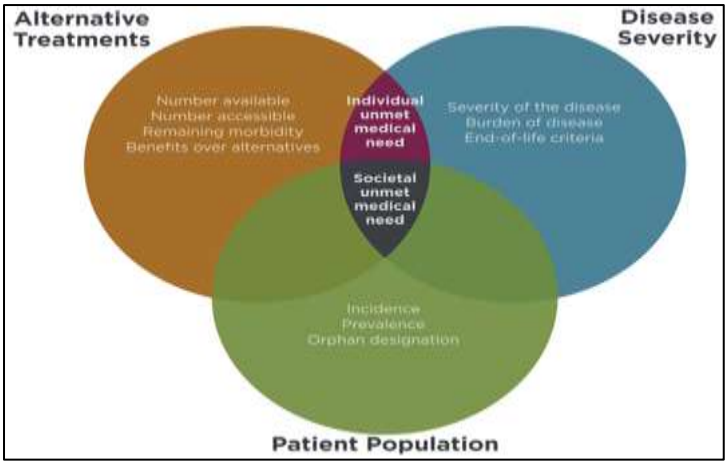

Fig. 2.6: Elements of unmet medical need for the study (34)

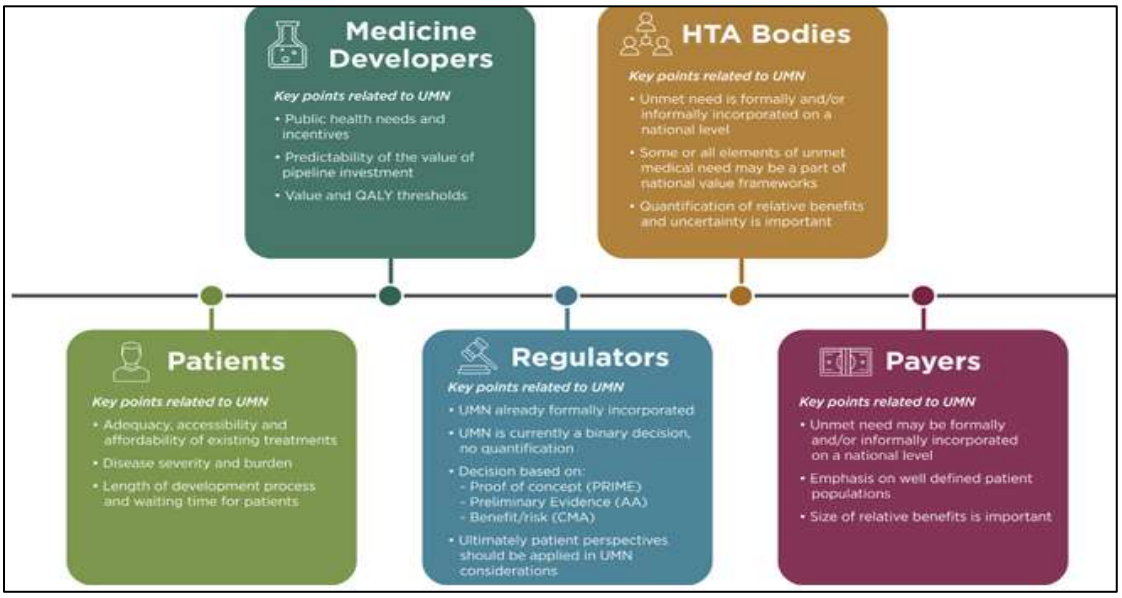

Fig. 2.7: Stakeholder considerations on unmet medical (UMN) need for the study (34)

2B Literature review

Cochrane, Proques, Medline, PubMed, Science Direct databases were searched from 2015 to 2025. Search keywords include: "cancer", and / or "malignancy" and / or "disease", and "palliative " and/or "palliative care" and “needs" and / or "unmet needs" and “needs" and "patients” and “nurses" and / or "nursing" and / or "caring" and "related factors".

Numerous studies have been conducted on the palliative care. Due to the proximity of these studies to the present study, in this section, only the studies which performed in the field of palliative care needs will be mentioned. In this section, these studies will be presented in chronological order.

Alnajar M., et al (35), carried out and conducted important comparison study of Palliative Care Needs Among Patients with Cancer and Non-Cancer Serious Chronic Diseases, they used comparative and multicenter design, involving 458 samples (patients) from 8 hospitals, and also using a self-reported Problems and Needs in Palliative Care-sv questionnaire. The study included 276 (60.3%) patients with cancer and 182 (39.7%) with non-cancer chronic diseases. Most of patients ages were 45-64 years (n = 216, 47.2%). The Patients with cancer Diseases reported a higher prevalence of physical symptoms, notably pain (n = 240, 87%) and anorexia (n = 192, 69.6%), while the Patients with non-cancer faced more social challenges, including issues in companion relationships (n = 77, 42.3%) and discussing their disease with life companion (n = 78, 42.9%). Unmet needs were prevalent in both groups, with cancer patients having an average of 75.6% (n = 120) unmet needs, predominantly in the information (n = 145, 91.75%) and spiritual domains (n = 123, 77.8%). Non-cancer patients emphasized financial (n = 71, 66.6%) and autonomy (n = 59, 55.0%) problems. Moreover, patients in both groups with severe Charlson Comorbidity Index scores demonstrated significantly higher PC needs across all health domains.

The results and findings of this study confirm the need for enhanced and improved PC care, especially for patients with multiple diseases comorbidities. as well as research is needed to comprehensively address psychological, social, and spiritual problems in both groups.

In 225, Wen R. et al (36), conducted a study the Unmet needs of PC among Young and Middle-Aged, they used Semi-Structured Interview Guide (as shown in table below) and16 patients with advanced cancer, face-to-face interviews were performed and recorded audio was used of each one and coded were using the method of content analysis. All participants participated in the study voluntarily and signed written informed consent.

The researchers chosen patients who met the following criteria:

1- Age fm18–59 years old
2- patients diagnosed with cancer, with stage of III or IV
3- knowing of their diagnosis of cancer
4- able to describe feelings well.

Exclusion criteria were as follows:

1- patients with mental and cognitive abnormalities
2- patients in critical condition with problems of other systems.

The findings of the study were summarized of the following descriptions: (36)

i. symptom management needs: need for pain relief, need for anti-emetics, and need for aid in managing fatigue
ii. psychological support needs: help reducing fear of pain, help achieving a better death, and help with parents' negative reactions
iii. social support needs: taking care of children, emotional support from family members, consultation and emotional support from other cancer patients, and company and guidance of healthcare personnel
iv. information needs: better understanding of disease trajectory and future care needs, better access to palliative care information, and more participation in medical decision making.

So, the authors of this study concluded that the medical staff should write and develop a new successful, effective management strategy and examine patients' needs in comprehensive way.

Table 2.4. Semi-structured interview guide (36)

1	What do you know about your illness?
2	What treatments have you received since the diagnosis of this disease?
3	What symptoms are currently making you feel uncomfortable? Or are there pressing issues that need to be addressed?
4	Do you know about palliative care? What do you know about palliative care?
5	What do you think of palliative care?
6	Would you choose palliative care at this stage and later? Why?
7	What needs are there in the past or future that might be addressed by palliative care?
8	What other needs do you have for psychological, social, or religious support?
9	If there was a palliative care presentation, what would you be most interested in learning about?
10	Is there anything else you would like to add?

Driessen et al (2024) conducted a study to assess the care-related problems and needs of patients with advanced cancer and their relatives. This study was a cross-sectional study uses data from the QuiPe study (an observational study in 40 Dutch hospitals). All elderly patients diagnosed with metastatic cancer and their relatives benefited from this programme. The data collected included information about the problems and care needs of both patients and their relatives, assessed through the short version of the Palliative Care Problems and Needs Questionnaire. Additionally, socio-economic demographics were recorded. The findings revealed participation from 1,103 patients with advanced cancer and 831 relatives. Both groups reported the highest number of issues in the "psychological issues" domain, with patients (M=60.3±29.0) and relatives (M=59.2±26.6)

expressing significant concerns. Patients reported a mean of 14.0 unmet needs, while relatives reported a mean of 17.7 unmet needs, with both groups frequently identifying unmet needs in this area. The most common unmet need reported by patients was "worrying about the future of my loved ones" (22.0%), while relatives most often cited "fear of the patient's physical suffering" (32.8%). There was no clear relationship between socio-economic demographics and the experienced unmet needs. The most frequently identified unmet needs focused on fears and concerns, followed by a variety of topics across different domains. Information and support centers could play a crucial role in addressing these unmet needs by offering assistance on a wide range of topics to potential visitors(37).

Hart et al (2018) conducted a systematic scoping review to analyze the prevalence of unmet supportive care needs and the factors contributing to these needs among adults with advanced cancers, including both solid tumors and hematological malignancies, as well as their caregivers. A thorough search of electronic databases (PubMed, CINAHL, EMBASE) resulted in 85 publications, comprising 81 unique studies. The results showed that adults with advanced cancer reported the highest unmet needs in areas such as financial support, health system navigation, information dissemination, psychological assistance, and physical and daily living support. In contrast, caregivers mainly identified their greatest unmet needs in psychological support and patient care. Increased levels of distress, depression, and anxiety were associated with higher unmet needs across all domains for both individuals with advanced cancer and their caregivers (38).

Wang et al (2018) conducted a systematic review to identify the unmet care needs and related variables in patients with advanced cancer and their informal caregivers. Ten electronic databases were systematically searched. In total, fifty studies were included, demonstrating generally robust methodological quality. Results shows that the prevalence of unmet needs varied across studies, revealing twelve domains for patients with advanced cancer and seven for informal caregivers. The three most frequently reported domains for patients were psychological, physical, and healthcare service and information needs. Key unmet items within these domains included emotional support (10.1–84.4%), fatigue (18–76.3%), and information regarding the benefits and side effects of treatment (4–66.7%). For informal caregivers, the most commonly identified unmet needs pertained to information, including details about illness and treatment (26–100%) and care-

related information (21–100%). Unmet needs among patients with advanced cancer were associated with physical symptoms, anxiety, and overall quality of life. The most frequently used instruments for needs assessment in this population were the Supportive Care Needs Survey (N = 8) and the Problems and Needs in Palliative Care Questionnaire (N = 5). Both patients with advanced cancer and their informal caregivers reported a wide range of context-specific unmet needs(39).

Horlait et al (2016) studied and identified the barriers faced by medical oncologists and their needs. The study identified seven various or heterogeneous group of barriers which discourage a medical practitioner qualified in oncology from talk or discussing palliative care, these group or categories as: oncologist-related barriers, family-related barriers, patient-related barriers, barriers relating to disease or treatment, barriers relating to the physician referring the patient to the medical oncologist, Institutional/organizational barriers and Societal/policy barriers. The findings of these study provided explanation for the reasons why medical oncologists feel obstruct or hampered in initiate of palliative care and then discuss it rather late in the disease route. The description and exploration of these barriers can be as a starting point for review the medical education of cancer doctors and also a reminder to hospitals management, authorities and policy makers to be aware of the effect of these barriers on the daily practice of oncology(40).

Al-Awamer & Downar (2014) Studied developing the palliative care (PC) service for Muslim Middle Eastern (MME) countries, in these countries growth of PC services has been slow and still limited in the region, while most PC in Western countries have been developed, because MME have different religious and cultural values that are not existing in Western countries. They conducted a qualitative and specific study to look at these differences, in order to inform acceptable method of the palliative care that meets or fit the needs of Muslim Middle Eastern (MME) patients and their families. The researchers conducted structured interviews of palliative care such nurses and physicians who have experience in both MME and Western countries. Interviews (for 30–45 minutes by telephone or face to face) were recorded and analyzed the results. The researchers conducted structured interviews of palliative care such nurses and physicians who have experience in both MME and Western countries. Interviews were recorded and analyzed the results. They conducted and achieved 13 interviews and they identified four differences between PC services in MME and Western countries including: legal and policy differences, cultural differences, PC

philosophy, and the availability of resources for PC. Participants identified five limitations or barriers to progress PC, such as: Shortage of resources, unclear professional policies, barriers or restrictions in healthcare systems, barriers or restrictions in healthcare systems, cultural barriers and unfamiliarity with the role and benefits of PC. The participants suggested there are many facilitators that makes the process easier at the institutional, societal land regional levels (41).

Summary of review of the literature

Assessing unmet palliative care needs in cancer patients reveals significant gaps that require urgent attention. Healthcare providers can improve the quality of care for cancer patients and reduce the burden on caregivers by focusing on assessing these needs. Although the physical needs of cancer patients have been considered in many countries, including systematic reviews on the topic, this issue has received less attention in Iraq. The increasing incidence of cancer in Iraq highlights the urgent need for assessing palliative care requirements, especially given the existing gaps in service provision. By conducting thorough assessments, enhancing training, developing policies, and fostering multidisciplinary collaboration, we can greatly improve the quality of life for patients and their families dealing with serious health challenges.

Chapter Three

Chapter Three

3.1 Methodology

This chapter includes study design, research community, setting and study subjects, participants inclusion/exclusion criteria, sampling, sample size determination, data collection instruments, validation method and scientific reliability of collection tools, data collection and analysis, ethical considerations and limitations of the study.

3.1.1 Study design

A cross-sectional, descriptive study design used in this study. The study data collection was from December 2024 to April 2025.

3.1.2 Research population

The study population consisted of all cancer patients of 3 hospitals of Iraq.

3.1.3 Setting & Study Subjects

Three teaching hospitals in Karbala in Iraq were the setting of the current study. Karbala is a city where the researcher born and live. The names of these hospitals were Al Hussein medical city (Al-Hussein hospital) in Karbala city, Al-Warith hospital for tumors and cancer diseases in Karbala city, Al-Mujtaba hospital for oncology, blood and bone marrow diseases in Karbala city. Three hospitals contained many wards for treat the patients with cancer. The capacity of three hospitals were about 580 beds, also there were 250 beds in chemotherapy. The number of patients that referred to these hospitals are as below:

Table 3.1: Three teaching hospitals in Iraq were the setting of the current study

Hospital name	Number of beds	Number of patients	Palliative care center
Al Hussein	80	80	No
Al-Warith	450	450	No
Al-Mujtaba	50	50	No

The setting of this study was conducted of cancer patients who were hospitalized in the country of Iraq.

3.1.4 Inclusion criteria

1. ≥18 years of ages and ≤ 60 years of ages
2. Diagnosis of cancer and received chemotherapy
3. Suffer from advanced cancer
4. Can read and understand Arabic.

3.1.5 Exclusion criteria

1. Cognitive impairment
2. Substantial comprehension problems or poor general condition of patients
3. Too distressed to participate

3.1.6 Sampling

Sampling was conducted using convenience sampling method from selected hospitals and continue until the desired sample size was reached. The proportion of patients in each hospital were as below:

Table 3.2: proportion of samples in each hospital

Hospital name	proportion of samples in each hospital
Al Hussein	70 (20.77%)
Al-Warith	223 (66.17%)
Al-Mujtaba	44 (13.06%)
Sum	337 (100%)

3.1.7 Recruitment plans & Method of assignment to study groups: N/A

All of these patients participated in the study by convenience sampling method.

3.1.8 Instruments: (Questionnaires, paper and pencil)

The questionnaires of this study included the demographic information questionnaire, PNPC-sv: short version questionnaires.

3.1.8.1 Demographic information:

Demographic and clinical information of patients such as age, gender, marriage, education, occupation, number of children, type of cancer, chemotherapy, radiotherapy, number of days in hospital, grade of disease will be collected by a form that will be prepared for this purpose. (**Appendix No 1**).

3.1.8.2 PNPC-sv: short version

Problems and Needs in Palliative Care questionnaire (PNPC-sv); a self-report questionnaire for patients covering all dimensions of palliative care, to investigate their problems and (unmet) needs. The PNPC-sv was developed to provide a more practical, structured way to assess the multidimensional problems and care needs of palliative care patients in daily clinical practice (16). The PNPC-sv covers 8 key domains (problems and needs for care) of palliative care needs including: daily activities (3 items), for example such as body care, washing, dressing, or toilet, personal transportation and doing light housework. and so on for other domains: physical symptoms (9 items), autonomy (4 items), social (5 items), psychological (5 items), spiritual (4 items), financial (2 items) and information of needs (1 item).

For each item, patients are asked two main questions: (As shown in the PNPC-sv: short version SV Questionnaire), if patients experience a problem (yes/somewhat/no) and whether they want professional attention for that specific item (yes, more/as much as now/no). these questions were:

Q1: *Left*: Is this problem? do you experience the item to be a problem?) (Problem part) and **Q2**: *Right:* Do you want professional attention for this item?) (Extra need) need-for-care part. For each item, patients were asked two questions: In the left side the first Question was:

A problem has been defined when the patients answered (Yes) or (Somewhat) when asked if a specific item was a problem. Responses are scored on a 3-point scale: Yes:2 Points,

somewhat / as much as now:1Point and No:0 point. Higher scores indicate more problems and stronger care needs(16). (**Appendix No 2).**

Table 3.3: Score, Response Options and Score per Response

Section	Response Options	Score per Response	Total Score Range
Problem	Yes / Somewhat / No	2 / 1 / 0	0–66 (33 items × 2)
Need-for-care	Yes, more / As much / No	2 / 1 / 0	0–66 (33 items × 2)

3.1.8.3 Validity and reliability

The PNPC-sv has demonstrated good reliability and validity in various studies. It has high correlations with the original 90-item PNPC. PNPC-sv Questionnaire were translated using the Forward and Backward translation method. Initially, two translators fluent in both Arabic and English translated the English version of the instrument into Arabic. After the researchers reviewed and approved the translated questionnaire, it was translated back into English by a different translator. This re-translated version was compared to the original to ensure that the original concepts were preserved. The validity of the questionnaire assessed by ten faculty members from the School of Nursing in Iraq, and its reliability evaluated. The reliability of the questionnaires was calculated using Cronbach's alpha, after completing the questionnaires by a group of patients, reliability was 0.79.

3.1.8.2 Reliability and acceptability

In this study can be assess the reliability and validity of the PNPC-sv version using the coefficient called Cronbach’s alpha. Cronbach's alpha coefficient measures the internal consistency or reliability of a set of survey items. Use this statistic to help determine whether a set of items consistently measure the same characteristic. Cronbach's alpha coefficient measures the level of agreement on a standardized scale from 0 to 1. Higher values indicate greater agreement

between items. with 0.70 the standard threshold for adequate reliability for use of measures for group comparisons

Cronbach's alpha is measured using a mathematical formula that involves calculating the variance of each item in the scale and the total variance of the scale, then applying these values to the equation. The following formula was applied to calculate Cronbach's alpha coefficient:

$$\textbf{Cronbach}'\boldsymbol{Alpha\ coefficient}(\boldsymbol{\alpha}) = \left(\frac{\boldsymbol{K}}{(\boldsymbol{K-1})}\right)\left(\frac{\boldsymbol{s^2_{y-\sum s_i^2}}}{\boldsymbol{S_y^2}}\right) \quad \textbf{...}\text{Equation (1)}$$

Where:

$\boldsymbol{\alpha}$: Cronbach's alpha coefficient

$\boldsymbol{K}$: Total number of items (Questions=33)

$\boldsymbol{S_y}$: Variance of total no. of samples (337 Samples)

$\boldsymbol{\Sigma S}$: Summation of variance values of Items

3.1.8.3 Cronbach's alpha coefficient Calculation

Cronbach's alpha is calculated to assess the reliability, or internal consistency, of a set of scale or test items. It helps determine how well the items in a scale measure the same underlying construct. A higher Cronbach's alpha indicates greater reliability, suggesting that the items are consistently measuring the same thing. As mentioned, before it measures the level of agreement on a standardized scale from **0 to 1**.

To calculate Cronbach's alpha in **Excel**, First need to calculate the variance of each item; for this study it is represented 33 Questions, No. of columns in Excel file) and then to calculate the variance of the total scores for the data (total Score for samples). Then, apply the above Cronbach's alpha formula (Equation 1) using these variances and the number of items

For Example, if we take 10% from the total samples (337 samples) equal to 33.7 and approximate value of **34 sample**, we can calculate Cronbach's alpha a follow:

ID	Q1	Q2	Q3	Q4	…… Q33		Total score
Patient1	2	1	0	1	……2	sum	Summation= 53
Patient2	0	2	1	1	……2		46
Patient3	1	2	0	1	……1		44
. .	. .	. .	. .	. .	…… ……		. .
Patient34	1	2	0	1	……1		48
							variance =Var.s S_y **=22.3957**
Variance	**0.49**	**0.53**	**0.64**	**0.85**	**…….0.75**	**Sum.**	Summation S_i**=11.9651**

So, the value of (**22.3957**) represented S_y in Equation (1) and the value of (**11.9651)** represented S_i, K= 33 (Total number of questions) and after applied these values in equation No.1, we got α as:

$$\textbf{Cronbach}'\boldsymbol{Alpha\ coefficient}(\alpha) = \left(\frac{K}{(K-1)}\right)\left(\frac{S_{y}^{2} - \sum S_i^2}{S_y^2}\right)$$

$$= \left(\frac{33}{33-1}\right)\left(\frac{22.3957^2 - 11.9651^2}{22.3957^2}\right)$$

$$= \left(\frac{33}{33-1}\right)\left(\frac{22.3957^2 - 11.9651^2}{22.3957^2}\right)$$

$$= \frac{551.7 - 157.4}{501.5}$$

$$\alpha = 0.787$$

TO confirm and validation for this value, we used SPSS program (SPSS is a user-friendly program that facilitates data management and statistical analyses) to Calculate the Cronbach's alpha coefficient and also, we also got α as shown in Table 3.4

Table 3.4 Reliability Estimation for the Study Instrument

Studied Domain/sub-domains	Reliability Technique	Actual Value	Minimum Accepted Value	Assessment
Problems and Needs in Palliative Care questionnaire (PNPC-sv)	Alpha-Cronbach	**0.79**	**0.70**	**Pass**

This table shows reliability estimation for the current study and the actual value was 0.79 and the minimum accepted value was 0.70 (Good). There is agreement between theoretical and statistical analysis.

3.2 Procedures

After Receiving ethic code from the School of Nursing and Midwifery & Rehabilitation - Tehran University of Medical Sciences **(Appendix 3);** researcher requested a permission from the Vice Chancellor of Research, School of Nursing and Midwifery, Tehran, to enter the study setting. Also, an approval letter obtained from the dean of selected hospitals of Iraq in order to data gathering. after receiving approval letters, the researcher began to collecting data. Following coordination with the managers of the selected hospitals, the researcher collaborated with designated staff members (research assistants) to facilitate data collection. Questionnaires were distributed to eligible participants who meet the inclusion criteria. To ensure data integrity and participant comfort, researchers provided clear instructions on how to complete the questionnaires.

3.2.1 Sample size

By using equation, the Sample size was:

$$\text{Sample size} = \frac{Z_{1-\alpha/2}{}^2 SD^2}{d^2}$$

$Z1-\alpha/2$ = Is the standard normal variate (at 5% type 1 error (P<0.5) its id 1.96.

Sd=29.0 (18)., d= 10

The final sample size was be 337, which were divided proportionally between the hospitals. Participants/study sample were included in the study convenience sampling method.

3.2.2 Data analysis

Data for qualitative and quantitative variables summarized and reported with frequency (percentage), and mean (standard deviation), respectively. In addition, the normality of quantitative variables used in the analysis was evaluated using descriptive indicators such as skewness and Kolmogorov–Smirnov test. Correlation analysis performed to examine the individual relationship between variables with each other and with quantitative contextual variables, as well as the relationship between resilience and burnout. Data analysis performed using SPSS16 software at a significance level of 0.05.

3.3 Ethics

- Obtaining a permission to enter the study setting from the Vice Chancellor of Research, School of Nursing and Midwifery, Tehran
- Obtaining approval from the selected hospitals of Karbala city of Iraq
- Receiving ethic code from the School of Nursing and Midwifery & Rehabilitation - Tehran University of Medical Sciences.
- Explaining the study aim and objects of research for all units studied
- The freedom of the participants to participate in the study or to leave it
- Obtaining informed consent from the participants to participate in the study
- Observing the principle of confidentiality of the information of the participants and using the code instead of the names of the participants in the questionnaire
- Presenting the results of the research to the hospitals if desired
- Observing honesty in sampling, data collection and data analysis

3.4 Limitations: There were no limitations on conducting the study.

Chapter Four

Findings

Chapter Four

4. Finding

The purpose of this study was to assessment of unmet needs in palliative care and their related factors in cancer patients referred to selected hospitals in Iraq in 2025. This chapter presents the research results. In this section, the results are presented in the form of descriptive statistics and analytical statistics in the form of many tables. In order to control the normality of quantitative variables and outcomes, Kolmogorov-Smirnov test (statistical test used to measure how well a sample matches) was used and the results showed that these variables were normal.

Tables No. 4.1 to 4.6 show the demographic characteristics of patients and some related factors of unmet needs in palliative care in cancer patients referred to selected hospitals in Iraq in 2025.

Tables No. 4-7 to 4-26 was prepared for the first purpose of the study “to determine unmet needs in palliative care in cancer patients referred to selected hospitals in Iraq in 2025".

4.1 Demographic and characteristics of the study samples

Through conducting the survey and during the interview, we record personal data or take it from the hospitals database for each patient included in this study, such as age, marital status, education or educational level, financial income level, Employment Status, type of cancer, and so on, as well as all patients were receiving chemotherapy and radiotherapy, and all patients had been hospitalized for more than three months, the disease was moderate to advanced levels, this information called demographic or characteristics of the study samples. Basic data of the participates such as; marital status, gender, age, educational level, income, Employment Status were used for all the cancer types. For example, the marital status was grouped for breast cancer patients and they answer: Married or Single. The patient's educational level also grouped to three levels (High: bachelor education and more, then Intermediate level: Secondary education, and Low level: Primary education and less). Regarding the financial income, we divided it to three levels (High-Level starting from 1000$ and more**,** Mid-Level from 500$ to 1000$ and Low level was less than 500$).

Table 4.1 : Frequency and percentage for gender of patients in selected hospitals of Karbala in Iraq in 2025

N=337	Frequency	Percent
Female	204	60
Male	133	40
Total	337	100

The table above shows that the majority of patients (60 %) were female and 40% of patients were male.

Table 4.2: Frequency and percentage for marital status of patients in selected hospitals of Karbala in Iraq in 2025

Marital State	Frequency	Percent
Single	67	19.9
Married	254	75.4
Divorced	8	2.4
Widower	8	2.4
Total	337	100

The table above shows that 19.9 % patients were Single, 75.4 % were married and the rest between divorced and widower

Table 4.3: Frequency and percentage for level of education of patients in selected hospitals of Karbala in Iraq in 2025

Level of Education	Frequency	Percent
Bachelor's degree and above (High)	61	18.1
High Secondary school and Diploma (Intermediate)	152	45.1
Secondary school and less (Low)	124	36.8
Total	337	100

The table above shows that the majority of patients (45.1% %) have a High Secondary school and Diploma (Intermediate) and the next frequency was (36.8%) have secondary school and less (Low)

Table 4.4: Frequency and percentage for type of cancer of patients in selected hospitals of Karbala in Iraq in 2025

Type of cancer	Frequency	Percent
Breast	75	22.25
Leukemia	56	16.16
Lung & Bronchus	41	12.16
Brain and CNS	31	9.19
Thyroid Gland	30	8.90
Uterus	28	8.30
Lymph Nodes	25	7.41
Colon (colorectal)	21	6.23
Prostate Gland	18	5.3
Pancreas	12	3.56
Total	**337**	100

The table above shows that the majority of patients (22.25%) have a Breast cancer and the next frequency was (16.6%) have Leukemia.

Table 4.5: Frequency and percentage of participants income in selected cancer hospitals of Karbala in Iraq in 2025 according to highest Score

N=337	Frequency	Percent %
High	50	14.83
Good	159	47.18
Poor	130	38.57

The table above shows that the (47.18%) have good income (moderate level) and (38.57%) have poor (low level)

Table 4.6: Frequency and percentage of participants employment status in selected cancer hospitals of Karbala in Iraq in 2025 according to highest Score

N= 337	Frequency	Percent
Income	**No.**	**%**
Full-time	113	33.53
Part-time	126	37.38
Unemployment	98	29.09

The table above shows that (37.38%) were part time and (33.53%) were full time employment

4.3 Determination unmet needs in palliative care

Table 4.7: Frequency and percentage of daily activity problems among patients in selected cancer hospitals in Karbala, Iraq, in 2025

Daily Activities Problems	Is this a problem/ Do you experience this as a problem? **N=337**		
	Yes N (%)	Some what N (%)	No N (%)
Body care, washing, dressing, or toilet	191 (56.67)	97 (28.78)	49 (14.55)
Personal transportation	181 (53.71)	111 (32.93)	45 (13.36)
Doing light housework	123 (36.49)	160 (47.48)	54 (16.03)

The table shows that most patients had problems with body care, washing, dressing, or using the toilet (191 patients, 56.67% answered "yes" and 97 patients, 28.78% answered "somewhat"); personal transportation (181 patients, 53.71% answered "yes" and 111 patients, 32.93% answered "somewhat"); and doing light housework (123 patients, 36.49% answered "yes" and 160 patients, 47.48%). Only 14.55%, 13.36%, and 16.03% of patients reported experiencing less than 25% of these problems respectively.

Table 4.8: Frequency and percentage of daily physical symptoms among patients in selected cancer hospitals in Karbala, Iraq, in 2025

Physical Symptoms	Is this a problem/ Do you experience this as a problem? **N=337**		
	Yes N (%)	Some what N (%)	No N (%)
Pain	324 (96.14)	13 (3.86)	0 (0.00)
Fatigue	316 (93.76)	20 (5.93)	1 (0.30)
Sleeping Problems	261 (77.45)	73 (21.66)	3 (0.89)
Shortness of Breath	235 (69.73)	93 (27.60)	9 (2.67)
Cough	102 (30.27)	161 (47.77)	74 (21.96)
Itch	122 (36.21)	168 (49.85)	47 (13.94)
Sexual Dysfunction	134 (39.76)	156 (46.28)	46 (13.65)
Prickling or Numb Sensation	185 (54.90)	142 (42.14)	10 (2.97)
(Nightly)Sweating or Hot Flushes	199 (59.05)	126 (37.39)	12 (3.56)

The table above shows that over 25% of patients experienced physical problems across all dimensions: pain, fatigue, sleep issues, shortness of breath, cough, itching, sexual dysfunction, prickling or numb sensations, and nightly sweating or hot flushes. Specifically, 325 patients (96.14%) reported pain, 316 patients (93.76%) reported fatigue, 261 patients (77.45%) reported sleep issues, and 235 patients (69.73%) reported shortness of breath.

Table 4.9: Frequency and percentage of autonomy problems among patients in selected cancer hospitals in Karbala, Iraq, in 2025

Autonomy	Is this a problem/ Do you experience this as a problem? **N=337**		
	Yes N (%)	Some what N (%)	No N (%)
Difficulties in continuing the usual activities	119 (35.31)	167 (49.56)	51 (15.13)
Difficulty to give tasks out of hands	112 (33.23)	197 (58.46)	28 (8.31)
Being dependent of others	78 (23.14)	206 (61.13)	53 (15.73)
Experiencing loss of control over one's life	80 (23.74)	195 (57.87)	62 (18.39)

The table above shows that over 25% of patients experienced autonomy problems across all dimensions: difficulties in continuing the usual activities, difficulty to give tasks out of hands, being dependent of others, and experiencing loss of control over one's life. Specifically, 119 patients (35.31%) answered "yes" and 167 patients (49.56%) answered "somewhat" regarding difficulties in continuing usual activities; 112 patients (33.23%) reported "yes" and 197 patients (58.46%) answered "somewhat" regarding difficulty to give tasks out of hands, 206 patients (61.13%) reported "somewhat" regarding to being dependent on others; and 195 patients (57.87%) reported "somewhat" regarding to experiencing loss of control over their lives.

Table 4.10: Frequency and percentage of social issues among patients in selected cancer hospitals in Karbala, Iraq, in 2025

Social Issues	Is this a problem/ Do you experience this as a problem? **N=337**		
	Yes N (%)	Some what N (%)	No N (%)
Problems in the relationship with life companion	70 (20.77)	119 (35.31)	148 (43.92)
Difficulties in talking about the disease with life companion	64 (18.99)	128 (37.98)	145 (43.04)
Finding it difficult to talk about the disease, because of not wanting to burden others	96 (28.49)	206 (61.13)	35 (10.39)
Finding others not receptive to talking about the disease	96 (28.49)	209 (62.01)	32 (9.49)
Difficulties in finding someone to talk to	92 (27.31)	209 (62.01)	36 (10.68)

The table above shows that over 25% of patients experienced social issues across all dimensions: problems in the relationship with life companion, difficulties in talking about the disease with life companion; finding it difficult to talk about the disease, because of not wanting to burden others; finding others not receptive to talking about the disease, and difficulties in finding someone to talk to. specifically, 119 patients (35.31%) answered "somewhat" regarding problems in the relationship with life companion; 128 patients (37.98%) answered "somewhat" regarding difficulties in talking about the disease with life companion, 96 patients (28.49%) reported “yes” and 206 patients (61.13%) answered “somewhat" regarding to finding it difficult to talk about the disease, because of not wanting to burden others; 96 patients (28.49%) reported “yes” and 209 patients (62.01%) answered “"somewhat" regarding to finding others not receptive to talking about the disease; and 92 patients (27.31%) reported “yes” and 209 patients (62.01%) answered “"somewhat" regarding to difficulties in finding someone to talk to.

Table 4.11: Frequency and percentage of psychological issues among patients in selected cancer hospitals in Karbala, Iraq, in 2025

psychological issues	Is this a problem/ Do you experience this as a problem? **N=337**		
	Yes N (%)	Some what N (%)	No N (%)
Depressed mood	306 (90.80)	29 (8.60)	2 (0.59)
Fear of physical suffering	272 (80.71)	63 (18.69)	2 (0.59)
Fear of metastases	153 (45.40)	181 (53.70)	3 (0.89)
Difficulty coping with the unpredictability of the future	156 (46.29)	167 (49.55)	14 (4.15)
Difficulties to show emotions	128 (37.98)	181 (53.70)	28 (8.30)

The table above shows that over 25% of patients experienced psychological issues across all dimensions: depressed mood, fear of physical suffering, fear of metastases, difficulty coping with the unpredictability of the future, and difficulties to show emotions. Specifically, 309 patients (90.80%) answered "yes" regarding depressed mood; 272 patients (80.71%) answered "yes" regarding fear of physical suffering, 153 patients (45.40%) answered "yes" and 181 patients (53.70%) answered "somewhat" regarding fear of metastases, 156 patients (46.29%) reported "yes" and 167 patients (49.55%) answered "somewhat" regarding to difficulty coping with the unpredictability of the future; 128 patients (37.98%) reported "yes" and 181 patients (53.70%) answered ""somewhat" regarding to difficulties to show emotions.

Table 4.12: Frequency and percentage of spiritual issues among patients in selected cancer hospitals in Karbala, Iraq, in 2025

Spiritual Issues	Is this a problem/ Do you experience this as a problem? **N=337**		
	Yes N (%)	Some what N (%)	No N (%)
Difficulties to be engaged usefully	109 (32.34)	203 (60.23)	25 (7.41)
Difficulties to be of avail for others	123 (36.49)	205 (60.83)	9 (2.67)
Difficulties concerning the meaning of death	141 (41.83)	156 (46.29)	40 (11.86)
Difficulties to accept the disease	139 (41.24)	156 (46.29)	42 (12.46)

The table above shows that over 25% of patients experienced spiritual issues across all dimensions: difficulties to be engaged usefully, difficulties to be of avail for others, difficulties concerning the meaning of death, and difficulties to accept the disease. Specifically, 109 patients (32.34%) answered "yes" and 203 patients (60.23%) answered “somewhat" regarding difficulties to be engaged usefully, 123 patients (36.49%) reported “yes” and 205 patients (60.83%) answered “somewhat" regarding to difficulties to be of avail for others; 141 patients (41.83%) reported “yes” and 156 patients (46.29%) answered “"somewhat" regarding to difficulties concerning the meaning of death; 139 patients (41.24%) reported “yes” and 156 patients (46.29%) answered “"somewhat" regarding to difficulties to accept the disease.

Table 4.13: Frequency and percentage of financial problems among patients in selected cancer hospitals in Karbala, Iraq, in 2025

Financial Problems	Is this a problem/ Do you experience this as a problem? **N=337**		
	Yes N (%)	Some what N (%)	No N (%)
Extra expenditures because of the disease	176 (52.22)	134 (39.76)	27 (8.01)
Loss of income because of the disease	178 (52.81)	136 (40.35)	23 (6.82)

The table above shows that over 25% of patients experienced financial problems across all dimensions: extra expenditures because of the disease, and loss of income because of the disease. Specifically, 176 patients (52.22%) answered "yes" and 134 patients (39.76%) answered “somewhat" regarding extra expenditures because of the disease; and 178 patients (52.81%) reported “yes” and 136 patients (40.35%) answered “somewhat” regarding to Loss of income because of the disease.

Table 4. 14: Frequency and percentage of information problems among patients in selected cancer hospitals in Karbala, Iraq, in 2025

Information Need	Is this a problem/ Do you experience this as a problem? **N=337**		
	Yes N (%)	Some what N (%)	No N (%)
Insufficient information	89 (26.40)	215 (63.79)	33 (9.79)

The table above shows that over 25% of patients experienced information problem. Specially, 215 patients (63.79%) answered “somewhat" regarding Insufficient information.

Table 4.15: Normal Score of cancer patients' problems for eight domains of PNPC in selected cancer hospitals of Karbala in Iraq in 2025

N0.	Problems and Needs for care, (PNPC-sv Domains)	**Is this Problem?**	
		Mean (SD)	**Min-Max**
1	Activities of daily living	67.16±29.82	0-100
2	Physical symptoms	77.87±12.07	33.33-100
3	Autonomy	57.23±23.48	12.5-100
4	Social issues	50.65±23.88	0-100
5	Psychological issues	78.66±14.00	10-100
6	Spiritual issues	64.68±21.04	0-100
7	Financial problems	72.47±30.99	0-100
8	Need for information	58.30±28.95	0-100
	Total	67.87±10.99	13.64-100

The table illustrates that, after normalizing patient-reported problem scores, the highest prevalence of issues was found in psychological problems (78.66±14.00), followed closely by physical symptoms (77.87±12.07) and financial difficulties (72.47±30.99). The next categories included challenges in performing daily activities (67.16±29.82) and emotional problems (64.68±21.04). In contrast, lower-frequency issues included the need for information (58.30±28.95), autonomy (58.30±28.95), and social problems (50.65±23.88).

Table 4.16: Classification of problems faced by cancer patients according to standard scores in selected cancer hospitals of Karbala in Iraq in 2025

Domains Problems / care needs		**Is this Problem? N(%)**
Activities of daily living		
	≤50%	118(35.0)
	>50%	219(65.0)
Physical symptoms		
	≤50%	12(3.6)
	>50%	325(96.4)
Autonomy		
	≤50%	167(49.6)
	>50%	170(50.4)
Social issues		
	≤50%	194(57.6)
	>50%	143(42.4)
Psychological issues		
	≤50%	13(3.9)
	>50%	324(96.1)
Spiritual issues		
	≤50%	110(32.6)
	>50%	227(67.4)
Financial problems		
	≤50%	152(45.1)
	>50%	185(54.9)
Need for information		
	≤50%	248(73.6)

Domains Problems / care needs		**Is this Problem? N(%)**
	>50%	89 (26.4)
Total		
	≤50%	14(4.2)
	>50%	323(95.8)

The table presented above indicates that 323 (95.8%) of cancer patients encountered more than 50% of challenges in palliative care. The most frequently reported issues across various domains of palliative care were as follows: 325 (96.4%) in physical symptoms, 324 (96.1%) in psychological issues, 227 (67.4%) in spiritual concerns, 219 (65.0%) in activities of daily living, 185 (54.9%) in financial difficulties, 170 (50.4%) in autonomy, 143 (42.4%) in social issues, and 89 (26.4%) in the need for information, respectively.

Table 4.17*:* Frequency and percentage of daily activities needs reported by patients in selected cancer hospitals in Karbala, Iraq, in 2025

Daily Activities	Do you want professional attention for this? **N=337**		
	Yes N (%)	As much as now N (%)	No N (%)
Body care, washing, dressing, or toilet	252 (74.78)	56 (16.62)	29 (8.61)
Personal transportation	237 (70.33)	76 (22.56)	24 (7.12)
Doing light housework	177 (52.52)	126 (37.39)	34 (10.09)

The table shows that most patients had needs with body care, washing, dressing, or using the toilet (252 patients, 74.78% answered "yes"); personal transportation (237 patients, 70.33% answered "yes"); and doing light housework (177 patients, 52.52% answered "yes" and 126 patients, 37.39%). Only 8.61%, 7.12%, and 10.09% of patients reported experiencing less than 25% of these problems respectively

Table 4. 18: Frequency and percentage of physical symptom needs reported by patients in selected cancer hospitals in Karbala, Iraq, in 2025

Physical Symptoms	Do you want professional attention for this? **N=337**		
	Yes N (%)	As much as now N (%)	No N (%)
Pain	320 (94.96)	17 (5.04)	0 (0.00)
Fatigue	310 (91.99)	27 (8.01)	0 (0.00)
Sleeping Problems	259 (76.86)	76 (22.56)	2 (0.59)
Shortness of Breath	274 (81.30)	58 (17.21)	5 (1.48)
Cough	186 (55.19)	135 (40.06)	16 (4.75)

Itch	134 (93.76)	181 (53.71)	22 (6.53)
Sexual Dysfunction	147 (43.61)	143 (42.44)	47 (13.95)
Prickling or Numb Sensation	173 (51.33)	155 (45.99)	9 (2.67)
(Nightly)Sweating or Hot Flushes	183 (54.30)	147 (43.61)	7 (2.08)

The table above shows that over 25% of patients experienced physical problems across all dimensions: pain, fatigue, sleep issues, shortness of breath, cough, itching, sexual dysfunction, prickling or numb sensations, and nightly sweating or hot flushes. Specifically, 320 patients (94.96%) reported pain, 310 patients (91.99%) reported fatigue, 259 patients (76.86%) reported sleep issues, and 274 patients (81.30%) reported shortness of breath.

Table 4.19: Frequency and percentage of patient autonomy needs in selected cancer hospitals in Karbala, Iraq, in 2025

Autonomy	Do you want professional attention for this? **N=337**		
	Yes N (%)	As much as now N (%)	No N (%)
Difficulties in continuing the usual activities	192 (56.97)	121 (35.90)	24 (7.12)
Difficulty to give tasks out of hands	180 (53.41)	142 (42.13)	15 (4.4)
Being dependents of others	127 (37.68)	184 (54.59)	26 (7.71)
Experiencing loss of control over one's life	119 (35.31)	199 (59.0)	19 (5.63)

The table above shows that over 25% of patients experienced autonomy needs across all dimensions: difficulties in continuing the usual activities, difficulty to give tasks out of hands, being dependent of others, and experiencing loss of control over one's life. Specifically, 192 patients (56.97%) answered "yes" and 121 patients (35.90%) answered "somewhat" regarding difficulties in continuing usual activities; 180 patients (53.41%) reported "yes" and 142 patients (42.13%) answered "somewhat" regarding difficulty to give tasks out of hands, 127 patients

(37.68%) answered "yes" and 184 patients (54.59%) answered "somewhat" regarding to being dependent on others; and 119 patients (35.31%) answered "yes" and 199 patients (59.0%) answered "somewhat" regarding to experiencing loss of control over their lives.

Table 4. 2016: Frequency and percentage of social needs of patients in selected cancer hospitals in Karbala, Iraq, in 2025

Social Issues	Do you want professional attention for this? **N=337**		
	Yes N (%)	As much as now N (%)	No N (%)
Problems in the relationship with life companion	92 (27.30)	146 (43.32)	99 (29.38)
Difficulties in talking about the disease with life companion	90 (26.71)	155 (45.99)	92 (27.30)
Finding it difficult to talk about the disease, because of not wanting to burden others	142 (42.14)	179 (53.12)	16 (4.75)
Finding others not receptive to talking about the disease	135 (40.06)	185 (54.90)	17 (5.04)
Difficulties in finding someone to talk to	134 (39.76)	180 (53.41)	23 (6.82)

The table above shows that over 25% of patients experienced social needs across all dimensions: problems in the relationship with life companion, difficulties in talking about the disease with life companion; finding it difficult to talk about the disease, because of not wanting to burden others; finding others not receptive to talking about the disease, and difficulties in finding someone to talk to. specifically, 92 patients (27.30%) answered “yes”, 146 patients (43.32%) answered “somewhat” regarding to Problems in the relationship with life companion. 90 patients (26.71%) answered “yes” and 155 patients (45.99%) answered "somewhat" regarding Difficulties in talking about the disease with life companion; 142 patients (42.14%) answered “yes” and 179 patients (53.12%) answered "somewhat" regarding Finding it difficult to talk about the disease, because of not wanting to burden others, 135 patients (40.06%) reported “yes” and 185 patients (54.90%) answered “"somewhat" regarding to finding others not receptive to talking about the disease; and 134 patients (39.76%) reported “yes” and 180 patients (53.41%) answered “"somewhat" regarding to difficulties in finding someone to talk to.

Table 4.21: Frequency and percentage of psychological needs of patients in selected cancer hospitals in Karbala, Iraq, in 2025

Psychological Issues	Do you want professional attention for this? **N=337**		
	Yes N (%)	As much as now N (%)	No N (%)
Depressed mood	298 (88.42)	38 (11.27)	1 (0.29)
Fear of physical suffering	270 (80.11)	65 (19.28)	2 (0.59)
Fear of metastases	200 (59.34)	134 (39.76)	3 (0.89)
Difficulty coping with the unpredictability of the future	196 (58.16)	130 (38.57)	11 (3.26)
Difficulties to show motions	159 (47.18)	149 (44.21)	29 (8.60)

The table above shows that over 25% of patients experienced psychological needs across all dimensions: depressed mood, fear of physical suffering, fear of metastases, difficulty coping with the unpredictability of the future, and difficulties to show emotions. Specifically, 298 patients (88.42%) answered "yes" regarding depressed mood; 270 patients (80.11%) answered "yes" regarding fear of physical suffering, 200 patients (59.34%) answered "yes" and 134 patients (39.76%) answered “somewhat" regarding fear of metastases, 196 patients (58.16%) reported “yes” and 130 patients (38.57%) answered “somewhat" regarding to difficulty coping with the unpredictability of the future; 159 patients (47.18%) reported “yes” and 149 patients (44.21%) answered “"somewhat" regarding to difficulties to show emotions

Table 4. 17: Frequency and percentage of spiritual needs of patients in selected cancer hospitals in Karbala, Iraq, in 2025

Spiritual Issues	Do you want professional attention for this? **N=337**		
	Yes N (%)	As much as now N (%)	No N (%)
Difficulties to be engaged usefully	148 (43.92)	164 (48.66)	25 (7.42)
Difficulties to be of avail for others	159 (47.18)	169 (50.15)	9 (2.67)
Difficulties concerning the meaning of death	154 (45.70)	143 (42.43)	40 (11.87)
Difficulties to accept the disease	169 (50.15)	126 (37.39)	42 (12.46)

The table above shows that over 25% of patients experienced spiritual needs across all dimensions: difficulties to be engaged usefully, difficulties to be of avail for others, difficulties concerning the meaning of death, and difficulties to accept the disease. Specifically, 148 patients (43.92%) answered "yes" and 164 patients (48.66%) answered “somewhat" regarding difficulties to be engaged usefully, 159 patients (47.18%) reported “yes” and 169 patients (50.15%) answered “somewhat" regarding to difficulties to be of avail for others; 154 patients (45.70%) reported “yes” and 143 patients (42.43%) answered “"somewhat" regarding to difficulties concerning the meaning of death; 169 patients (50.15%) reported “yes” and 126 patients (37.39%) answered “"somewhat" regarding to difficulties to accept the disease.

Table 4. 18: Frequency and percentage of patients' financial needs in selected cancer hospitals in Karbala, Iraq, in 2025

Financial Problems	Do you want professional attention for this? **N=337**		
	Yes N (%)	As much as now N (%)	No N (%)
Extra expenditures because of the disease	194 (57.56)	115 (34.12)	28 (8.30)
Loss of income because of the disease	197 (58.45)	117 (34.71)	23 (6.82)

The table above shows that over 25% of patients experienced financial needs across all dimensions: extra expenditures because of the disease, and loss of income because of the disease. Specifically, 194 patients (57.56%) answered "yes" and 115 patients (34.12%) answered “somewhat" regarding extra expenditures because of the disease, 197 patients (58.45%) reported “yes” and 117 patients (34.71%) answered “somewhat” regarding to Loss of income because of the disease.

Table 4.24: Frequency and percentage of patients' information needs in selected cancer hospitals in Karbala, Iraq, in 2025.

	Do you want professional attention for this? **N=337**		
	Yes N (%)	As much as now N (%)	No N (%)
Insufficient information	108 (32.04)	198 (58.75)	31 (9.19)

The table above shows that over 25% of patients experienced information need. Specially, 108 patients (32.04%) answered “yes” and 198 patients (58.75%) answered “somewhat" regarding insufficient information.

Table 4. 19: Normal Score of cancer patients' needs in eight domains of PNPC in selected cancer hospitals of Karbala in Iraq in 2025

N0.	Problems and Needs for care, (PNPC-sv Domains)	**Do You Want Professional Attention for this?**	
		Mean (SD)	**Min-Max**
1	Activities of daily living	78.63±25.72	0-100
2	Physical symptoms	80.95±10.71	38.89-100
3	Autonomy	69.80±22.63	0-100
4	Social issues	58.93±26.80	0-100
5	Psychological issues	85.04±13.73	20-100
6	Spiritual issues	73.29±19.73	0-100
7	Financial problems	80.26±27.48	0-100
8	Need for information	63.79±30.29	
	Total	75.18±11.08	22.73-100

The table illustrates that, after normalizing patient-reported needs scores, the highest prevalence of needs was found in psychological needs (85.04±13.73), followed closely by physical symptoms (80.95±10.71) and financial needs (80.26±27.48%). The next categories included needs in performing daily activities (78.63±25.72) and spiritual needs (73.29±19.73). In contrast, lower-frequency needs included the need in autonomy (69.80±22.63), information (63.79±30.29), and social needs (58.93±26.80).

Table 4.26: Classification of problems faced by cancer patients according to standard scores in selected cancer hospitals of Karbala in Iraq in 2025

Domains Problems / care needs		**Do You Want Professional Attention for this? N(%)**
Activities of daily living		
	≤50%	66(19.6)
	>50%	271(80.4)
Physical symptoms		
	≤50%	4(1.2)
	>50%	333(98.8)
Autonomy		
	≤50%	93(27.6)
	>50%	244(72.4)
Social issues		
	≤50%	144(42.7)
	>50%	193(57.3)
Psychological issues		
	≤50%	9(2.7)
	>50%	328(97.3)
Spiritual issues		
	≤50%	71(21.1)
	>50%	266(78.9)
Financial problems		
	≤50%	107(31.8)

Domains Problems / care needs		**Do You Want Professional Attention for this? N(%)**
	>50%	230(68.2)
Need for information		
	≤50%	216(64.1)
	>50%	121(35.9)
Total		
	≤50%	5(1.5)
	>50%	332(98.5)

The table presented above indicates that 332(%98.5) of cancer patients encountered more than 50% of needs (Professional Attention) in palliative care. The most frequently reported issues across various domains of palliative care were as follows: 333(%98.8) in physical symptoms328(%97.3) in psychological issues, 266(%78.9) in spiritual concerns, 271(%80.4) in activities of daily living, 230(%68.2) in financial difficulties, 244(%72.4) in autonomy, 193(%57.3) in social issues, and 121(%35.9) in the need for information, respectively.

Chapter Five

Chapter Five

5.1 Discussion:

This chapter will interpret the research findings, draw conclusions, apply the findings, and suggest future research. First, the demographic variables of the participating patients will be addressed, followed by a discussion of the three study objectives “to determine problems in palliative care in cancer patients referred to selected hospitals in Iraq in 2025” , “to determine unmet needs in palliative care in cancer patients referred to selected hospitals in Iraq in 2025” and “to determine the relationship between unmet needs in palliative care and their related factors in cancer patients referred to selected hospitals in Iraq in 2025”.

These data showed that a significant proportion of patients experienced unmet needs, particularly in psychological, physical, and daily activity domains. Additionally, the analysis highlighted the strong influence of several related factors—such as economic status, level of education, social support, awareness of palliative care services, and duration of hospitalization—on the degree and type of unmet needs.

These findings emphasize the multidimensional nature of palliative care needs and the urgent necessity to address non-medical aspects such as financial stress, emotional support, and access to information. The results also suggest that improving awareness of palliative care and enhancing supportive services could help reduce unmet needs and improve patients' quality of life.

The results regarding the first objective of the study, titled "to determine problems in palliative care in cancer patients referred to selected hospitals in Iraq in 2025", showed that, on average, 67.87% of patients had palliative care-related problems. Specifically, 67.16% had issues with activities of daily living, 77.87% experienced multiple physical symptoms, 57.23% had autonomy problems, 50.65% faced social issues, 78.66% had psychological issues, 64.68% dealt with spiritual issues, and 72.47% experienced financial problems. Additionally, 58.30% needed information. After classifying and determining the cut-off point for the occurrence of problems, the results showed that 95.8 patients had at least 50% difficulty in palliative care; 65% of patients had at least 50% difficulty with daily activities. 96.4% of patients had 50% or more physical symptoms. 50.4% of patients had at least 50% autonomic problems. 42.4% of patients had at least 50% social

problems. 96.1% of patients had at least 50% psychological problems. 67.4% of patients had at least 50% emotional problems. 54.9% of patients had at least 50% financial problems and only 26.4% had at least 50% difficulties in obtaining information.

The results regarding the second objective of the study, titled "to determine needs in palliative care in cancer patients referred to selected hospitals in Iraq in 2025", showed that, on average, 75.18% of patients had palliative care-related needs. Specifically, 78.63% had needs with activities of daily living, 80.95% experienced multiple physical symptoms, 69.80% had autonomy needs, 58.93% faced social needs, 85.04% had psychological needs, 73.29% dealt with spiritual needs, and 80.26% experienced financial needs. Additionally, 63.79% needed information.

After classifying and determining the cut-off point for the occurrence of problems, the results showed that 98.5% patients had at least 50% palliative care needs; 80.4% of patients had at least 50% Activities of daily living needs. 98.8% of patients had 50% physical symptoms. 72.4% of patients had at least 50% autonomy needs. 57.3% of patients had at least 50% social needs. 97.3% of patients had at least 50% psychological needs. 78.9% of patients had at least 50% spiritual needs. 68.2% of patients had at least 50% financial needs and only 35.9% had at least 50% information needs.

The results indicated that patients experience significant challenges and unmet needs across all aspects and dimensions of palliative care, with over 50% of participants reporting such issues in every area assessed. These findings align with the results of previous studies in this context. In a cross-sectional study (2024) aimed at examining the prevalence of unmet supportive care needs among cancer patients, the findings indicated that psychological needs constituted the most prevalent type of need, with concerns regarding fear of cancer progression and the necessity for information about cancer management ranking among the most significant issues identified(23). In a study conducted in 2025 that aimed to explore the palliative care needs among patients with cancer and serious chronic diseases not classified as cancer, the findings indicated that cancer patients reported a significant prevalence of physical symptoms, notably pain (87%) and anorexia (69.6%). Unmet needs were prevalent among cancer patients, with an average of 75.6% reporting such needs, especially in the areas of information (91.75%) and spirituality (77.8%)(24). The results of a study conducted in Germany to determine the level of distress experienced at home by patients receiving palliative care showed that the prevalence of distress in these patients was 89.3%. 90% reported fatigue(25).

In a multicenter study conducted in 2024 in the Netherlands, which aimed to identify the needs and challenges associated with the care of patients with advanced cancer, the findings indicated that psychological issues were the most significant concerns among this patient population(26). The results of a study conducted to examine the prevalence of unmet supportive care needs and the factors associated with these needs in adults with advanced cancers, including both solid and hematological malignancies, as well as their caregivers, indicated that patients report significant unmet psychological needs as the most prevalent. Furthermore, patients identified unmet informational, financial, and physical needs as among their most prominent concerns(18).

Several systematic reviews have been conducted in this area. The results of a systematic review identifying the unmet care needs of patients with advanced cancer showed that the three most important areas reported by patients were psychological, physical, and healthcare service and information. The most significant unmet needs in these domains were emotional support, fatigue, and being informed about treatment benefits and side effects. A comprehensive review of 22 studies revealed that physical symptoms such as fatigue, pain, sleep disturbances, shortness of breath, loss of appetite, digestive issues, and general malaise were prevalent among the patient population. Furthermore, with respect to daily activities, 11 studies indicated that participants experienced significant impairments in their ability to perform tasks that they had previously managed, including household chores. Their psychological symptoms included uncertainty about the future, a need for emotional support, concerns about uncontrollable treatment outcomes, feelings of dying, and fear of metastasis reported by 25 studies. In the social domain, support from friends and family was reported in nine studies. In the autonomy domain, issues such as a lack of control over life and feeling less capable than before were noted in three studies. Problems with health services and information were mentioned in fourteen studies(19). In a systematic review conducted in 2024, which aimed to evaluate the care needs of cancer patients across various aspects of their lives, the findings indicated that the reported needs of patients were categorized into five general domains: support needs, information needs, emotional needs, sexual needs, and family needs(27).

Research has been undertaken to investigate unmet needs across various cancer types. For instance, a systematic review was conducted to assess the quantity and nature of unmet needs among elderly individuals diagnosed with lung cancer. The findings revealed that the reported needs of these patients ranged from 78 to 100 percent(28).

From an alternative perspective, it is important to examine studies conducted in both developed and developing countries. A study conducted in Ethiopia in 2025 aimed to investigate the unmet support needs of cancer patients and the associated factors. The findings indicated that 45.9% of patients experienced at least one unmet supportive care need. Specifically, the prevalence of unmet physical needs was 61.6%, while the prevalence of unmet health system needs was 62.4%(29). In a study conducted across sub-Saharan African countries, aimed at assessing the extent of unmet support needs and identifying associated factors among individuals diagnosed with cancer, the findings revealed a significant deficiency in the provision of care. Notably, two-thirds of the patients reported experiencing unmet needs(30). An analysis of the unmet needs of patients with advanced cancer in Palestine, conducted in 2022, revealed that 96.8% of participants experienced at least one moderate to severe unmet need. The predominant unmet needs were identified in the physical domains of daily living as well as psychological aspects. Furthermore, 78.1% of the patients reported experiencing severe levels of distress, while 90% indicated symptoms of depression and anxiety(31).

A 2014 study comparing the unmet needs of cancer patients in Indonesia and the Netherlands revealed that issues related to palliative care, such as pain, were comparable between the two patient populations. However, financial difficulties were notably more prevalent among Indonesian patients than their Dutch counterparts. In Indonesia, 25 to 50 percent of patients reported experiencing autonomic and psychological issues, whereas in the Netherlands, this figure ranged from 55 to 86 percent. Furthermore, Indonesian patients exhibited significantly higher levels of unmet needs for various problems, with 54 percent reporting such needs, in contrast to less than 35 percent of Dutch patients(32). A qualitative meta-ethnographic synthesis analyzed eight studies on adult cancer patients receiving palliative care in developed countries. It identified four key unmet needs: comprehensive, patient-centered care; preservation of independence and self-esteem; thoughtful emotional and spiritual support; and timely, accessible care throughout the illness trajectory. The review emphasized that patients need continuity of care, acknowledgment of their suffering, respect for their feelings and experiences, and personalized services(33).

The findings of this study, addressing the research questions outlined under the headings "What are the problems related to palliative care in cancer patients referred to selected hospitals in Iraq in 2025?" and "What are the unmet needs in palliative care for cancer patients referred to selected

hospitals in Iraq in 2025?", indicated that a significant majority of patients experienced various challenges and unmet needs. These challenges were prevalent across multiple domains, including activities of daily living, physical symptoms, issues related to autonomy, social challenges, psychological concerns, spiritual matters, as well as financial and informational difficulties. The findings pertaining to the third research question, titled " Is there any relationship between unmet needs in palliative care.

The findings indicate a critical need for systematic planning and policy development concerning palliative care in Iraq. The issues articulated by patients underscore the necessity for the health care system to address all facets of palliative care. In light of the absence of an established framework for palliative care in Iraq, it is imperative for the Iraqi Ministry of Health to prioritize this component of cancer care. Proposed interventions may include "routine palliative care consultations," "advanced care programs for patient issue articulation," "multidisciplinary approaches," "comprehensive care strategies," "needs assessments," "training for care providers," "establishment of psychological support services," and "support initiatives for caregivers and families"(34-37). Palliative care in Iraq is still in its early stages and faces numerous challenges, including limited resources, poor integration of national programs, and socio-cultural barriers. The healthcare system finds it difficult to provide comprehensive palliative care services, especially for patients with cancer and chronic illnesses. To improve palliative care services, it is imperative that Iraqi healthcare providers receive comprehensive and practical training programs. These programs must encompass the essential principles of palliative care, including symptom management—particularly pain alleviation—effective communication, psychosocial support, and critical care. Integrating these programs into formal nursing and medical education, alongside continuous professional development, is crucial. Furthermore, the development of web-based courses, coaching, and training tailored to the specific context and cultural realities of the Iraqi healthcare system is essential for effective implementation(38, 39).

As articulated in previous research(36), this study underscores the importance of integrated care models that prioritize symptom management and supportive interventions tailored to the individual needs of patients. The effective addressing of patients' psychological requirements can be significantly enhanced through the early identification and management of mood disorders, timely referrals to palliative care services, and improved access to mental health professionals within

oncology settings. Moreover, fostering enhanced communication among healthcare team members regarding diagnoses, treatment options, and relevant information is essential for optimizing the overall effectiveness of the healthcare system.

In light of the benefits associated with involving caregivers, healthcare systems should prioritize the implementation of strategies that promote effective caregiver engagement and education, particularly during the patient discharge process, to alleviate distress and meet unmet patient needs. Patients experiencing elevated psychological and healthcare system demands, especially those without caregiver support, may require more intensive interventions to effectively manage their distress. By addressing these needs through a comprehensive, patient-centered approach, there exists a significant potential to enhance outcomes for both patients and their caregivers.

5.2 Conclusion

The findings indicated that nearly all cancer patients involved in the study experienced a range of palliative care challenges and requirements. The most significant percentages of issues were associated with physical symptoms, psychological distress, impairment in daily activities, spiritual needs, autonomy, financial concerns, social needs, and informational requirements, respectively. The significant prevalence of unmet needs and challenges associated with cancer care necessitates the attention of health policymakers to the issue of palliative care for cancer patients. The nascent framework of the palliative care system in Iraq, alongside the pivotal role of the Iraqi Ministry of Health in addressing this issue, represents a critical step toward mitigating these challenges. Given the gravity of this situation, a range of interventions can be employed to address the unmet needs of cancer patients. Key strategies include allocating appropriate budgetary resources and facilities for the establishment of palliative care services, as well as the training and development of health system personnel, particularly physicians and nurses. Furthermore, the implementation of multidisciplinary team strategies may enhance the delivery of palliative care services, thereby alleviating the suffering of cancer patients.

5.3 Strengths and Limitations of the Study

- This study conducted only in the city of Karbala in Iraq, so cannot generalized to all cancer patients in Iraqi hospitals.
- This study represents one of the limited investigations conducted in Iraq, specifically in the city of Karbala, focusing on cancer patients and providers of palliative care.
- In this study, sampling was conducted using a convenience methodology due to time constraints.

5.4 Recommendation

The results indicated that nearly 100 percent of patients exhibited unmet palliative care needs. To address the unmet needs of palliative care in Iraq, it is essential to consider the current challenges related to healthcare infrastructure, workforce capacity, cultural context, and resource availability. The following recommendations are crucial:

- To create a comprehensive national palliative care strategy, it is crucial to expand training for the healthcare workforce and develop multidisciplinary, community-based care models. Implementing these recommendations will allow Iraq to systematically address significant deficiencies in palliative care services, thereby improving the quality of life and support for patients with cancer and other life-limiting illnesses, along with their families.
- The findings indicated that a significant proportion of patients experienced substantial difficulties in two domains: physical and psychological symptoms. These domains encompassed a range of symptoms, including pain, fatigue, sleep disturbances, shortness of breath, cough, pruritus, sexual dysfunction, paresthesia, nocturnal sweating or hot flashes, depressive mood, anxiety regarding physical suffering, fear of metastasis, challenges in coping with future unpredictability, and difficulties in expressing emotions. Consequently, it is imperative to implement interventions designed to alleviate these issues. It is essential to establish pain control teams, fatigue relief programs, sleep clinics, and educational initiatives that address issues such as sexual problems. Additionally, psychological counseling teams should be formed to support the mental health needs of these patients.

- Financial difficulties were also identified as a significant concern among patients. Consequently, it is essential to address these issues at the policy level by allocating resources for the treatment and management of the disease. Furthermore, the implementation of home care teams for cancer patients may mitigate some of the challenges faced by this population.

5.5 Implications for nursing management

- Utilizing the findings of this study and fostering interdisciplinary collaboration, nursing managers can establish frameworks within clinical units to identify the unmet palliative care needs of patients. In this context, nurses, while providing care or administering chemotherapy, can systematically assess patients' needs and strive to address them to the greatest extent possible. Furthermore, it is imperative for nursing managers to implement training programs that underscore the significance of assessing and addressing the unmet needs of patients by nursing staff.
- The information needs of these patients are among the things that can be taught by nurses. Therefore, it is essential for nursing managers to address and emphasize this aspect of care.

5.6 Implications for research

- Considering that palliative care is not exclusively relevant to cancer patients, it is imperative to extend its applicability to other chronic diseases. Therefore, it is essential to conduct research on prevalent unmet palliative care in chronic conditions in Iraq, such as diabetes and cardiovascular disease.
- The findings of this study indicate that patients encounter challenges across all dimensions of palliative care. Future research should explore structural issues, the underlying reasons for the lack of attention to these challenges, and conduct comparative analyses of the state of palliative care in Iraq relative to other countries.
- In future research, it is recommended that longitudinal studies be conducted to obtain more comprehensive data on unmet palliative care needs. Additionally, qualitative research may reveal further issues or needs among Iraqi cancer patients.
- Given the persistent concern regarding cancer metastasis among cancer patients, the unmet needs of cancer survivors may elucidate additional dimensions of the challenges faced by this population in Iraq.

5.7 Titles for future research

- Investigating unmet needs for palliative care in chronic diseases within the context of Iraq.
- The association between unmet palliative care needs and quality of life, life satisfaction, and hope among cancer patients in Iraq.
- In the present study, unmet needs were assessed exclusively from the patients' perspective. Future research could consider incorporating the perspectives of family caregivers and healthcare professionals.

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Appendices

Appendix 1: Questionnaire Form

Number:

CENTRE FOR QUALITY OF CARE RESEARCH

PROBLEMS and NEEDS in PALLIATIVE CARE questionnaire

version: PNPC-sv-engl 2005

Instructions:

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

At each item you will be asked 2 questions:

- **Left:** Do you experience the item to be a **problem**?
- **right:** Do you need (extra) professional **attention** for the item?

So, please provide 2 answers at each item !!

Name:	*Date of birth:*
Date of completing:	
Address or institution:	

☐ ☐ ☐ **Difficulties in finding someone to talk to** (confidant) ☐ ☐ ☐

Continued on the next page

CENTRE FOR QUALITY OF CARE RESEARCH

Is this a problem? Yes	Some what	No	Your problems and needs for care	Do you want professional attention for this? Yes, more	As much as now	No
			Psychological issues			
☐	☐	☐	**Depressed mood**	☐	☐	☐
☐	☐	☐	**Fear of physical suffering**	☐	☐	☐
☐	☐	☐	**Fear of metastases**	☐	☐	☐
☐	☐	☐	**Difficulty coping with the unpredictability of the future**	☐	☐	☐
☐	☐	☐	**Difficulties to show emotions**	☐	☐	☐
			Spiritual issues			
☐	☐	☐	**Difficulties to be engaged usefully**	☐	☐	☐
☐	☐	☐	**Difficulties to be of avail for others**	☐	☐	☐
☐	☐	☐	**Difficulties concerning the meaning of death**	☐	☐	☐
☐	☐	☐	**Difficulties to accept the disease**	☐	☐	☐
			Financial problems			
☐	☐	☐	**Extra expenditures because of the disease**	☐	☐	☐
☐	☐	☐	**Loss of income because of the disease**	☐	☐	☐
			Need of information			
☐	☐	☐	**Insufficient information e.g. about the disease and its treatment, aids and agencies that can provide help, alternative healing methods, etc.**	☐	☐	☐
			Are important issues missing from this list? Please add your personal issues below!			
☐	☐	☐	_____	☐	☐	☐
☐	☐	☐	_____	☐	☐	☐
☐	☐	☐	_____	☐	☐	☐
☐	☐	☐	_____	☐	☐	☐
☐	☐	☐	_____	☐	☐	☐

Space for your remarks or questions

End of the questionnaire.

Appendix 2: Demographic Information Form

This form is designed to collect demographic and clinical information for research purposes. All data will be kept confidential and used solely for academic analysis.

1. Age:

- 18 - 30
- 31-40
- 41-50
- 51-60

2. Gender:

- Male
- Female

3. Marital Status:

- Single
- Married

4. Educational Level:

- High
- Intermediate
- Low

4 income

-High-Level
- Mid-Level
-Low-Level

5 Employment Status

-Full-time
-Part-time (Free job)
-Unemployment

Appendix 1 : Ethic Certificate

Tehran University of Medical Sciences

School of Nursing and Midwifery & Rehabilitation - Tehran University of Medical Sciences

Research Ethics Committees Certificate

Approval ID:	IR.TUMS.FNM.REC.1403.167	Approval Date:	2024-12-16
Evaluated by:	Research Ethics Committees of School of Nursing and Midwifery & Rehabilitation - Tehran University of Medical Sciences		
Status:	Approved		
Approval Statement:	The project was found to be in accordance to the ethical principles and the national norms and standards for conducting Medical Research in Iran. Notice: 1. Although the proposal has been approved by the Biomedical Research Ethics Committee, meeting the professional and legal requirements is the sole responsibility of the PI and other project collaborators. 2. This certificate is reliant on the proposal/documents received by this committee on 2024-12-16. The committee must be notified by the PI as soon as the proposal/documents are modified. 3. Other Comments: • The researcher is required to notify any changes in the approved proposal (such as changes in the title of the research, the names of the principal investigator and collaborators, the methodology and other parts of the proposal) to the Research Ethics Committee and obtain approval.		
Thesis Title:	Assessment of unmet needs in palliative care and their related factors in cancer patients referred to selected hospitals in Iraq in 2025		
Supervisor:	Name: Leila Sayadi Email: sayadi117@hotmail.com		
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